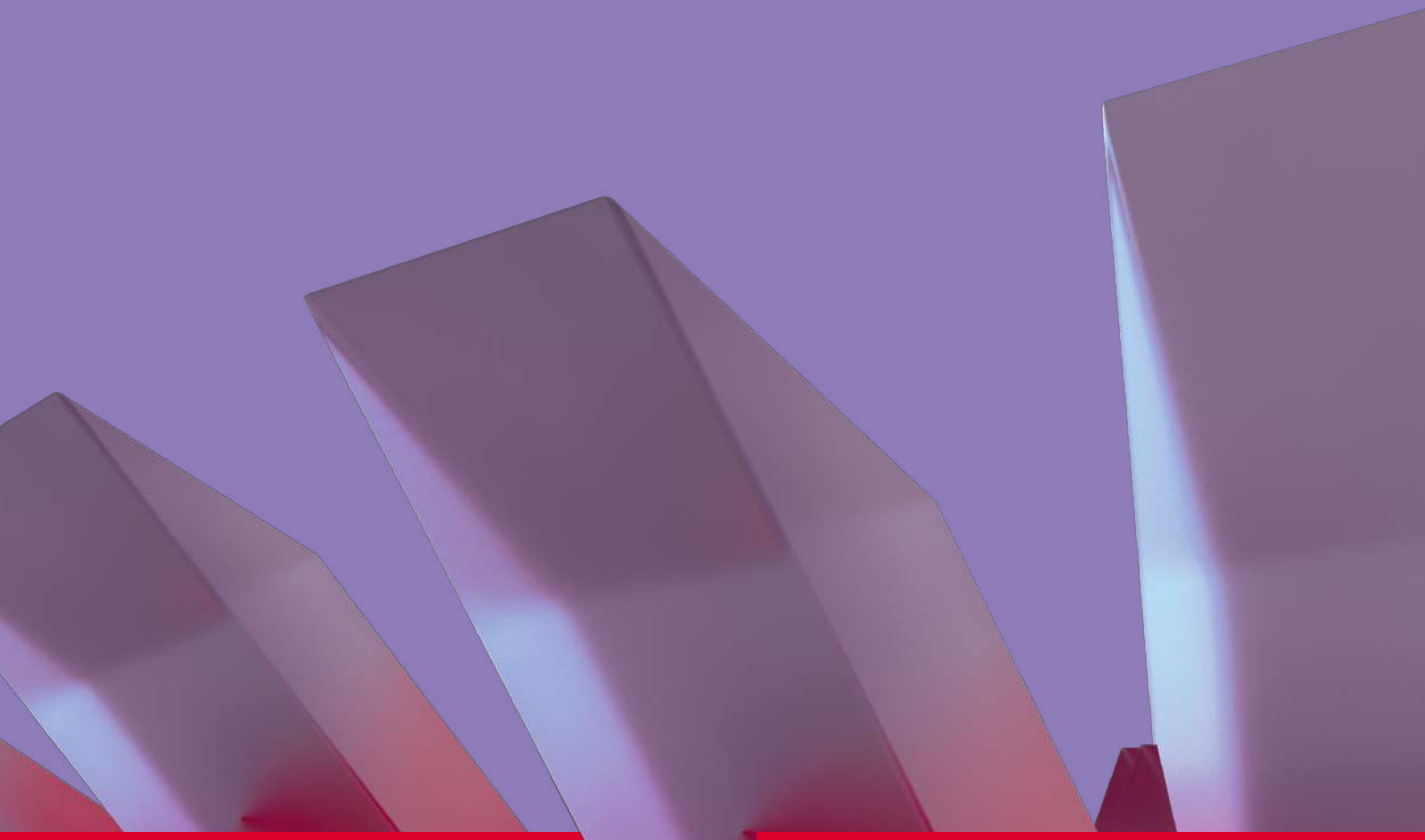
TECO CABLES



Catalogue
2025

TECO
you design, we connect

tecoit.com

TECO
you design,
we connect

For over 40 years, we have been supporting our customers in industrial automation, developing cutting-edge projects and providing excellent products and services.
Born in Emilia-Romagna, the italian heart of the automation industry, we have built a solid reputation based on reliability and availability, becoming a reference point in the sector.

Our mission is to support customers with a tailored approach, **designing and offering *Made in Italy* special cables and cable entry systems**, along with components from the best technology partners.

We are a strategic partner for our customers, capable of transforming their needs into concrete and high-performance solutions. Thanks to our experience, expertise, and passion, we continue to raise the industry standards, ensuring quality, reliability, constant innovation, and dedicated customer service.

We offer our customers

Our technical expertise: we have an experienced Sales team with strong technical expertise, supported by our Technical Department. We are always ready to understand and meet specific needs, even the most complex ones.

Our customized service: we provide quick and personalized responses thanks to our Customer Experience team, which guarantees the customer a dedicated contact always at their disposal. Our products are all available, ready for delivery, thanks to important investments in warehouse stock.

Our product culture: all TECO cables are developed according to our technical specifications and guaranteed through precise quality controls from our Technical Department.
Our cables for international markets are UL and CSA certified.

Choose your cable here!

TECO
Technical Department

Expertise, specialization, precision, and innovation are the ingredients that make our Technical Department the heart of our excellence. Our team of specialists defines the technical specifications that guide the production of our TECO-branded cables, working closely with suppliers to ensure cables reliability, durability, and optimal performance over time.

TECO_lab

In a constantly evolving sector, always being focused on the product is the only way to face the challenges of the future. This is as true for us as it is for our customers, to whom we offer technical update training sessions, videos, interviews with experts and bite-size sessions on how to use and install cables and components. These continuous training tools are primarily aimed at our employees but are also used by our customers and partners.

TECO
Automated Warehouse

Our warehouse is fully digitalized and managed through an advanced Warehouse Management System (WMS), representing an example of operational efficiency: we have over 1,500 special *Made in Italy* cables and 5,000 components in stock, ready for immediate delivery.

To meet the growing needs of our customers, we have enhanced our capabilities by investing in a second cutting machine. This way, we will continue to provide efficient custom cable cutting services and process orders even faster.

This combination of technology and service allows us to be proactive and efficient.

OUR CUSTOMERS
From multiple industries

- MACHINE TOOLS
- PACKAGING
- MECHANICAL ENGINEER
- AIR CONDITIONING
- BUILDINGS
- CERAMIC
- ELECTRONIC & ELECTROMECHANICS
- STEEL PRODUCTION PLANTS AND ROLLING MILLS
- FOOD & BEVERAGE
- LOGISTICS
- WOOD

QUALITY CERTIFIED, internationally guaranteed

UL LISTED E471678

Cutting-edge products need top-level certification. Most of our special cables are certified by Underwriters Laboratories (UL) and the Canadian Standards Association (CSA).

We subject ourselves to the strictest checks, testing the efficiency of our organization, processes and solutions. We are proud to have achieved ISO 9001:2015 certification. The best guarantee for our customers is our standing attention to quality.

We can cut cables to size, without affecting their certification

Our certified cables are cut and traceable according to the *UL Processed Wire Respooled standard*, meaning that they will never lose UL certification.

CABLE FAMILIES

POWER&CONTROL SINGLE CORE

Single-core cables are a fundamental component in many electrical systems. They are highly appreciated for their versatility in a wide range of applications, such as power distribution and control systems, particularly for connections between control panels, distribution boards, and electrical devices. They are also ideal for applications where space is limited, and the minimum bending radius is particularly demanding.
TECO offers a wide range of single-core cables for use in static installations or dynamic applications, with UL or European market certifications.

POWER&CONTROL MULTICORE

These cables are designed to transmit both electrical power and control signals, making them suitable for a wide range of industrial applications, such as industrial machinery, automation systems, building management systems, or renewable energy installations. All insulated conductors are enclosed in a common outer sheath, providing additional protection against mechanical stress, environmental factors, and exposure to chemicals. TECO offers a broad selection of multicore power and control cables for static installations or dynamic applications, with UL or European market certifications.

INVERTER

Cables designed to power low-voltage three-phase electric motors controlled by inverters.
They offer high shielding against the propagation of electromagnetic interference and resistance to high temperatures, enhancing the efficiency and lifespan of motors.
TECO provides solutions ranging from small to large cross-sections, meeting various nominal current requirements.

SERVO

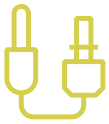
These cables are used to connect and control servomotors, which are precise and highly responsive motors used in automation, robotics, CNC machines, and other applications requiring accurate control of position, speed, and torque.
They integrate power and signal lines into a single cable, allowing the simultaneous transmission of both. This integration simplifies wiring and reduces installation space. TECO offers a broad selection of servo motor cables for static or dynamic applications, compliant with major global standards.

ENCODER

Encoder cables play a crucial role in modern industrial automation, ensuring precise measurement and control of mechanical motion. Widely used in robotics, CNC machining, and transport systems, these cables offer optimal performance and maintain the highest standards of precision.
TECO offers a complete selection of encoder cables for both static and dynamic applications, designed to meet the most important global standards.

SIGNAL

These multicore cables are used to transmit low-voltage and low-current signals, typically for communication and control purposes between devices, components, or systems. They are designed to minimize signal loss and interference, ensuring clear and reliable transmission. All insulated conductors are enclosed in a common outer sheath, providing extra protection against mechanical stress, environmental factors, and chemical exposure. TECO offers a wide range of multicore signal cables suitable for static installations or dynamic applications, with UL or European market certifications.



SENSOR

These cables are specifically designed to connect sensors to monitoring or control systems. They transmit signals from sensors that detect various physical inputs, such as motion or proximity, to processing units or controllers. TECO provides UL-certified items suitable for dynamic or static applications.

BUS

BUS cables are widely used to transfer data in industrial networks, ensuring fast and smooth communication between systems and devices.
TECO offers a broad range of products meeting the demand for industrial automation, adhering to the most common and widely used Ethernet standards. The range of applications for our selection includes both static and dynamic installations.

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POWER&CONTROL

DYNAMIC APPLICATION

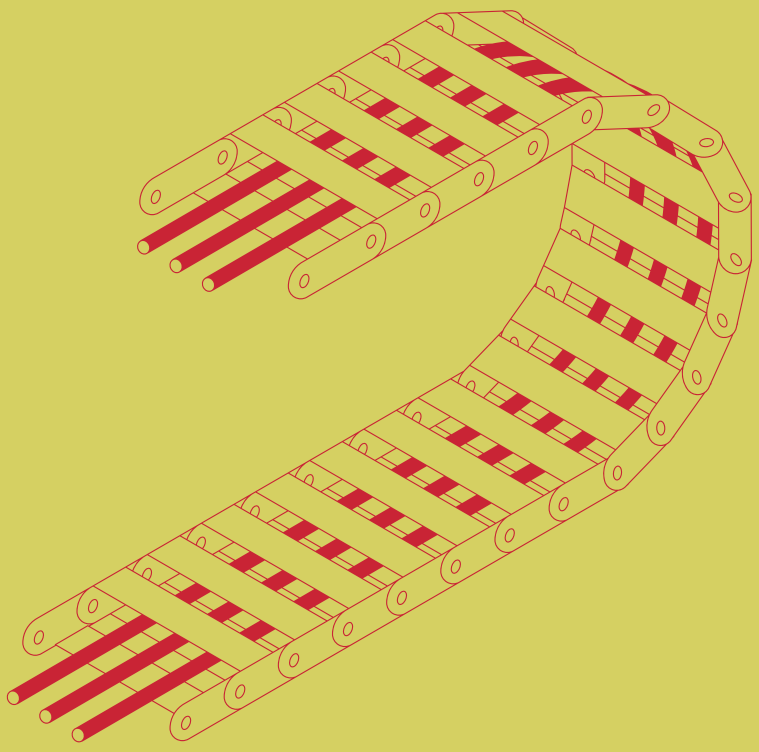
STATIC APPLICATION

BUS

DYNAMIC APPLICATION

STATIC APPLICATION

DYNAMIC
APPLICATION



FRX®

- DRAG CHAINS
- AUTOMATIC MACHINERY
- MACHINE-TOOLS
- FLAME-RETARDANT
- OIL-RESISTANT

UL/CSA certified flexible cables designed for use in dynamic drag chains and automatic machinery applications, allowing for free movement without tensile stress or forced movements, in dry or moist environments.

The PVC jacket provides excellent flexibility, while the insulation material has low capacitive buildup, ensuring high electrical performance with reduced dimensions.

This makes them an ideal choice when space is limited or a minimal bending radius is required.

They also offer good resistance to industrial cleaners and chemical agents, along with excellent workability.

These features make this product line the ideal starting point for a range of TECO families designed for demanding mobile applications, particularly in the packaging sector.

DYNAMIC APPLICATION

FRX®
PROXIMITY SENSORS

APPLICATIVE FEATURES

UP TO 5 MILLION CYCLES
GUARANTEED CYCLES

10,0 M/S²
ACCELERATION

10,0 M
CABLE LENGTH

180,0 M/MIN
TRAVEL SPEED

MINIMUM BENDING RADIUS

CROSS SECTION	CROSS SECTION MAX	DYNAMIC INSTALLATION	STATIC INSTALLATION
0.25	0.34	7,5xø	6xø

DESCRIPTION

UL/CSA certified flexible multicore cables used in decentralized control technology as connector systems for sensors, actuators, controls, drives, and photocells. Suitable for wiring with ordinary, PNP, NPN, or equivalent type Lumberg sensor cables with medium mechanical stress applications. In combination with injected circular connectors and installed actuator-sensor boxes, they constitute an important connecting element between the periphery and the PLC in production systems. These cables are designed for dynamic application in drag chains, working in dry conditions with high resistance to industrial oils. Reduced external diameter for low-space applications.

APPROVALS

E244280 — AWM STYLE 2464
80°C 300V

AWM I/II A/B 80°C
300V

2014/35/CEE

RoHS — 2011/65/UE
2015/863/UE

TECHNICAL DATA

DYNAMIC 0°C +80°C
STATIC -40°C +80°C

NOMINAL VOLTAGE 300V

TEST VOLTAGE 1500V

CONSTRUCTION FEATURES

SIGNAL CONDUCTORS	CONDUCTOR	**CL6 EXTRA-FLEXIBLE. BARE COPPER.**
	INSULATION	**PVC COMPOUND.**
	INSULATION COLOR	**VARIOUS COLOURS**
OVERALL STRANDING	FILLER	**FILLER NOT HYGROSCOPIC, PRODUCED OUT OF SUITABLE MATERIALS**
	TALC	**TALC POWDER**
	SHEATH	**PVC COMPOUND.**
	SHEATH COLOUR	**MATTE BLACK, RAL: 9005, DESINA: NO**

PRODUCTS FEATURES

FIRE PERFORMANCE
DIN VDE 0482-332-1-2, DIN EN 60332-1-2, IEC 60332-1-2, UL CABLE FLAME, VW-1, FT1.

OIL PERFORMANCE
VDE 0473-811-404; IEC 60811-404(EU); CEI EN 50363-4-1(EU); 1581(UL);

UV PERFORMANCE
ISO 4892-2 - HD605 PART. 2.4.20

TECO CODE	FORMATION	CUT	ROLLS [M]	DRUMS [M]	EXT Ø [MM]	WEIGHT [KG/KM]	INS. COLOUR EXC
27207	**4X0,25** 4XAWG24	X	100	500/1000	4.4	23	BLUE, BROWN, BLACK, WHITE
27208	**4X0,34** 4XAWG22	X	100	500	5	35	BLUE, BROWN, BLACK, WHITE

FRX® PLUS

- DRAG CHAINS
- AUTOMATIC MACHINERY
- MACHINE-TOOLS
- FLAME-RETARDANT
- OIL-RESISTANT

UL/CSA certified flexible cables designed for use in dynamic drag chains and automatic machinery applications, allowing for free movement without tensile stress or forced movements, in dry or moist environments.

The PVC jacket provides excellent flexibility, while the insulation material has low capacitive buildup, ensuring high electrical performance with reduced dimensions.

This makes them an ideal choice when space is limited or a minimal bending radius is required.

Moreover, the “PLUS” improvements in materials and in construction design technology allow the use of the cable at temperatures up to 90°C.

They also offer good resistance to industrial cleaners and chemical agents, along with excellent workability.

These features make this product line the ideal starting point for a range of TECO families designed for demanding mobile applications, particularly in the packaging sector.

POWER&CONTROL SINGLE CORE

POWER&CONTROL MULTICORE

SERVO

ENCODER

SIGNAL

DYNAMIC APPLICATION

FRX® PLUS
POWER&CONTROL SINGLE CORE

APPLICATIVE FEATURES

UP TO 5 MILLION GUARANTEED CYCLES

10,0 M/S2 ACCELERATION

15,0 M CABLE LENGTH

180,0 M/MIN TRAVEL SPEED

MINIMUM BENDING RADIUS

CROSS SECTION	CROSS SECTION MAX	DYNAMIC INSTALLATION	STATIC INSTALLATION
4,00	16,00	7,5xØ	4,0xØ
25,00	240,00	10,0xØ	6,0xØ

DESCRIPTION

UL/CSA certified flexible single-core power and control cables, designed for dynamic drag chains and automatic machinery applications with free movement without tensile stress or forced movements in dry or moist environments. Suitable for indoor and outdoor use. This type of cable can be a smart alternative to multicore power cables in case space or minimum bending radius requirements are challenging.

APPROVALS

AWM STYLE 10678
90°C 1000V

AWM I/II A/B 90°C
1000V

2014/35/CEE

2011/65/UE
2015/863/UE

TECHNICAL DATA

DYNAMIC -5°C +90°C
STATIC -40°C +90°C

NOMINAL VOLTAGE 1000 V (UL/CSA), UO/U 0,6/1 KV (VDE)

TEST VOLTAGE 4,0 KV
TEST VOLTAGE REFERENCE EN 50395 PART 6-7 - UL/1581

INSULATION RESISTANCE >=1 GOHM/KM

CONSTRUCTION FEATURES

POWER CONDUCTORS	CONDUCTOR	CL6 EXTRA-FLEXIBLE. BARE COPPER.
	INSULATION	POLYPROPYLENE COMPOUND (PP)
	INSULATION COLOR	BLACK RAL 9005 OR GREEN-YELLOW
	SEPARATIONLAYER	INNER TAPE POLYESTER TRANSPARENT TAPE OR NON-WOVEN TAPE
OVERALL STRANDING	SHEATH	PVC COMPOUND.
	SHEATH COLOUR	MATTE BLACK RAL: 9005, DESINA: NO

PRODUCTS FEATURES

FIRE PERFORMANCE
DIN VDE 0482-332-1-2, DIN EN 60332-1-2, IEC 6033-1-2, UL CABLE FLAME, UL VW-1, CSA FT1

OIL PERFORMANCE
VDE 0473-811-404; IEC 60811-404 (EU); CEI EN 50363-4-1 (EU); 1581 (UL)

UV PERFORMANCE
ACCORDING TO CEI EN 50289-4-17;ISO 4892-2;ASTM-D-2565-16

WATER PERFORMANCE
UL 1581; IEC 60811

HYDROCARBONS PERFORMANCE
UL 1581

TECO CODE	FORMATION	CUT	ROLLS [M]	DRUMS [M]	EXT Ø [MM]	WEIGHT [KG/KM]
46441	**1G4,00** 1GAWG12	✗	100	500	5.7	70
46450	**1X6,00** 1XAWG10	✗	100	500	6.6	98
46442	**1G6,00** 1GAWG10	✗	100	500	6.6	98
46451	**1X10,00** 1XAWG08	✓		500	7.9	170
46443	**1G10,00** 1GAWG08	✓		500	7.9	170
46452	**1X16,00** 1XAWG6	✓		500	9.2	240
46444	**1G16,00** 1GAWG06	✓	100	500	9.2	240
46453	**1X25,00** 1XAWG04	✓		500	11	300
46445	**1G25,00** 1GAWG04	✓			11	300
46454	**1X35,00** 1XAWG02	✓			13	410
46446	**1G35,00** 1GAWG02	✓			13	410
46455	**1X50,00** 1XAWG01	✓			15	620
46447	**1G50,00** 1GAWG01	✓			15	620
46456	**1X70,00** 1XAWG2/0	✓			17	790
46448	**1G70,00** 1GAWG2/0	✓			17	790
46457	**1X95,00** 1XAWG3/0	✓			19.2	1150
46458	**1X120,00** 1XAWG4/0	✓			21.2	1495

DYNAMIC APPLICATION

FRX® PLUS
POWER&CONTROL SINGLE CORE-ST

APPLICATIVE FEATURES

UP TO 5 MILLION GUARANTEED CYCLES

10,0 M/S2 ACCELERATION

15,0 M CABLE LENGTH

180,0 M/MIN TRAVEL SPEED

MINIMUM BENDING RADIUS

CROSS SECTION	CROSS SECTION MAX	DYNAMIC INSTALLATION	STATIC INSTALLATION
4,00	16,00	7,5xØ	4,0xØ
25,00	240,00	10,0xØ	6,0xØ

DESCRIPTION

UL/CSA certified flexible single-core power and control cables, designed for dynamic drag chains and automatic machinery applications with free movement without tensile stress or forced movements in dry or moist environments. Suitable for indoor and outdoor use. This type of cable can be a smart alternative to multicore power cables in case space or minimum bending radius requirements are challenging. Screening from electromagnetic interferences thanks to the dense braid shield.

APPROVALS

E244280 — AWM STYLE 10678 90°C 1000V

AWM I/II A/B 90°C 1000V

2014/35/CEE

EMC 2014/30/EU

RoHS 2011/65/UE 2015/863/UE

TECHNICAL DATA

DYNAMIC -5°C +90°C
STATIC -40°C +90°C

NOMINAL VOLTAGE 1000 V (UL/CSA), UO/U 0,6/1 KV (VDE)

TEST VOLTAGE 4,0 KV
TEST VOLTAGE REFERENCE EN 50395 PART 6-7 - UL/1581

INSULATION RESISTANCE >=1 GOHM/KM

CONSTRUCTION FEATURES

POWER CONDUCTORS	CONDUCTOR	CL6 EXTRA-FLEXIBLE. BARE COPPER.
	INSULATION	POLYPROPYLENE COMPOUND (PP)
	INSULATION COLOR	BLACK RAL 9005 OR GREEN-YELLOW
	SEPARATIONLAYER	INNER TAPE POLYESTER TRANSPARENT TAPE OR NON-WOVEN TAPE
OVERALL STRANDING	SCREEN	SCREEN TINNED COPPER 85 % ± 5 %
	SEPARATIONLAYER	TAPE NON-WOVEN TAPE
	SHEATH	PVC COMPOUND.
	SHEATH COLOUR	MATTE BLACK RAL: 9005, DESINA: NO

PRODUCTS FEATURES

FIRE PERFORMANCE
DIN VDE 0482-332-1-2, DIN EN 60332-1-2, IEC 6033-1-2, UL CABLE FLAME, UL VW-1, CSA FT1

OIL PERFORMANCE
VDE 0473-811-404; IEC 60811-404 (EU); CEI EN 50363-4-1 (EU); 1581 (UL)

UV PERFORMANCE
ACCORDING TO CEI EN 50289-4-17, ISO 4892-2, ASTM-D-2565-16

WATER PERFORMANCE
UL 1581; IEC 60811

HYDROCARBONS PERFORMANCE
UL 1581

TECO CODE	FORMATION	CUT	ROLLS [M]	DRUMS [M]	EXT Ø [MM]	WEIGHT [KG/KM]
46459	**(1X6,00)ST** (1XAWG10)ST	✓	100	500	7.2	120
46460	**(1X10,00)ST** (1XAWG08)ST	✓	100	500	8.6	155
46462	**(1X25,00)ST** (1XAWG25)ST	✓			11.4	350
46463	**(1X35,00)ST** (1XAWG02)ST	✓			13.3	475
46464	**(1X50,00)ST** (1XAWG01)ST	✓			15.6	700
46465	**(1X70,00)ST** (1XAWG2/0)ST	✓			17.6	870
46466	**(1X95,00)ST** (1XAWG3/0)ST	✓			20	1240
46467	**(1X120,00)ST** (1XAWG4/0)ST	✓			22.6	1450
46468	**(1X150,00)ST** (1X250KCMIL)ST	✓			24.4	1690
46469	**(1X185,00)ST** (1X350KCMIL)ST	✓			26.8	2340

DYNAMIC APPLICATION

FRX® PLUS
POWER&CONTROL MULTICORE

APPLICATIVE FEATURES

UP TO 5 MILLION GUARANTEED CYCLES

10,0 M/S2 ACCELERATION

20,0 M CABLE LENGTH

180,0 M/MIN TRAVEL SPEED

MINIMUM BENDING RADIUS

CROSS SECTION	CROSS SECTION MAX	DYNAMIC INSTALLATION	STATIC INSTALLATION
0,50	16,00	7,5xØ	4,0xØ
25.00	50,00	10,0xØ	5,0xØ

DESCRIPTION

UL/CSA certified flexible multicore cables designed for dynamic application in drag chains, also suitable for permanently flexible applications that allow free movement without tensile stress and without motion control in dry, damp, and wet environments. This family satisfies the requirements of the most commonly used cables in tool power supply and in generic industrial wiring harnesses. Reduced diameter and optimized minimum bending radius thanks to the low-capacity material. Suitable for indoor and outdoor use as well.

APPROVALS

E244280 — AWM STYLE 21179 90°C 1000V

AWM I/II A/B 90°C 1000V

2014/35/CEE

2011/65/UE
2015/863/UE

TECHNICAL DATA

DYNAMIC -5°C +90°C
STATIC -40°C +90°C
OCCASIONAL FLEXING -20°C +90°C

NOMINAL VOLTAGE 1000 V (UL/CSA), UO/U 0,6/1 KV (VDE)

TEST VOLTAGE 4,0 KV
TEST VOLTAGE REFERENCE EN 50395 PART 6-7 - UL/1581

INSULATION RESISTANCE >1 GOHM/KM ACC. TO EN 50395 PRT.8

CONSTRUCTION FEATURES

POWER CONDUCTORS	CONDUCTOR	CL6 EXTRA-FLEXIBLE. BARE COPPER.
	INSULATION	POLYPROPYLENE COMPOUND (PP)
	INSULATION COLOR	BLACK CORE WITH WHITE PRINTED NUMBER + GREEN YELLOW
	FILLER	FILLER POLYPROPYLENE
	SEPARATIONLAYER	TAPE NON-WOVEN TAPE
OVERALL STRANDING	FILLER	FILLER POLYPROPYLENE
	SEPARATIONLAYER	TAPE NON-WOVEN TAPE
	SHEATH	PVC COMPOUND.
	SHEATH COLOUR	GRAY RAL: 7001, DESINA: NO

PRODUCTS FEATURES

FIRE PERFORMANCE
DIN VDE 0482-332-1-2, DIN EN 60332-1-2, IEC 6033-1-2, UL CABLE FLAME, UL VW-1, CSA FT1

OIL PERFORMANCE
VDE 0473-811-404, IEC 60811-404 (EU), CEI EN 50363-4-1 (EU), 1581 (UL)

UV PERFORMANCE
CEI EN 50289-4-17, ISO 4892-2, ASTM-D-2565-16

WATER PERFORMANCE
UL 1581, IEC 60811

HYDROCARBONS PERFORMANCE
UL 1581

TECO CODE	FORMATION	CUT	ROLLS [M]	DRUMS [M]	EXT Ø [MM]	WEIGHT [KG/KM]	INS. COLOUR EXC
46439	**2X0,50** 2XAWG21	✗	100	500	5.2	40	BLACK CORE WITH WHITE PRINTED NUMBERS.
46378	**2X1,00** 2XAWG18	✗	100	500	6	55	BLACK CORE WITH WHITE PRINTED NUMBERS.
46346	**3G0,50** 3GAWG21	✗	100	500	5.5	58	
46373	**3G0,75** 3GAWG19	✗	100	500	6.2	60	
46440	**3G1,00** 3GAWG18	✗	100		6.3	65	
46391	**3G1,50** 3GAWG16	✓	100	500	7.2	85	
46399	**3G2,50** 3GAWG14	✓	100	500	8.4	140	
46405	**3G4,00** 3GAWG12	✓		500	10.2	220	
46347	**4G0,50** 4GAWG21	✗	100	500	6.2	60	
46372	**4X0,50** 4XAWG21	✗	100	500	6.2	60	BLACK CORE WITH WHITE PRINTED NUMBERS.
46382	**4G1,00** 4GAWG18	✓	100	500	6.8	85	
46398	**4G1,50** 4GAWG16	✓	100	500	7.8	110	
46400	**4G2,50** 4GAWG14	✓		500	9.2	180	
46406	**4G4,00** 4GAWG12	✓		500	11.2	250	
46407	**4G6,00** 4GAWG10	✓			13.4	360	
46409	**4G10,00** 4GAWG08	✓			17	610	
46411	**4G16,00** 4GAWG06	✓			22	980	
46374	**5G0,75** 5GAWG19	✓	100	500	7.3	85	
46383	**5G1,00** 5GAWG18	✓	100	500	7.7	95	
46392	**5G1,50** 5GAWG16	✓	100		8.6	140	
46401	**5G2,50** 5GAWG14	✓		500	10.6	220	
46408	**5G6,00** 5GAWG10	✓			15	450	
46410	**5G10,00** 5GAWG08	✓			19	870	
46348	**7G0,50** 7GAWG21	✓	100	500	7.6	85	
46375	**7G0,75** 7GAWG19	✓	100	500	8.6	125	
46384	**7G1,00** 7GAWG18	✓	100	500	9.2	150	
46393	**7G1,50** 7GAWG16	✓		500	10	215	
46402	**7G2,50** 7GAWG14	✓		500	12.4	290	

TECO CODE	FORMATION	CUT	ROLLS [M]	DRUMS [M]	EXT Ø [MM]	WEIGHT [KG/KM]	INS. COLOUR EXC
46349	**12G0,50** 12GAWG21	✓		500	9.6	130	
46376	**12G0,75** 12GAWG19	✓		500	10.2	180	
46385	**12G1,00** 12GAWG18	✓		500	10.8	200	
46386	**12X1,00** 12XAWG18	✓		500	10.8	200	BLACK CORE WITH WHITE PRINTED NUMBERS.
46394	**12G1,50** 12GAWG16	✓		500	12.4	290	
46403	**12G2,50** 12GAWG14	✓			15	450	
46350	**18G0,50** 18GAWG21	✓		500	10.8	190	
46377	**18G0,75** 18GAWG19	✓		500	11.9	245	
46387	**18G1,00** 18GAWG18	✓		500/100	12.9	260	
46395	**18G1,50** 18GAWG16	✓			15.4	415	
46351	**25G0,50** 25GAWG21	✓		500/100	13.2	280	
46388	**25G1,00** 25XAWG18	✓		500	15.2	460	
46396	**25G1,50** 25GAWG16	✓			19	590	
46404	**25G2,50** 25GAWG14	✓			22	900	
46352	**33G0,50** 33GAWG21	✓			14.2	320	
46389	**34G1,00** 34GAWG18	✓			17.5	540	
46390	**50G1,00** 50GAWG18	✓			21.2	880	

DYNAMIC APPLICATION

FRX® PLUS
POWER&CONTROL MULTICORE-ST

APPLICATIVE FEATURES

UP TO 5 MILLION GUARANTEED CYCLES

10,0 M/S2 ACCELERATION

20,0 M CABLE LENGTH

180,0 M/MIN TRAVEL SPEED

MINIMUM BENDING RADIUS

CROSS SECTION	CROSS SECTION MAX	DYNAMIC INSTALLATION	STATIC INSTALLATION
0,50	16,00	7,5xø	4,0xø
25.00	50,00	10,0xø	5,0xø

DESCRIPTION

UL/CSA certified flexible multicore cables designed for dynamic application in drag chains, also suitable for permanently flexible applications that allow free movement without tensile stress and without motion control in dry, damp, and wet environments. This family satisfies the requirements of the most commonly used cables in tool power supply and in generic industrial wiring harnesses. Reduced diameter and optimized minimum bending radius thanks to the low-capacity material. Suitable for indoor and outdoor use as well. Screening from electro-magnetic interferences thanks to the dense braid shield.

APPROVALS

AWM STYLE 21179 90°C 1000V

AWM I/II A/B 90°C 1000V

2014/35/CEE

2014/30/EU

2011/65/UE
2015/863/UE

TECHNICAL DATA

DYNAMIC -5°C +90°C
STATIC -40°C +90°C
OCCASIONAL FLEXING -20°C +90°C

NOMINAL VOLTAGE 1000 V (UL/CSA), UO/U 0,6/1 KV (VDE)

TEST VOLTAGE 4,0 KV
TEST VOLTAGE REFERENCE EN 50395 PART 6-7 - UL/1581

INSULATION RESISTANCE >=1 GOHM/KM ACC. TO EN 50395 PART.8

CONSTRUCTION FEATURES

POWER CONDUCTORS	CONDUCTOR	CL6 EXTRA-FLEXIBLE. BARE COPPER.
	INSULATION	POLYPROPYLENE COMPOUND (PP)
	INSULATION COLOR	BLACK CORE WITH WHITE PRINTED NUMBER + GREEN YELLOW
	SEPARATIONLAYER	INNER TAPE POLYESTER TRANSPARENT TAPE OR NON-WOVEN TAPE
OVERALL STRANDING	FILLER	FILLER POLYPROPYLENE
	SEPARATIONLAYER	TAPE NON-WOVEN TAPE
	SCREEN	SCREEN TINNED COPPER 85 % ± 5 %
	SEPARATIONLAYER	TAPE NON-WOVEN TAPE
	SHEATH	PVC COMPOUND.
	SHEATH COLOUR	GRAY, RAL: 7001, DESINA: NO

PRODUCTS FEATURES

FIRE PERFORMANCE
DIN VDE 0482-332-1-2, DIN EN 60332-1-2, IEC 6033-1-2, UL CABLE FLAME, UL VW-1, CSA FT1

OIL PERFORMANCE
VDE 0473-811-404, IEC 60811-404 (EU), CEI EN 50363-4-1 (EU), 1581 (UL)

UV PERFORMANCE
ACCORDING TO CEI EN 50289-4-17, ISO 4892-2, ASTM-D-2565-16

WATER PERFORMANCE
UL 1581, IEC 60811

HYDROCARBONS PERFORMANCE
UL 1581

TECO CODE	FORMATION	CUT	ROLLS [M]	DRUMS [M]	EXT Ø [MM]	WEIGHT [KG/KM]	INS. COLOUR EXC
46414	**(2X0,75)ST** (2XAWG19)ST	✗	100	500	6.2	60	BLACK CORE WITH WHITE PRINTED NUMBERS.
46420	**(2X1,00)ST** (2XAWG18)ST	✓	100/200	500	6.4	65	BLACK CORE WITH WHITE PRINTED NUMBERS.
46421	**(3G1,00)ST** (3XAWG18)ST	✓	100	500	6.8	78	
46412	**(4G0,50)ST** (4XAWG21)ST	✗			6.4	65	
46422	**(4G1,00)ST** (4XAWG18)ST	✓	100	500	7.5	95	
46430	**(4G1,50)ST** (4XAWG16)ST	✓	100	500	8.5	130	
46435	**(4G2,50)ST** (4GAWG14)ST	✓		500	10.3	180	
46416	**(5G0,75)ST** (5XAWG19)ST	✓	100	500	7.7	95	
46424	**(5G1,00)ST** (5GAWG18)ST	✓	100	500	8.4	110	
46431	**(5G1,50)ST** (5GAWG16)ST	✓	100	500	9	160	
46417	**(7G0,75)ST** (7XAWG19)ST	✓	100	500	9.2	115	
46425	**(7G1,00)ST** (7XAWG18)ST	✓		500	9.4	140	
46432	**(7G1,50)ST** (7GAWG16)ST	✓		500	11	230	
46437	**(7G2,50)ST** (7XAWG14)ST	✓			13.5	395	
46426	**(10G1,00)ST** (10XAWG18)ST	✓		500	11.3	250	
46413	**(12X0,50)ST** (12XAWG21)ST	✓	100	500	9.8	135	BLACK CORE WITH WHITE PRINTED NUMBERS.
46418	**(12G0,75)ST** (18XAWG19)ST	✓		500	11	175	
46427	**(12G1,00)ST** (12XAWG18)ST	✓		500	11.8	270	
46433	**(12G1,50)ST** (12XAWG16)ST	✓			12.9	340	
46438	**(12G2,50)ST** (12XAWG14)ST	✓			16	500	
46419	**(18G0,75)ST** (18XAWG19)ST	✓		500	12.8	235	
46428	**(18G1,00)ST** (18XAWG18)ST	✓			13.5	330	
46434	**(18G1,50)ST** (18XAWG16)ST	✓			16.2	475	
46429	**(25G1,00)ST** (25XAWG18)ST	✓			16	470	

DYNAMIC APPLICATION

FRX® PLUS
SERVO

APPLICATIVE FEATURES

UP TO 5 MILLION GUARANTEED CYCLES

10,0 M/S² ACCELERATION

20,0 M CABLE LENGTH

180,0 M/MIN TRAVEL SPEED

MINIMUM BENDING RADIUS

CROSS SECTION	CROSS SECTION MAX	DYNAMIC INSTALLATION	STATIC INSTALLATION
0,50	16,0	7,5xØ	4,0xØ
25,0	95,0	10,0xØ	5,0xØ

DESCRIPTION

UL/CSA certified flexible servomotor cables designed for dynamic application in drag chains, between the motor and frequency converter. Suitable for indoor and outdoor use. Screening from electromagnetic interference is achieved thanks to the dense braid shield. Compliant with the most commonly used drive system standards.

APPROVALS

E244280 AWM STYLE 21179 90°C 1000V

AWM I/II A/B 90°C 1000V

2014/35/CEE

EMC 2014/30/EU

RoHS 2011/65/UE 2015/863/UE

TECHNICAL DATA

DYNAMIC -5°C +90°C
STATIC -40°C +90°C
OCCASIONAL FLEXING -20°C +90°C

NOMINAL VOLTAGE 1000 V (UL/CSA), UO/U 0,6/1 KV (VDE)

TEST VOLTAGE 4,0 KV
TEST VOLTAGE REFERENCE EN 50395 PART 6-7 - UL/1581

INSULATION RESISTANCE >=1 GOHM/KM ACC. TO EN 50395 PART. 8

CONSTRUCTION FEATURES

POWER CONDUCTORS	CONDUCTOR	CL6 EXTRA-FLEXIBLE. BARE COPPER.
	INSULATION	POLYPROPYLENE COMPOUND (PP)
	INSULATION COLOR	BLACK CORE WITH WHITE PRINTING (U/L1/C/L+, V/L2, W/L3/D/L-) + GREEN-YELLOW.
	SEPARATIONLAYER	INNER TAPE POLYESTER TRANSPARENT TAPE OR NON-WOVEN TAPE
OVERALL STRANDING SERVO	FILLER	FILLER POLYPROPYLENE
	SEPARATIONLAYER	TAPE NON-WOVEN TAPE
	SCREEN	SCREEN TINNED COPPER 85 % ± 5 %
	SEPARATIONLAYER	TAPE NON-WOVEN TAPE
	SHEATH	PVC COMPOUND.
	SHEATH COLOUR	ORANGE RAL: 2003, DESINA: YES

PRODUCTS FEATURES

FIRE PERFORMANCE
DIN VDE 0482-332-1-2, DIN EN 60332-1-2, IEC 6033-1-2, UL CABLE FLAME, UL VW-1, CSA FT1

OIL PERFORMANCE
VDE 0473-811-404; IEC 60811-404 (EU); CEI EN 50363-4-1 (EU); 1581 (UL)

UV PERFORMANCE
CEI EN 50289-4-17, ISO 4892-2, ASTM-D-2565-16

WATER PERFORMANCE
UL 1581; IEC 60811

HYDROCARBONS PERFORMANCE
UL 1581

TECO CODE	OEM REF.	FORMATION	CUT	ROLLS [M]	DRUMS [M]	EXT Ø [MM]	WEIGHT [KG/KM]	INS. COLOUR EXC
46314		**(3G1,50)ST** (3GAWG16)ST	✓	100	500	7.8	95	BLACK CORE WITH WHITE PRINTED NUMBER + GREEN YELLOW
46316	SIEMENS 6FX5008-1BB11	**(4G1,50)ST** (4GAWG16)ST	✓	100	500	8.8	135	
46317	SIEMENS 6FX5008-1BB21	**(4G2,50)ST** (4GAWG14)ST	✓		500	10.3	180	
46318	SIEMENS 6FX5008-1BB31	**(4G4,00)ST** (4GAWG12)ST	✓		500	12.2	255	
46319	SIEMENS 6FX5008-1BB41	**(4G6,00)ST** (4GAWG10)ST	✓			14	370	
46320	SIEMENS 6FX5008-1BB51	**(4G10,00)ST** (4GAWG08)ST	✓			18	650	
46321	SIEMENS 6FX5008-1BB61	**(4G16,00)ST** (4GAWG06)ST	✓			22	1100	
46322	SIEMENS 6FX5008-1BB25	**(4G25,00)ST** (4GAWG04)ST	✓			26	1550	
46323	SIEMENS 6FX5008-1BB35	**(4G35,00)ST** (4GAWG02)ST	✓			30.6	2000	
46324	SIEMENS 6FX5008-1BB50	**(4G50,00)ST** (4GAWG1)ST	✓			35.2	3200	
46325	SIEMENS 6FX5008-1BB70	**(4G70,00)ST** (4GAWG2/0)ST	✓			41	3800	
46326	SIEMENS 6FX5008-1BB95	**(4G95,00)ST** (4GAWG3/0)ST	✓			46	5100	

DYNAMIC APPLICATION

FRX® PLUS
SERVO WITH PAIR

APPLICATIVE FEATURES

UP TO 5 MILLION GUARANTEED CYCLES

10,0 M/S² ACCELERATION

20,0 M CABLE LENGTH

180,0 M/MIN TRAVEL SPEED

MINIMUM BENDING RADIUS

CROSS SECTION	CROSS SECTION MAX	DYNAMIC INSTALLATION	STATIC INSTALLATION
0.50	16.00	7.5xø	4.0xø
25.00	95.00	10.0xø	5.0xø

DESCRIPTION

UL/CSA certified flexible servomotor cables designed for dynamic application in drag chains, between the motor and frequency converter. Suitable for indoor and outdoor use. Screening from electromagnetic interference is achieved thanks to the dense braid shield. Cables are available with one or two control pairs and are compliant with the most commonly used drive system standards.

APPROVALS

E244280 AWM STYLE 21179 90°C 1000V

AWM I/II A/B 90°C 1000V

2014/35/CEE

EMC 2014/30/EU

RoHS 2011/65/UE 2015/863/UE

TECHNICAL DATA

DYNAMIC -5°C +90°C
STATIC -40°C +90°C
OCCASIONAL FLEXING -20°C +90°C

NOMINAL VOLTAGE 1000 V (UL/CSA) UO/U 0,6/1 KV (VDE)

TEST VOLTAGE 4,0 KV
TEST VOLTAGE REFERENCE EN 50395 PART 6-7 - UL/1581

INSULATION RESISTANCE >=1 GOHM/KM ACC. TO. EN 50395 PART. 8

CONSTRUCTION FEATURES

POWER CONDUCTORS	CONDUCTOR	CL6 EXTRA-FLEXIBLE. BARE COPPER.
	INSULATION	POLYPROPYLENE COMPOUND (PP)
	INSULATION COLOR	BLACK CORE WITH WHITE PRINTING (U/L1/C/L+, V/L2, W/L3/D/L-) + GREEN-YELLOW.
	SEPARATIONLAYER	INNER TAPE POLYESTER TRANSPARENT TAPE OR NON-WOVEN TAPE
CONTROL PAIR SCREENED	CONDUCTOR	CL6 EXTRA-FLEXIBLE. BARE COPPER.
	INSULATION	POLYPROPYLENE COMPOUND (PP)
	INSULATION COLOR	BLACK CORE AND WHITE CORE.
	FILLER	FILLER POLYPROPYLENE
	SEPARATIONLAYER	INTERMEDIATE TAPE POLYESTER TRANSPARENT.
	SCREEN	SCREEN TINNED COPPER 85 % ± 5 %
	SEPARATIONLAYER	INTERMEDIATE TAPE POLYESTER TRANSPARENT.

CONSTRUCTION FEATURES

CONTROL PAIR SCREENED (TWO PAIR)	CONDUCTOR	**CL6 EXTRA-FLEXIBLE. BARE COPPER.**
	INSULATION	**POLYPROPYLENE COMPOUND (PP)**
	INSULATION COLOR	**BLACK CORE AND WHITE CORE.**
	FILLER	**FILLER POLYPROPYLENE**
	SEPARATIONLAYER	**INTERMEDIATE TAPE POLYESTER TRANSPARENT.**
	SCREEN	**SCREEN TINNED COPPER 85 % ± 5 %**
	SEPARATIONLAYER	**INTERMEDIATE TAPE POLYESTER TRANSPARENT.**
OVERALL STRANDING ONE PAIR	FILLER	**FILLER POLYPROPYLENE**
	SEPARATIONLAYER	**TAPE NON-WOVEN TAPE**
	SCREEN	**SCREEN TINNED COPPER 85 % ± 5 %**
	SEPARATIONLAYER	**TAPE NON-WOVEN TAPE**
	SHEATH	**PVC COMPOUND.**
	SHEATH COLOUR	**ORANGE RAL: 2003, DESINA: YES**
OVERALL STRANDING TWO PAIR	FILLER	**FILLER POLYPROPYLENE**
	SEPARATIONLAYER	**TAPE NON-WOVEN TAPE**
	SCREEN	**SCREEN TINNED COPPER 85 % ± 5 %**
	SEPARATIONLAYER	**TAPE NON-WOVEN TAPE**
	SHEATH	**PVC COMPOUND.**
	SHEATH COLOUR	**ORANGE RAL: 2003, DESINA: YES**

PRODUCTS FEATURES

FIRE PERFORMANCE
DIN VDE 0482-332-1-2, DIN EN 60332-1-2, IEC 60332-1-2, UL CABLE FLAME, UL VW-1, CSA FT1.

OIL PERFORMANCE
VDE 0473-811-404 IEC 60811-404 (EU) CEI EN 50363-10-2 1581 (UL)

UV PERFORMANCE
ACCORDING TO ISO 4892-2, EN 50289-4-17, ASTM-D-2565-16

WATER PERFORMANCE
UL 1581 - IEC 60811

HYDROCARBONS PERFORMANCE
UL 1581

TECO CODE	OEM REF.	FORMATION	CUT	ROLLS [M]	DRUMS [M]	EXT Ø [MM]	WEIGHT [KG/KM]
46327		**[4G0,75+(2X0,50)ST]ST** [4GAWG19+(2XAWG21)ST]ST	✓	100	500	9.2	140
46328		**[4G1,50+(2X1,00)ST]ST** [4GAWG16+(2XAWG18)ST]ST	✓		500	10.8	200
46329	SIEMENS 6FX5008-1BA11	**[4G1,50+(2X1,50)ST]ST** [4GAWG16+(2XAWG16)ST]ST	✓		500	11.4	240
46341	INDRAMAT INK 650	**[4G1,50+2X(2X0,75)ST]ST** [4GAWG16+2X(2XAWG19)ST]ST	✓		500	12	235
46330		**[4G2,50+(2X1,00)ST]ST** [4GAWG14+(2XAWG18)ST]ST	✓		500	12.4	290
46331	SIEMENS 6FX5008-1BA21	**[4G2,50+(2X1,50)ST]ST** [4GAWG14+(2XAWG16)ST]ST	✓			13.2	310
46342	INDRAMAT INK 602	**[4G2,50+2X(2X1,00)ST]ST** [4GAWG14+2X(2XAWG18)ST]ST	✓			14.5	320
46332		**[4G4,00+(2X1,00)ST]ST** [4GAWG12+(2XAWG18)ST]ST	✓			13.8	380
46333	SIEMENS 6FX5008-1BA31	**[4G4,00+(2X1,50)ST]ST** [4GAWG12+(2XAWG16)ST]ST	✓			14.6	410
46343	INDRAMAT INK 603	**[4G4,00+(2X1,00)ST+(2X1,50)ST]ST** [4XAWG12+(2XAWG18)ST+ (2XAWG16)ST]ST	✓			16.2	430
46334	SIEMENS 6FX5008-1BA41	**[4G6,00+(2X1,50)ST]ST** [4GAWG08+(2XAWG16)ST]ST	✓			16.6	510
46344	INDRAMAT INK 604	**[4G6,00+(2X1,00)ST+(2X1,50)ST]ST** [4XAWG10+(2XAWG18)ST+ (2XAWG16)ST]ST	✓			18.2	570
46335	SIEMENS 6FX5008-1BA51	**[4G10,00+(2X1,50)ST]ST** [4GAWG08+(2XAWG16)ST]ST	✓			20.8	770
46345	INDRAMAT INK 605	**[4G10,00+(2X1,00)ST+(2X1,50)ST]ST** [4GAWG08+(2XAWG18)ST+ (2XAWG16)ST]ST	✓			22.4	889
46336	SIEMENS 6FX5008-1BA61	**[4G16,00+(2X1,50)ST]ST** [4GAWG06+(2XAWG16)ST]ST	✓			23.4	1150
46337	SIEMENS 6FX5008-1BA25	**[4G25,00+(2X1,50)ST]ST** [4GAWG04+(2XAWG16)ST]ST	✓			27	1600
46338	SIEMENS 6FX5008-1BA35	**[4G35,00+(2X1,50)ST]ST** [4GAWG02+(2XAWG16)ST]ST	✓			31.2	1950

DYNAMIC APPLICATION

FRX® PLUS
ENCODER&RESOLVER 1

APPLICATIVE FEATURES

UP TO 5 MIO GUARANTEED CYCLES

10,0M/SEC² ACCELERATION

20,0M CABLE LENGTH

180,00M/MIN TRAVEL SPEED

MINIMUM BENDING RADIUS

CROSS SECTION	CROSS SECTION MAX	DYNAMIC INSTALLATION	STATIC INSTALLATION
0.14	1.00	7.5xø	6.0xø

DESCRIPTION

UL/CSA certified flexible cables for data transmission of encoder and resolver devices, designed for dynamic application in drag chains. They are also suitable for permanently flexible applications that allow free movement without tensile stress and without motion control in dry, damp, and wet environments. Suitable for indoor and outdoor use. Interference is suppressed thanks to the shields.

APPROVALS

E244280 AWM STYLE 20042 90°C 300V

AWM I/II A/B 90°C 300V

2014/35/CEE

2011/65/UE
2015/863/UE

EMC 2014/30/EU

TECHNICAL DATA

DYNAMIC -5 °C +90 °C
STATIC -40 °C +90 °C

NOMINAL VOLTAGE 300V (UL/CSA)

TEST VOLTAGE C/C 2000VRMS,1MIN; CORE/OVERALL SCREEN 2000VRMS,1MIN

INSULATION RESISTANCE ≥1 GOHM/KM

CONSTRUCTION FEATURES

GROUP 1	CONDUCTOR	CL6 EXTRA-FLEXIBLE. TINNED COPPER
	INSULATION	POLYPROPYLENE COMPOUND (PP)
	INSULATION COLOR	COLOURS SEQUENCE REFERS TO DIN 47100 STANDARD.
OVERALL STRANDING	FILLER	FILLER POLYPROPYLENE
	SEPARATIONLAYER	WRAPPING NON-WOVEN TAPE
	SCREEN	SCREEN TINNED COPPER 85 % ± 5 %
	SEPARATIONLAYER	OVERALL WRAPPING NON-WOVEN TAPE
	SHEATH	PVC COMPOUND.
	SHEATH COLOUR	GREEN RAL: 6018, DESINA: YES

PRODUCTS FEATURES

FIRE PERFORMANCE
DIN VDE 0482-332-1-2; DIN EN 60332-1-2; IEC 60332-1-2; UL CABLE FLAME; UL VW-1; CSA FT1.

OIL PERFORMANCE
VDE 0473-811-404; IEC 60811-404 (EU); CEI EN 50363-4-1 (EU); 1581 (UL)

UV PERFORMANCE
CEI EN 50289-4-17, ISO 4892-2, ASTM-D-2565-16

WATER PERFORMANCE
UL 1581, IEC 60811

HYDROCARBONS PERFORMANCE
UL 1581

TECO CODE	FORMATION	CUT	ROLLS [M]	DRUMS [M]	EXT Ø [MM]	WEIGHT [KG/KM]	INS. COLOUR EXC
46626	**(2X2X0,34)ST** (2X2XAWG22)ST	✓	100	500	7	66	GROUP 1 2X2X0,34 : WH-BN, GN-YE

DYNAMIC APPLICATION

FRX® PLUS
ENCODER&RESOLVER 2

APPLICATIVE FEATURES

UP TO 5 MIO GUARANTEED CYCLES

10,0M/SEC² ACCELERATION

20,0M CABLE LENGTH

180,00M/MIN TRAVEL SPEED

MINIMUM BENDING RADIUS

CROSS SECTION	CROSS SECTION MAX	DYNAMIC INSTALLATION	STATIC INSTALLATION
0.14	1.00	7.5xø	6.0xø

DESCRIPTION

UL/CSA certified flexible cables for data transmission of encoder and resolver devices, designed for dynamic application in drag chains. They are also suitable for permanently flexible applications that allow free movement without tensile stress and without motion control in dry, damp, and wet environments. Suitable for indoor and outdoor use. Interference is suppressed thanks to the shields.

APPROVALS

E244280 — AWM STYLE 20042 90°C 300V

AWM I/II A/B 90°C 300V

2014/35/CEE

RoHS — 2011/65/UE 2015/863/UE

EMC 2014/30/EU

TECHNICAL DATA

DYNAMIC -5 °C +90 °C
STATIC -40 °C +90 °C

NOMINAL VOLTAGE 300V (UL/CSA)

TEST VOLTAGE C/C 2000VRMS,1MIN; CORE/OVERALL SCREEN 2000VRMS,1MIN

INSULATION RESISTANCE ≥1 GOHM/KM

CONSTRUCTION FEATURES

GROUP 1	CONDUCTOR	CL6 EXTRA-FLEXIBLE. TINNED COPPER
	INSULATION	POLYPROPYLENE COMPOUND (PP)
	INSULATION COLOR	COLOURS SEQUENCE REFERS TO DIN 47100 STANDARD.
	DRAINWIRE	DRAIN WIRE TINNED COPPER
	SEPARATIONLAYER	WRAPPING TAPE SCREEN ALLUMINIUM INSIDE/POLYESTER OUTSIDE
	SEPARATIONLAYER	TAPE POLYESTER TRANSPARENT.
GROUP 2	CONDUCTOR	CL6 EXTRA-FLEXIBLE. TINNED COPPER
	INSULATION	POLYPROPYLENE COMPOUND (PP)
	INSULATION COLOR	COLOURS SEQUENCE REFERS TO DIN 47100 STANDARD.
GROUP 3	CONDUCTOR	CL6 EXTRA-FLEXIBLE. TINNED COPPER
	INSULATION	POLYPROPYLENE COMPOUND (PP)
	INSULATION COLOR	VARIOUS COLOURS

CONSTRUCTION FEATURES

OVERALL STRANDING	SEPARATIONLAYER	**WRAPPING NON-WOVEN TAPE**
	SCREEN	**SCREEN TINNED COPPER 85 % ± 5 %**
	SEPARATIONLAYER	**OVERALL WRAPPING NON-WOVEN TAPE**
	SHEATH	**PVC COMPOUND.**
	SHEATH COLOUR	**GREEN RAL: 6018, DESINA: YES**

PRODUCTS FEATURES

FIRE PERFORMANCE
DIN VDE 0482-332-1-2; DIN EN 60332-1-2; IEC 60332-1-2; UL CABLE FLAME; UL VW-1; CSA FT1.

OIL PERFORMANCE
VDE 0473-811-404; IEC 60811-404 (EU); CEI EN 50363-4-1 (EU); 1581 (UL)

UV PERFORMANCE
CEI EN 50289-4-17, ISO 4892-2, ASTM-D-2565-16

WATER PERFORMANCE
UL 1581, IEC 60811

HYDROCARBONS PERFORMANCE
UL 1581

TECO CODE	FORMATION	EXT Ø [MM]	WEIGHT [KG/KM]	INS. COLOUR EXC
46627	**[(2X0,34)CCSN+6X2X0,34+2X1,00]ST** [(2XAWG22)CCSN+6X2XAWG22+2XAWG18]ST	11	180	GROUP 1 2X0,34 : WH-BN GROUP 2 6X2X0,34 : GN-YE, GY-PK, BU-RD, BK-VT, WH/GN*-BN/GN*, GY/PK*-RD/BU* GROUP 3 2X1,00 : RD-BU *RINGED BICOLOUR

DYNAMIC APPLICATION

FRX® PLUS
ENCODER&RESOLVER 3

APPLICATIVE FEATURES

UP TO 5 MIO GUARANTEED CYCLES

10,0M/SEC² ACCELERATION

20,0M CABLE LENGTH

180,00M/MIN TRAVEL SPEED

MINIMUM BENDING RADIUS

CROSS SECTION	CROSS SECTION MAX	DYNAMIC INSTALLATION	STATIC INSTALLATION
0.14	1.00	7.5xø	6.0xø

DESCRIPTION

UL/CSA certified flexible cables for data transmission of encoder and resolver devices, designed for dynamic application in drag chains. They are also suitable for permanently flexible applications that allow free movement without tensile stress and without motion control in dry, damp, and wet environments. Suitable for indoor and outdoor use. Interference is suppressed thanks to the shields.

APPROVALS

E244280 — AWM STYLE 20042 90°C 300V

AWM I/II A/B 90°C 300V

2014/35/CEE

2011/65/UE
2015/863/UE

EMC 2014/30/EU

TECHNICAL DATA

DYNAMIC -5 °C +90 °C
STATIC -40 °C +90 °C

NOMINAL VOLTAGE 300V (UL/CSA)

TEST VOLTAGE C/C 2000VRMS,1MIN; CORE/OVERALL SCREEN 2000VRMS,1MIN

INSULATION RESISTANCE ≥1 GOHM/KM

CONSTRUCTION FEATURES

GROUP 1	CONDUCTOR	CL6 EXTRA-FLEXIBLE. TINNED COPPER
	INSULATION	POLYPROPYLENE COMPOUND (PP)
	INSULATION COLOR	COLOURS SEQUENCE REFERS TO DIN 47100 STANDARD.
GROUP 2	CONDUCTOR	CL6 EXTRA-FLEXIBLE. TINNED COPPER
	INSULATION	POLYPROPYLENE COMPOUND (PP)
	INSULATION COLOR	COLOURS SEQUENCE REFERS TO DIN 47100 STANDARD.

CONSTRUCTION FEATURES

OVERALL STRANDING	FILLER	**FILLER POLYPROPYLENE**
	SEPARATIONLAYER	**WRAPPING NON-WOVEN TAPE**
	SEPARATIONLAYER	**WRAPPING TAPE SCREEN ALLUMINIUM INSIDE/POLYESTER OUTSIDE**
	DRAINWIRE	**DRAIN WIRE TINNED COPPER**
	SCREEN	**SCREEN TINNED COPPER 85 % ± 5 %**
	SEPARATIONLAYER	**OVERALL WRAPPING NON-WOVEN TAPE**
	SHEATH	**PVC COMPOUND.**
	SHEATH COLOUR	**GREEN RAL: 6018, DESINA: YES**

PRODUCTS FEATURES

FIRE PERFORMANCE
DIN VDE 0482-332-1-2; DIN EN 60332-1-2; IEC 60332-1-2; UL CABLE FLAME; UL VW-1; CSA FT1.

OIL PERFORMANCE
VDE 0473-811-404; IEC 60811-404 (EU); CEI EN 50363-4-1 (EU); 1581 (UL)

UV PERFORMANCE
CEI EN 50289-4-17, ISO 4892-2, ASTM-D-2565-16

WATER PERFORMANCE
UL 1581, IEC 60811

COLD PERFORMANCE
UL 1581

HYDROCARBONS PERFORMANCE
UL 1581

TECO CODE	FORMATION	EXT Ø [MM]	WEIGHT [KG/KM]	INS. COLOUR EXC
46628	**(3X2X0,14+2X0,34)SNCC/ST** (3X2XAWG26+2XAWG22)SNCC/ST	7	60	GROUP 1 3X2X0,14 : WH-BN, GN-YE, GY-PK GROUP 2 2X0,34 : BU-RD

DYNAMIC APPLICATION

FRX® PLUS
ENCODER&RESOLVER 4

APPLICATIVE FEATURES

UP TO 5 MIO GUARANTEED CYCLES

10,0M/SEC² ACCELERATION

20,0M CABLE LENGTH

180,00M/MIN TRAVEL SPEED

MINIMUM BENDING RADIUS

CROSS SECTION	CROSS SECTION MAX	DYNAMIC INSTALLATION	STATIC INSTALLATION
0.14	1.00	7.5xø	6.0xø

DESCRIPTION

UL/CSA certified flexible cables for data transmission of encoder and resolver devices, designed for dynamic application in drag chains. They are also suitable for permanently flexible applications that allow free movement without tensile stress and without motion control in dry, damp, and wet environments. Suitable for indoor and outdoor use. Interference is suppressed thanks to the shields

APPROVALS

E244280 AWM STYLE 20042 90°C 300V

AWM I/II A/B 90°C 300V

2014/35/CEE

RoHS 2011/65/UE 2015/863/UE

EMC 2014/30/EU

TECHNICAL DATA

DYNAMIC -5 °C +90 °C
STATIC -40 °C +90 °C

NOMINAL VOLTAGE 300V (UL/CSA)

TEST VOLTAGE C/C 2000VRMS,1MIN; CORE/OVERALL SCREEN 2000VRMS,1MIN

INSULATION RESISTANCE ≥1 GOHM/KM

CONSTRUCTION FEATURES

GROUP 1	CONDUCTOR	CL6 EXTRA-FLEXIBLE. TINNED COPPER
	INSULATION	POLYPROPYLENE COMPOUND (PP)
	INSULATION COLOR	COLOURS SEQUENCE REFERS TO DIN 47100 STANDARD.
	DRAINWIRE	DRAIN WIRE TINNED COPPER
	SCREEN	SCREEN SF TINNED COPPER 90 % ± 5 %
	SEPARATIONLAYER	TAPE POLYESTER TRANSPARENT.
	SHEATH	INNER JACKET POLYOLEFIN COMPOUND.
GROUP 2	CONDUCTOR	CL6 EXTRA-FLEXIBLE. TINNED COPPER
	INSULATION	POLYPROPYLENE COMPOUND (PP)
	SCREEN	SCREEN SF TINNED COPPER 90 % ± 5 %
	SEPARATIONLAYER	TAPE POLYESTER TRANSPARENT.
	SHEATH	INNER JACKET B POLYOLEFIN COMPOUND.

CONSTRUCTION FEATURES

OVERALL STRANDING	FILLER	**FILLER** **POLYPROPYLENE COMPOUND (PP)**
	SEPARATIONLAYER	**WRAPPING** **NON-WOVEN TAPE**
	SCREEN	**SCREEN** **TINNED COPPER** **85 % ± 5 %**
	SEPARATIONLAYER	**OVERALL WRAPPING** **NON-WOVEN TAPE**
	SHEATH	**PVC COMPOUND.**
	SHEATH COLOUR	**GREEN** **RAL: 6018, DESINA: YES**

PRODUCTS FEATURES

FIRE PERFORMANCE
DIN VDE 0482-332-1-2; DIN EN 60332-1-2; IEC 60332-1-2; UL CABLE FLAME; UL VW-1; CSA FT1

OIL PERFORMANCE
VDE 0473-811-404; IEC 60811-404 (EU); CEI EN 50363-4-1 (EU); 1581 (UL)

UV PERFORMANCE
CEI EN 50289-4-17, ISO 4892-2, ASTM-D-2565-16

WATER PERFORMANCE
UL 1581, IEC 60811

HYDROCARBONS PERFORMANCE
UL 1581

TECO CODE	OEM REF.	FORMATION	CUT	ROLLS [M]	DRUMS [M]	EXT Ø [MM]	WEIGHT [KG/KM]	INS. COLOUR EXC
46629	HEIDENHAIN	**[3X(2X0,14)CCSF-RPE+2X(0,5)SF-RPE]ST** [3X(2XAWG26)CCSF/RPE+2X(AWG21)SF/RPE]ST	✓	100	500	8.9	110	GROUP 1 3X(2X0,14) : YE-GN, RD-BU, GY-PK GROUP 2 2X(0,50) : WH, BN

DYNAMIC APPLICATION

FRX® PLUS
ENCODER&RESOLVER 5

APPLICATIVE FEATURES

UP TO 5 MIO GUARANTEED CYCLES

10,0M/SEC² ACCELERATION

20,0M CABLE LENGTH

180,00M/MIN TRAVEL SPEED

MINIMUM BENDING RADIUS

CROSS SECTION	CROSS SECTION MAX	DYNAMIC INSTALLATION	STATIC INSTALLATION
0.14	1.00	7.5xø	6.0xø

DESCRIPTION

UL/CSA certified flexible cables for data transmission of encoder and resolver devices, designed for dynamic application in drag chains. They are also suitable for permanently flexible applications that allow free movement without tensile stress and without motion control in dry, damp, and wet environments. Suitable for indoor and outdoor use. Interference is suppressed thanks to the shields.

APPROVALS

AWM STYLE 20042
90°C 300V

AWM I/II A/B 90°C
300V

2014/35/CEE

2011/65/UE
2015/863/UE

2014/30/EU

TECHNICAL DATA

DYNAMIC -5 °C +90 °C
STATIC -5 °C +90 °C

NOMINAL VOLTAGE 300V (UL/CSA)

TEST VOLTAGE C/C 2000VRMS,1MIN; CORE/OVERALL SCREEN 2000VRMS,1MIN

INSULATION RESISTANCE ≥1 GOHM/KM

CONSTRUCTION FEATURES

GROUP 1	CONDUCTOR	CL6 EXTRA-FLEXIBLE. TINNED COPPER
	INSULATION	POLYPROPYLENE COMPOUND (PP)
	INSULATION COLOR	VARIOUS COLOURS
	DRAINWIRE	DRAIN WIRE TINNED COPPER
	SCREEN	SCREEN SF TINNED COPPER 90 % ± 5 %
	SEPARATIONLAYER	TAPE POLYESTER TRANSPARENT.
	SHEATH	INNER JACKET POLYOLEFIN COMPOUND.
GROUP 2	CONDUCTOR	CL6 EXTRA-FLEXIBLE. TINNED COPPER
	INSULATION	POLYPROPYLENE COMPOUND (PP)
	INSULATION COLOR	VARIOUS COLOURS
GROUP 3	CONDUCTOR	CL6 EXTRA-FLEXIBLE. TINNED COPPER
	INSULATION	POLYPROPYLENE COMPOUND (PP)
	INSULATION COLOR	VARIOUS COLOURS

CONSTRUCTION FEATURES

GROUP 4	CONDUCTOR	**CL6 EXTRA-FLEXIBLE. TINNED COPPER**
	INSULATION	**POLYPROPYLENE COMPOUND (PP)**
OVERALL STRANDING	FILLER	**FILLER POLYPROPYLENE**
	SEPARATIONLAYER	**WRAPPING NON-WOVEN TAPE**
	SCREEN	**SCREEN TINNED COPPER 85 % ± 5 %**
	SEPARATIONLAYER	**OVERALL WRAPPING NON-WOVEN TAPE**
	SHEATH	**PVC COMPOUND.**
	SHEATH COLOUR	**GREEN RAL: 6018, DESINA: YES**

PRODUCTS FEATURES

FIRE PERFORMANCE
DIN VDE 0482-332-1-2; DIN EN 60332-1-2; IEC 60332-1-2; UL CABLE FLAME; UL VW-1; CSA FT1

OIL PERFORMANCE
VDE 0473-811-404; IEC 60811-404 (EU); CEI EN 50363-4-1 (EU); 1581 (UL)

UV PERFORMANCE
CEI EN 50289-4-17, ISO 4892-2, ASTM-D-2565-16

WATER PERFORMANCE
UL 1581, IEC 60811

HYDROCARBONS PERFORMANCE
UL 1581

TECO CODE	OEM REF.	FORMATION	CUT	ROLLS [M]	DRUMS [M]	EXT Ø [MM]	WEIGHT [KG/KM]	INS. COLOUR EXC
46630	SIEMENS 6FX5008-1BD51	**[3X(2X0,14)CCSF-R+4X0,14+4X0,25+2X0,50]ST** [3X(2XAWG26)CC/SF+4XAWG26+4XAWG24+2XAWG21]ST	✓		500	9.8	142	GROUP 1 3X(2X0,14) : YE-GN, RD-OR, BK-BN GROUP 2 4X0,14 : GY, BU, WH/YE*, WH/BK* GROUP 2 4X0,25 : BN/YE*, BN/GY*, GN/BK*, GN/RD* GROUP 2 2X0,50 : BN/RD*, BN/BU* *RINGED BICOLOUR

DYNAMIC APPLICATION

FRX® PLUS
ENCODER&RESOLVER 6

APPLICATIVE FEATURES

UP TO 5 MIO GUARANTEED CYCLES

10,0M/SEC² ACCELERATION

20,0M CABLE LENGTH

180,00M/MIN TRAVEL SPEED

MINIMUM BENDING RADIUS

CROSS SECTION	CROSS SECTION MAX	DYNAMIC INSTALLATION	STATIC INSTALLATION
0.14	1.00	7.5xø	6.0xø

DESCRIPTION

UL/CSA certified flexible cables for data transmission of encoder and resolver devices, designed for dynamic application in drag chains. They are also suitable for permanently flexible applications that allow free movement without tensile stress and without motion control in dry, damp, and wet environments. Suitable for indoor and outdoor use. Interference is suppressed thanks to the shields.

APPROVALS

AWM STYLE 20042 90°C 300V

AWM I/II A/B 90°C 300V

2014/35/CEE

2011/65/UE 2015/863/UE

2014/30/EU

TECHNICAL DATA

DYNAMIC -5 °C +90 °C STATIC -40 °C +90 °C

NOMINAL VOLTAGE 300V (UL/CSA)

TEST VOLTAGE C/C 2000VRMS,1MIN; CORE/OVERALL SCREEN 2000VRMS,1MIN

INSULATION RESISTANCE ≥1 GOHM/KM

CONSTRUCTION FEATURES

GROUP 1	CONDUCTOR	CL6 EXTRA-FLEXIBLE. TINNED COPPER
	INSULATION	POLYPROPYLENE COMPOUND (PP)
	INSULATION COLOR	COLOURS SEQUENCE REFERS TO DIN 47100 STANDARD.
GROUP 2	CONDUCTOR	CL6 EXTRA-FLEXIBLE. TINNED COPPER
	INSULATION	POLYPROPYLENE COMPOUND (PP)
	INSULATION COLOR	COLOURS SEQUENCE REFERS TO DIN 47100 STANDARD.

CONSTRUCTION FEATURES

OVERALL STRANDING	FILLER	**FILLER** **POLYPROPYLENE COMPOUND (PP)**
	SEPARATIONLAYER	**WRAPPING** **NON-WOVEN TAPE**
	DRAINWIRE	**DRAIN WIRE** **TINNED COPPER**
	SCREEN	**SCREEN** **TINNED COPPER** **85 % ± 5 %**
	SEPARATIONLAYER	**OVERALL WRAPPING** **NON-WOVEN TAPE**
	SHEATH	**PVC COMPOUND.**
	SHEATH COLOUR	**GREEN** **RAL: 6018, DESINA: YES**

PRODUCTS FEATURES

FIRE PERFORMANCE
DIN VDE 0482-332-1-2; DIN EN 60332-1-2; IEC 60332-1-2; UL CABLE FLAME; UL VW-1; CSA FT1.

OIL PERFORMANCE
VDE 0473-811-404; IEC 60811-404 (EU); CEI EN 50363-4-1 (EU); 1581 (UL)

UV PERFORMANCE
CEI EN 50289-4-17, ISO 4892-2, ASTM-D-2565-16

WATER PERFORMANCE
UL 1581, IEC 60811

HYDROCARBONS PERFORMANCE
UL 1581

TECO CODE	FORMATION	CUT	ROLLS [M]	DRUMS [M]	EXT Ø [MM]	WEIGHT [KG/KM]	INS. COLOUR EXC
46631	**(3X2X0,34+2X0,50)CCST** (3X2XAWG22+2XAWG21)CCST	✓	100	500	8.6	99	GROUP 1 3X2X0,34 : WH-BN, GY-PK, GN-YE GROUP 2 2X0,50 : RD-BU

DYNAMIC APPLICATION

FRX® PLUS
ENCODER&RESOLVER 7

APPLICATIVE FEATURES

UP TO 5 MIO GUARANTEED CYCLES

10,0M/SEC² ACCELERATION

20,0M CABLE LENGTH

180,00M/MIN TRAVEL SPEED

MINIMUM BENDING RADIUS

CROSS SECTION	CROSS SECTION MAX	DYNAMIC INSTALLATION	STATIC INSTALLATION
0.14	1.00	7.5xø	6.0xø

DESCRIPTION

UL/CSA certified flexible cables for data transmission of encoder and resolver devices, designed for dynamic application in drag chains. They are also suitable for permanently flexible applications that allow free movement without tensile stress and without motion control in dry, damp, and wet environments. Suitable for indoor and outdoor use. Interference is suppressed thanks to the shields.

APPROVALS

E244280 AWM STYLE 20042 90°C 300V

AWM I/II A/B 90°C 300V

2014/35/CEE

2011/65/UE 2015/863/UE

EMC 2014/30/EU

TECHNICAL DATA

DYNAMIC -5 °C +90 °C
STATIC -40 °C +90 °C

NOMINAL VOLTAGE 300V (UL/CSA)

TEST VOLTAGE C/C 2000VRMS,1MIN; CORE/OVERALL SCREEN 2000VRMS,1MIN

INSULATION RESISTANCE ≥1 GOHM/KM

CONSTRUCTION FEATURES

GROUP 1	CONDUCTOR	CL6 EXTRA-FLEXIBLE. TINNED COPPER
	INSULATION	POLYPROPYLENE COMPOUND (PP)
	INSULATION COLOR	COLOURS SEQUENCE REFERS TO DIN 47100 STANDARD.
OVERALL STRANDING	SEPARATIONLAYER	WRAPPING NON-WOVEN TAPE
	DRAINWIRE	DRAIN WIRE TINNED COPPER
	SCREEN	SCREEN TINNED COPPER 85 % ± 5 %
	SEPARATIONLAYER	OVERALL WRAPPING NON-WOVEN TAPE
	SHEATH	PVC COMPOUND.
	SHEATH COLOUR	GREEN RAL: 6018, DESINA: YES

PRODUCTS FEATURES

FIRE PERFORMANCE
DIN VDE 0482-332-1-2; DIN EN 60332-1-2; IEC 60332-1-2; UL CABLE FLAME; UL VW-1; CSA FT1

OIL PERFORMANCE
VDE 0473-811-404; IEC 60811-404 (EU); CEI EN 50363-4-1 (EU); 1581 (UL)

UV PERFORMANCE
CEI EN 50289-4-17, ISO 4892-2, ASTM-D-2565-16

WATER PERFORMANCE
UL 1581, IEC 60811

HYDROCARBONS PERFORMANCE
UL 1581

TECO CODE	FORMATION	CUT	ROLLS [M]	DRUMS [M]	EXT Ø [MM]	WEIGHT [KG/KM]	INS. COLOUR EXC
46632	**(4X2X0,25)CC/ST** (4X2XAWG24)CC/ST	✓	100	500	7.5	85	GROUP 1 4X2X0,25 : WH-BN, GN-YE, GY-PK, BU+RD

DYNAMIC APPLICATION

FRX® PLUS
ENCODER&RESOLVER 8

APPLICATIVE FEATURES

UP TO 5 MIO GUARANTEED CYCLES

10,0M/SEC² ACCELERATION

20,0M CABLE LENGTH

180,00M/MIN TRAVEL SPEED

MINIMUM BENDING RADIUS

CROSS SECTION	CROSS SECTION MAX	DYNAMIC INSTALLATION	STATIC INSTALLATION
0.14	1.00	7.5xø	6.0xø

DESCRIPTION

UL/CSA certified flexible cables for data transmission of encoder and resolver devices, designed for dynamic application in drag chains. They are also suitable for permanently flexible applications that allow free movement without tensile stress and without motion control in dry, damp, and wet environments. Suitable for indoor and outdoor use. Interference is suppressed thanks to the shields.

APPROVALS

E244280 — AWM STYLE 20042 90°C 300V

AWM I/II A/B 90°C 300V

2014/35/CEE

RoHS — 2011/65/UE 2015/863/UE

EMC 2014/30/EU

TECHNICAL DATA

DYNAMIC -5 °C +90 °C
STATIC -40 °C +90 °C

NOMINAL VOLTAGE 300V (UL/CSA)

TEST VOLTAGE C/C 2000VRMS,1MIN; CORE/OVERALL SCREEN 2000VRMS,1MIN

INSULATION RESISTANCE ≥1 GOHM/KM

CONSTRUCTION FEATURES

GROUP 1	CONDUCTOR	CL6 EXTRA-FLEXIBLE. TINNED COPPER
	INSULATION	POLYPROPYLENE COMPOUND (PP)
	INSULATION COLOR	VARIOUS COLOURS
	SEPARATIONLAYER	TAPE POLYESTER TRANSPARENT.
	SCREEN	PAIRS SCREEN TINNED COPPER 85 % ± 5 %
	SHEATH	INNER JACKET POLYOLEFIN COMPOUND.
OVERALL STRANDING	FILLER	FILLER POLYPROPYLENE
	SEPARATIONLAYER	WRAPPING NON-WOVEN TAPE
	SCREEN	SCREEN TINNED COPPER 85 % ± 5 %
	SEPARATIONLAYER	OVERALL WRAPPING NON-WOVEN TAPE
	SHEATH	PVC COMPOUND.
	SHEATH COLOUR	GREEN RAL: 6018, DESINA: YES

PRODUCTS FEATURES

FIRE PERFORMANCE
DIN VDE 0482-332-1-2; DIN EN 60332-1-2; IEC 60332-1-2; UL CABLE FLAME; UL VW-1; CSA FT1.

OIL PERFORMANCE
VDE 0473-811-404; IEC 60811-404 (EU); CEI EN 50363-4-1 (EU); 1581 (UL)

UV PERFORMANCE
CEI EN 50289-4-17, ISO 4892-2, ASTM-D-2565-16

WATER PERFORMANCE
UL 1581, IEC 60811

HYDROCARBONS PERFORMANCE
UL 1581

TECO CODE	FORMATION	CUT	ROLLS [M]	DRUMS [M]	EXT Ø [MM]	WEIGHT [KG/KM]	INS. COLOUR EXC
46633	**[4X(2X0,25)ST]ST** [4X(2XAWG24)ST]ST	✓	100	500	9.2	111	GROUP 1 4X(2X0,25) : WH-YE, WH-BU, WH-RD, WH-GN

DYNAMIC APPLICATION

FRX® PLUS
ENCODER&RESOLVER 9

APPLICATIVE FEATURES

UP TO 5 MIO GUARANTEED CYCLES

10,0M/SEC² ACCELERATION

20,0M CABLE LENGTH

180,00M/MIN TRAVEL SPEED

MINIMUM BENDING RADIUS

CROSS SECTION	CROSS SECTION MAX	DYNAMIC INSTALLATION	STATIC INSTALLATION
0.14	1.00	7.5xø	6.0xø

DESCRIPTION

UL/CSA certified flexible cables for data transmission of encoder and resolver devices, designed for dynamic application in drag chains. They are also suitable for permanently flexible applications that allow free movement without tensile stress and without motion control in dry, damp, and wet environments. Suitable for indoor and outdoor use. Interference is suppressed thanks to the shields.

APPROVALS

E244280 — AWM STYLE 20042 90°C 300V

AWM I/II A/B 90°C 300V

2014/35/CEE

RoHS — 2011/65/UE 2015/863/UE

EMC 2014/30/EU

TECHNICAL DATA

DYNAMIC -5 °C +90 °C
STATIC -40 °C +90 °C

NOMINAL VOLTAGE 300V (UL/CSA)

TEST VOLTAGE C/C 2000VRMS,1MIN; CORE/OVERALL SCREEN 2000VRMS,1MIN

INSULATION RESISTANCE ≥1 GOHM/KM

CONSTRUCTION FEATURES

GROUP 1	CONDUCTOR	CL6 EXTRA-FLEXIBLE. TINNED COPPER
	INSULATION	POLYPROPYLENE COMPOUND (PP)
	INSULATION COLOR	VARIOUS COLOURS
GROUP 2	CONDUCTOR	CL6 EXTRA-FLEXIBLE. TINNED COPPER
	INSULATION	POLYPROPYLENE COMPOUND (PP)
	INSULATION COLOR	VARIOUS COLOURS
OVERALL STRANDING	FILLER	FILLER POLYPROPYLENE COMPOUND (PP)
	SEPARATIONLAYER	WRAPPING NON-WOVEN TAPE
	DRAINWIRE	DRAIN WIRE TINNED COPPER
	SCREEN	SCREEN TINNED COPPER 85 % ± 5 %
	SEPARATIONLAYER	OVERALL WRAPPING NON-WOVEN TAPE
	SHEATH	PVC COMPOUND.
	SHEATH COLOUR	GREEN RAL: 6018, DESINA: YES

PRODUCTS FEATURES

FIRE PERFORMANCE
DIN VDE 0482-332-1-2; DIN EN 60332-1-2; IEC 60332-1-2; UL CABLE FLAME; UL VW-1; CSA FT1.

OIL PERFORMANCE
VDE 0473-811-404; IEC 60811-404 (EU); CEI EN 50363-4-1 (EU); 1581 (UL)

UV PERFORMANCE
CEI EN 50289-4-17, ISO 4892-2, ASTM-D-2565-16

WATER PERFORMANCE
UL 1581, IEC 60811

HYDROCARBONS PERFORMANCE
UL 1581

TECO CODE	OEM REF.	FORMATION	CUT	ROLLS [M]	DRUMS [M]	EXT Ø [MM]	WEIGHT [KG/KM]	INS. COLOUR EXC
46634	INDRAMAT	**(4X2X0,25+2X0,50)CC/ST** (4X2XAWG24+2XAWG21)CC/ST	✓	100	500	8.5	107	GROUP 1 4X2X0,25 : BN-GN, GY-PK, BU-VT, RD-BK GROUP 2 2X0,50 : WH-BN

DYNAMIC APPLICATION

FRX® PLUS
ENCODER&RESOLVER 10

APPLICATIVE FEATURES

UP TO 5 MIO GUARANTEED CYCLES

10,0M/SEC² ACCELERATION

20,0M CABLE LENGTH

180,00M/MIN TRAVEL SPEED

MINIMUM BENDING RADIUS

CROSS SECTION	CROSS SECTION MAX	DYNAMIC INSTALLATION	STATIC INSTALLATION
0.14	1.00	7.5xø	6.0xø

DESCRIPTION

UL/CSA certified flexible cables for data transmission of encoder and resolver devices, designed for dynamic application in drag chains. They are also suitable for permanently flexible applications that allow free movement without tensile stress and without motion control in dry, damp, and wet environments. Suitable for indoor and outdoor use. Interference is suppressed thanks to the shields.

APPROVALS

AWM STYLE 20042
90°C 300V

AWM I/II A/B 90°C
300V

2014/35/CEE

2011/65/UE
2015/863/UE

2014/30/EU

TECHNICAL DATA

DYNAMIC -5 °C +90 °C
STATIC -40 °C +90 °C

NOMINAL VOLTAGE 300V (UL/CSA)

TEST VOLTAGE C/C 2000VRMS,1MIN; CORE/OVERALL SCREEN 2000VRMS,1MIN

INSULATION RESISTANCE ≥1 GOHM/KM

CONSTRUCTION FEATURES

GROUP 1	CONDUCTOR	CL6 EXTRA-FLEXIBLE. TINNED COPPER
	INSULATION	POLYPROPYLENE COMPOUND (PP)
	INSULATION COLOR	VARIOUS COLOURS
GROUP 2	CONDUCTOR	CL6 EXTRA-FLEXIBLE. TINNED COPPER
	INSULATION	POLYPROPYLENE COMPOUND (PP)
	INSULATION COLOR	VARIOUS COLOURS
OVERALL STRANDING	FILLER	FILLER POLYPROPYLENE COMPOUND (PP)
	SEPARATIONLAYER	WRAPPING NON-WOVEN TAPE
	SCREEN	SCREEN TINNED COPPER 85 % ± 5 %
	SEPARATIONLAYER	OVERALL WRAPPING NON-WOVEN TAPE
	SHEATH	PVC COMPOUND.
	SHEATH COLOUR	GREEN RAL: 6018, DESINA: YES

PRODUCTS FEATURES

FIRE PERFORMANCE
DIN VDE 0482-332-1-2; DIN EN 60332-1-2; IEC 60332-1-2; UL CABLE FLAME; UL VW-1; CSA FT1.

OIL PERFORMANCE
VDE 0473-811-404; IEC 60811-404 (EU); CEI EN 50363-4-1 (EU); 1581 (UL)

UV PERFORMANCE
CEI EN 50289-4-17, ISO 4892-2, ASTM-D-2565-16

WATER PERFORMANCE
UL 1581, IEC 60811

HYDROCARBONS PERFORMANCE
UL 1581

TECO CODE	OEM REF.	FORMATION	CUT	ROLLS [M]	DRUMS [M]	EXT Ø [MM]	WEIGHT [KG/KM]	INS. COLOUR EXC
46635	SIEMENS 6FX5008-1BD21	**(4X2X0,34+4X0,50)ST** (4X2XAWG22+4XAWG21)ST	✓	100	500	8.9	130	GROUP 1 4X2X0,34 : BN-BK, RD-OG, YE-GN, BU-VT GROUP 2 4X0,50 : BU/WH*, BK/WH*, RD/WH*, YE/WH*

DYNAMIC APPLICATION

FRX® PLUS
SIGNAL

APPLICATIVE FEATURES

UP TO 5 MILION CYCLES
GUARANTEED CYCLES

10 M/SEC²
ACCELERATION

10,0M
CABLE LENGTH

180 M/MIN
TRAVEL SPEED

MINIMUM BENDING RADIUS

CROSS SECTION	CROSS SECTION MAX	DYNAMIC INSTALLATION	STATIC INSTALLATION
0.14	1.00	7,5xø	6xø

DESCRIPTION

UL/CSA certified flexible signal transmission cables, designed for low-frequency transmission of analog and digital signals in dynamic drag chains and automatic machinery applications. High workability, oil-resistant PVC outer sheath, with low-capacity special insulation. Suitable for indoor and outdoor use.

APPROVALS

E244280 — AWM STYLE 20042 90°C 300V

AWM I/II A/B 90°C 300V

2014/35/CEE

RoHS — 2011/65/UE 2015/863/UE

TECHNICAL DATA

DYNAMIC -5°C +90°C
STATIC -40°C +90°C

NOMINAL VOLTAGE 300V

TEST VOLTAGE 2,0 KV

INSULATION RESISTANCE >100 MOHM/KM (AT 90°C)

CONSTRUCTION FEATURES

SIGNAL CONDUCTORS	CONDUCTOR	CL6 EXTRA-FLEXIBLE. BARE COPPER.
	INSULATION	POLYPROPYLENE COMPOUND (PP)
	INSULATION COLOR	COLOURS SEQUENCE REFERS TO DIN 47100 STANDARD.
	FILLER	FILLER POLYPROPYLENE
OVERALL STRANDING	SEPARATIONLAYER	TAPE NON-WOVEN TAPE
	SHEATH	PVC COMPOUND.
	SHEATH COLOUR	GRAY RAL: 7001, DESINA: NO

PRODUCTS FEATURES

FIRE PERFORMANCE
DIN VDE 0482-332-1-2, DIN EN 60332-1-2, IEC 60332-1-2, UL CABLE FLAME, UL VW-1, CSA FT1.

OIL PERFORMANCE
VDE 0473-811-404, IEC 60811-404 (EU), CEI EN 50363-4-1, 1581 (UL)

UV PERFORMANCE
ACCORDING TO ISO 4892-2, EN 50289-4-17, ASTM-D-2565-16

WATER PERFORMANCE
UL 1581 - IEC 60811

HYDROCARBONS PERFORMANCE
UL 1581

TECO CODE	FORMATION	CUT	ROLLS [M]	DRUMS [M]	EXT Ø [MM]	WEIGHT [KG/KM]
46636	**25X0,25** 25XAWG24	✓		500	9.3	115

DYNAMIC APPLICATION

FRX® PLUS
SIGNAL-ST

APPLICATIVE FEATURES

UP TO 5 MILION CYCLES
GUARANTEED CYCLES

10 M/SEC²
ACCELERATION

10,0M
CABLE LENGTH

180 M/MIN
TRAVEL SPEED

MINIMUM BENDING RADIUS

CROSS SECTION	CROSS SECTION MAX	DYNAMIC INSTALLATION	STATIC INSTALLATION
0.14	1.00	7,5xØ	6xØ

DESCRIPTION

UL/CSA certified flexible signal transmission cables, designed for low-frequency transmission of analog and digital signals in dynamic drag chains and automatic machinery applications. High workability, oil-resistant PVC outer sheath, low-capacity special insulation, and shield protection from electromagnetic interferences. Suitable for indoor and outdoor use.

APPROVALS

E244280 — AWM STYLE 20042
90°C 300V

AWM I/II A/B 90°C
300V

2014/35/CEE

EMC 2014/30/EU

RoHS 2011/65/UE
2015/863/UE

TECHNICAL DATA

DYNAMIC -5°C +90°C
STATIC -40°C +90°C

NOMINAL VOLTAGE 300V

TEST VOLTAGE 2,0 KV

INSULATION RESISTANCE >100 MOHM/KM (AT 90°C)

CONSTRUCTION FEATURES

SIGNAL CONDUCTORS	CONDUCTOR	CL6 EXTRA-FLEXIBLE. BARE COPPER.
	INSULATION	POLYPROPYLENE COMPOUND (PP)
	INSULATION COLOR	COLOURS SEQUENCE REFERS TO DIN 47100 STANDARD.
	FILLER	FILLER POLYPROPYLENE
OVERALL STRANDING	SEPARATIONLAYER	TAPE NON-WOVEN TAPE
	SCREEN	SCREEN TINNED COPPER 85 % ± 5 %
	SEPARATIONLAYER	TAPE NON-WOVEN TAPE
	SHEATH	PVC COMPOUND.
	SHEATH COLOUR	GRAY RAL: 7001, DESINA: NO

PRODUCTS FEATURES

FIRE PERFORMANCE
DIN VDE 0482-332-1-2, DIN EN 60332-1-2, IEC 60332-1-2, UL CABLE FLAME, UL VW-1, CSA FT1.

OIL PERFORMANCE
VDE 0473-811-404 IEC 60811-404 (EU) CEI EN 50363-4-1 1581 (UL)

UV PERFORMANCE
ACCORDING TO ISO 4892-2, EN 50289-4-17, ASTM-D-2565-16

WATER PERFORMANCE
UL 1581 - IEC 60811

HYDROCARBONS PERFORMANCE
UL 1581

TECO CODE	FORMATION	CUT	ROLLS [M]	DRUMS [M]	EXT Ø [MM]	WEIGHT [KG/KM]
46637	**(2X0,34)ST** (2XAWG22)ST	✗	100	500	4.8	32
46656	**(2X0,50)ST** (2XAWG21)ST	✗	100	500	5.3	45
46638	**(3X0,34)ST** (3XAWG22)ST	✗	100	500	5	35
46639	**(4X0,34)ST** (4XAWG22)ST	✗	100	500	5.4	54
46640	**(5X0,34)ST** (5XAWG22)ST	✗	100	500	5.7	56
46641	**(6X0,34)ST** (6XAWG22)ST	✗	100	500	6.2	70
46643	**(8X0,34)ST** (8XAWG22)ST	✓	100	500	7.2	85
46644	**(12X0,34)ST** (12XAWG22)ST	✓	100	500	7.9	108
46645	**(18X0,34)ST** (18XAWG22)ST	✓	100	500	9.2	125
46646	**(25X0,34)ST** (25XAWG22)ST	✓		500	11.2	150

PMXX®

- DRAG CHAINS
- AUTOMATIC MACHINERY
- MACHINE-TOOLS
- FLAME-RETARDANT
- OIL-RESISTANT
- LOW TEMPERATURE
- FLEX-TORSIONAL APPLICATIONS
- HALOGEN FREE

UL/CSA certified flexible cables designed for use in high-performance dynamic drag chains and automatic machinery applications, allowing for free movement without tensile stress or forced movements, in dry or moist environments.

The polyurethane jacket provides excellent resistance to mechanical and chemical stress, making these cables suitable for automation sectors with harsh environments, such as the ceramics and wood industries, where abrasive dust and chips are present, or the food industry, where temperatures can be particularly low.

The insulation material has low capacitive buildup, ensuring high electrical performance with reduced dimensions.

These features make this product line the ideal starting point for a range of TECO families designed for demanding mobile applications.

DYNAMIC APPLICATION

PMXX®
PROXIMITY SENSORS

APPLICATIVE FEATURES

UP TO 5 MILLION CYCLES
GUARANTEED CYCLES

30,0M/S²
ACCELERATION

15,0M
CABLE LENGTH

240,00M/MIN
TRAVEL SPEED

MINIMUM BENDING RADIUS

CROSS SECTION	CROSS SECTION MAX	DYNAMIC INSTALLATION	STATIC INSTALLATION
0.34	0.50	6xø	4xø

DESCRIPTION

UL/CSA certified flexible multicore cables used in decentralized control technology as connector systems for sensors, actuators, controls, drives, and photocells. Suitable for wiring with ordinary, PNP, NPN, or equivalent type Lumberg sensor cables with medium mechanical stress applications. In combination with injected circular connectors and installed actuator-sensor boxes, they constitute an important connecting element between the periphery and the PLC in production systems. These cables are designed for high dynamic applications in drag chains, working in dry conditions with high resistance to industrial oils and chemical agents. Reduced external diameter for low-space applications.

APPROVALS

E244280 — AWM STYLE 20233 80°C 300V

AWM I/II A/B 80°C 300V

2014/35/CEE

2011/65/UE
2015/863/UE

IEC 60754-1
EN 50267-1

TECHNICAL DATA

STORAGE -50°C +80°C
DYNAMIC -20°C +80°C
STATIC -40°C +80°C

NOMINAL VOLTAGE 300 V

TEST VOLTAGE 1500V

INSULATION RESISTANCE > 100 MΩ X KM (20°C)

CONSTRUCTION FEATURES

SIGNAL CONDUCTORS	CONDUCTOR	CL6 EXTRA-FLEXIBLE. BARE COPPER.
	INSULATION	POLYPROPYLENE COMPOUND (PP)
	INSULATION COLOR	VARIOUS COLOURS
OVERALL STRANDING	FILLER	FILLER POLYPROPYLENE
	SEPARATIONLAYER	TAPE NON-WOVEN TAPE
	SHEATH	POLYURETHANE COMPOUND (TMPU)
	SHEATH COLOUR	MATTE BLACK RAL: 9005, DESINA: NO

PRODUCTS FEATURES

FIRE PERFORMANCE
DIN VDE 0482-332-1-2, DIN EN 60332-1-2, IEC 60332-1-2, UL CABLE FLAME, VW-1, FT1.

OIL PERFORMANCE
1581(UL); IEC 60811-404(EU); CEI EN 50363-10-2(EU); IRM 902

UV PERFORMANCE
ISO 4892-2 - HD605 PART. 2.4.20

WATER PERFORMANCE
UL 1581 - IEC 60811-1-3

COLD PERFORMANCE
EN60811-1-4

ABRASION PERFORMANCE
ASTM D 4060

TECO CODE	FORMATION	CUT	ROLLS [M]	DRUMS [M]	EXT Ø [MM]	WEIGHT [KG/KM]	INS. COLOUR EXC
27720	**3X0,34** 3XAWG22	✗	100	500	4.6	26	BLUE, BROWN, BLACK
19356	**4X0,34** 4XAWG22	✗	100	500	4.9	32	BLUE, BROWN, BLACK, WHITE
27263	**5G0,50** 5GAWG21	✓	100/200	500	6.1	56	BLUE, BROWN, BLACK, WHITE, GREEN/YELLOW

DYNAMIC APPLICATION

PMXX®
SENSOR-ACTUATOR BOX 300V

APPLICATIVE FEATURES

UP TO 5 MILLION GUARANTEED CYCLES

30,0 M/S² ACCELERATION

15,0M CABLE LENGTH

200,0 M/MIN TRAVEL SPEED

MINIMUM BENDING RADIUS

CROSS SECTION	CROSS SECTION MAX	DYNAMIC INSTALLATION	STATIC INSTALLATION
0.34	0.75	7,5xø	4xø

DESCRIPTION

Multi-core UL/CSA certified sensor-actuator box cables, designed for continuous flexing use in drag chains or free movement in automation technology, machine tool manufacturing, or transport and conveyor technology, also suitable for the automotive industry or for plant and mechanical engineering. The polyurethane outer jacket and the low-capacity insulation provide excellent performance even in extremely harsh operating conditions, with the presence of aggressive coolants and lubricants

APPROVALS

E244280 — AWM STYLE 20233 80°C 300V

AWM I/II A/B 80°C 300V

2014/35/CEE

RoHS — 2011/65/UE 2015/863/UE

HF HALOGEN FREE — IEC 60754-1 EN 50267-1

TECHNICAL DATA

DYNAMIC -20°C +80°C
STATIC -40°C +80°C

NOMINAL VOLTAGE 300V

TEST VOLTAGE 1500V

CONSTRUCTION FEATURES

POWER CONDUCTORS	CONDUCTOR	CL6 EXTRA-FLEXIBLE. BARE COPPER.
	INSULATION	POLYPROPYLENE COMPOUND (PP)
	INSULATION COLOR	UNEL TABLE COLOUR
SIGNAL CONDUCTORS	CONDUCTOR	CL6 EXTRA-FLEXIBLE. BARE COPPER.
	INSULATION	POLYPROPYLENE COMPOUND (PP)
	INSULATION COLOR	VARIOUS COLOURS
OVERALL STRANDING	FILLER	FILLER POLYPROPYLENE
	SEPARATIONLAYER	TAPE NON-WOVEN TAPE
	SHEATH	POLYURETHANE COMPOUND (TMPU)
	SHEATH COLOUR	MATTE BLACK RAL: 9005, DESINA: NO

PRODUCTS FEATURES

FIRE PERFORMANCE
DIN VDE 0482-332-1-2, DIN EN 60332-1-2, IEC 60332-1-2, UL CABLE FLAME, UL VW-1, CSA FT1.

OIL PERFORMANCE
VDE 0473-811-404, IEC 60811-404 (EU), CEI EN 50363-10-2 (EU), 1581 (UL)

UV PERFORMANCE
ISO 4892-2 - HD605 PART. 2.4.20

WATER PERFORMANCE
UL 1581 - IEC 60811-1-3

COLD PERFORMANCE
EN 60811-1-4

ABRASION PERFORMANCE
ASTM D 4060

HOZONE PERFORMANCE
EN 50396 ART. 8.1.3

TECO CODE	FORMATION	CUT	ROLLS [M]	DRUMS [M]	EXT Ø [MM]	WEIGHT [KG/KM]	INS. COLOUR EXC
23410	**3G0,75+8X0,34** 3GAWG19+8XAWG22	✓	100		8.5	110	SIGNAL CONDUCTORS: WHITE, GREEN, YELLOW, GRAY, PINK, RED, BLACK, VIOLET
26792	**3G0,75+16X0,34** 3GAWG19+16XAWG22	✓		500	10	144	SIGNAL CONDUCTORS: WHITE, GREEN, YELLOW, GRAY, PINK, RED, BLACK, VIOLET, GRAY/PINK*, RED/BLUE*, WHITE/GREEN*, BROWN/GREEN*, WHITE/YELLOW*, YELLOW/BROWN*, WHITE/GRAY*, GRAY/BROWN*. *RINGED BICOLOR.

DYNAMIC APPLICATION

PMXX®
SENSOR-ACTUATOR BOX 1000V

APPLICATIVE FEATURES

UP TO 5 MILLION GUARANTEED CYCLES

30,0 M/S² ACCELERATION

15,0M CABLE LENGTH

200,0 M/MIN TRAVEL SPEED

MINIMUM BENDING RADIUS

CROSS SECTION	CROSS SECTION MAX	DYNAMIC INSTALLATION	STATIC INSTALLATION
0.34	0.75	7.5xø	4xø

DESCRIPTION

Multi-core UL/CSA certified sensor-actuator box cables, designed for continuous flexing use in drag chains or free movement in automation technology, machine tool manufacturing, or transport and conveyor technology, also suitable for the automotive industry or for plant and mechanical engineering. The polyurethane outer jacket and the low-capacity insulation provide excellent performance even in extremely harsh operating conditions, with the presence of aggressive coolants and lubricants.

APPROVALS

E244280 — AWM STYLE 20234 80°C 1000V

AWM I/II A/B 80°C 1000V

2014/35/CEE

2011/65/UE
2015/863/UE

IEC 60754-1
EN 50267-1

TECHNICAL DATA

DYNAMIC -20°C +80°C
STATIC -40 °C +80 °C

NOMINAL VOLTAGE 1000V

TEST VOLTAGE 3000V

CONSTRUCTION FEATURES

POWER CONDUCTORS	CONDUCTOR	CL6 EXTRA-FLEXIBLE. BARE COPPER.
	INSULATION	POLYPROPYLENE COMPOUND (PP)
	INSULATION COLOR	UNEL TABLE COLOUR
SIGNAL CONDUCTORS	CONDUCTOR	CL6 EXTRA-FLEXIBLE. BARE COPPER.
	INSULATION	POLYPROPYLENE COMPOUND (PP)
	INSULATION COLOR	VARIOUS COLOURS
OVERALL STRANDING	FILLER	FILLER POLYPROPYLENE
	SEPARATIONLAYER	TAPE NON-WOVEN TAPE
	SHEATH	POLYURETHANE COMPOUND (TMPU)
	SHEATH COLOUR	MATTE BLACK RAL: 9005, DESINA: NO

PRODUCTS FEATURES

FIRE PERFORMANCE
DIN VDE 0482-332-1-2, DIN EN 60332-1-2, IEC 60332-1-2, UL CABLE FLAME, UL VW-1, CSA FT1.

OIL PERFORMANCE
VDE 0473-811-404, IEC 60811-404 (EU), CEI EN 50363-10-2 (EU), 1581 (UL)

UV PERFORMANCE
ISO 4892-2 - HD605 PART. 2.4.20

WATER PERFORMANCE
UL 1581 - IEC 60811-1-3

COLD PERFORMANCE
EN 60811-1-4

ABRASION PERFORMANCE
ASTM D 4060

HOZONE PERFORMANCE
EN 50396 ART. 8.1.3

TECO CODE	FORMATION	CUT	ROLLS [M]	DRUMS [M]	EXT Ø [MM]	WEIGHT [KG/KM]	INS. COLOUR EXC
28906	**3G0,75+16X0,34** 3GAWG19+16XAWG22	✓		500/1000	11.1	150	SIGNAL CONDUCTORS: WHITE, GREEN, YELLOW, GRAY, PINK, RED, BLACK, VIOLET, GRAY/PINK*, RED/BLUE*, WHITE/GREEN*, BROWN/GREEN*, WHITE/YELLOW*, YELLOW/BROWN*, WHITE/GRAY*, GRAY/BROWN*. *RINGED BICOLOR.

PMXX® PLUS

- DRAG CHAINS
- AUTOMATIC MACHINERY
- MACHINE-TOOLS
- FLAME-RETARDANT
- OIL-RESISTANT
- LOW TEMPERATURE
- FLEX-TORSIONAL APPLICATIONS
- HALOGEN FREE

UL/CSA certified flexible cables designed for use in high-performance dynamic drag chains and automatic machinery applications, allowing for free movement without tensile stress or forced movements, in both dry and moist environments.

The polyurethane jacket provides excellent resistance to mechanical and chemical stress, making these cables suitable for automation sectors with harsh environments, such as the ceramics and wood industries, where abrasive dust and chips are present, or the food industry, where temperatures can be particularly low.

The insulation material has low capacitive buildup, ensuring high electrical performance with reduced dimensions.

Moreover, the "PLUS" improvements in materials and construction design technology allow the use of the cables at temperatures up to 90° C.

These features make this product line the ideal starting point for a range of TECO families designed for demanding, high-performance mobile applications.

POWER&CONTROL SINGLE CORE

POWER&CONTROL MULTICORE

SERVO

ENCODER

SIGNAL

DYNAMIC APPLICATION

PMXX® PLUS
POWER&CONTROL SINGLE CORE

APPLICATIVE FEATURES

UP TO 5 MILLION GUARANTEED CYCLES

50,0 M/SEC² ACCELERATION

15,0M CABLE LENGTH

300,0 M/MIN TRAVEL SPEED

MINIMUM BENDING RADIUS

CROSS SECTION	CROSS SECTION MAX	DYNAMIC INSTALLATION	STATIC INSTALLATION
4.00	16.00	7xØ	5xØ
16.00	240.00	10xØ	5xØ

DESCRIPTION

High-performance UL/CSA certified flexible single-core cables for high-speed drag chain or moving machine parts. Suitable for internal or external use in wet, dry, or moist environments. The polyurethane outer jacket provides excellent resistance properties against mechanical stress and chemical agents, making these cables suitable for indoor or outdoor use, even in very low temperatures. This type of cable can be a smart alternative to multicore power cables in case space or minimum bending radius requirements are challenging. Also suitable for long traverse paths.

APPROVALS

E244280 — AWM STYLE 11773 90°C 1000V

AWM I/II A/B 90°C 1000V

2014/35/CEE

RoHS — 2011/65/UE 2015/863/UE

HF HALOGEN FREE — IEC 60754-1 EN 50267-1

TECHNICAL DATA

STORAGE -50°C +90°C
DYNAMIC -30°C +90 °C
STATIC -40°C +90°C

NOMINAL VOLTAGE 1000 V (UL/CSA) UO/U 0,6/1 KV (VDE)

TEST VOLTAGE 4,0 KV
TEST VOLTAGE REFERENCE EN 50395 PART 6-7 - UL/1581

INSULATION RESISTANCE ≥1 GOHM/KM

CONSTRUCTION FEATURES

POWER CONDUCTORS	CONDUCTOR	CL6 EXTRA-FLEXIBLE. BARE COPPER.
	INSULATION	POLYPROPYLENE COMPOUND (PP)
	INSULATION COLOR	BLACK RAL 9005 OR GREEN-YELLOW
	SEPARATIONLAYER	INNER TAPE POLYESTER TRANSPARENT TAPE OR NON-WOVEN TAPE
OVERALL STRANDING	SHEATH	POLYURETHANE COMPOUND (TMPU)
	SHEATH COLOUR	MATTE BLACK RAL: 9005, DESINA: NO

PRODUCTS FEATURES

FIRE PERFORMANCE
SELF-EXTINGUISHING AND FLAME RETARDANT ACC. TO DIN VDE 0482-332-1-2, DIN EN 60332-1-2, IEC 60332-1-2, UL CABLE FLAME, UL VW-1, CSA FT1.

OIL PERFORMANCE
VDE 0473-811-404, IEC 60811-404(EU), CEI EN 50363-10-2(EU), 1581(UL).

UV PERFORMANCE
ISO 4892-2, ASTM-D-2565-16, EN 50289-4-17.

WATER PERFORMANCE
UL 1581, IEC 60811-1-3

COLD PERFORMANCE
EN 60811-1-4

ABRASION PERFORMANCE
ASTM D 4060

MUD PERFORMANCE
NEK 606

MICROBE PERFORMANCE
VDE 0282/10

HOZONE PERFORMANCE
EN 50396 ART. 8.1.3

TECO CODE	FORMATION	CUT	ROLLS [M]	DRUMS [M]	EXT Ø [MM]	WEIGHT [KG/KM]
46283	**1G4,00** 1GAWG12	✗	100	500	5.8	68
46293	**1X6,00** 1XAWG10	✓	100	500	6.6	95
46284	**1G6,00** 1GAWG10	✓	100	500	6.6	95
46294	**1X10,00** 1XAWG08	✓	100	500	8	150
46285	**1G10,0** 1GAWG08	✓	100	500	8	150
46295	**1X16,00** 1XAWG06	✓		500	9.3	240
46286	**1G16,00** 1GAWG06	✓	100	500	9.3	195
46296	**1X25,00** 1XAWG04	✓		500	11	325
46287	**1G25,00** 1GAWG04	✓			11	325
46297	**1X35,00** 1XAWG02	✓			12.6	410
46288	**1G35,00** 1GAWG02	✓			12.6	410
46298	**1X50,00** 1XAWG01	✓			14.7	685
46289	**1G50,00** 1GAWG01	✓			14.7	685
46299	**1X70,00** 1XAWG2/0	✓			16.8	790
46300	**1X95,00** 1XAWG3/0	✓			19	1100
46301	**1X120,00** 1XAWG4/0	✓			21.2	1350

DYNAMIC APPLICATION

PMXX® PLUS
POWER&CONTROL SINGLE CORE-ST

APPLICATIVE FEATURES

UP TO 5 MILLIONS CYCLES
GUARANTEED CYCLES

UP TO 50 M/S²
ACCELERATION

UP TO 15,0 M
CABLE LENGTH

UP TO 300 M/MIN
TRAVEL SPEED

MINIMUM BENDING RADIUS

CROSS SECTION	CROSS SECTION MAX	DYNAMIC INSTALLATION	STATIC INSTALLATION
4.00	16.00	7xø	5xø
16.00	240.00	10xø	5xø

DESCRIPTION

High-performance UL/CSA certified flexible single-core cables for high-speed drag chain or moving machine parts. Suitable for internal or external use in wet, dry, or moist environments. The polyurethane outer jacket provides excellent resistance properties against mechanical stress and chemical agents, making these cables suitable for indoor or outdoor use, even in very low temperatures. This type of cable can be a smart alternative to multicore power cables in case space or minimum bending radius requirements are challenging. Also suitable for long traverse paths. Screening from electromagnetic interference is achieved thanks to the dense braid shield.

APPROVALS

E244280 — AWM STYLE 11773 90°C 1000V

AWM I/II A/B 90°C 1000V

2014/35/CEE

EMC 2014/30/EU

RoHS 2011/65/UE 2015/863/UE

HF HALOGEN FREE — IEC 60754-1 EN 50267-1

TECHNICAL DATA

STORAGE -50°C +90°C
DYNAMIC -30°C +90°
STATIC -40°C +90°C

NOMINAL VOLTAGE 1000 V (UL/CSA) UO/U 0,6/1 KV (VDE)

TEST VOLTAGE 4.0 KV
TEST VOLTAGE REFERENCE EN 50395 (PART 6-7) - UL / 1581

INSULATION RESISTANCE ≥1 GOHM/KM

CONSTRUCTION FEATURES

POWER CONDUCTORS	CONDUCTOR	CL6 EXTRA-FLEXIBLE. BARE COPPER.
	INSULATION	POLYPROPYLENE COMPOUND (PP)
	INSULATION COLOR	BLACK RAL 9005 OR GREEN-YELLOW
	SEPARATIONLAYER	INNER TAPE POLYESTER TRANSPARENT TAPE OR NON-WOVEN TAPE
OVERALL STRANDING	SCREEN	SCREEN TINNED COPPER 85 % ± 5 %
	SEPARATIONLAYER	TAPE NON-WOVEN TAPE
	SHEATH	POLYURETHANE COMPOUND (TMPU)
	SHEATH COLOUR	MATTE BLACK RAL: 9005, DESINA: NO

PRODUCTS FEATURES

FIRE PERFORMANCE
SELF-EXTINGUISHING AND FLAME RETARDANT ACC. TO DIN VDE 0482-332-1-2, DIN EN 60332-1-2, IEC 60332-1-2, UL CABLE FLAME, UL VW-1, CSA FT1.

OIL PERFORMANCE
VDE 0473-811-404, IEC 60811-404 (EU), EI EN 50363-10-2 (EU) 1581 (UL)

UV PERFORMANCE
ISO 4892-2, EN 50289-4-17 OR ASTM-D-2565-16

WATER PERFORMANCE
UL 1581 - IEC 60811-1-3

COLD PERFORMANCE
EN 60811-1-4

ABRASION PERFORMANCE
ASTM D 4060

MUD PERFORMANCE
NEK 606

MICROBE PERFORMANCE
VDE 0282/10

HOZONE PERFORMANCE
EN 50396 ART. 8.1.3

TECO CODE	FORMATION	CUT	ROLLS [M]	DRUMS [M]	EXT Ø [MM]	WEIGHT [KG/KM]
46303	**(1X6,00)ST** (1XAWG10)ST	✓	100	500	7.3	99
46304	**(1X10,00)ST** (1XAWG8)ST	✓		500	8.8	180
46305	**(1X16,00)ST** (1XAWG06)ST	✓		500	10	275
46306	**(1X25,00)ST** (1XAWG04)ST	✓			11.5	380
46307	**(1X35,00)ST** (1XAWG2)ST	✓			13.2	480
46308	**(1X50,00)ST** (1XAWG01)ST	✓			15.6	590
46309	**(1X70,00)ST** (1XAWG2/0)ST	✓			17.5	820
46310	**(1X95,00)ST** (1XAWG3/0)ST	✓			20	1200
46311	**(1X120,00)ST** (1XAWG4/0)ST	✓			22.5	1400
46312	**(1X150,00)ST** (1X250KCMIL)ST	✓			24.6	1700

DYNAMIC APPLICATION

PMXX® PLUS
POWER&CONTROL MULTICORE

APPLICATIVE FEATURES

UP TO 5 MILLION GUARANTEED CYCLES

50,0 M/S² ACCELERATION

20,0 M CABLE LENGTH

300,0 M/MIN TRAVEL SPEED

MINIMUM BENDING RADIUS

CROSS SECTION	CROSS SECTION MAX	DYNAMIC INSTALLATION	STATIC INSTALLATION
0.50	16.00	6xØ	4xØ
25.00	95.00	10xØ	4xØ

DESCRIPTION

High-performance UL/CSA certified flexible multicore cables designed for dynamic application in high-speed drag chains, also suitable for permanently flexible applications that allow free movement without tensile stress and without motion control in dry, damp, and wet environments. Reduced diameter and optimized minimum bending radius thanks to the low-capacity material. The polyurethane outer jacket provides excellent resistance properties against mechanical stress and chemical agents, making these cables suitable for indoor or outdoor use, even in very low temperatures. Widely used for high-performance applications such as pumping stations, compressors, generators, and power systems.

APPROVALS

E244280 — AWM STYLE 21209 90°C 1000V

AWM I/II A/B 90°C 1000V

2014/35/CEE

2011/65/UE
2015/863/UE

IEC 60754-1
EN 50267-1

TECHNICAL DATA

STORAGE -50°C +80°C
DYNAMIC -30°C +90°C
STATIC -40°C +90°C

NOMINAL VOLTAGE 1000 V (UL/CSA) UO/U 0,6/1 KV (VDE)

TEST VOLTAGE 4.0KV
TEST VOLTAGE REFERENCE EN 50395 PART 6-7 - UL/1581

INSULATION RESISTANCE ≥1 GOHM/KM

CONSTRUCTION FEATURES

POWER CONDUCTORS	CONDUCTOR	CL6 EXTRA-FLEXIBLE. BARE COPPER.
	INSULATION	POLYPROPYLENE COMPOUND (PP)
	INSULATION COLOR	BLACK CORE WITH WHITE PRINTED NUMBER + GREEN YELLOW
	SEPARATIONLAYER	INNER TAPE POLYESTER TRANSPARENT TAPE OR NON-WOVEN TAPE
OVERALL STRANDING	FILLER	FILLER POLYPROPYLENE
	SEPARATIONLAYER	TAPE NON-WOVEN TAPE
	SHEATH	POLYURETHANE COMPOUND (TMPU)
	SHEATH COLOUR	GRAY RAL: 7001, DESINA: NO

PRODUCTS FEATURES

FIRE PERFORMANCE
SELF-EXTINGUISHING AND FLAME RETARDANT ACC. TO DIN VDE 0482-332-1-2, DIN EN 60332-1-2, IEC 60332-1-2, UL CABLE FLAME, UL VW-1, CSA FT1.

OIL PERFORMANCE
VDE 0473-811-404 IEC 60811-404 (EU) CEI EN 50363-10-2 1581 (UL)

UV PERFORMANCE
ACCORDING TO ISO 4892-2, EN 50289-4-17, ASTM-D-2565-16

WATER PERFORMANCE
UL 1581 - IEC 60811-1-3

COLD PERFORMANCE
EN60811-1-4

ABRASION PERFORMANCE
ASTM D 4060

MUD PERFORMANCE
NEK 606

MICROBE PERFORMANCE
VDE 0282/10

HOZONE PERFORMANCE
EN50396 ART.8.1.3

TECO CODE	FORMATION	CUT	ROLLS [M]	DRUMS [M]	EXT Ø [MM]	WEIGHT [KG/KM]	INS. COLOUR EXC
46195	**2X0,50** 2XAWG21	✗	100	500	5.4	38	
46198	**2X0,75** 2XAWG19	✗	100	500	6	49	
46199	**2X1,00** 2XAWG18	✓	100/200	500/2000	6.3	55	
46237	**2X1,50** 2XAWG16	✓	100	500	7.2	75	
46238	**2X2,50** 2XAWG14	✓	100	500	8.4	110	
46202	**3X0,50** 3XAWG21	✗	100	500	5.8	42	BLACK CORE WITH WHITE PRINTED NUMBERS.
46204	**3G0,75** 3GAWG19	✓	100/200	500	6.4	55	
46206	**3G1,00** 3GAWG18	✓	100	500	6.5	60	
46207	**3X1,00** 3XAWG18	✓		500	6.5	60	BLACK CORE WITH WHITE PRINTED NUMBERS.
46239	**3G1,50** 3GAWG16	✓		500	7.5	92	
46242	**3G2,50** 3GAWG14	✓	100	500	9.2	140	
46248	**3G4,00** 3GAWG12	✓		500	10.4	190	
46209	**4X0,50** 4XAWG21	✓	100/200	500	6.4	56	BLACK CORE WITH WHITE PRINTED NUMBERS.
46211	**4G0,50** 4GAWG21	✓	100/200	500	6.4	56	
46212	**4G0,75** 4GAWG19	✓	100	500	6.8	63	
46214	**4X1,00** 4XAWG18	✓	100	500	7.3	80	BLACK CORE WITH WHITE PRINTED NUMBERS.
46215	**4G1,00** 4GAWG18	✓	100	500	7.3	80	
46245	**4G1,50** 4GAWG16	✓	100	500	8.4	110	
46246	**4G2,50** 4GAWG14	✓		500	10	180	
46249	**4G4,00** 4GAWG12	✓			11.5	240	
46250	**4G6,00** 4GAWG10	✓			13.8	370	
46251	**4G10,00** 4GAWG08	✓			17.2	580	
46252	**4G16,00** 4GAWG06	✓			20.7	800	
46216	**5G0,50** 5GAWG21	✓	100	500	7	65	
46217	**5G0,75** 5GAWG19	✓	100	500	7.5	75	
46218	**5G1,00** 5GAWG18	✓	100	500	7.9	95	

TECO CODE	FORMATION	CUT	ROLLS [M]	DRUMS [M]	EXT Ø [MM]	WEIGHT [KG/KM]	INS. COLOUR EXC
46256	**5G1,50** 5GAWG16	✓	100	500	9	130	
46257	**5G2,50** 5GAWG14	✓		500	11	220	
46220	**7G0,50** 7GAWG21	✓	100	500	8	80	
46222	**7G0,75** 7GAWG19	✓	100	500	8.8	105	
46223	**7G1,00** 7GAWG18	✓	100	500	9.2	125	
46258	**7G1,50** 7GAWG16	✓		500	11	190	
46259	**7G2,50** 7GAWG14	✓			13	300	
46224	**8G1,00** 8GAWG18	✓	100	500	10	150	
46225	**12G0,50** 12GAWG21	✓		500/2000	9.5	120	
46227	**12G0,75** 12GAWG19	✓		500	10.4	165	
46228	**12G1,00** 12GAWG18	✓		500	11.4	190	
46260	**12G1,50** 12GAWG16	✓			13.2	300	
46261	**12G2,50** 12GAWG14	✓			16	450	
46229	**18G0,50** 18GAWG21	✓		500	11	180	
46230	**18G0,75** 18GAWG19	✓		500	12.2	230	
46231	**18G1,00** 18GAWG18	✓		500/100	13	270	
46262	**18G1,50** 18GAWG16	✓			15.6	400	
46232	**25G0,50** 25GAWG21	✓		500/100	13	250	
46233	**25G0,75** 25GAWG19	✓			14.5	335	
46234	**25G1,00** 25GAWG18	✓			15.6	405	
46263	**25G1,50** 25GAWG16	✓			18.4	580	
46235	**34G0,50** 34GAWG21	✓			15	320	
46236	**34G0,75** 34GAWG19	✓			16.6	430	

DYNAMIC APPLICATION

PMXX® PLUS
POWER&CONTROL MULTICORE-ST

APPLICATIVE FEATURES

UP TO 5 MILLIONS CYCLES
GUARANTEED CYCLES

UP TO 50 M/S2
ACCELERATION

UP TO 20,0 M
CABLE LENGTH

UP TO 300 M/MIN
TRAVEL SPEED

MINIMUM BENDING RADIUS

CROSS SECTION	CROSS SECTION MAX	DYNAMIC INSTALLATION	STATIC INSTALLATION
0.50	16.00	6xØ	4xØ
25.00	95.00	10xØ	4xØ

DESCRIPTION

High-performance UL/CSA certified flexible multicore cables designed for dynamic application in high-speed drag chains, also suitable for permanently flexible applications that allow free movement without tensile stress and without motion control in dry, damp, and wet environments. Reduced diameter and optimized minimum bending radius thanks to the low-capacity material. The polyurethane outer jacket provides excellent resistance properties against mechanical stress and chemical agents, making these cables suitable for indoor or outdoor use, even in very low temperatures. Widely used for high-performance applications such as pumping stations, compressors, generators, and power systems. Screening from electromagnetic interference is achieved thanks to the dense braid shield.

APPROVALS

E244280 — AWM STYLE 21209 90°C 1000V

AWM I/II A/B 90°C 1000V

2014/35/CEE

EMC 2014/30/EU

RoHS COMPLIANT — 2011/65/UE 2015/863/UE

HF HALOGEN FREE — IEC 60754-1 EN 50267-1

TECHNICAL DATA

STORAGE -50°C +80°C
DYNAMIC -30°C +90°
STATIC -40°C +90°C

NOMINAL VOLTAGE 1000 V (UL/CSA) UO/U 0,6/1 KV (VDE)

TEST VOLTAGE 4.0 KV
TEST VOLTAGE REFERENCE EN 50395 (PART 6-7) - UL / 1581

INSULATION RESISTANCE ≥1 GOHM/KM

CONSTRUCTION FEATURES

POWER CONDUCTORS	CONDUCTOR	CL6 EXTRA-FLEXIBLE. BARE COPPER.
	INSULATION	POLYPROPYLENE COMPOUND (PP)
	INSULATION COLOR	BLACK CORE WITH WHITE PRINTED NUMBER + GREEN YELLOW
	SEPARATIONLAYER	INNER TAPE POLYESTER TRANSPARENT TAPE OR NON-WOVEN TAPE
OVERALL STRANDING	FILLER	FILLER POLYPROPYLENE
	SEPARATIONLAYER	TAPE NON-WOVEN TAPE
	SCREEN	SCREEN TINNED COPPER 85 % ± 5 %
	SEPARATIONLAYER	TAPE NON-WOVEN TAPE
	SHEATH	POLYURETHANE COMPOUND (TMPU)
	SHEATH COLOUR	GRAY, RAL: 7001, DESINA: NO

PRODUCTS FEATURES

FIRE PERFORMANCE
SELF-EXTINGUISHING AND FLAME RETARDANT ACC. TO DIN VDE 0482-332-1-2, DIN EN 60332-1-2, IEC 60332-1-2, UL CABLE FLAME, UL VW-1, CSA FT1.

OIL PERFORMANCE
VDE 0473-811-404, IEC 60811-404 (EU), EI EN 50363-10-2 (EU) 1581 (UL)

UV PERFORMANCE
ISO 4892-2, EN 50289-4-17 OR ASTM-D-2565-16

WATER PERFORMANCE
UL 1581 - IEC 60811-1-3

COLD PERFORMANCE
EN 60811-1-4

ABRASION PERFORMANCE
ASTM D 4060

MUD PERFORMANCE
NEK 606

MICROBE PERFORMANCE
VDE 0282/10

HOZONE PERFORMANCE
EN 50396 ART. 8.1.3

TECO CODE	FORMATION	CUT	ROLLS [M]	DRUMS [M]	EXT Ø [MM]	WEIGHT [KG/KM]
46282	**(2X0,75)ST** (2XAWG19)ST	✗	100	500	6.3	58
46281	**(4G0,50)ST** (4GAWG21)ST	✓	100	500	6.7	70
46734	**(4G0,75)ST** (4GAWG19)ST	✓	100	500	7.2	80
46266	**(5G0,75)ST** (5GAWG19)ST	✓	100	500	7.8	100
46267	**(5G1,00)ST** (5GAWG18)ST	✓	100	500	8.3	120
46268	**(5G1,50)ST** (5GAWG16)ST	✓		500	9.8	165
46269	**(5G2,50)ST** (5GAWG14)ST	✓		500	11.2	235
46270	**(7G0,75)ST** (7GAWG19)ST	✓	100	500	9.2	130
46271	**(7G1,00)ST** (7GAWG18)ST	✓		500	9.8	160
46272	**(7G1,50)ST** (7GAWG16)ST	✓		500	11.5	230
46273	**(7G2,50)ST** (7GAWG14)ST	✓			13.5	340
46274	**(12G1,00)ST** (12GAWG18)ST	✓		500	11.8	230
46275	**(12G1,50)ST** (12GAWG16)ST	✓			13.8	320
46276	**(12G2,50)ST** (12GAWG14)ST	✓			16	495
46277	**(18G1,00)ST** (18GAWG18)ST	✓			13.4	315
46278	**(18G1,50)ST** (18GAWG16)ST	✓			16.3	480
46279	**(25G1,00)ST** (25GAWG18)ST	✓			16	460

DYNAMIC APPLICATION

PMXX® PLUS
SERVO

APPLICATIVE FEATURES

UP TO 5 MILLION GUARANTEED CYCLES

50,0 M/S2 ACCELERATION

25,0 M CABLE LENGTH

300,0 M/MIN TRAVEL SPEED

MINIMUM BENDING RADIUS

CROSS SECTION	CROSS SECTION MAX	DYNAMIC INSTALLATION	STATIC INSTALLATION
0.50	16.00	6xø	3xø
25.00	95.00	10xø	5xø

DESCRIPTION

High-performance UL/CSA certified flexible servomotor cables designed for dynamic application in high-speed drag chains, between the motor and frequency converter. The polyurethane outer jacket provides excellent resistance properties against mechanical stress and chemical agents, making these cables suitable for indoor or outdoor use, even in very low temperatures. Screening from electromagnetic interference is achieved thanks to the dense braid shield.

APPROVALS

AWM STYLE 21209
90°C 1000V

AWM I/II A/B 90°C
1000V

2014/35/CEE

2014/30/EU

2011/65/UE
2015/863/UE

IEC 60754-1
EN 50267-1

TECHNICAL DATA

STORAGE -50°C +80°C
DYNAMIC -30°C +90°C
STATIC -40°C +90°C

NOMINAL VOLTAGE 1000 V (UL/CSA) UO/U 0,6/1 KV (VDE)

TEST VOLTAGE 4,0 KV
TEST VOLTAGE REFERENCE EN 50395 PART 6-7, UL/1581

INSULATION RESISTANCE ≥1 GOHM/KM

CONSTRUCTION FEATURES

POWER CONDUCTORS	CONDUCTOR	CL6 EXTRA-FLEXIBLE. BARE COPPER.
	INSULATION	POLYPROPYLENE COMPOUND (PP)
	INSULATION COLOR	BLACK CORE WITH WHITE PRINTING (U/L1/C/L+, V/L2, W/L3/D/L-) + GREEN-YELLOW.
	SEPARATIONLAYER	INNER TAPE POLYESTER TRANSPARENT TAPE OR NON-WOVEN TAPE
OVERALL STRANDING SERVO	FILLER	FILLER POLYPROPYLENE
	SEPARATIONLAYER	TAPE NON-WOVEN TAPE
	SCREEN	SCREEN TINNED COPPER 85 % ± 5 %
	SEPARATIONLAYER	TAPE NON-WOVEN TAPE
	SHEATH	POLYURETHANE COMPOUND (TMPU)
	SHEATH COLOUR	ORANGE RAL: 2003, DESINA: YES

PRODUCTS FEATURES

FIRE PERFORMANCE
SELF-EXTINGUISHING AND FLAME RETARDANT ACC. TO DIN VDE 0482-332-1-2, DIN EN 60332-1-2, IEC 60332-1-2, UL CABLE FLAME, UL VW-1 CSA FT1.

OIL PERFORMANCE
VDE 0473-811-404, IEC 60811-404 (EU), CEI EN 50363-10-2, 1581 (UL)

UV PERFORMANCE
ACCORDING TO ISO 4892-2, EN 50289-4-17, ASTM-D-2565-16

WATER PERFORMANCE
UL 1581 - IEC 60811-1-3

COLD PERFORMANCE
EN60811-1-4

ABRASION PERFORMANCE
ASTM D 4060

MUD PERFORMANCE
NEK 606

MICROBE PERFORMANCE
VDE 0282/10

HOZONE PERFORMANCE
EN 50396 ART. 8.1.3

TECO CODE	OEM REF.	FORMATION	CUT	ROLLS [M]	DRUMS [M]	EXT Ø [MM]	WEIGHT [KG/KM]
46158		**(3G1,50)ST** (3GAWG16)ST	✓	100	500	8.2	110
46159		**(3G2,50)ST** (3GAWG14)ST	✓		500	9.6	170
46160		**(4G1,00)ST** (4GAWG18)ST	✓	100	500	8.2	100
46161	SIEMENS 6FX8008-1BB11	**(4G1,50)ST** (4GAWG16)ST	✓	100	500	9	140
46162	SIEMENS 6FX8008-1BB21	**(4G2,50)ST** (4GAWG14)ST	✓		500	10.6	198
46163	SIEMENS 6FX8008-1BB31	**(4G4,00)ST** (4GAWG12)ST	✓		500/100	12.3	265
46164	SIEMENS 6FX8008-1BB41	**(4G6,00)ST** (4GAWG10)ST	✓		100	14.5	400
46165	SIEMENS 6FX8008-1BB51	**(4G10,00)ST** (4GAWG08)ST	✓			17.5	590
46166	SIEMENS 6FX8008-1BB61	**(4G16,00)ST** (4GAWG06)ST	✓			21.6	1010
46167	SIEMENS 6FX8008-1BB25	**(4G25,00)ST** (4GAWG04)ST	✓			25	1480
46168	SIEMENS 6FX8008-1BB35	**(4G35,00)ST** (4GAWG02)ST	✓			29.4	1950
46169	SIEMENS 6FX8008-1BB50	**(4G50,00)ST** (4GAWG01)ST	✓			34	2850
46170	SIEMENS 6FX5008-1BB70	**(4G70,00)ST** (4GAWG2/0)ST	✓			39.9	3965
46171	SIEMENS 6FX8008-1BB95	**(4G95,00)ST** (4GAWG3/0)ST	✓			47.5	5200

DYNAMIC APPLICATION

PMXX® PLUS
SERVO WITH PAIR

APPLICATIVE FEATURES

UP TO 5 MILLION GUARANTEED CYCLES

50,0 M/S2 ACCELERATION

25,0 M CABLE LENGTH

300,0 M/MIN TRAVEL SPEED

MINIMUM BENDING RADIUS

CROSS SECTION	CROSS SECTION MAX	DYNAMIC INSTALLATION	STATIC INSTALLATION
0.50	16.00	6xØ	3xØ
25.00	95.00	10xØ	5xØ

DESCRIPTION

High-performance UL/CSA certified flexible servomotor cables designed for dynamic application in high-speed drag chains, between the motor and frequency converter. The polyurethane outer jacket provides excellent resistance properties against mechanical stress and chemical agents, making these cables suitable for indoor or outdoor use, even in very low temperatures. Screening from electromagnetic interference is achieved thanks to the dense braid shield. Cables are available with one or two control pairs and are compliant with the most commonly used drive system standards.

APPROVALS

AWM STYLE 21209
90°C 1000V

AWM I/II A/B 90°C
1000V

2014/35/CEE

2014/30/EU

2011/65/UE
2015/863/UE

IEC 60754-1
EN 50267-1

TECHNICAL DATA

STORAGE -50°C +80°C
DYNAMIC -30°C +90°C
STATIC -40°C +90°C

NOMINAL VOLTAGE 1000 V (UL/CSA) UO/U 0,6/1 KV (VDE)

TEST VOLTAGE 4,0 KV
TEST VOLTAGE REFERENCE EN 50395 PART 6-7, UL/1581

INSULATION RESISTANCE ≥1 GOHM/KM

CONSTRUCTION FEATURES

POWER CONDUCTORS	CONDUCTOR	CL6 EXTRA-FLEXIBLE. BARE COPPER.
	INSULATION	POLYPROPYLENE COMPOUND (PP)
	INSULATION COLOR	BLACK CORE WITH WHITE PRINTING (U/L1/C/L+, V/L2, W/L3/D/L-) + GREEN-YELLOW.
	SEPARATIONLAYER	INNER TAPE POLYESTER TRANSPARENT TAPE OR NON-WOVEN TAPE
CONTROL PAIR SCREENED (ONE PAIR)	CONDUCTOR	CL6 EXTRA-FLEXIBLE. BARE COPPER.
	INSULATION	POLYPROPYLENE COMPOUND (PP)
	INSULATION COLOR	BLACK CORE AND WHITE CORE.
	FILLER	FILLER POLYPROPYLENE
	SEPARATIONLAYER	INTERMEDIATE TAPE POLYESTER TRANSPARENT.
	SCREEN	SCREEN TINNED COPPER 85 % ± 5 %
	SEPARATIONLAYER	INTERMEDIATE TAPE POLYESTER TRANSPARENT.

CONSTRUCTION FEATURES

CONTROL PAIR SCREENED (TWO PAIR)	CONDUCTOR	**CL6 EXTRA-FLEXIBLE. BARE COPPER.**
	INSULATION	**POLYPROPYLENE COMPOUND (PP)**
	INSULATION COLOR	**BLACK CORE WITH WHITE PRINTED NUMBERS.**
	FILLER	**FILLER POLYPROPYLENE**
	SEPARATIONLAYER	**INTERMEDIATE TAPE POLYESTER TRANSPARENT.**
	SCREEN	**SCREEN TINNED COPPER 85 % ± 5 %**
	SEPARATIONLAYER	**INTERMEDIATE TAPE POLYESTER TRANSPARENT.**
OVERALL STRANDING ONE PAIR	FILLER	**FILLER POLYPROPYLENE**
	SEPARATIONLAYER	**TAPE NON-WOVEN TAPE**
	SCREEN	**SCREEN TINNED COPPER 85 % ± 5 %**
	SEPARATIONLAYER	**TAPE NON-WOVEN TAPE**
	SHEATH	**POLYURETHANE COMPOUND (TMPU)**
	SHEATH COLOUR	**ORANGE RAL: 2003, DESINA: YES**
OVERALL STRANDING TWO PAIR	FILLER	**FILLER POLYPROPYLENE**
	SEPARATIONLAYER	**TAPE NON-WOVEN TAPE**
	SCREEN	**SCREEN TINNED COPPER 85 % ± 5 %**
	SEPARATIONLAYER	**TAPE NON-WOVEN TAPE**
	SHEATH	**POLYURETHANE COMPOUND (TMPU)**
	SHEATH COLOUR	**ORANGE RAL: 2003, DESINA: YES**

PRODUCTS FEATURES

FIRE PERFORMANCE
SELF-EXTINGUISHING AND FLAME RETARDANT ACC. TO DIN VDE 0482-332-1-2, DIN EN 60332-1-2, IEC 60332-1-2, UL CABLE FLAME, UL VW-1, CSA FT1

OIL PERFORMANCE
VDE 0473-811-404 IEC 60811-404 (EU) CEI EN 50363-10-2 1581 (UL)

UV PERFORMANCE
ACCORDING TO ISO 4892-2, EN 50289-4-17, ASTM-D-2565-16

WATER PERFORMANCE
UL 1581 - IEC 60811-1-3

COLD PERFORMANCE
EN60811-1-4

ABRASION PERFORMANCE
ASTM D 4060

MUD PERFORMANCE
NEK 606

MICROBE PERFORMANCE
VDE 0282/10

HOZONE PERFORMANCE
EN 50396 ART. 8.1.3

TECO CODE	OEM REF.	FORMATION	CUT	ROLLS [M]	DRUMS [M]	EXT Ø [MM]	WEIGHT [KG/KM]
46185	INDRAMAT INK 657	**[4G0,75+(2X0,50)ST]ST** [4GAWG19+(2XAWG21)ST]ST	✓		500	10	150
46186	INDRAMAT INK 653	**[4G1,00+2X(2X0,75)ST]ST** [4GAWG18+2X(2XAWG19)ST]ST	✓			11.5	240
46172		**[4G1,50+(2X1,00)ST]ST** [4GAWG16+(2XAWG18)ST]ST	✓		500	11.5	200
46173	SIEMENS 6FX5008-1BA11	**[4G1,50+(2X1,50)ST]ST** [4GAWG16+(2XAWG16)ST]ST	✓		500	11.7	225
46187	INDRAMAT INK 650	**[4G1,50+2X(2X0,75)ST]ST** [4GAWG16+2X(2XAWG19)ST]ST	✓		500	12	260
46174		**[4G2,50+(2X1,00)ST]ST** [4GAWG14+(2XAWG18)ST]ST	✓		500	12.5	275
46175	SIEMENS 6FX8008-1BA21	**[4G2,50+(2X1,50)ST]ST** [4GAWG14+(2XAWG16)ST]ST	✓			13.5	310
46188	INDRAMAT INK 602	**[4G2,50+2X(2X1,00)ST]ST** [4GAWG14+2X(2XAWG18)ST]ST	✓		500	14	340
46176		**[4G4,00+(2X1,00)ST]ST** [4GAWG12+(2XAWG18)ST]ST	✓			14	345
46177	SIEMENS 6FX8008-1BA31	**[4G4,00+(2X1,50)ST]ST** [4GAWG12+(2XAWG16)ST]ST	✓			14.8	380
46189	INDRAMAT INK 603	**[4G4,00+(2X1,00)ST+(2X1,50)ST]ST** [4GAWG12+(2XAWG18)+ (2XAWG16)ST]ST	✓			16	480
46178	SIEMENS 6FX8008-1BA41	**[4G6,00+(2X1,50)ST]ST** [4GAWG10+(2XAWG16)ST]ST	✓			16.8	500
46190	INDRAMAT INK 604	**[4G6,00+(2X1,00)ST+(2X1,50)ST]ST** [4GAWG10+(2XAWG18)+ (2XAWG16)ST]ST	✓			17.8	600
46179	SIEMENS 6FX8008-1BA51	**[4G10,00+(2X1,50)ST]ST** [4GAWG8+(2XAWG16)ST]ST	✓			19.5	720
46191	INDRAMAT INK 605	**[4G10,00+(2X1,00)ST+(2X1,50)ST]ST** [4GAWG08+(2XAWG18)+ (2XAWG16)ST]ST	✓			22.6	840
46180	SIEMENS 6FX8008-1BA61	**[4G16,00+(2X1,50)ST]ST** [4GAWG6+(2XAWG16)ST]ST	✓			23.2	1050
46192	INDRAMAT INK 606	**[4G16,00+2X(2X1,50)ST]ST** [4GAWG06+2X(2XAWG16)ST]ST	✓			25.5	1220
46181	SIEMENS 6FX8008-1BA25	**[4G25,00+(2X1,50)ST]ST** [4GAWG04+(2XAWG16)ST]ST	✓			26.6	1580
46193	INDRAMAT INK 607	**[4G25,00+2X(2X1,50)ST]ST** [4GAWG04+2X(2XAWG16)ST]ST	✓			29.8	1600
46182	SIEMENS 6FX8008-1BA35	**[4G35,00+(2X1,50)ST]ST** [4GAWG02+(2XAWG16)ST]ST	✓			30.9	2100
46194	INDRAMAT INK 667	**[4G35,00+2X(2X1,50)ST]ST** [4GAWG02+2X(2XAWG16)ST]ST	✓			30.5	2100
46183	SIEMENS 6FX8008-1BA50	**[4G50,00+(2X1,50)ST]ST** [4GAWG01+(2XAWG16)ST]ST	✓			34	3000
43315	INDRAMAT INK 668	**[4G50+2X(2X2,5)ST]ST** [4GAWG01+2X(2XAWG14)ST]ST	✓			37.6	3300

DYNAMIC APPLICATION

PMXX® PLUS
SERVO WITH TRIPLET

APPLICATIVE FEATURES

UP TO 5 MILLION CYCLE GUARANTEED CYCLES

50,0 M/S2 ACCELERATION

15,0 M CABLE LENGTH

300,0 M/MIN TRAVEL SPEED

MINIMUM BENDING RADIUS

CROSS SECTION	CROSS SECTION MAX	DYNAMIC INSTALLATION	STATIC INSTALLATION
0.50	16.00	7xø	4xø

DESCRIPTION

High-performance UL/CSA certified flexible servomotor cables designed for dynamic application in high-speed drag chains, between the motor and frequency converter. The polyurethane outer jacket provides excellent resistance properties against mechanical stress and chemical agents, making these cables suitable for indoor or outdoor use, even in very low temperatures. Screening from electromagnetic interference is achieved thanks to the dense braid shield. These cables have a control triplet of conductors and are compliant with the most commonly used drive system standards.

APPROVALS

E244280 — AWM STYLE 21209 90°C 1000V

AWM I/II A/B 90°C 1000V

2014/35/CEE

EMC 2014/30/EU

RoHS 2011/65/UE 2015/863/UE

HF HALOGEN FREE IEC 60754-1 EN 50267-1

TECHNICAL DATA

STORAGE -50°C +80°C
DYNAMIC -30°C +90°C
STATIC -40°C +90°C

NOMINAL VOLTAGE 1000 V

TEST VOLTAGE 4,0 KV
TEST VOLTAGE REFERENCE EN 50395 PART 6-7 - UL/1581

INSULATION RESISTANCE ≥1 GOHM/KM

CONSTRUCTION FEATURES

POWER CONDUCTORS	CONDUCTOR	CL6 EXTRA-FLEXIBLE. BARE COPPER.
	INSULATION	POLYPROPYLENE COMPOUND (PP)
	INSULATION COLOR	BLACK CORE WITH WHITE PRINTING (U/L1/C/L+, V/L2, W/L3/D/L-) + GREEN-YELLOW.
	SEPARATIONLAYER	INNER TAPE POLYESTER TRANSPARENT TAPE OR NON-WOVEN TAPE
CONTROL TRIPLET SCREENED	CONDUCTOR	CL6 EXTRA-FLEXIBLE. BARE COPPER.
	INSULATION	POLYPROPYLENE COMPOUND (PP)
	INSULATION COLOR	BLACK CORE WITH WHITE PRINTED NUMBERS.
	FILLER	FILLER POLYPROPYLENE
	SEPARATIONLAYER	INTERMEDIATE TAPE POLYESTER TRANSPARENT.
	SCREEN	SCREEN TINNED COPPER 85 % ± 5 %
	SEPARATIONLAYER	INTERMEDIATE TAPE POLYESTER TRANSPARENT.

CONSTRUCTION FEATURES

OVERALL STRANDING TRIPLET	FILLER	**FILLER** **POLYPROPYLENE**
	SEPARATIONLAYER	**TAPE** **NON-WOVEN TAPE**
	SCREEN	**SCREEN** **TINNED COPPER** **85 % ± 5 %**
	SEPARATIONLAYER	**TAPE** **NON-WOVEN TAPE**
	SHEATH	**POLYURETHANE COMPOUND (TMPU)**
	SHEATH COLOUR	**ORANGE** **RAL: 2003, DESINA: YES**

PRODUCTS FEATURES

FIRE PERFORMANCE
SELF-EXTINGUISHING AND FLAME RETARDANT ACC. TO DIN VDE 0482-332-1-2, DIN EN 60332-1-2, IEC 60332-1-2, UL CABLE FLAME, UL VW-1, CSA FT1.

OIL PERFORMANCE
VDE 0473-811-404 IEC 60811-404 (EU) CEI EN 50363-10-2 1581 (UL)

UV PERFORMANCE
ACCORDING TO ISO 4892-2, EN 50289-4-17, ASTM-D-2565-16

WATER PERFORMANCE
UL 1581 - IEC 60811-1-3

COLD PERFORMANCE
EN60811-1-4

ABRASION PERFORMANCE
ASTM D 4060

MUD PERFORMANCE
NEK 606

MICROBE PERFORMANCE
VDE 0282/10

HOZONE PERFORMANCE
EN 50396 ART. 8.1.3

TECO CODE	OEM REF.	FORMATION	CUT	ROLLS [M]	DRUMS [M]	EXT Ø [MM]	WEIGHT [KG/KM]
43309	SEW	**[4G1,50+(3X1,00)ST]ST** [4GAWG16+(3XAWG18)ST]ST	✓		500	11.8	220
43310	SEW	**[4G2,50+(3X1,00)ST]ST** [4GAWG14+(3XAWG18)ST]ST	✓		500	13.4	280
43311	SEW	**[4G4,00+(3X1,00)ST]ST** [4GAWG12+(3XAWG18)ST]ST	✓			14.8	350
43312	SEW	**[4G6,00+(3X1,50)ST]ST** [4GAWG10+(3XAWG16)ST]ST	✓			17	530
43313	SEW	**[4G10,00+(3X1,50)ST]ST** [4GAWG08+(3XAWG16)ST]ST	✓			19.8	800

DYNAMIC APPLICATION

PMXX® PLUS
ENCODER&RESOLVER 1

APPLICATIVE FEATURES

UP TO 5 MILLION CYCLES
GUARANTEED CYCLES

UP TO 50 M/S2
ACCELERATION

UP TO 25,0 M
CABLE LENGTH

UP TO 300 M/MIN
TRAVEL SPEED

MINIMUM BENDING RADIUS

CROSS SECTION	CROSS SECTION MAX	DYNAMIC INSTALLATION	STATIC INSTALLATION
0,14	1,00	7 x ø	5 x ø

DESCRIPTION

High-performance UL/CSA certified flexible cables for data transmission of encoder and resolver devices, designed for dynamic application in high-speed drag chains, also suitable for permanently flexible applications that allow free movement without tensile stress and without motion control in dry, damp, and wet environments. The polyurethane outer jacket provides excellent resistance properties against mechanical stress and chemical agents, making these cables suitable for indoor or outdoor use, even in very low temperatures.

APPROVALS

E244280 — AWM STYLE 21209
90°C 300V

AWM I/II A/B 90°C
300V

2014/35/CEE

2011/65/UE
2015/863/UE

IEC 60754-1
EN 50267-1

EMC 2014/30/EU

TECHNICAL DATA

STORAGE - 50°C + 90°C
DYNAMIC - 30°C + 90°C
STATIC - 40°C + 90°C

NOMINAL VOLTAGE 300 V (UL/CSA)

TEST VOLTAGE C/C 2000VRMS,1MIN, C/OVERALL SCREEN 2000VRMS,1MIN

INSULATION RESISTANCE ≥1 GOHM/KM

CONSTRUCTION FEATURES

GROUP 1

CONDUCTOR	CL6 EXTRA-FLEXIBLE. TINNED COPPER
INSULATION	POLYPROPYLENE COMPOUND (PP)
INSULATION COLOR	COLOURS SEQUENCE REFERS TO DIN 47100 STANDARD.
DRAINWIRE	DRAIN WIRE TINNED COPPER
SCREEN	SCREEN SF TINNED COPPER 90 % ± 5 %
SEPARATIONLAYER	TAPE POLYESTER TRANSPARENT.
SHEATH	INNER JACKET POLYOLEFIN COMPOUND.

CONSTRUCTION FEATURES

GROUP 2	CONDUCTOR	**CL6 EXTRA-FLEXIBLE. TINNED COPPER**
	INSULATION	**POLYPROPYLENE COMPOUND (PP)**
	INSULATION COLOR	**COLOURS SEQUENCE REFERS TO DIN 47100 STANDARD.**
	SCREEN	**SCREEN SF TINNED COPPER 90 % ± 5 %**
	SEPARATIONLAYER	**TAPE POLYESTER TRANSPARENT.**
	SHEATH	**INNER JACKET B POLYOLEFIN COMPOUND.**
OVERALL STRANDING	FILLER	**FILLER POLYPROPYLENE**
	SEPARATIONLAYER	**WRAPPING NON-WOVEN TAPE**
	SCREEN	**SCREEN TINNED COPPER 85 % ± 5 %**
	SEPARATIONLAYER	**OVERALL WRAPPING NON-WOVEN TAPE**
	SHEATH	**POLYURETHANE COMPOUND (TMPU)**
	SHEATH COLOUR	**GREEN RAL: 6018, DESINA: YES**

PRODUCTS FEATURES

FIRE PERFORMANCE
SELF-EXTINGUISHING AND FLAME RETARDANT ACC. TO DIN VDE 0482-332-1-2, DIN EN 60332-1-2, IEC 60332-1-2, UL CABLE FLAME, UL VW-1, CSA FT1

OIL PERFORMANCE
VDE 0473-811-404, IEC 60811-404(EU), CEI EN 50363-10-2(EU), 1581(UL)

UV PERFORMANCE
ISO 4892-2, ASTM-D-2565-16, EN 50289-4-17

WATER PERFORMANCE
UL 1581, IEC 60811-1-3

COLD PERFORMANCE
EN 60811-1-4

ABRASION PERFORMANCE
ASTM D 4060

MUD PERFORMANCE
NEK 606

MICROBE PERFORMANCE
VDE 0282/10

HOZONE PERFORMANCE
EN 50396 ART. 8.1.3

TECO CODE	OEM REF.	FORMATION	CUT	ROLLS [M]	DRUMS [M]	EXT Ø [MM]	WEIGHT [KG/KM]	INS. COLOUR EXC
46684	HEIDENHAIN	**[3X(2X0,14)CCSF/RPE+2X(0,50)SF/RPE]ST** [3X(2XAWG26)CCSF/RPE+2X(AWG21)SF/RPE]ST	✓	100	500	8.8	110	GROUP 1 3X(2X0,14) : YE-GN, RD-BU, GY-PK GROUP 2 2X(0,50) : WH, BN

DYNAMIC APPLICATION

PMXX® PLUS
ENCODER&RESOLVER 2

APPLICATIVE FEATURES

UP TO 5 MILLION CYCLES
GUARANTEED CYCLES

UP TO 50 M/S2
ACCELERATION

UP TO 25,0 M
CABLE LENGTH

UP TO 300 M/MIN
TRAVEL SPEED

MINIMUM BENDING RADIUS

CROSS SECTION	CROSS SECTION MAX	DYNAMIC INSTALLATION	STATIC INSTALLATION
0,14	1,00	7 x ø	5 x ø

DESCRIPTION

High-performance UL/CSA certified flexible cables for data transmission of encoder and resolver devices, designed for dynamic application in high-speed drag chains, also suitable for permanently flexible applications that allow free movement without tensile stress and without motion control in dry, damp, and wet environments. The polyurethane outer jacket provides excellent resistance properties against mechanical stress and chemical agents, making these cables suitable for indoor or outdoor use, even in very low temperatures.

APPROVALS

AWM STYLE 21209
90°C 300V

AWM I/II A/B 90°C
300V

2014/35/CEE

IEC 60754-1
EN 50267-1

2011/65/UE
2015/863/UE

2014/30/EU

TECHNICAL DATA

STORAGE - 50°C + 90°C
DYNAMIC - 30°C + 90°C
STATIC - 40°C + 90°C

NOMINAL VOLTAGE 300 V (UL/CSA)

TEST VOLTAGE C/C 2000VRMS,1MIN, C/OVERALL SCREEN 2000VRMS,1MIN

INSULATION RESISTANCE ≥1 GOHM/KM

CONSTRUCTION FEATURES

GROUP 1	CONDUCTOR	CL6 EXTRA-FLEXIBLE. TINNED COPPER
	INSULATION	POLYPROPYLENE COMPOUND (PP)
	INSULATION COLOR	COLOURS SEQUENCE REFERS TO DIN 47100 STANDARD.
	SEPARATIONLAYER	TAPE POLYESTER TRANSPARENT.
	SCREEN	SCREEN SF TINNED COPPER 90 % ± 5 %
	SEPARATIONLAYER	TAPE POLYESTER TRANSPARENT.
GROUP 2	CONDUCTOR	CL6 EXTRA-FLEXIBLE. TINNED COPPER
	INSULATION	POLYPROPYLENE COMPOUND (PP)
	INSULATION COLOR	COLOURS SEQUENCE REFERS TO DIN 47100 STANDARD.

CONSTRUCTION FEATURES

GROUP 3	CONDUCTOR	**CL6 EXTRA-FLEXIBLE. TINNED COPPER**
	INSULATION	**POLYPROPYLENE COMPOUND (PP)**
	INSULATION COLOR	**COLOURS SEQUENCE REFERS TO DIN 47100 STANDARD.**
OVERALL WRAPPING	FILLER	**FILLER POLYPROPYLENE**
	SEPARATIONLAYER	**WRAPPING NON-WOVEN TAPE**
	SCREEN	**SCREEN TINNED COPPER 85 % ± 5 %**
	SEPARATIONLAYER	**OVERALL WRAPPING NON-WOVEN TAPE**
	SHEATH	**POLYURETHANE COMPOUND (TMPU)**
	SHEATH COLOUR	**GREEN RAL: 6018, DESINA: YES**

PRODUCTS FEATURES

FIRE PERFORMANCE
SELF-EXTINGUISHING AND FLAME RETARDANT ACC. TO DIN VDE 0482-332-1-2, DIN EN 60332-1-2, IEC 60332-1-2, UL CABLE FLAME, UL VW-1, CSA FT1

OIL PERFORMANCE
VDE 0473-811-404, IEC 60811-404(EU), CEI EN 50363-10-2(EU), 1581(UL)

UV PERFORMANCE
ISO 4892-2, ASTM-D-2565-16, EN 50289-4-17

WATER PERFORMANCE
UL 1581, IEC 60811-1-3

COLD PERFORMANCE
EN 60811-1-4

ABRASION PERFORMANCE
ASTM D 4060

MUD PERFORMANCE
NEK 606

MICROBE PERFORMANCE
VDE 0282/10

HOZONE PERFORMANCE
EN 50396 ART. 8.1.3

TECO CODE	FORMATION	CUT	ROLLS [M]	DRUMS [M]	EXT Ø [MM]	WEIGHT [KG/KM]	INS. COLOUR EXC
43322	**[4X2X0,14+ (4X0,14)SF+4X0.50]ST** [4X2XAWG26+ (4XAWG26)SF+4XAWG21]ST	✓	100	500	8.3	100	GROUP 1 4X0,14 : GN/BK*,RD/BK*,YE/BK*,BU/BK* GROUP 2 4X2X0,14 : RD-BK, GN-BN, VT-YE, GY-PK GROUP 3 4X0,50 WH, BU, WH/GN*, BN/GN* *RINGED BICOLOUR

DYNAMIC APPLICATION

PMXX® PLUS
ENCODER&RESOLVER 3

APPLICATIVE FEATURES

UP TO 5 MILLION CYCLES
GUARANTEED CYCLES

UP TO 50 M/S2
ACCELERATION

UP TO 25,0 M
CABLE LENGTH

UP TO 300 M/MIN
TRAVEL SPEED

MINIMUM BENDING RADIUS

CROSS SECTION	CROSS SECTION MAX	DYNAMIC INSTALLATION	STATIC INSTALLATION
0.14	1.00	7 x ø	5 x ø

DESCRIPTION

High-performance UL/CSA certified flexible cables for data transmission of encoder and resolver devices, designed for dynamic application in high-speed drag chains, also suitable for permanently flexible applications that allow free movement without tensile stress and without motion control in dry, damp, and wet environments. The polyurethane outer jacket provides excellent resistance properties against mechanical stress and chemical agents, making these cables suitable for indoor or outdoor use, even in very low temperatures.

APPROVALS

E244280 — AWM STYLE 21209
90°C 300V

AWM I/II A/B 90°C
300V

2014/35/CEE

HALOGEN FREE — IEC 60754-1
EN 50267-1

RoHS — 2011/65/UE
2015/863/UE

EMC 2014/30/EU

TECHNICAL DATA

STORAGE -50°C +90°C
DYNAMIC -30°C +90 °C
STATIC -40°C +90°C

NOMINAL VOLTAGE 300 V (UL/CSA)

TEST VOLTAGE C/C 2000VRMS,1MIN, C/OVERALL SCREEN 2000VRMS,1MIN

INSULATION RESISTANCE ≥1 GOHM/KM

CONSTRUCTION FEATURES

GROUP 1	CONDUCTOR	CL6 EXTRA-FLEXIBLE. TINNED COPPER
	INSULATION	POLYPROPYLENE COMPOUND (PP)
	INSULATION COLOR	COLOURS SEQUENCE REFERS TO DIN 47100 STANDARD.
GROUP 2	CONDUCTOR	CL6 EXTRA-FLEXIBLE. TINNED COPPER
	INSULATION	POLYPROPYLENE COMPOUND (PP)
	INSULATION COLOR	COLOURS SEQUENCE REFERS TO DIN 47100 STANDARD.

CONSTRUCTION FEATURES

OVERALL STRANDING (MXNXY+NXY)SNCC/ST	FILLER	**FILLER POLYPROPYLENE COMPOUND (PP)**
	SEPARATIONLAYER	**WRAPPING NON-WOVEN TAPE**
	SEPARATIONLAYER	**WRAPPING TAPE SCREEN ALLUMINIUM INSIDE/POLYESTER OUTSIDE**
	DRAINWIRE	**DRAIN WIRE TINNED COPPER**
	SCREEN	**SCREEN TINNED COPPER 85 % ± 5 %**
	SEPARATIONLAYER	**OVERALL WRAPPING NON-WOVEN TAPE**
	SHEATH	**POLYURETHANE COMPOUND (TMPU)**
	SHEATH COLOUR	**GREEN RAL: 6018, DESINA: YES**
OVERALL STRANDING (MXNXY+NXY)CCST	FILLER	**FILLER POLYPROPYLENE COMPOUND (PP)**
	SEPARATIONLAYER	**WRAPPING NON-WOVEN TAPE**
	DRAINWIRE	**DRAIN WIRE TINNED COPPER**
	SCREEN	**SCREEN TINNED COPPER 85 % ± 5 %**
	SEPARATIONLAYER	**OVERALL WRAPPING NON-WOVEN TAPE**
	SHEATH	**POLYURETHANE COMPOUND (TMPU)**
	SHEATH COLOUR	**GREEN RAL: 6018, DESINA: YES**

PRODUCTS FEATURES

FIRE PERFORMANCE
SELF-EXTINGUISHING AND FLAME RETARDANT ACC. TO DIN VDE 0482-332-1-2, DIN EN 60332-1-2, IEC 60332-1-2, UL CABLE FLAME, UL VW-1, CSA FT1.

OIL PERFORMANCE
VDE 0473-811-404, IEC 60811-404(EU), CEI EN 50363-10-2(EU), 1581(UL)

UV PERFORMANCE
ISO 4892-2, ASTM-D-2565-16, EN 50289-4-17

WATER PERFORMANCE
UL 1581, IEC 60811-1-3

COLD PERFORMANCE
EN 60811-1-4

ABRASION PERFORMANCE
ASTM D 4060

MUD PERFORMANCE
NEK 606

MICROBE PERFORMANCE
VDE 0282/10

HOZONE PERFORMANCE
EN 50396 ART. 8.1.3

TECO CODE	FORMATION	CUT	ROLLS [M]	DRUMS [M]	EXT Ø [MM]	WEIGHT [KG/KM]	INS. COLOUR EXC
46683	**(3X2X0,14+2X0,34)SNCC/ST** (3X2XAWG26+2XAWG22)SNCC/ST	✓	100	500	7	70	GROUP 1 3X2X0,14 : WH-BN, GN-YE, GY-PK GROUP 2 2X0,34 : BU, RD
46688	**(3X2X0,25+2X0,50)CCST** (3X2XAWG24+2XAWG21)CCST	✓	100	500	7.8	90	GROUP 1 3X2X0,25 : WH-BN, GN-YE, GY-PK GROUP 2 2X0,50 : BU, RD
46689	**(3X2X0,34+2X0,50)CCST** (3X2XAWG22+2XAWG21)CCST	✓	100	500	8.6	110	GROUP 1 3X2X0,34 : WH-BN, GN-YE, GY-PK GROUP 2 2X0,50 : BU, RD

DYNAMIC APPLICATION

PMXX® PLUS
ENCODER&RESOLVER 4

APPLICATIVE FEATURES

UP TO 5 MILLION CYCLES
GUARANTEED CYCLES

UP TO 50 M/S2
ACCELERATION

UP TO 25,0 M
CABLE LENGTH

UP TO 300 M/MIN
TRAVEL SPEED

MINIMUM BENDING RADIUS

CROSS SECTION	CROSS SECTION MAX	DYNAMIC INSTALLATION	STATIC INSTALLATION
0,14	1,00	7 x ø	5 x ø

DESCRIPTION

High-performance UL/CSA certified flexible cables for data transmission of encoder and resolver devices, designed for dynamic application in high-speed drag chains, also suitable for permanently flexible applications that allow free movement without tensile stress and without motion control in dry, damp, and wet environments. The polyurethane outer jacket provides excellent resistance properties against mechanical stress and chemical agents, making these cables suitable for indoor or outdoor use, even in very low temperatures.

APPROVALS

E244280 — AWM STYLE 21209
90°C 300V

AWM I/II A/B 90°C
300V

2014/35/CEE

2011/65/UE
2015/863/UE

IEC 60754-1
EN 50267-1

2014/30/EU

TECHNICAL DATA

STORAGE -50°C +90°C
DYNAMIC -30°C +90 °C
STATIC -40°C +90°C

NOMINAL VOLTAGE 300 V (UL/CSA)

TEST VOLTAGE C/C 2000VRMS,1MIN, C/OVERALL SCREEN 2000VRMS,1MIN

INSULATION RESISTANCE ≥1 GOHM/KM

CONSTRUCTION FEATURES

GROUP 1	CONDUCTOR	CL6 EXTRA-FLEXIBLE. TINNED COPPER
	INSULATION	POLYPROPYLENE COMPOUND (PP)
	INSULATION COLOR	COLOURS SEQUENCE REFERS TO DIN 47100 STANDARD.
OVERALL STRANDING (MXNXY)CCST	SEPARATIONLAYER	WRAPPING NON-WOVEN TAPE
	DRAINWIRE	DRAIN WIRE TINNED COPPER
	SCREEN	SCREEN TINNED COPPER 85 % ± 5 %
	SEPARATIONLAYER	OVERALL WRAPPING NON-WOVEN TAPE
	SHEATH	POLYURETHANE COMPOUND (TMPU)
	SHEATH COLOUR	GREEN RAL: 6018, DESINA: YES

CONSTRUCTION FEATURES

OVERALL STRANDING (MXNXY)RPE/ST	SEPARATIONLAYER	**WRAPPING NON-WOVEN TAPE**
	SHEATH	**INNER JACKET POLYOLEFIN COMPOUND.**
	SCREEN	**SCREEN TINNED COPPER 85 % ± 5 %**
	SEPARATIONLAYER	**OVERALL WRAPPING NON-WOVEN TAPE**
	SHEATH	**POLYURETHANE COMPOUND (TMPU)**
	SHEATH COLOUR	**GREEN , RAL: 6018, DESINA: YES**

PRODUCTS FEATURES

FIRE PERFORMANCE
SELF-EXTINGUISHING AND FLAME RETARDANT ACC. TO DIN VDE 0482-332-1-2, DIN EN 60332-1-2, IEC 60332-1-2, UL CABLE FLAME, UL VW-1, CSA FT1.

OIL PERFORMANCE
VDE 0473-811-404, IEC 60811-404(EU), CEI EN 50363-10-2(EU), 1581(UL)

UV PERFORMANCE
ISO 4892-2, ASTM-D-2565-16, EN 50289-4-17

WATER PERFORMANCE
UL 1581, IEC 60811-1-3

COLD PERFORMANCE
EN 60811-1-4

ABRASION PERFORMANCE
ASTM D 4060

MUD PERFORMANCE
NEK 606

MICROBE PERFORMANCE
VDE 0282/10

HOZONE PERFORMANCE
EN 50396 ART. 8.1.3

TECO CODE	OEM REF.	FORMATION	CUT	ROLLS [M]	DRUMS [M]	EXT Ø [MM]	WEIGHT [KG/KM]	INS. COLOUR EXC
46691		**(4X2X0,25)CCST** (4X2XAWG24)CCST	✓	100	500/1000	7.6	90	WH-BN, GN-YE, GY-PK, BU-RD
46698	INDRAMAT	**(6X2X0,25)RPE/ST** (6X2XAWG24)RPE/ST	✓		500	9.7	110	WH-BN, GN-YE, GY-PK, BU-RD, BK-VT, GY/PK*-RD/BU* *RINGED BICOLOUR

DYNAMIC APPLICATION

PMXX® PLUS
ENCODER&RESOLVER 5

APPLICATIVE FEATURES

UP TO 5 MILLION CYCLES
GUARANTEED CYCLES

UP TO 50 M/S2
ACCELERATION

UP TO 25,0 M
CABLE LENGTH

UP TO 300 M/MIN
TRAVEL SPEED

MINIMUM BENDING RADIUS

CROSS SECTION	CROSS SECTION MAX	DYNAMIC INSTALLATION	STATIC INSTALLATION
0,14	1,00	7 x ø	5 x ø

DESCRIPTION

High-performance UL/CSA certified flexible cables for data transmission of encoder and resolver devices, designed for dynamic application in high-speed drag chains, also suitable for permanently flexible applications that allow free movement without tensile stress and without motion control in dry, damp, and wet environments. The polyurethane outer jacket provides excellent resistance properties against mechanical stress and chemical agents, making these cables suitable for indoor or outdoor use, even in very low temperatures.

APPROVALS

E244280 — AWM STYLE 21209
90°C 300V

AWM I/II A/B 90°C
300V

2014/35/CEE

2011/65/UE
2015/863/UE

IEC 60754-1
EN 50267-1

2014/30/EU

TECHNICAL DATA

STORAGE - 50°C + 90°C
DYNAMIC - 30°C + 90°C
STATIC - 40°C + 90°C

NOMINAL VOLTAGE 300 V (UL/CSA)

TEST VOLTAGE C/C 2000VRMS,1MIN, C/OVERALL SCREEN 2000VRMS,1MIN

INSULATION RESISTANCE ≥1 GOHM/KM

CONSTRUCTION FEATURES

GROUP 1	CONDUCTOR	CL6 EXTRA-FLEXIBLE. TINNED COPPER
	INSULATION	POLYPROPYLENE COMPOUND (PP)
	INSULATION COLOR	VARIOUS COLOURS
	SEPARATIONLAYER	TAPE POLYESTER TRANSPARENT.
	SCREEN	PAIRS SCREEN TINNED COPPER 85 % ± 5 %
	SHEATH	INNER JACKET POLYOLEFIN COMPOUND.
OVERALL STRANDING	SEPARATIONLAYER	WRAPPING NON-WOVEN TAPE
	SCREEN	SCREEN TINNED COPPER 85 % ± 5 %
	SEPARATIONLAYER	OVERALL WRAPPING NON-WOVEN TAPE
	SHEATH	POLYURETHANE COMPOUND (TMPU)
	SHEATH COLOUR	GREEN RAL: 6018, DESINA: YES

PRODUCTS FEATURES

FIRE PERFORMANCE
SELF-EXTINGUISHING AND FLAME RETARDANT ACC. TO DIN VDE 0482-332-1-2, DIN EN 60332-1-2, IEC 60332-1-2, UL CABLE FLAME, UL VW-1, CSA FT1

OIL PERFORMANCE
VDE 0473-811-404, IEC 60811-404(EU), CEI EN 50363-10-2(EU), 1581(UL)

UV PERFORMANCE
ISO 4892-2, ASTM-D-2565-16, EN 50289-4-17

WATER PERFORMANCE
UL 1581, IEC 60811-1-3

COLD PERFORMANCE
EN 60811-1-4

ABRASION PERFORMANCE
ASTM D 4060

MUD PERFORMANCE
NEK 606

MICROBE PERFORMANCE
VDE 0282/10

HOZONE PERFORMANCE
EN 50396 ART. 8.1.3

TECO CODE	FORMATION	CUT	ROLLS [M]	DRUMS [M]	EXT Ø [MM]	WEIGHT [KG/KM]	INS. COLOUR EXC
46692	**[4X(2X0,25)ST/RPE]ST** [4X(2XAWG24)ST/RPE]ST	✓	100	500	9.2	130	WH-YE, WH+BU, WH+RD, WH+GN
46694	**[4X(2X0,34)ST/RPE]ST** [4X(2XAWG22)ST/RPE]ST	✓		500	11.2	155	WH-YE, WH+BU, WH+RD, WH+GN
46696	**[5X(2X0,34)ST/RPE]ST** [5X(2XAWG22)ST/RPE]ST	✓		500	11.6	185	WH-YE, WH-BU, WH+RD, WH+GN, WH+BK
46700	**[8X(2X0,25)ST/RPE]ST** [8X(2XAWG24)ST/RPE]ST	✓		500	14	215	WH-RD, WH-RD, WH-RD, WH-RD, WH-RD, WH-RD, WH-RD, WH-RD

DYNAMIC APPLICATION

PMXX® PLUS
ENCODER&RESOLVER 6

APPLICATIVE FEATURES

UP TO 5 MILLION CYCLES GUARANTEED CYCLES

UP TO 50 M/S2 ACCELERATION

UP TO 25,0 M CABLE LENGTH

UP TO 300 M/MIN TRAVEL SPEED

MINIMUM BENDING RADIUS

CROSS SECTION	CROSS SECTION MAX	DYNAMIC INSTALLATION	STATIC INSTALLATION
0,14	1,00	7 x ø	5 x ø

DESCRIPTION

High-performance UL/CSA certified flexible cables for data transmission of encoder and resolver devices, designed for dynamic application in high-speed drag chains, also suitable for permanently flexible applications that allow free movement without tensile stress and without motion control in dry, damp, and wet environments. The polyurethane outer jacket provides excellent resistance properties against mechanical stress and chemical agents, making these cables suitable for indoor or outdoor use, even in very low temperatures.

APPROVALS

AWM STYLE 21209
90°C 300V

AWM I/II A/B 90°C
300V

2014/35/CEE

IEC 60754-1
EN 50267-1

2011/65/UE
2015/863/UE

2014/30/EU

TECHNICAL DATA

STORAGE -50°C +90°C
DYNAMIC -30°C +90 °C
STATIC -40°C +90°C

NOMINAL VOLTAGE 300 V (UL/CSA)

TEST VOLTAGE C/C 2000VRMS,1MIN, C/OVERALL SCREEN 2000VRMS,1MIN

INSULATION RESISTANCE ≥1 GOHM/KM

CONSTRUCTION FEATURES

GROUP 1	CONDUCTOR	CL6 EXTRA-FLEXIBLE. TINNED COPPER
	INSULATION	POLYPROPYLENE COMPOUND (PP)
	INSULATION COLOR	VARIOUS COLOURS
GROUP 2	CONDUCTOR	CL6 EXTRA-FLEXIBLE. TINNED COPPER
	INSULATION	POLYPROPYLENE COMPOUND (PP)
	INSULATION COLOR	VARIOUS COLOURS
OVERALL STRANDING	FILLER	FILLER POLYPROPYLENE
	SEPARATIONLAYER	WRAPPING NON-WOVEN TAPE
	DRAINWIRE	DRAIN WIRE TINNED COPPER
	SCREEN	SCREEN TINNED COPPER 85 % ± 5 %
	SEPARATIONLAYER	OVERALL WRAPPING NON-WOVEN TAPE
	SHEATH	POLYURETHANE COMPOUND (TMPU)
	SHEATH COLOUR	GREEN RAL: 6018, DESINA: YES

PRODUCTS FEATURES

FIRE PERFORMANCE
SELF-EXTINGUISHING AND FLAME RETARDANT ACC. TO DIN VDE 0482-332-1-2, DIN EN 60332-1-2, IEC 60332-1-2, UL CABLE FLAME, UL VW-1, CSA FT1.

OIL PERFORMANCE
VDE 0473-811-404, IEC 60811-404(EU), CEI EN 50363-10-2(EU), 1581(UL)

UV PERFORMANCE
ISO 4892-2, ASTM-D-2565-16, EN 50289-4-17

WATER PERFORMANCE
UL 1581, IEC 60811-1-3

COLD PERFORMANCE
EN 60811-1-4

ABRASION PERFORMANCE
ASTM D 4060

MUD PERFORMANCE
NEK 606

MICROBE PERFORMANCE
VDE 0282/10

HOZONE PERFORMANCE
EN 50396 ART. 8.1.3

TECO CODE	OEM REF.	FORMATION	CUT	ROLLS [M]	DRUMS [M]	EXT Ø [MM]	WEIGHT [KG/KM]	INS. COLOUR EXC
46693	INDRAMAT	**(4X2X0,25+2X0,50)CCST** (4X2XAWG24+2XAWG21)CCST	✓	100	500	8.5	110	GROUP 1 4X2X0,25 : BN-GN,GY-PK, BU-VT, RD-BK GROUP 2 2X0,50 : WH, BN

DYNAMIC APPLICATION

PMXX® PLUS
ENCODER&RESOLVER 8

APPLICATIVE FEATURES

UP TO 5 MILLION CYCLES
GUARANTEED CYCLES

UP TO 50 M/S2
ACCELERATION

UP TO 25,0 M
CABLE LENGTH

UP TO 300 M/MIN
TRAVEL SPEED

MINIMUM BENDING RADIUS

CROSS SECTION	CROSS SECTION MAX	DYNAMIC INSTALLATION	STATIC INSTALLATION
0,14	1,00	7 x ø	5 x ø

DESCRIPTION

High-performance UL/CSA certified flexible cables for data transmission of encoder and resolver devices, designed for dynamic application in high-speed drag chains, also suitable for permanently flexible applications that allow free movement without tensile stress and without motion control in dry, damp, and wet environments. The polyurethane outer jacket provides excellent resistance properties against mechanical stress and chemical agents, making these cables suitable for indoor or outdoor use, even in very low temperatures.

APPROVALS

E244280 — AWM STYLE 21209
90°C 300V

AWM I/II A/B 90°C
300V

2014/35/CEE

HALOGEN FREE — IEC 60754-1
EN 50267-1

RoHS — 2011/65/UE
2015/863/UE

EMC 2014/30/EU

TECHNICAL DATA

STORAGE -50°C +90°C
DYNAMIC -30°C +90 °C
STATIC -40°C +90°C

NOMINAL VOLTAGE 300 V (UL/CSA)

TEST VOLTAGE C/C 2000VRMS,1MIN, C/OVERALL SCREEN 2000VRMS,1MIN

INSULATION RESISTANCE ≥1 GOHM/KM

CONSTRUCTION FEATURES

GROUP 1	CONDUCTOR	CL6 EXTRA-FLEXIBLE. TINNED COPPER
	INSULATION	POLYPROPYLENE COMPOUND (PP)
	INSULATION COLOR	VARIOUS COLOURS
GROUP 2	CONDUCTOR	CL6 EXTRA-FLEXIBLE. TINNED COPPER
	INSULATION	POLYPROPYLENE COMPOUND (PP)
	INSULATION COLOR	VARIOUS COLOURS
OVERALL STRANDING	SEPARATIONLAYER	WRAPPING NON-WOVEN TAPE
	SCREEN	SCREEN TINNED COPPER 85 % ± 5 %
	SEPARATIONLAYER	OVERALL WRAPPING NON-WOVEN TAPE
	SHEATH	POLYURETHANE COMPOUND (TMPU)
	SHEATH COLOUR	GREEN RAL: 6018, DESINA: YES

PRODUCTS FEATURES

FIRE PERFORMANCE
SELF-EXTINGUISHING AND FLAME RETARDANT ACC. TO DIN VDE 0482-332-1-2, DIN EN 60332-1-2, IEC 60332-1-2, UL CABLE FLAME, UL VW-1, CSA FT1.

OIL PERFORMANCE
VDE 0473-811-404, IEC 60811-404(EU), CEI EN 50363-10-2(EU), 1581(UL)

UV PERFORMANCE
ISO 4892-2, ASTM-D-2565-16, EN 50289-4-17

WATER PERFORMANCE
UL 1581, IEC 60811-1-3

COLD PERFORMANCE
EN 60811-1-4

ABRASION PERFORMANCE
ASTM D 4060

MUD PERFORMANCE
NEK 606

MICROBE PERFORMANCE
VDE 0282/10

HOZONE PERFORMANCE
EN 50396 ART. 8.1.3

TECO CODE	OEM REF.	FORMATION	CUT	ROLLS [M]	DRUMS [M]	EXT Ø [MM]	WEIGHT [KG/KM]	INS. COLOUR EXC
46690	HEIDENHAIN	**(4X2X0,14+4X0,50)ST** (4X2XAWG26+4XAWG21)ST	✓	100	500	8.4	110	GROUP 1 4X2X0,14 : RD-BK, BN-GN, YE-VT, GY-PK GROUP 2 4X0,50 : WH, BU, WH/GN*, BN/GN* *RINGED BICOLOUR
46695	SIEMENS	**(4X2X0,34+4X0,50)ST** (4X2XAWG22+4XAWG21)ST	✓	100	500	9	125	GROUP 1 4X2X0,34 : BN-BK, RD-OG, YE-GN, BU-VT GROUP 2 4X0,50 : BU/WH*, BK/WH*, RD/WH*, YE/WH* *RINGED BICOLOUR
46699		**(6X2X0,34)ST** (6X2XAWG22)ST	✓	100	500	9.4	120	YE-BU, RD/WH*-BK/WH*, RD-BK, WH-BU, RD-WH, RD/WH*-WH *RINGED BICOLOUR
46704		**(8X2X0,18)ST** (8X2XAWG25)ST	✓	100	500	8.2	95	WH/YE*-WH/GN*, WH/RD*-WH/OG*, WH/BK*-WH/BN*, GY-WH, BU-VT, YE-GN, RD-OG, BK+BN *RINGED BICOLOUR

DYNAMIC APPLICATION

PMXX® PLUS
ENCODER&RESOLVER 9

APPLICATIVE FEATURES

UP TO 5 MILLION CYCLES
GUARANTEED CYCLES

UP TO 50 M/S2
ACCELERATION

UP TO 25,0 M
CABLE LENGTH

UP TO 300 M/MIN
TRAVEL SPEED

MINIMUM BENDING RADIUS

CROSS SECTION	CROSS SECTION MAX	DYNAMIC INSTALLATION	STATIC INSTALLATION
0,14	1,00	7 x ø	5 x ø

DESCRIPTION

High-performance UL/CSA certified flexible cables for data transmission of encoder and resolver devices, designed for dynamic application in high-speed drag chains, also suitable for permanently flexible applications that allow free movement without tensile stress and without motion control in dry, damp, and wet environments. The polyurethane outer jacket provides excellent resistance properties against mechanical stress and chemical agents, making these cables suitable for indoor or outdoor use, even in very low temperatures.

APPROVALS

E244280 — AWM STYLE 21209
90°C 300V

AWM I/II A/B 90°C
300V

2014/35/CEE

HALOGEN FREE — IEC 60754-1
EN 50267-1

RoHS — 2011/65/UE
2015/863/UE

EMC 2014/30/EU

TECHNICAL DATA

STORAGE - 50°C + 90°C
DYNAMIC - 30°C + 90°C
STATIC - 40°C + 90°C

NOMINAL VOLTAGE 300 V (UL/CSA)

TEST VOLTAGE C/C 2000VRMS,1MIN, C/OVERALL SCREEN 2000VRMS,1MIN

INSULATION RESISTANCE ≥1 GOHM/KM

CONSTRUCTION FEATURES

GROUP 1	CONDUCTOR	CL6 EXTRA-FLEXIBLE. TINNED COPPER
	INSULATION	POLYPROPYLENE COMPOUND (PP)
	INSULATION COLOR	COLOURS SEQUENCE REFERS TO DIN 47100 STANDARD.
OVERALL STRANDING	FILLER	FILLER POLYPROPYLENE
	SEPARATIONLAYER	WRAPPING NON-WOVEN TAPE
	DRAINWIRE	DRAIN WIRE TINNED COPPER
	SCREEN	SCREEN TINNED COPPER 85 % ± 5 %
	SEPARATIONLAYER	OVERALL WRAPPING NON-WOVEN TAPE
	SHEATH	POLYURETHANE COMPOUND (TMPU)
	SHEATH COLOUR	GREEN RAL: 6018, DESINA: YES

PRODUCTS FEATURES

FIRE PERFORMANCE
SELF-EXTINGUISHING AND FLAME RETARDANT ACC. TO DIN VDE 0482-332-1-2, DIN EN 60332-1-2, IEC 60332-1-2, UL CABLE FLAME, UL VW-1, CSA FT1

OIL PERFORMANCE
VDE 0473-811-404, IEC 60811-404(EU), CEI EN 50363-10-2(EU), 1581(UL)

UV PERFORMANCE
ISO 4892-2, ASTM-D-2565-16, EN 50289-4-17

WATER PERFORMANCE
UL 1581, IEC 60811-1-3

COLD PERFORMANCE
EN 60811-1-4

ABRASION PERFORMANCE
ASTM D 4060

MUD PERFORMANCE
NEK 606

MICROBE PERFORMANCE
VDE 0282/10

HOZONE PERFORMANCE
EN 50396 ART. 8.1.3

TECO CODE	OEM REF.	FORMATION	CUT	ROLLS [M]	DRUMS [M]	EXT Ø [MM]	WEIGHT [KG/KM]
46702	INDRAMAT	**(9X0,50)CCST** (9XAWG21)CCST	✓	100	500	8.8	115

DYNAMIC APPLICATION

PMXX® PLUS
ENCODER&RESOLVER 10

APPLICATIVE FEATURES

UP TO 5 MILLION CYCLES GUARANTEED CYCLES

UP TO 50 M/S2 ACCELERATION

UP TO 25,0 M CABLE LENGTH

UP TO 300 M/MIN TRAVEL SPEED

MINIMUM BENDING RADIUS

CROSS SECTION	CROSS SECTION MAX	DYNAMIC INSTALLATION	STATIC INSTALLATION
0,14	1,00	7 x ø	5 x ø

DESCRIPTION

High-performance UL/CSA certified flexible cables for data transmission of encoder and resolver devices, designed for dynamic application in high-speed drag chains, also suitable for permanently flexible applications that allow free movement without tensile stress and without motion control in dry, damp, and wet environments. The polyurethane outer jacket provides excellent resistance properties against mechanical stress and chemical agents, making these cables suitable for indoor or outdoor use, even in very low temperatures.

APPROVALS

AWM STYLE 21209
90°C 300V

AWM I/II A/B 90°C
300V

2014/35/CEE

2011/65/UE
2015/863/UE

IEC 60754-1
EN 50267-1

2014/30/EU

TECHNICAL DATA

STORAGE - 50°C + 90°C
DYNAMIC - 30°C + 90°C
STATIC - 40°C + 90°C

NOMINAL VOLTAGE 300 V (UL/CSA)

TEST VOLTAGE C/C 2000VRMS,1MIN, C/OVERALL SCREEN 2000VRMS,1MIN

INSULATION RESISTANCE ≥1 GOHM/KM

CONSTRUCTION FEATURES

GROUP 1	CONDUCTOR	CL6 EXTRA-FLEXIBLE. TINNED COPPER
	INSULATION	POLYPROPYLENE COMPOUND (PP)
	INSULATION COLOR	COLOURS SEQUENCE REFERS TO DIN 47100 STANDARD.
	DRAINWIRE	DRAIN WIRE TINNED COPPER
	SEPARATIONLAYER	WRAPPING TAPE SCREEN ALLUMINIUM INSIDE/POLYESTER OUTSIDE
	SEPARATIONLAYER	TAPE POLYESTER TRANSPARENT.
GROUP 2	CONDUCTOR	CL6 EXTRA-FLEXIBLE. TINNED COPPER
	INSULATION	POLYPROPYLENE COMPOUND (PP)
	INSULATION COLOR	COLOURS SEQUENCE REFERS TO DIN 47100 STANDARD.
GROUP 3	CONDUCTOR	CL6 EXTRA-FLEXIBLE. TINNED COPPER
	INSULATION	POLYPROPYLENE COMPOUND (PP)

CONSTRUCTION FEATURES

OVERALL STRANDING	SEPARATIONLAYER	**WRAPPING NON-WOVEN TAPE**
	SCREEN	**SCREEN TINNED COPPER 85 % ± 5 %**
	SEPARATIONLAYER	**OVERALL WRAPPING NON-WOVEN TAPE**
	SHEATH	**POLYURETHANE COMPOUND (TMPU)**
	SHEATH COLOUR	**GREEN RAL: 6018, DESINA: YES**

PRODUCTS FEATURES

FIRE PERFORMANCE
SELF-EXTINGUISHING AND FLAME RETARDANT ACC. TO DIN VDE 0482-332-1-2, DIN EN 60332-1-2, IEC 60332-1-2, UL CABLE FLAME, UL VW-1, CSA FT1

OIL PERFORMANCE
VDE 0473-811-404, IEC 60811-404(EU), CEI EN 50363-10-2(EU), 1581(UL)

UV PERFORMANCE
ISO 4892-2, ASTM-D-2565-16, EN 50289-4-17

WATER PERFORMANCE
UL 1581, IEC 60811-1-3

COLD PERFORMANCE
EN 60811-1-4

ABRASION PERFORMANCE
ASTM D 4060

MUD PERFORMANCE
NEK 606

MICROBE PERFORMANCE
VDE 0282/10

HOZONE PERFORMANCE
EN 50396 ART. 8.1.3

TECO CODE	FORMATION	CUT	ROLLS [M]	DRUMS [M]	EXT Ø [MM]	WEIGHT [KG/KM]	INS. COLOUR EXC
46703	**[(2X0,34)CCSN+6X2X0,34+2X1,00]ST** [(2XAWG22)CCSN+6X2XAWG22+2XAWG18]ST	✓		500	11	198	GROUP 1 2X0,34 : WH-BN GROUP 2 6X2X0,34 : GN-YE, GY-PK, BU-RD, BK-VT, WH/GN*-BN/GN*, GY/PK*-RD/BU* GROUP 3 2X1,00 : RD-BU *RINGED BICOLOUR

DYNAMIC APPLICATION

PMXX® PLUS
ENCODER&RESOLVER 11

APPLICATIVE FEATURES

UP TO 5 MILLION CYCLES
GUARANTEED CYCLES

UP TO 50 M/S2
ACCELERATION

UP TO 25,0 M
CABLE LENGTH

UP TO 300 M/MIN
TRAVEL SPEED

MINIMUM BENDING RADIUS

CROSS SECTION	CROSS SECTION MAX	DYNAMIC INSTALLATION	STATIC INSTALLATION
0,14	1,00	7 x ø	5 x ø

DESCRIPTION

High-performance UL/CSA certified flexible cables for data transmission of encoder and resolver devices, designed for dynamic application in high-speed drag chains, also suitable for permanently flexible applications that allow free movement without tensile stress and without motion control in dry, damp, and wet environments. The polyurethane outer jacket provides excellent resistance properties against mechanical stress and chemical agents, making these cables suitable for indoor or outdoor use, even in very low temperatures.

APPROVALS

E244280 — AWM STYLE 21209
90°C 300V

AWM I/II A/B 90°C
300V

2014/35/CEE

2011/65/UE
2015/863/UE

IEC 60754-1
EN 50267-1

2014/30/EU

TECHNICAL DATA

STORAGE - 50°C + 90°C
DYNAMIC - 30°C + 90°C
STATIC - 40°C + 90°C

NOMINAL VOLTAGE 300 V (UL/CSA)

TEST VOLTAGE C/C 2000VRMS,1MIN, C/OVERALL SCREEN 2000VRMS,1MIN

INSULATION RESISTANCE ≥1 GOHM/KM

CONSTRUCTION FEATURES

GROUP 1	CONDUCTOR	CL6 EXTRA-FLEXIBLE. TINNED COPPER
	INSULATION	POLYOLEFIN COMPOUND.
	INSULATION COLOR	COLOURS SEQUENCE REFERS TO DIN 47100 STANDARD.
OVERALL STRANDING	FILLER	FILLER POLYPROPYLENE
	SEPARATIONLAYER	WRAPPING NON-WOVEN TAPE
	SCREEN	SCREEN TINNED COPPER 85 % ± 5 %
	SEPARATIONLAYER	OVERALL WRAPPING NON-WOVEN TAPE
	SHEATH	POLYURETHANE COMPOUND (TMPU)
	SHEATH COLOUR	GREEN RAL: 6018, DESINA: YES

PRODUCTS FEATURES

FIRE PERFORMANCE
SELF-EXTINGUISHING AND FLAME RETARDANT ACC. TO DIN VDE 0482-332-1-2, DIN EN 60332-1-2, IEC 60332-1-2, UL CABLE FLAME, UL VW-1, CSA FT1

OIL PERFORMANCE
VDE 0473-811-404, IEC 60811-404(EU), CEI EN 50363-10-2(EU), 1581(UL)

UV PERFORMANCE
ISO 4892-2, ASTM-D-2565-16, EN 50289-4-17

WATER PERFORMANCE
UL 1581, IEC 60811-1-3

COLD PERFORMANCE
EN 60811-1-4

ABRASION PERFORMANCE
ASTM D 4060

MUD PERFORMANCE
NEK 606

MICROBE PERFORMANCE
VDE 0282/10

HOZONE PERFORMANCE
EN 50396 ART. 8.1.3

TECO CODE	FORMATION	CUT	ROLLS [M]	DRUMS [M]	EXT Ø [MM]	WEIGHT [KG/KM]	INS. COLOUR EXC
46682	**(2X2X0,34)ST** (2X2XAWG22)ST	✓	100	500	7	70	GROUP 1 2X2X0,34 : WH-BN, GN-YE
46687	**(3X2X0,34)ST** (3X2XAWG22)ST	✓	100	500	7.5	80	GROUP 1 3X2X0,14 : WH-BN, PK+GY, GN-YE
46701	**(8X2X0,22)ST** (8X2XAWG24)ST	✓		500	9.5	125	GROUP 1 8X2X0,22 : WH-BN, GN-YE, GY-PK, BU+RD, BK-VT, GY/PK*-RD/BU*, WH/GN*-BN/GN*, WH/YE*-YE/BN* *RINGED BICOLOUR

DYNAMIC APPLICATION

PMXX® PLUS
ENCODER&RESOLVER 12

APPLICATIVE FEATURES

UP TO 5 MILLION CYCLES GUARANTEED CYCLES

UP TO 50 M/S2 ACCELERATION

UP TO 25,0 M CABLE LENGTH

UP TO 300 M/MIN TRAVEL SPEED

MINIMUM BENDING RADIUS

CROSS SECTION	CROSS SECTION MAX	DYNAMIC INSTALLATION	STATIC INSTALLATION
0,14	1,00	7 x ø	5 x ø

DESCRIPTION

High-performance UL/CSA certified flexible cables for data transmission of encoder and resolver devices, designed for dynamic application in high-speed drag chains, also suitable for permanently flexible applications that allow free movement without tensile stress and without motion control in dry, damp, and wet environments. The polyurethane outer jacket provides excellent resistance properties against mechanical stress and chemical agents, making these cables suitable for indoor or outdoor use, even in very low temperatures.

APPROVALS

AWM STYLE 21209 90°C 300V

AWM I/II A/B 90°C 300V

2014/35/CEE

2014/30/EU

2011/65/UE

1907/2006

IEC 60754-1 EN 50267-1

TECHNICAL DATA

STORAGE - 50°C + 90°C
DYNAMIC - 30°C + 90°C
STATIC - 40°C + 90°C

NOMINAL VOLTAGE 300 V (UL/CSA)

TEST VOLTAGE C/C 2000VRMS,1MIN, C/OVERALL SCREEN 2000VRMS,1MIN

INSULATION RESISTANCE ≥1 GOHM/KM

CONSTRUCTION FEATURES

GROUP 1	CONDUCTOR	CL6 EXTRA-FLEXIBLE. TINNED COPPER
	INSULATION	POLYPROPYLENE
	INSULATION COLOR	VARIOUS COLOURS
	DRAINWIRE	DRAIN WIRE TINNED COPPER
	SCREEN	SCREEN SF TINNED COPPER 90 % ± 5 %
	SEPARATIONLAYER	TAPE POLYESTER TRANSPARENT.
	SHEATH	INNER JACKET POLYOLEFIN COMPOUND.
GROUP 2	CONDUCTOR	CL6 EXTRA-FLEXIBLE. TINNED COPPER
	INSULATION	POLYPROPYLENE
	INSULATION COLOR	VARIOUS COLOURS

CONSTRUCTION FEATURES

OVERALL STRANDING	FILLER	**FILLER POLYPROPYLENE**
	SEPARATIONLAYER	**WRAPPING NON-WOVEN TAPE**
	SCREEN	**SCREEN TINNED COPPER 85 % ± 5 %**
	SEPARATIONLAYER	**OVERALL WRAPPING NON-WOVEN TAPE**
	SHEATH	**POLYURETHANE COMPOUND (TMPU)**
	SHEATH COLOUR	**GREEN RAL: 6018, DESINA: YES**

PRODUCTS FEATURES

FIRE PERFORMANCE
SELF-EXTINGUISHING AND FLAME RETARDANT ACC. TO DIN VDE 0482-332-1-2, DIN EN 60332-1-2, IEC 60332-1-2, UL CABLE FLAME, UL VW-1, CSA FT1

OIL PERFORMANCE
VDE 0473-811-404, IEC 60811-404(EU), CEI EN 50363-10-2(EU), 1581(UL)

UV PERFORMANCE
ISO 4892-2, ASTM-D-2565-16, EN 50289-4-17

WATER PERFORMANCE
UL 1581, IEC 60811-1-3

COLD PERFORMANCE
EN 60811-1-4

ABRASION PERFORMANCE
ASTM D 4060

MUD PERFORMANCE
NEK 606

MICROBE PERFORMANCE
VDE 0282/10

HOZONE PERFORMANCE
EN 50396 ART. 8.1.3

TECO CODE	OEM REF.	FORMATION	CUT	ROLLS [M]	DRUMS [M]	EXT Ø [MM]	WEIGHT [KG/KM]	INS. COLOUR EXC
46685	SIEMENS	**[3X(2X0,14)CCSF/RPE+4X0,14+2X0,50]ST** [3X(2XAWG26)CCSF/RPE+4XAWG26+2XAWG21]ST	✓		500	9	120	GROUP 1 3X(2X0,14) : YE-GN, RD-OR, BK-BN GROUP 2 4X0,14 : GY, BU, WH/YE*, WH/BK* GROUP 2 2X0,50 : BN/RD*, BN/BU* *RINGED BICOLOUR
46686	SIEMENS	**[3X(2X0,14)CCSF/RPE+4X0,14+4X0,25+2X0,50]ST** [3X(2XAWG26)CCSF/RPE+4XAWG26+4XAWG24+2XAWG21]ST	✓		500	9.8	135	GROUP 1 3X(2X0,14) : YE-GN, RD-OR, BK-BN GROUP 2 4X0,14 : GY, BU, WH/YE*, WH/BK* GROUP 2 4X0,25 : BN/YE*, BN/GY*, GN/BK*, GN/RD* GROUP 2 2X0,50 : BN/RD*, BN/BU* *RINGED BICOLOUR

DYNAMIC APPLICATION

PMXX® PLUS
SIGNAL

APPLICATIVE FEATURES

UP TO 5 MILLION GUARANTEED CYCLES

30,0 M/S2 ACCELERATION

15,0 M CABLE LENGTH

300,0 M/MIN TRAVEL SPEED

MINIMUM BENDING RADIUS

CROSS SECTION	CROSS SECTION MAX	DYNAMIC INSTALLATION	STATIC INSTALLATION
0.14	1.00	6xØ	4xØ

DESCRIPTION

Low-frequency UL/CSA certified flexible signal cables with a polyurethane outer jacket, designed for the transmission of analog and digital signals for high dynamic drag-chain applications. Suitable for frequent quick lifting and bending stresses in machine engineering and construction, in robot technology, and on permanently moving machine parts.

APPROVALS

E244280 — AWM STYLE 21209 90°C 300V

AWM I/II A/B 90°C 300V

2014/35/CEE

2011/65/UE
2015/863/UE

IEC 60754-1
EN 50267-1

TECHNICAL DATA

STORAGE -50°C +90°C
DYNAMIC -30°C +90°C
STATIC -40°C +90°C

NOMINAL VOLTAGE 300 V (UL/CSA) 300 V (VDE)

TEST VOLTAGE 2,0 KV

INSULATION RESISTANCE ≥1 GOHM/KM

CONSTRUCTION FEATURES

SIGNAL CONDUCTORS	CONDUCTOR	CL6 EXTRA-FLEXIBLE. BARE COPPER.
	INSULATION	POLYPROPYLENE COMPOUND (PP)
	INSULATION COLOR	COLOURS SEQUENCE REFERS TO DIN 47100 STANDARD.
OVERALL STRANDING	FILLER	FILLER POLYPROPYLENE
	SEPARATIONLAYER	TAPE NON-WOVEN TAPE
	SHEATH	POLYURETHANE COMPOUND (TMPU)
	SHEATH COLOUR	GRAY RAL: 7001, DESINA: NO

PRODUCTS FEATURES

FIRE PERFORMANCE
SELF-EXTINGUISHING AND FLAME RETARDANT ACC. TO DIN VDE 0482-332-1-2, DIN EN 60332-1-2, IEC 60332-1-2, UL CABLE FLAME, UL VW-1 CSA FT1.

OIL PERFORMANCE
VDE 0473-811-404 IEC 60811-404 (EU) CEI EN 50363-10-2 (EU) 1581 (UL)

UV PERFORMANCE
ACCORDING TO ISO 4892-2, EN 50289-4-17, ASTM-D-2565-16

WATER PERFORMANCE
UL 1581 - IEC 60811-1-3

COLD PERFORMANCE
EN60811-1-4

ABRASION PERFORMANCE
ASTM D 4060

MUD PERFORMANCE
NEK 606

MICROBE PERFORMANCE
VDE 0282/10

HOZONE PERFORMANCE
EN 50396 ART. 8.1.3

TECO CODE	FORMATION	CUT	ROLLS [M]	DRUMS [M]	EXT Ø [MM]	WEIGHT [KG/KM]
46680	**7X0,34** 7XAWG22	✓	100/200	500	6.4	55

DYNAMIC APPLICATION

PMXX® PLUS
SIGNAL-ST

APPLICATIVE FEATURES

UP TO 5 MILION CYCLES
GUARANTEED CYCLES

30,0 M/S2
ACCELERATION

15,0 M
CABLE LENGTH

300,0 M/MIN
TRAVEL SPEED

MINIMUM BENDING RADIUS

CROSS SECTION	CROSS SECTION MAX	DYNAMIC INSTALLATION	STATIC INSTALLATION
0.14	1.00	6xØ	4xØ

DESCRIPTION

Low-frequency UL/CSA certified flexible signal cables with a polyurethane outer jacket, designed for the transmission of analog and digital signals for high dynamic drag-chain applications. Suitable for frequent quick lifting and bending stresses in machine engineering and construction, in robot technology, and on permanently moving machine parts. The dense screening assures interference-free transmission of all signals and impulses.

APPROVALS

AWM STYLE 21209
90°C 300V

AWM I/II A/B 90°C
300V

2014/35/CEE

2014/30/EU

2011/65/UE

1907/2006

IEC 60754-1
EN 50267-1

TECHNICAL DATA

STORAGE -50°C +90°C
DYNAMIC -30°C +90°C
STATIC -40°C +90°C

NOMINAL VOLTAGE 300 V
(UL/CSA) 300 V (VDE)

TEST VOLTAGE 2,0 KV

INSULATION RESISTANCE ≥1
GOHM/KM

CONSTRUCTION FEATURES

SIGNAL CONDUCTORS	CONDUCTOR	**CL6 EXTRA-FLEXIBLE. BARE COPPER.**
	INSULATION	**POLYPROPYLENE COMPOUND (PP)**
	INSULATION COLOR	**COLOURS SEQUENCE REFERS TO DIN 47100 STANDARD.**
OVERALL STRANDING	FILLER	**FILLER POLYPROPYLENE**
	SEPARATIONLAYER	**TAPE NON-WOVEN TAPE**
	SCREEN	**SCREEN TINNED COPPER 85 % ± 5 %**
	SEPARATIONLAYER	**TAPE NON-WOVEN TAPE**
	SHEATH	**POLYURETHANE COMPOUND (TMPU)**
	SHEATH COLOUR	**GRAY RAL: 7001, DESINA: NO**

PRODUCTS FEATURES

FIRE PERFORMANCE
SELF-EXTINGUISHING AND FLAME RETARDANT ACC. TO DIN VDE 0482-332-1-2, DIN EN 60332-1-2, IEC 60332-1-2, UL CABLE FLAME, UL VW-1 CSA FT1.

OIL PERFORMANCE
VDE 0473-811-404 IEC 60811-404 (EU) CEI EN 50363-10-2 1581 (UL)

UV PERFORMANCE
ACCORDING TO ISO 4892-2, EN 50289-4-17, ASTM-D-2565-16

WATER PERFORMANCE
UL 1581 - IEC 60811-1-3

COLD PERFORMANCE
EN60811-1-4

ABRASION PERFORMANCE
ASTM D 4060

MUD PERFORMANCE
NEK 606

MICROBE PERFORMANCE
VDE 0282/10

HOZONE PERFORMANCE
EN 50396 ART. 8.1.3

TECO CODE	FORMATION	CUT	ROLLS [M]	DRUMS [M]	EXT Ø [MM]	WEIGHT [KG/KM]
46661	**(2X0,34)ST** (2XAWG22)ST	✗	100	500	4.9	35
46674	**(2X0,50)ST** (2XAWG21)ST	✓	100	500	5.3	45
46662	**(3X0,34)ST** (3XAWG22)ST	✓	100	500	5.2	40
46678	**(4X0,25)ST** (4XAWG24)ST	✗	100	500	5.2	42
46663	**(4X0,34)ST** (4XAWG22)ST	✗	100	500	5.4	45
46664	**(5X0,34)ST** (5XAWG22)ST	✓	100	500	6	55
46676	**(5X0,50)ST** (5XAWG21)ST	✓	100	500	6.6	88
46665	**(6X0,34)ST** (6XAWG22)ST	✗	100	500	6.4	65
46667	**(8X0,34)ST** (8XAWG22)ST	✓	100	500	7.2	78
46677	**(8X0,50)ST** (8XAWG21)ST	✓	100	500	8.2	105
46679	**(12X0,25)ST** (12XAWG24)ST	✓	100	500	7.3	80
46668	**(12X0,34)ST** (12XAWG22)ST	✓	100	500	9	110
46669	**(14X0,34)ST** (14XAWG22)ST	✓	100	500	8.7	120
46670	**(18X0,34)ST** (18XAWG22)ST	✓	100	500	9.5	140
46671	**(20X0,34)ST** (20XAWG22)ST	✓		500	10	160
46672	**(25X0,34)ST** (25XAWG22)ST	✓		500/100	11.4	205
46673	**(36X0,34)ST** (36XAWG22)ST	✓		500	12	250

DYNAMIC APPLICATION

PMXX® PLUS
SIGNAL WITH PAIR-ST

APPLICATIVE FEATURES

UP TO 5 MILION CYCLES
GUARANTEED CYCLES

30,0 M/S2
ACCELERATION

15,0 M
CABLE LENGTH

300,0 M/MIN
TRAVEL SPEED

MINIMUM BENDING RADIUS

CROSS SECTION	CROSS SECTION MAX	DYNAMIC INSTALLATION	STATIC INSTALLATION
0.14	0.25	6.5xø	4xø
0.34	1.00	10xø	5xø

DESCRIPTION

Low-frequency UL/CSA certified flexible signal cables with a polyurethane outer jacket, designed for high dynamic drag chain applications with permanently flexible stresses in machine tool building, robot technology, and on constantly moving machine parts. Favorable crosstalk attenuation values are achieved thanks to the pairs' twisted stranding. Even interference through parallel running cables is suppressed due to the dense braided screen.

APPROVALS

E244280 — AWM STYLE 21209 90°C 300V

AWM I/II A/B 90°C 300V

2014/35/CEE

EMC 2014/30/EU

RoHS 2011/65/UE 2015/863/UE

HF HALOGEN FREE — IEC 60754-1 EN 50267-1

TECHNICAL DATA

STORAGE -50°C +90°C
DYNAMIC -30°C +90°C
STATIC -40°C +90°C

NOMINAL VOLTAGE 300 V (UL/CSA) 300 V (VDE)

TEST VOLTAGE 2,0 KV

INSULATION RESISTANCE ≥1 GOHM/KM

CONSTRUCTION FEATURES

TWISTED PAIR	CONDUCTOR	**CL6 EXTRA-FLEXIBLE. BARE COPPER.**
	INSULATION	**POLYPROPYLENE COMPOUND (PP)**
	INSULATION COLOR	**COLOURS SEQUENCE REFERS TO DIN 47100 STANDARD.**
OVERALL STRANDING	FILLER	**FILLER POLYPROPYLENE**
	SEPARATIONLAYER	**TAPE NON-WOVEN TAPE**
	SCREEN	**SCREEN TINNED COPPER 85 % ± 5 %**
	SEPARATIONLAYER	**TAPE NON-WOVEN TAPE**
	SHEATH	**POLYURETHANE COMPOUND (TMPU)**
	SHEATH COLOUR	**GRAY RAL: 7001, DESINA: NO**

PRODUCTS FEATURES

FIRE PERFORMANCE
SELF-EXTINGUISHING AND FLAME RETARDANT ACC. TO DIN VDE 0482-332-1-2, DIN EN 60332-1-2, IEC 60332-1-2, UL CABLE FLAME, UL VW-1 CSA FT1.

OIL PERFORMANCE
VDE 0473-811-404 IEC 60811-404 (EU) CEI EN 50363-10-2 (EU) 1581 (UL)

UV PERFORMANCE
ACCORDING TO ISO 4892-2, EN 50289-4-17, ASTM-D-2565-16

WATER PERFORMANCE
UL 1581 - IEC 60811-1-3

COLD PERFORMANCE
EN60811-1-4

ABRASION PERFORMANCE
ASTM D 4060

MUD PERFORMANCE
NEK 606

MICROBE PERFORMANCE
VDE 0282/10

HOZONE PERFORMANCE
EN 50396 ART. 8.1.3

TECO CODE	FORMATION	CUT	ROLLS [M]	DRUMS [M]	EXT Ø [MM]	WEIGHT [KG/KM]
46657	**(2X2X0,75)ST** (2X2XAWG19)ST	✓	100	500	8.4	95
46735	**(3X2X0,25)ST** (3X2XAWG24)ST	✓	100/200	500	6.3	60
46658	**(4X2X0,75)ST** (4X2XAWG19)ST	✓		500	9.7	140

STATIC
APPLICATION

FE PLUS

- AUTOMATIC MACHINERY
- MACHINE-TOOLS
- FLAME-RETARDANT
- OIL-RESISTANT
- SERVOMOTOR

UL/CSA certified flexible cables designed for use in high-performance dynamic drag chains and automatic machinery applications, allowing for free movement without tensile stress or forced movements, in both dry and moist environments.

The polyurethane jacket provides excellent resistance to mechanical and chemical stress, making these cables suitable for automation sectors with harsh environments, such as the ceramics and wood industries, where abrasive dust and chips are present, or the food industry, where temperatures can be particularly low.

The insulation material has low capacitive buildup, ensuring high electrical performance with reduced dimensions.

Moreover, the "PLUS" improvements in materials and construction design technology allow the use of the cables at temperatures up to 90° C.

These features make this product line the ideal starting point for a range of TECO families designed for demanding, high-performance mobile applications.

SERVO

STATIC APPLICATION

FE PLUS
SERVO

APPLICATIVE FEATURES

UP TO 200.000 CYCLES
GUARANTEED CYCLES

2,0 M/S²
ACCELERATION

10,0 M
CABLE LENGTH

100,0 M/MIN
TRAVEL SPEED

MINIMUM BENDING RADIUS

CROSS SECTION	CROSS SECTION MAX	DYNAMIC INSTALLATION	STATIC INSTALLATION
0.50	16.00	10xø	5xø
25.00	35.00	12xø	5xø

DESCRIPTION

UL/CSA certified flexible servomotor cables designed for static and dynamic applications between the motor and frequency converter, involving medium mechanical stress in dry, damp, and wet environments. Suitable for indoor and outdoor use. Oil-resistant PVC outer sheath, low-capacity insulation, and shield protection from electromagnetic interference.

APPROVALS

E244280 — AWM STYLE 21179 90°C 1000V

AWM I/II A/B 90°C 1000V

2014/35/CEE

EMC 2014/30/EU

RoHS 2011/65/UE

REACH 1907/2006

TECHNICAL DATA

DYNAMIC 0°C +90°C
STATIC -40°C +90°C
OCCASIONAL FLEXING -20°C +90°C ACC. TO IEC 60811-504

NOMINAL VOLTAGE 1000 V (UL/CSA) UO/U 0,6/1 KV (VDE)

TEST VOLTAGE 4.0 KV
TEST VOLTAGE REFERENCE EN 50395 (PART 6-7) - UL / 1581

INSULATION RESISTANCE >=1 GOHM/KM

CONSTRUCTION FEATURES

POWER CONDUCTORS	CONDUCTOR	**CL5 FLEXIBLE. BARE COPPER.**
	INSULATION	**POLYPROPYLENE COMPOUND (PP)**
	INSULATION COLOR	**BLACK CORE WITH WHITE PRINTING (U/L1/C/L+, V/L2, W/L3/D/L-) + GREEN-YELLOW.**
	SEPARATIONLAYER	**INNER TAPE POLYESTER TRANSPARENT TAPE OR NON-WOVEN TAPE**
OVERALL STRANDING	FILLER	**FILLER POLYPROPYLENE**
	SEPARATIONLAYER	**TAPE NON-WOVEN TAPE**
	SCREEN	**SCREEN TINNED COPPER 85 % ± 5 %**
	SEPARATIONLAYER	**TAPE NON-WOVEN TAPE**
	SHEATH	**PVC COMPOUND.**
	SHEATH COLOUR	**ORANGE RAL: 2003, DESINA: YES**

PRODUCTS FEATURES

FIRE PERFORMANCE
DIN VDE 0482-332-1-2, DIN EN 60332-1-2, IEC 60332-1-2, UL CABLE FLAME, UL VW-1, CSA FT1

OIL PERFORMANCE
VDE 0473-811-404; IEC 60811-404 (EU); CEI EN 50363-4-1 (EU); 1581 (UL)

UV PERFORMANCE
CEI EN 50289-4-17, ISO 4892-2, ASTM-D-2565-16

WATER PERFORMANCE
UL 1581 - IEC 60811

HYDROCARBONS PERFORMANCE
UL1581

TECO CODE	OEM REF.	FORMATION	CUT	ROLLS [M]	DRUMS [M]	EXT Ø [MM]	WEIGHT [KG/KM]
46353	SIEMENS 6FX5008-1BB11	**(4G1,50)ST** (4GAWG16)ST	✓	100	500	8.5	115
46354	SIEMENS 6FX5008-1BB21	**(4G2,50)ST** (4GAWG14)ST	✓		500	10.3	180
46355	SIEMENS 6FX5008-1BB31	**(4G4,00)ST** (4GAWG12)ST	✓		500	12	255
46356	SIEMENS 6FX5008-1BB41	**(4G6,00)ST** (4GAWG10)ST	✓			13.7	370
46357		**(4G10,00)ST** (4GAWG08)ST	✓			18.5	650
46358		**(4G16,00)ST** (4GAWG06)ST	✓			22.2	1100
46359		**(4G25,00)ST** (4GAWG04)ST	✓			26	1550

STATIC APPLICATION

FE PLUS

SERVO WITH PAIR

APPLICATIVE FEATURES

UP TO 200.000 CYCLES
GUARANTEED CYCLES

2,0 M/S²
ACCELERATION

10,0 M
CABLE LENGTH

100,0 M/MIN
TRAVEL SPEED

MINIMUM BENDING RADIUS

CROSS SECTION	CROSS SECTION MAX	DYNAMIC INSTALLATION	STATIC INSTALLATION
0.50	16.00	10xØ	5xØ
25.00	35.00	12xØ	5xØ

DESCRIPTION

UL/CSA certified flexible servomotor cables designed for static and dynamic applications between the motor and frequency converter, involving medium mechanical stress in dry, damp, and wet environments. Suitable for indoor and outdoor use. Oil-resistant PVC outer sheath, low-capacity insulation, and shield protection from electromagnetic interference. Cables available with one or two control pairs, compliant with the most commonly used drive system standards.

APPROVALS

E244280 — AWM STYLE 21179 90°C 1000V

AWM I/II A/B 90°C 1000V

2014/35/CEE

EMC 2014/30/EU

RoHS 2011/65/UE

REACH 1907/2006

TECHNICAL DATA

DYNAMIC 0°C +90°C
STATIC -40°C +90°C
OCCASIONAL FLEXING -20°C +90°C ACC. TO IEC 60811-504

NOMINAL VOLTAGE 1000 V (UL/CSA) UO/U 0,6/1 KV (VDE)

TEST VOLTAGE 4.0 KV
TEST VOLTAGE REFERENCE EN 50395 (PART 6-7) - UL / 1581

INSULATION RESISTANCE >=1 GOHM/KM

CONSTRUCTION FEATURES

POWER CONDUCTORS	CONDUCTOR	CL5 FLEXIBLE. BARE COPPER.
	INSULATION	POLYPROPYLENE COMPOUND (PP)
	INSULATION COLOR	BLACK CORE WITH WHITE PRINTING (U/L1/C/L+, V/L2, W/L3/D/L-) + GREEN-YELLOW.
	SEPARATIONLAYER	INNER TAPE POLYESTER TRANSPARENT TAPE OR NON-WOVEN TAPE
CONTROL PAIR SCREENED (ONE PAIR)	CONDUCTOR	CL5 FLEXIBLE. BARE COPPER.
	INSULATION	POLYPROPYLENE COMPOUND (PP)
	INSULATION COLOR	BLACK CORE AND WHITE CORE.
	FILLER	FILLER POLYPROPYLENE
	SEPARATIONLAYER	INTERMEDIATE TAPE POLYESTER TRANSPARENT.
	SCREEN	SCREEN TINNED COPPER 85 % ± 5 %
	SEPARATIONLAYER	INTERMEDIATE TAPE POLYESTER TRANSPARENT.

CONSTRUCTION FEATURES

CONTROL PAIRS SCREENED (TWO PAIR)	CONDUCTOR	**CL5 FLEXIBLE. BARE COPPER.**
	INSULATION	**POLYPROPYLENE COMPOUND (PP)**
	INSULATION COLOR	**BLACK CORE WITH WHITE PRINTED NUMBERS.**
	FILLER	**FILLER POLYPROPYLENE**
	SEPARATIONLAYER	**INTERMEDIATE TAPE POLYESTER TRANSPARENT.**
	SCREEN	**SCREEN TINNED COPPER 85 % ± 5 %**
	SEPARATIONLAYER	**INTERMEDIATE TAPE POLYESTER TRANSPARENT.**
OVERALL STRANDING ONE PAIR	FILLER	**FILLER POLYPROPYLENE**
	SEPARATIONLAYER	**TAPE NON-WOVEN TAPE**
	SCREEN	**SCREEN TINNED COPPER 85 % ± 5 %**
	SEPARATIONLAYER	**TAPE NON-WOVEN TAPE**
	SHEATH	**PVC COMPOUND.**
	SHEATH COLOUR	**ORANGE , RAL: 2003, DESINA: YES**
OVERALL STRANDING TWO PAIR	FILLER	**FILLER POLYPROPYLENE**
	SEPARATIONLAYER	**TAPE NON-WOVEN TAPE**
	SCREEN	**SCREEN TINNED COPPER 85 % ± 5 %**
	SEPARATIONLAYER	**TAPE NON-WOVEN TAPE**
	SHEATH	**PVC COMPOUND.**
	SHEATH COLOUR	**ORANGE RAL: 2003, DESINA: YES**

PRODUCTS FEATURES

FIRE PERFORMANCE
DIN VDE 0482-332-1-2, DIN EN 60332-1-2, IEC 60332-1-2, UL CABLE FLAME, UL VW-1, CSA FT1

OIL PERFORMANCE
VDE 0473-811-404; IEC 60811-404 (EU); CEI EN 50363-4-1 (EU); 1581 (UL)

UV PERFORMANCE
CEI EN 50289-4-17, ISO 4892-2, ASTM-D-2565-16

WATER PERFORMANCE
UL 1581 - IEC 60811

HYDROCARBONS PERFORMANCE
UL1581

TECO CODE	OEM REF.	FORMATION	CUT	ROLLS [M]	DRUMS [M]	EXT Ø [MM]	WEIGHT [KG/KM]
46361		**[4G1,50+(2X1,00)ST]ST** [4GAWG16+(2XAWG18)H2]H2	✓		500	11	200
46362	SIEMENS 6FX5008-1BA11	**[4G1,50+(2X1,50)ST]ST** [4GAWG16+(2XAWG16)H2]H2	✓		500	11.5	240
46363		**[4G2,50+(2X1,00)ST]ST** [4GAWG14+(2XAWG18)H2]H2	✓		500	12.5	290
46364	SIEMENS 6FX5008-1BA21	**[4G2,50+(2X1,50)ST]ST** [4GAWG14+(2XAWG16)H2]H2	✓			13	310
46370		**[4G35,00+2X(2X1,50)ST]ST** [4GAWG02+2X(2XAWG16)ST]ST	✓			32	1950

LIYCY-LIYCY(TP)

AUTOMATIC MACHINERY

FLAME-RETARDANT

DATA PROCESSING

SIGNAL TRANSMISSION

This line of products is designed for static installations or flexible applications with free movement, without tensile stress or forced motion.

They serve as control and signal cables in the milliampere range for computer systems, measurement and control devices, and scales, especially where protection from electromagnetic interference is required.

STATIC APPLICATION

LIYCY/LIYCY(TP)
SIGNAL-ST

APPLICATIVE FEATURES

MINIMUM BENDING RADIUS

CROSS SECTION	CROSS SECTION MAX	DYNAMIC INSTALLATION	STATIC INSTALLATION
0.14	1.50	occ. flexing 10 x ø	6xø

DESCRIPTION

Suitable for static or flexible applications with free movement, without tensile stress and forced motion control in dry, damp, and wet environments; however, not suitable for outdoor use. Used as control and signal cables in the milliampere range for computer systems, control devices, and scales. Due to its extremely small outer diameter, it is especially suitable for sub-miniature plugs and electronic devices. These cables are designed with shielding and a drain wire to minimize electromagnetic interference.

APPROVALS

CE 2014/35/CEE

EMC 2014/30/EU

RoHS 2011/65/UE
2015/863/UE

TECHNICAL DATA

STATIC -40°C +80°C
OCCASIONAL FLEXING -5°C +80°C

MAX OPERATING VOLTAGE 0,14 MM² = 350 V ; ≥ 0,25 MM² = 500 V (NOT FOR POWER APPLICATIONS)

TEST VOLTAGE (CORE/CORE) 0,14 - 0,25 MM² = 1200 V 0,34 - 1,50 MM² = 2000 V (CORE/SCREEN) 0,14 - 0,25 MM² = 800 V 0,34 - 1,50 MM² = 1200 V

INSULATION RESISTANCE > 20 GOHM X CM

CONSTRUCTION FEATURES

SIGNAL CONDUCTORS	CONDUCTOR	**CL5 FLEXIBLE. BARE COPPER.**
	INSULATION	**PVC COMPOUND.**
	INSULATION COLOR	**COLOURS SEQUENCE REFERS TO DIN 47100 STANDARD.**
OVERALL STRANDING	FILLER	**FILLER NOT HYGROSCOPIC, PRODUCED OUT OF SUITABLE MATERIALS**
	DRAINWIRE	**DRAIN WIRE TINNED COPPER**
	SCREEN	**SHIELD TINNED COPPER 85 % ± 5 %**
	SHEATH	**PVC COMPOUND.**
	SHEATH COLOUR	**GRAY RAL: 7001, DESINA: NO**

PRODUCTS FEATURES

FIRE PERFORMANCE
IEC EN 60332-1-2; DIN VDE 0482-332-1-2

OIL PERFORMANCE
EN 50290-2-22 TM54 (CEI 20-34/0-1; 4 H / 70°C, OIL IRM 902); VDE 0819 PARTE 102.

TECO CODE	FORMATION	CUT	ROLLS [M]	DRUMS [M]	EXT Ø [MM]	WEIGHT [KG/KM]
21803	**(1X0,50)ST**	✗	100	500	3.5	40
8581	**(2X0,14)ST**	✗	100	500	3.8	20
5797	**(2X0,25)ST**	✗	100	500	4.4	29.5
20716	**(2X0,34)ST**	✗	100	500	4.7	38
5745	**(2X0,50)ST**	✗	100	500	5.4	45
7048	**(2X1,00)ST**	✓	100		6.2	65
11979	**(3X0,14)ST**	✗	100	500	4	27
5746	**(3X0,25)ST**	✗	100	500	4.6	34.5
11163	**(3X0,34)ST**	✗	100	500	5.2	44
7348	**(3X0,50)ST**	✗	100	500	5.7	55
5747	**(4X0,25)ST**	✗	100	500	5.2	43
11164	**(4X0,34)ST**	✗	100	500	5.4	51
5748	**(4X0,50)ST**	✗	100		6.2	61
10341	**(4X0,75)ST**	✗	100		6.9	77
5749	**(5X0,14)ST**	✗	100	500	4.5	37
6717	**(5X0,25)ST**	✗	100	500	5.5	54.5
5750	**(6X0,25)ST**	✗	100	500	5.9	60
11165	**(6X0,34)ST**	✗	100		6.2	61
7006	**(6X0,5)ST**	✗	100	300	7.3	89
5752	**(8X0,25)ST**	✗	100		6.9	86
13479	**(8X0,34)ST**	✓	100	500	7.3	80
11980	**(10X0,14)ST**	✗	100	500	6.1	65
7439	**(10X0,25)ST**	✗	100		7.4	92
7047	**(10X0,50)ST**	✓	100	500	9.2	130
5753	**(12X0,25)ST**	✗	100		7.6	102
5754	**(14X0,14)ST**	✓	100	500	6.6	79
5755	**(14X0,25)ST**	✓	100	500	8	114
11981	**(16X0,14)ST**	✓	100		6.9	89
5756	**(16X0,25)ST**	✗	100		8.5	127
5757	**(18X0,50)ST**	✓		500	11.1	215
6526	**(20X0,25)ST**	✓	100	500	9.3	155
5758	**(25X0,25)ST**	✓		500	10.4	170
5759	**(27X0,14)ST**	✗	100		8.5	145
5760	**(37X0,25)ST**	✓		500	11.9	230

STATIC APPLICATION

LIYCY/LIYCY(TP)
SIGNAL WITH PAIR-ST

APPLICATIVE FEATURES

MINIMUM BENDING RADIUS

CROSS SECTION	CROSS SECTION MAX	DYNAMIC INSTALLATION	STATIC INSTALLATION
0.14	1.50	occ. flexing 10 x ø	6xø

DESCRIPTION

Suitable for static or flexible applications with free movement, without tensile stress and forced motion control in dry, damp, and wet environments, however, not suitable for outdoor use. Favourable crosstalk attenuation values are achieved because of the pairs' twisted stranding. Even interference through parallel running cables is suppressed due to the dense braided screen assisted by the drain wire, making these cables optimal when used in systems with a risk of interference radiation.

APPROVALS

2014/35/CEE

EMC 2014/30/EU

RoHS 2011/65/UE
2015/863/UE

TECHNICAL DATA

STATIC -40°C +80°C
OCCASIONAL FLEXING -5°C +80°C

MAX OPERATING VOLTAGE 350 V (NOT FOR POWER APPLICATIONS)

TEST VOLTAGE (CORE/CORE) = 1200 V (CORE/SCREEN) = 800 V

INSULATION RESISTANCE > 20 GOHM X CM

CONSTRUCTION FEATURES

PAIRS	CONDUCTOR	**CL5 FLEXIBLE. BARE COPPER.**
	INSULATION	**PVC COMPOUND.**
	INSULATION COLOR	**COLOURS SEQUENCE REFERS TO DIN 47100 STANDARD.**
OVERALL STRANDING	FILLER	**FILLER NOT HYGROSCOPIC, PRODUCED OUT OF SUITABLE MATERIALS**
	SEPARATIONLAYER	**TAPE POLYESTER TRANSPARENT.**
	DRAINWIRE	**DRAIN WIRE TINNED COPPER**
	SCREEN	**SHIELD TINNED COPPER 85 % ± 5 %**
	SHEATH	**PVC COMPOUND.**
	SHEATH COLOUR	**GRAY RAL: 7001, DESINA: NO**

PRODUCTS FEATURES

FIRE PERFORMANCE
IEC EN 60332-1-2; DIN VDE 0482-332-1-2

OIL PERFORMANCE
EN 50290-2-22 TM54 (CEI 20-34/0-1; 4 H / 70°C, OIL IRM 902); VDE 0819 PARTE 102.

TECO CODE	FORMATION	CUT	ROLLS [M]	DRUMS [M]	EXT Ø [MM]	WEIGHT [KG/KM]
21234	**(1X2X0,25)ST**	✕		500	4.2	45
21235	**(2X2X0,25)ST**	✕	100	500	5.8	53
20713	**(3X2X0,50)ST**	✓	100	500	8.2	100
21236	**(4X2X0,25)ST**	✕	100		6.9	80
23673	**(6X2X0,50)ST**	✓		500	11	205

LIYY

AUTOMATIC MACHINERY

FLAME-RETARDANT

DATA PROCESSING

SIGNAL TRANSMISSION

This line of products is designed for static installations or flexible applications with free movement, without tensile stress or forced motion.

They serve as control and signal cables in the milliampere range for computer systems, measurement and control devices, and scales, particularly where a reduced outer sheath diameter is required.

STATIC APPLICATION

LIYY
SIGNAL

APPLICATIVE FEATURES

MINIMUM BENDING RADIUS

CROSS SECTION	CROSS SECTION MAX	DYNAMIC INSTALLATION	STATIC INSTALLATION
0.14	1.50	occ. flexing 7,5 x ø	4 x ø

DESCRIPTION

Suitable for static or flexible applications with free movement, without tensile stress and forced motion control in dry, damp, and wet indoor environments. Designed to be used in applications that require the smallest control and signal cables, with a reduced outer sheath diameter. Some of the most common uses include the connection of machinery, tools, plant construction, computer systems, scales, measurement and control technology, as well as electronic engineering.

APPROVALS

2014/35/CEE

2011/65/UE
2015/863/UE

TECHNICAL DATA

STATIC -40°C +80°C
OCCASIONAL FLEXING -5°C +80°C

MAX OPERATING VOLTAGE 0,14 MM² = 350 V ; ≥ 0,25 MM² = 500 V (NOT FOR POWER APPLICATIONS)

TEST VOLTAGE 0,14 - 0,25 MM² = 1200 V ; 0,34 - 1,50 MM² = 2000 V

INSULATION RESISTANCE > 20 GOHM X CM

CONSTRUCTION FEATURES

SIGNAL CONDUCTORS	CONDUCTOR	**CL5 FLEXIBLE. BARE COPPER.**
	INSULATION	**PVC COMPOUND.**
	INSULATION COLOR	**COLOURS SEQUENCE REFERS TO DIN 47100 STANDARD.**
OVERALL STRANDING	FILLER	**FILLER NOT HYGROSCOPIC, PRODUCED OUT OF SUITABLE MATERIALS**
	TALC	**TALC POWDER**
	SHEATH	**PVC COMPOUND.**
	SHEATH COLOUR	**GRAY RAL: 7001, DESINA: NO**

PRODUCTS FEATURES

FIRE PERFORMANCE
IEC EN 60332-1-2; DIN VDE 0482-332-1-2

OIL PERFORMANCE
EN 50290-2-22 TM54 (CEI 20-34/0-1; 4 H / 70°C, OIL IRM 902); VDE 0819 PARTE 102.

TECO CODE	FORMATION	CUT	ROLLS [M]	DRUMS [M]	EXT Ø [MM]	WEIGHT [KG/KM]
9054	**2X0,25**	✗	100	500/1000	3.8	18
7352	**2X0,34**	✗	100	500	4.2	22
11225	**2X0,50**	✗	100	500	4.8	40
8242	**3X0,25**	✗	100	500	4	22
5419	**3X0,34**	✗		1000	4.4	30
8639	**3X0,50**	✗	100	500	5.1	43
9272	**4X0,25**	✗	100	500	4.4	26
20291	**4X0,34**	✗	100	500	4.8	43
9131	**4X0,50**	✗	100	500	5.5	55
8123	**5X0,34**	✗	100	500	5.3	54
6768	**6X0,25**	✗	100	500	5.3	36
11852	**6X0,50**	✗	100		6.7	73
7088	**7X0,25**	✗	100	500	5.3	42
8122	**7X0,34**	✗	100		5.6	61
16401	**8X0,25**	✗	100	500	6.3	49
9132	**8X0,50**	✗	100		8	97
10340	**10X0,25**	✓	100	500	6.8	57
11464	**10X0,50**	✗	100		8.6	116
5741	**12X0,25**	✓	100	500	7	66
8062	**12X0,50**	✓	100	500	8.9	135
20436	**16X0,14**	✓	100	500	6.3	59
5742	**16X0,25**	✓	100	500	7.9	84
5743	**25X0,25**	✓	100	500	9.8	132
8193	**25X0,50**	✓		500	12.4	241
15410	**26X0,25**	✓		500	10	140
5744	**37X0,25**	✓		500	11.3	190
1969	**44X0,25**	✓		500	12.8	200

TC-ER

AUTOMATIC MACHINERY

MACHINE-TOOLS

FLAME-RETARDANT

OIL-RESISTANT

WATER-RESISTANT

BUILDING

This line of products is designed for static installations or flexible applications with free movement, without tensile stress or forced motion.

They serve as control and signal cables in the milliampere range for computer systems, measurement and control devices, and scales, particularly where a reduced outer sheath diameter is required.

STATIC APPLICATION

TC-ER
POWER&CONTROL MULTICORE

APPLICATIVE FEATURES

MINIMUM BENDING RADIUS

CROSS SECTION	CROSS SECTION MAX	DYNAMIC INSTALLATION	STATIC INSTALLATION
1.00	95.00	occ. flexing 15 x ø	6xø

DESCRIPTION

UL/CSA multi-rated flexible power and control cables, compliant with USA NFPA 79 and NFPA 70 standards. The UL certifications make them suitable for running inside cable trays and between two cable trays without anchoring. Also suitable for underground use, even in dry, damp, or humid environments, and for open, unprotected installation from cable racks to machines and industrial electrical plants.

APPROVALS

TC-ER 90°C 600V

MTW 90°C 600V

AWM STYLE 21179
90°C 1000V

AWM I/II A/B 90°C
1000V

CSA CIC-TC-ER
90°C 600V

2014/35/CEE

2011/65/UE
2015/863/UE

TECHNICAL DATA

STATIC -40°C +90°C
OCCASIONAL FLEXING -5°C +90°C

NOMINAL VOLTAGE UL AWM = 90°C 1000 V; UL TC-ER / MTW = 600 V; IEC/VDE = 600/1000 V; CSA = 90°C 1000 V; CSA CIC/TC - ER = 90°C 600 V

TEST VOLTAGE 2000V (ACC. TO UL 1277 TAB. 14.1) - 4000V (ACC. TO UL 758 TAB. 29.1)

INSULATION RESISTANCE ≥ 200 MΩ X KM

CONSTRUCTION FEATURES

POWER CONDUCTORS	CONDUCTOR	**CL5 FLEXIBLE. BARE COPPER.**
	INSULATION	**PVC COMPOUND.**
OVERALL STRANDING	FILLER	**FILLER NOT HYGROSCOPIC, PRODUCED OUT OF SUITABLE MATERIALS**
	TALC	**TALC POWDER**
	SHEATH	**PVC COMPOUND.**
	SHEATH COLOUR	**GRAY RAL: 7001, DESINA: NO**

PRODUCTS FEATURES

FIRE PERFORMANCE
UL 1581 SECTION 1160 (UL VERTICAL-TRAY FLAME TEST)
CSA FT4, FT1, FT2
UL 1581 VW-1 / CABLE FLAME TEST
UL 1685 – FT4/IEEE 1202 VERTICAL FLAME TEST
IEC 60332-1-2

OIL PERFORMANCE
OIL RES I, UL 1277, UL 1063 , VDE 0473-811-404, IEC 60811-404, UL 1581

UV PERFORMANCE
SUN RESISTANT UL 1277 TAB.20

WATER PERFORMANCE
UL 90° DRY
UL WET APPROVAL 75°C

MUD PERFORMANCE
UL 1277 - DIR BUR (DIRECT BURIAL) ACC. TO NFPA 70
UL TYPE TC (TRAY CABLE) - ER (EXPOSED RUN) ACC. TO UL 1277

TECO CODE	FORMATION	CUT	ROLLS [M]	DRUMS [M]	EXT Ø [MM]	WEIGHT [KG/KM]
27383	**2X1,00** 2XAWG18	✓	100	500	8	88
43303	**2X1,50** 2XAWG16	✓	100	500	8.6	110
27100	**3G1,00** 3GAWG18	✓	100	500	8.4	100
27384	**3G1,50** 3GAWG16	✓		500	9.3	135
27385	**3G2,50** 3GAWG14	✓		500	10	170
34287	**3G4,00** 3GAWG12	✓		500	11.5	230
38734	**3G6,00** 3GAWG10	✓			12.5	310
27386	**4G1,00** 4GAWG18	✓	100	500	9.2	125
27387	**4G1,50** 4GAWG16	✓			9.8	160
27388	**4G2,50** 4GAWG14	✓		500	11	220
27389	**4G4,00** 4GAWG12	✓		500	12.5	290
27390	**4G6,00** 4GAWG10	✓			14.5	415
27391	**4G10,00** 4GAWG08	✓			18.8	683
27392	**4G16,00** 4GAWG06	✓			23.9	1115
36440	**4G25,00** 4GAWG04	✓			27.6	1610
28075	**4G35,00** 4GAWG02	✓			30.6	2048
39288	**4G50,00** 4GAWG01	✓			38	3070
36443	**4G70,00** 4GAWG2/0	✓			42	4245
43302	**4G95,00** 4GAWG3/0	✓			47	5200
34935	**5G1,00** 5GAWG18	✓			10	150
27544	**5G1,50** 5GAWG16	✓		500	10.9	190
28982	**5G2,50** 5GAWG14	✓		500	12.1	255
34936	**5G4,00** 5GAWG12	✓			14.5	382
38735	**5G6,00** 5GAWG10	✓			16	505
43304	**5G10,00** 5GAWG08	✓			20.8	860
43306	**5G25,00** 5GAWG04	✓			30.4	2000
27099	**7G1,00** 7GAWG18	✓		500	11	185
27545	**7G1,50** 7GAWG16	✓		500	12	240
27546	**7G2,50** 7GAWG14	✓			13.2	320
36441	**7G4,00** 7GAWG12	✓			15.8	485
28983	**10G1,00** 10GAWG18	✓			14	270

TECO CODE	FORMATION	CUT	ROLLS [M]	DRUMS [M]	EXT Ø [MM]	WEIGHT [KG/KM]
27098	**12G1,00** 12AWG18	✓		500	15	335
27547	**12G1,50** 12GAWG16	✓			16.2	420
27548	**12G2,50** 12GAWG14	✓			17.5	580
39266	**16G1,00** 16GAWG18	✓			16.4	413
28984	**18G1,00** 18GAWG18	✓			17.4	465
27549	**18G1,50** 18GAWG16	✓			19	590
36436	**18G2,50** 18GAWG14	✓			21.1	820
28985	**25G1,00** 25GAWG18	✓			20.2	615
27550	**25G1,50** 25GAWG16	✓			22.8	785
39265	**25G2,50** 25GAWG14	✓			25.2	1170
39267	**34G1,00** 34GAWG18	✓			24.3	890
39268	**41G1,00** 41GAWG18	✓			25.8	1040

STATIC APPLICATION

TC-ER

POWER&CONTROL MULTICORE-SH

APPLICATIVE FEATURES

MINIMUM BENDING RADIUS

CROSS SECTION	CROSS SECTION MAX	DYNAMIC INSTALLATION	STATIC INSTALLATION
1.00	95.00	occ. flexing 15xø	6xø

DESCRIPTION

UL/CSA multi-rated flexible power and control cables, compliant with USA NFPA 79 and NFPA 70 standards. The UL certifications make them suitable for running inside cable trays and between two cable trays without anchoring. They are also suitable for underground use, even in dry, damp, or humid environments, and for open, unprotected installation from cable racks to machines and industrial electrical plants. Screening from electromagnetic interferences is provided thanks to the dense braid shield.

APPROVALS

TC-ER 90°C 600V

MTW 90°C 600V

AWM STYLE 21179
90°C 1000V

AWM I/II A/B 90°C
1000V

CSA CIC-TC-ER
90°C 600V

2014/35/CEE

2014/30/EU

2011/65/UE
2015/863/UE

TECHNICAL DATA

STATIC -40°C +90°C
OCCASIONAL FLEXING -5°C +90°C

NOMINAL VOLTAGE UL AWM = 90°C 1000 V; UL TC-ER / MTW = 600 V; IEC/VDE = 600/1000 V; CSA = 90°C 1000 V; CSA CIC/TC - ER = 90°C 600 V

TEST VOLTAGE 2000V (ACC. TO UL 1277 TAB. 14.1); 4000V (ACC. TO UL 758 TAB. 29.1)

INSULATION RESISTANCE ≥ 200 MΩ X KM

CONSTRUCTION FEATURES

POWER CONDUCTORS	CONDUCTOR	**CL5 FLEXIBLE. BARE COPPER.**
	INSULATION	**PVC COMPOUND.**
	INSULATION COLOR	**BLACK CORE WITH WHITE PRINTED NUMBER + GREEN YELLOW**
OVERALL STRANDING	FILLER	**FILLER NOT HYGROSCOPIC, PRODUCED OUT OF SUITABLE MATERIALS**
	SEPARATIONLAYER	**TAPE POLYESTER TRANSPARENT.**
	SCREEN	**SCREEN TINNED COPPER 85 % ± 5 %**
	SHEATH	**PVC COMPOUND.**
	SHEATH COLOUR	**GRAY , RAL: 7001, DESINA: NO**

PRODUCTS FEATURES

FIRE PERFORMANCE
UL 1581 SECTION 1160 (UL VERTICAL-TRAY FLAME TEST)
CSA FT4, FT1, FT2
UL 1581 VW-1 / CABLE FLAME TEST
UL 1685 – FT4/IEEE 1202 VERTICAL FLAME TEST
IEC 60332-1-2

OIL PERFORMANCE
OIL RES I, UL 1277, UL 1063 , VDE 0473-811-404, IEC 60811-404, UL 1581

UV PERFORMANCE
SUN RESISTANT UL 1277 TAB.20

WATER PERFORMANCE
UL 90° DRY
UL WET APPROVAL 75°C

MUD PERFORMANCE
UL 1277 - DIR BUR (DIRECT BURIAL) ACC. TO NFPA 70
UL TYPE TC (TRAY CABLE) - ER (EXPOSED RUN) ACC. TO UL 1277

TECO CODE	FORMATION	CUT	ROLLS [M]	DRUMS [M]	EXT Ø [MM]	WEIGHT [KG/KM]
36437	**(2X1,00)ST** (2XAWG18)ST	✓	100	500	8.6	95
27551	**(3G1,00)ST** (3GAWG18)ST	✓	100	500	9	120
27552	**(3G1,50)ST** (3GAWG16)ST	✓		500	9.2	130
34337	**(3G2,50)ST** (3GAWG14)ST	✓		500	10.6	188
27553	**(4G1,00)ST** (4GAWG18)ST	✓		500	9.9	140
27554	**(4G1,50)ST** (4GAWG16)ST	✓		500	10.8	180
27555	**(4G2,50)ST** (4GAWG14)ST	✓		500/1000	11.7	240
27556	**(4G4,00)ST** (4GAWG12)ST	✓			13.3	330
27557	**(4G6,00)ST** (4GAWG10)ST	✓			15.3	475
27558	**(4G10,00)ST** (4GAWG08)ST	✓			19.8	766
27559	**(4G16,00)ST** (4GAWG06)ST	✓			25	1201
27560	**(4G25,00)ST** (4GAWG04)ST	✓			28.7	1694
36865	**(4G35,00)ST** (4GAWG02)ST	✓			31.5	2203
39292	**(4G50,00)ST** (4GAWG01)ST	✓			39	3100
43307	**(4G70,00)ST** (4GAWG2/0)ST	✓			44	4160
43308	**(4G95,00)ST** (4GAWG3/0)ST	✓			48.6	3960
27561	**(5G1,00)ST** (5GAWG18)ST	✓		500	10.6	170
30480	**(5G1,50)ST** (5GAWG16)ST	✓		500	11.7	240
28986	**(7G1,00)ST** (7GAWG18)ST	✓		500	11.7	211
27562	**(7G1,50)ST** (7GAWG16)ST	✓		500	12.7	270
27563	**(7G2,50)ST** (7GAWG14)ST	✓			14.5	390
39270	**(7G4,00)ST** (7GAWG12)ST	✓			16.2	545
34937	**(12G1,00)ST** (12GAWG18)ST	✓			15.7	350
27564	**(12G1,50)ST** (12GAWG16)ST	✓			17.2	445
27565	**(12G2,50)ST** (12GAWG14)ST	✓			18.6	606
39271	**(12G4,00)ST** (12GAWG12)ST	✓			21.4	815
39272	**(18G1,00)ST** (18GAWG18)ST	✓			18.2	485
39273	**(18G1,50)ST** (18GAWG16)ST	✓			20	625
39274	**(18G2,50)ST** (18GAWG14)ST	✓			23	848
39275	**(18G4,00)ST** (18GAWG12)ST	✓			26	1210
36438	**(25G1,00)ST** (25GAWG18)ST	✓			21	605
36439	**(25G1,50)ST** (25GAWG16)ST	✓			23.7	767

STATIC APPLICATION

TC-ER

POWER&CONTROL MULTICORE NYLON

APPLICATIVE FEATURES

MINIMUM BENDING RADIUS

CROSS SECTION	CROSS SECTION MAX	DYNAMIC INSTALLATION	STATIC INSTALLATION
1.00	70.0015xø(occasional flexing)		6xø

DESCRIPTION

UL/CSA multi-rated flexible power and control cables, compliant with USA NFPA 79 and NFPA 70 standards and suitable for various applications, including power supply for tools and plant construction machinery. These cables are suitable for open, unprotected installation, linking cable trays to machines, industrial plants, or for static wiring in wind turbines. They are suitable for a variety of installations, including dry, damp, and wet environments, as well as outdoor, underground, and pipe usage.

APPROVALS

- TC-ER 90°C 600V
- MTW 90°C 600V
- WTTC 90°C 1000V
- AWM STYLE 20886 90°C 1000V
- CSA CIC-TC-ER 90°C 600V
- 2014/35/CEE
- 2011/65/UE 2015/863/UE

TECHNICAL DATA

STATIC -40°C +90°C
OCCASIONAL FLEXING -5°C +90°C

NOMINAL VOLTAGE 1000V (UL AWM); 600V (UL MTW); 1000V (UL WTTC);0,6/1KV(IEC/VDE)

TEST VOLTAGE 2000V*; 3000V**
TEST VOLTAGE REFERENCE *ACC. TO 1277 TAB. 14.1; **ACC. TO UL 758 TAB 29.1

INSULATION RESISTANCE >= 200 MOHM/KM

CONSTRUCTION FEATURES

POWER CONDUCTORS	CONDUCTOR	**CL5 FLEXIBLE. BARE COPPER.**
	INSULATION	**PVC COMPOUND.**
	INSULATION COLOR	**BLACK CORE WITH WHITE PRINTED NUMBER + GREEN YELLOW**
	FILLER	**FILLER POLYPROPYLENE**
OVERALL STRANDING	TALC	**TALC POWDER**
	SHEATH	**PVC COMPOUND.**
	SHEATH COLOUR	**MATTE BLACK RAL: 9005, DESINA: NO**

PRODUCTS FEATURES

FIRE PERFORMANCE
UL 1581 SECTION 1160 (UL VERTICAL-TRAY FLAME TEST)
CSA FT4, FT1, FT2
UL 1581 VW-1 / CABLE FLAME TEST
UL 1685 – FT4/IEEE 1202 VERTICAL FLAME TEST
IEC 60332-1-2

OIL PERFORMANCE
OIL RESISTANCE I

UV PERFORMANCE
SUN RESISTANT (UL)

WATER PERFORMANCE
UL 90° DRY
UL 75°C WET (FOR SECTION >1.5MM2)

MUD PERFORMANCE
DIRECT BURIAL (FOR SECTION > 1.5MM2)
EXPOSED RUN FOR UL1277

TECO CODE	FORMATION	CUT	ROLLS [M]	DRUMS [M]	EXT Ø [MM]	WEIGHT [KG/KM]
46708	**2X1,00** 2XAWG18	✓	100	500	6.9	82
46709	**3G1,00** 3GAWG18	✓	100	500	7.3	86
46714	**3G1,50** 3GAWG16	✓	100	500	7.9	105
46718	**3G2,50** 3GAWG14	✓	100	500	8.8	150
46710	**4G1,00** 4GAWG18	✓	100	500	7.9	100
46715	**4G1,50** 4GAWG16	✓	100	500	8.6	125
46719	**4G2,50** 4GAWG14	✓	100/200	500	9.5	175
46721	**4G4,00** 4GAWG12	✓	100/200	500	11	250
46711	**5G1,00** 5GAWG18	✓	100	500	8.5	120
46716	**5G1,50** 5GAWG16	✓	100	500	9.4	153
46720	**5G2,50** 5GAWG14	✓		500	10.5	215
46712	**7G1,00** 7GAWG18	✓	100	500	9.2	150
46717	**7G1,50** 7GAWG16	✓	100/200	500	10.2	190
46713	**12G1,00** 12GAWG18	✓		500	12	240

STATIC APPLICATION

TC-ER
POWER&CONTROL MULTICORE NYLON-SH

APPLICATIVE FEATURES

MINIMUM BENDING RADIUS

CROSS SECTION	CROSS SECTION MAX	DYNAMIC INSTALLATION	STATIC INSTALLATION
1.00	70.00	20xø(occasional flexing	6xø

DESCRIPTION

UL/CSA multi-rated flexible power and control cables, compliant with USA NFPA 79 and NFPA 70 standards, suitable for various applications such as power supply for tools and construction machinery in plant construction. These cables are suitable for open, unprotected installation, linking cable trays to machines, industrial plants, or in static wiring for wind turbines. They can be used in dry, damp, and wet environments, as well as outdoor, underground, and pipe installations. Screening from electromagnetic interferences is provided thanks to the dense braid shield.

APPROVALS

- TC-ER 90°C 600V
- MTW 90°C 600V
- WTTC 90°C 1000V
- AWM STYLE 20886 90°C 1000V
- CSA CIC-TC-ER 90°C 600V
- 2014/35/CEE
- 2014/30/EU
- 2011/65/UE 2015/863/UE

TECHNICAL DATA

STATIC -40°C +90°C
OCCASIONAL FLEXING -5°C +90°C

INSULATION RESISTANCE >= 200 MOHM/KM

TEST VOLTAGE 2000V*; 3000V**
TEST VOLTAGE REFERENCE *ACC. TO 1277 TAB. 14.1; **ACC. TO UL 758 TAB 29.1

CONSTRUCTION FEATURES

POWER CONDUCTORS	CONDUCTOR	CL5 FLEXIBLE. BARE COPPER.
	INSULATION	PVC COMPOUND.
	INSULATION COLOR	BLACK CORE WITH WHITE PRINTED NUMBER + GREEN YELLOW
	FILLER	FILLER POLYPROPYLENE
	SEPARATIONLAYER	TAPE POLYESTER POLYESTER TRANSPARENT.
	SEPARATIONLAYER	TAPE POLYESTER ALLUMINIUM POLYESTER INSIDE / ALLUMINIUM OUTSIDE
	DRAINWIRE	DRAIN WIRE TINNED COPPER
OVERALL STRANDING	SCREEN	SCREEN TINNED COPPER 85 % ± 5 %
	SHEATH	PVC COMPOUND.
	SHEATH COLOUR	MATTE BLACK RAL: 9005, DESINA: NO

PRODUCTS FEATURES

FIRE PERFORMANCE
UL 1581 SECTION 1160 (UL VERTICAL-TRAY FLAME TEST)
CSA FT4, FT1, FT2
UL 1581 VW-1 / CABLE FLAME TEST
UL 1685 – FT4/IEEE 1202 VERTICAL FLAME TEST
IEC 60332-1-2

OIL PERFORMANCE
OIL RESISTANCE I

UV PERFORMANCE
SUN RESISTANT (UL)

WATER PERFORMANCE
UL 90°C DRY
UL 75°C WET (FOR SECTION >1.5MM2)

MUD PERFORMANCE
DIRECT BURIAL (FOR SECTION > 1.5MM2)
EXPOSED RUN FOR UL1277

TECO CODE	FORMATION	CUT	ROLLS [M]	DRUMS [M]	EXT Ø [MM]	WEIGHT [KG/KM]
46722	**(3G1,00)ST** (3GAWG18)ST	✓	100	500	8.1	93
46725	**(4G1.50)ST** (4GAWG16)ST	✓	100	500	9.2	154
46726	**(4G2,50)ST** (4GAWG14)ST	✓		500	10.5	210
46727	**(4G4,00)ST** (4GAWG12)ST	✓		500	11.65	280
46728	**(4G6,00)ST** (4GAWG10)ST	✓		500	14.9	445
46723	**(5G1,00)ST** (5GAWG18)ST	✓	100	500	9.3	135
46724	**(7G1,00)ST** (7GAWG18)ST	✓		500	10.1	165

TECNIFLEX®

AUTOMATIC MACHINERY

FLAME-RETARDANT

OIL-RESISTANT

Power and control cables suitable for occasional flexing or static installation, with medium resistance to mechanical stress even in the presence of industrial oil residues.

They are suitable for dry, damp, or wet environments and are largely resistant to alkaline substances and certain industrial oils.

These cables are designed for machine connections between control, regulation, or measurement systems, computers, and assembly lines.

STATIC APPLICATION

TECNIFLEX®
POWER&CONTROL MULTICORE 450-750V

APPLICATIVE FEATURES

MINIMUM BENDING RADIUS

CROSS SECTION	CROSS SECTION MAX	DYNAMIC INSTALLATION	STATIC INSTALLATION
0.50	120.00	occ. flexing 15xø	4xø

DESCRIPTION

Power and control cables for occasional flexing or static installation use, with medium mechanical stress resistance even in the presence of industrial oil residues. Suitable for dry, damp, or wet environments. When temperature range application and UV protection are guaranteed (specifically the black sheath version), they are also suitable for outdoor use. Designed for machine connections between control, regulation or measurement systems, computers, and assembly lines, with static or free movement applications without tensile load or forced motion.

APPROVALS

2014/35/CEE

CPR ECA

2011/65/UE
2015/863/UE

TECHNICAL DATA

INSTALLATION 0°C +70°C
STATIC -40°C +80°C
OCCASIONAL FLEXING -5°C +70°C

NOMINAL VOLTAGE 450/750 V

TEST VOLTAGE 4000 V (C/C)

INSULATION RESISTANCE > 20 GOHM X CM

CONSTRUCTION FEATURES

POWER CONDUCTORS	CONDUCTOR	**CL5 FLEXIBLE. BARE COPPER.**
	INSULATION	**PVC COMPOUND.**
	INSULATION COLOR	**BLACK CORE WITH WHITE PRINTED NUMBER + GREEN YELLOW**
OVERALL STRANDING	FILLER	**FILLER SUITABLE**
	TALC	**TALC POWDER**
	SHEATH	**PVC COMPOUND.**
	SHEATH COLOUR	**GRAY, RAL: 7001, DESINA: NO**

PRODUCTS FEATURES

FIRE PERFORMANCE
IEC EN 60332-1-2; DIN VDE 0482-332-1-2

OIL PERFORMANCE
EN 50290-2-22 TM54 (CEI 20-34/0-1; 4 H / 70°C, OIL IRM 902); VDE 0819 PARTE 102.

UV PERFORMANCE
ONLY FOR BLACK RAL 9005 SHEAT:
EN ISO 4892-3-2006 OR EN ISO 4892-2-2013, METHOD A (COLOUR CHANGING ALLOWED), ACC. TO EN 50525-1 RISP. VDE 0285-525-1 BLACK SHEATH CABLES ARE SUITABLE FOR OUTDOOR PERMANENT USAGE.
NF C 32-321 AND RELATIVE ANNEXE A
UV TEST REFERENCE:
ISO 4892-2-2013
ISO 4892-3-2006
DIN EN ISO 4892-2

TECO CODE	FORMATION	CUT	ROLLS [M]	DRUMS [M]	EXT Ø [MM]	WEIGHT [KG/KM]	INS. COLOUR EXC	SHEATH COLOUR EXC
16787	**2X0,50**	✗	100	500	4.8	35		
7689	**2X0,50**	✗	100	500	4.8	35	UNEL TABLE COLOUR NUMBERED	
35854	**2X0,50**	✗		500	4.8	35		MATTE BLACK
5418	**2X0,75**	✗	100	500	5.4	42		
21804	**2X1,00**	✗	100	500/1000	5.8	55	BLACK AND RED	
7440	**2X1,00**	✗	100	500	5.8	55	UNEL TABLE COLOUR NUMBERED	
8429	**2X1,00**	✗	100	500/1000	5.8	55		
7152	**2X1,00**	✗	100		5.8	55		MATTE BLACK
2088	**2X1,50**	✓	100/200	500/2000	6.3	68		
8310	**2X1,50**	✓	100/200	500	6.3	68	UNEL TABLE COLOUR NUMBERED	
22982	**2X1,50**	✓	100/200	500	6.3	68		MATTE BLACK
20433	**2X2,50**	✓	100	500	7.6	109		
16788	**3G0,50**	✗	100	500	5.1	42		
18501	**3X0,50**	✗	100	500	5.1	42	BLACK CORE WITH WHITE PRINTED NUMBERS.	
1970	**3X0,50**	✗	100	500	5.1	42	UNEL TABLE COLOUR NUMBERED	
9309	**3G0,50**	✗	100	500	5.1	42	UNEL TABLE COLOUR NUMBERED	
1968	**3G0,75**	✗	100	500/200	5.7	55	UNEL TABLE COLOUR NUMBERED	
2433	**3G0,75**	✗	100	500	5.7	55		
11087	**3X1,00**	✗	100	500	6	68	BLACK CORE WITH WHITE PRINTED NUMBERS.	
7441	**3G1,00**	✗	100	500	6	68	UNEL TABLE COLOUR NUMBERED	
7571	**3G1,00**	✗	100	500	6	68		
13285	**3X1,50**	✓	100	500	6.8	85	BLACK CORE WITH WHITE PRINTED NUMBERS.	
16337	**3G1,50**	✓		500	6.8	85	UNEL TABLE COLOUR NUMBERED	ORANGE
5079	**3G1,50**	✓	100	500	6.8	85	ORANGE NUMBERED, RAL 2003	ORANGE
7564	**3G1,50**	✓	100	500/1000	6.8	85		
8089	**3G1,50**	✓	100	500/2000	6.8	85	UNEL TABLE COLOUR NUMBERED	
19442	**3G1,50**	✓	100	500	6.8	85		MATTE BLACK
34056	**3G2,50**	✓	100	500	8.1	135	ORANGE NUMBERED, RAL 2003	ORANGE
7570	**3G2,50**	✓	100	500	8.1	135		
8063	**3G2,50**	✓	100	500	8.1	135	UNEL TABLE COLOUR NUMBERED	
20710	**3G2,50**	✓	100	500	8.1	135		MATTE BLACK
15750	**3G4,00**	✓		500	9.9	200	UNEL TABLE COLOUR NUMBERED	
27572	**3G4,00**	✓		500	9.9	200		
19350	**3X4,00**	✓		500	9.9	200	BLACK CORE WITH WHITE PRINTED NUMBERS.	MATTE BLACK
15297	**4X0,50**	✗	100	500/1000	5.7	54	BLACK CORE WITH WHITE PRINTED NUMBERS.	
9310	**4G0,50**	✗	100	500	5.7	54		
10486	**4X0,75**	✗	100	500	6.2	66.6	BLACK CORE WITH WHITE PRINTED NUMBERS.	
39874	**4G0,75**	✗		500	6.2	66.6		BLACK
10365	**4X1,00**	✓	100	500	6.5	84	BLACK CORE WITH WHITE PRINTED NUMBERS.	
6264	**4X1,00**	✓	100	500/1000	6.5	84	UNEL TABLE COLOUR NUMBERED	

TECO CODE	FORMATION	CUT	ROLLS [M]	DRUMS [M]	EXT Ø [MM]	WEIGHT [KG/KM]	INS. COLOUR EXC	SHEATH COLOUR EXC
9409	**4G1,00**	✓	100	500/1000	6.5	84		
15705	**4X1,00**	✓	100	500	6.5	84	BLACK CORE WITH WHITE PRINTED NUMBERS.	MATTE BLACK
15761	**4X1,50**	✓	100		7.4	108	BLACK CORE WITH WHITE PRINTED NUMBERS.	
18012	**4G1,50**	✓	100	500/1000	7.4	108	UNEL TABLE COLOUR NUMBERED	
7565	**4G1,50**	✓	100	500	7.4	108		
16630	**4G1,50**	✓	100		7.4	108		MATTE BLACK
18271	**4G2,50**	✓	100	500	8.9	165	UNEL TABLE COLOUR NUMBERED	
8475	**4G2,50**	✓	100	500	8.9	165		
16631	**4G2,50**	✓	100	500	8.9	165		MATTE BLACK
18272	**4G4,00**	✓			10.8	250	UNEL TABLE COLOUR NUMBERED	
8496	**4G4,00**	✓		100	10.8	250		
16632	**4G4,00**	✓		500	10.8	250		MATTE BLACK
18273	**4G6,00**	✓			13	370	UNEL TABLE COLOUR NUMBERED	
6971	**4G6,00**	✓		100	13	370		
18274	**4G10,00**	✓			15.8	595	UNEL TABLE COLOUR NUMBERED	
6972	**4G10,00**	✓			15.8	595		
18275	**4G16,00**	✓			19	935	UNEL TABLE COLOUR NUMBERED	
18276	**4G25,00**	✓			23.6	1465	UNEL TABLE COLOUR NUMBERED	
18277	**4G35,00**	✓			28.5	1980	UNEL TABLE COLOUR NUMBERED	
11677	**4G50,00**	✓			34.4	2890	UNEL TABLE COLOUR NUMBERED	
9311	**5G0,50**	✗	100	1000	6.2	63		
8580	**5G0,75**	✓	100	500	6.8	79		
7153	**5X1,00**	✓	100	500	7.2	94	BLACK CORE WITH WHITE PRINTED NUMBERS.	
7443	**5G1,00**	✓		500	7.2	94	UNEL TABLE COLOUR NUMBERED	
8548	**5G1,00**	✓	100	500/1000	7.2	94		
7566	**5G1,50**	✓	100	500	8.1	135		
26447	**5G1,50**	✓	100		8.1	135	UNEL TABLE COLOUR NUMBERED	MATTE BLACK
35860	**5G2,50**	✓		500	9.5	210	UNEL TABLE COLOUR NUMBERED	
7844	**5G2,50**	✓	100	500	9.5	210		
5825	**5G2,50**	✓		500	9.5	210	UNEL TABLE COLOUR NUMBERED	MATTE BLACK
10664	**5G4,00**	✓		100	12.1	310		
10182	**5G4,00**	✓			12.1	310	UNEL TABLE COLOUR NUMBERED	MATTE BLACK
10674	**5G6,00**	✓		100	13.5	450		
26233	**5G6,00**	✓			13.5	450		MATTE BLACK
10690	**5G10,00**	✓			18.1	750		
15758	**5G16,00**	✓			21.2	1200		
39285	**6X0,50**	✓	100	500	6.7	75	BLACK CORE WITH WHITE PRINTED NUMBERS.	
13300	**7G0,50**	✓	100	500	6.7	81		
30464	**7X0,50**	✓	100	500	6.7	81	BLACK CORE WITH WHITE PRINTED NUMBERS.	
18359	**7X1,00**	✓	100	500	8	129	BLACK CORE WITH WHITE PRINTED NUMBERS.	
7444	**7G1,00**	✓	100	500	8	129		

TECO CODE	FORMATION	CUT	ROLLS [M]	DRUMS [M]	EXT Ø [MM]	WEIGHT [KG/KM]	INS. COLOUR EXC	SHEATH COLOUR EXC
7450	**7G1,50**	✓	100	500/1000	8.9	170		
16633	**7G1,50**	✓	100	500	8.9	170		MATTE BLACK
7568	**7G2,50**	✓		500/100	11.1	275		
16634	**7G2,50**	✓		500	11.1	275		MATTE BLACK
6970	**7G4,00**	✓			13.4	410		
9312	**8G0,50**	✓	100	500	8	100		
20151	**8X0,75**	✓	100	500	8.7	134	BLACK CORE WITH WHITE PRINTED NUMBERS.	
914	**8G1,00**	✓	100	500	9.5	150		
10338	**9G1,00**	✓		500	10	164		
26774	**9G1,50**	✓			11.8	225		
15274	**10X0,50**	✓	100	500	8.6	106	BLACK CORE WITH WHITE PRINTED NUMBERS.	
2487	**10G0,50**	✓		500	8.6	106		
2238	**10G1,00**	✓	100	500	10.5	180		
38189	**10G1,00**	✓		500	10.5	180		MATTE BLACK
7451	**10G1,50**	✓		500/1000/100	11.8	250		
6650	**10G2,50**	✓		100	14	402		
7797	**12G0,50**	✓	100	500	8.9	130		
16346	**12G0,75**	✓	100		9.9	173		
5084	**12X0,75**	✓		500	9.9	173	BLACK CORE WITH WHITE PRINTED NUMBERS.	
7445	**12G1,00**	✓		500/1000/100	10.5	205		
7527	**12G1,50**	✓			12	295		
8934	**12G2,50**	✓			14.8	465		
6265	**12X2,50**	✓			14.8	465	BLACK CORE WITH WHITE PRINTED NUMBERS.	MATTE BLACK
10651	**14G0,50**	✓	100	500	9.5	153		
15814	**14G1,00**	✓		500/100	11.3	238		
5413	**14G1,50**	✓			12.7	341		
647	**16X0,50**	✓		500	10	170	BLACK CORE WITH WHITE PRINTED NUMBERS.	
20313	**16G0,75**	✓		500	11	220		
15284	**16G1,00**	✓		500	12	280		
7567	**16G1,50**	✓		500	13.4	370		
16978	**18G0,50**	✓	100	500	10.6	188		
4955	**18G0,75**	✓		500	11.8	244		
7446	**18G1,00**	✓		500/100	12.7	315		
7569	**18G1,50**	✓		500	14.4	441		
9313	**19G0,50**	✓	100	500	10.6	195		
11836	**19G1,00**	✓		100	12.7	320		
8513	**19G1,50**	✓			14.4	453		
10319	**19G2,50**	✓			18.1	720		
17203	**20G1,00**	✓			13.5	335		
13660	**22G0,50**	✓		500	12	223		
39287	**24X0,50**	✓		500	12.4	266	BLACK CORE WITH WHITE PRINTED NUMBERS.	

TECO CODE	FORMATION	CUT	ROLLS [M]	DRUMS [M]	EXT Ø [MM]	WEIGHT [KG/KM]	INS. COLOUR EXC	SHEATH COLOUR EXC
8125	**25G0,50**	✓		500/100	12.4	261		
16347	**25G0,75**	✓			13.9	337		
7447	**25G1,00**	✓		500/1000/100	15.1	420		
7596	**25G1,50**	✓		100	17	595		
36863	**25G2,50**	✓			20.8	935		
7563	**25G2,50**	✓			20.8	935		MATTE BLACK
35468	**26G0,75**	✗		500/1000/2000	14.1	350		
5082	**30X1,00**	✓			16.1	490	BLACK CORE WITH WHITE PRINTED NUMBERS.	
28988	**31G0,50**	✓			13.8	305		
6140	**34G1,00**	✓			17.2	565		
2883	**34G1,50**	✓			19.5	781		
7448	**36G1,00**	✓			17.4	595		
8126	**37G0,50**	✓			14.2	380		
14556	**41G0,50**	✓			15.8	410		
6016	**41G0,75**	✓			17.6	538		
7572	**41G1,00**	✓			18.8	660		
34899	**42G0,75**	✓			17.8	580		
7573	**50G1**	✓			20.9	797		
12169	**50G1,50**	✓			23.6	1160		
11335	**61G1,00**	✓			22.3	970		
1469	**65G0,75**	✓			21.8	840		

STATIC APPLICATION

TECNIFLEX®
POWER&CONTROL MULTICORE-ST 450-750V

APPLICATIVE FEATURES

MINIMUM BENDING RADIUS

CROSS SECTION	CROSS SECTION MAX	DYNAMIC INSTALLATION	STATIC INSTALLATION
0.50	120.00	occ. flexing 20xø	6xø

DESCRIPTION

Shielded power and control cables for occasional flexing or static installation use, with medium mechanical stress resistance, even in the presence of industrial oil residues. Suitable for dry, damp, or wet environments. Designed for machine connections between control, regulation or measurement systems, computers, and assembly lines, with static or free movement applications without traction load or compulsory runners.

APPROVALS

2014/35/CEE

EMC 2014/30/EU

RoHS 2011/65/UE
2015/863/UE

CPR 305/11 Eca CPR ECA

TECHNICAL DATA

INSTALLATION 0°C +70°C
STATIC -40°C +80°C
OCCASIONAL FLEXING -5°C +70°C

NOMINAL VOLTAGE 450/750 V

TEST VOLTAGE (C/C) 4000V; (C/S) 2000V

INSULATION RESISTANCE > 20 GOHM X CM

CONSTRUCTION FEATURES

POWER CONDUCTORS	CONDUCTOR	**CL5 FLEXIBLE. BARE COPPER.**
	INSULATION	**PVC COMPOUND.**
	INSULATION COLOR	**BLACK CORE WITH WHITE PRINTED NUMBER + GREEN YELLOW**
OVERALL STRANDING	FILLER	**FILLER SUITABLE**
	SEPARATIONLAYER	**TAPE POLYESTER TRANSPARENT.**
	SCREEN	**SCREEN TINNED COPPER 85 % ± 5 %**
	SHEATH	**PVC COMPOUND.**
	SHEATH COLOUR	**GRAY, RAL: 7001, DESINA: NO**

PRODUCTS FEATURES

FIRE PERFORMANCE
IEC EN 60332-1-2; DIN VDE 0482-332-1-2

OIL PERFORMANCE
EN 50290-2-22 TM54 (CEI 20-34/0-1; 4 H / 70°C, OIL IRM 902)
VDE 0819 PART 102

TECO CODE	FORMATION	CUT	ROLLS [M]	DRUMS [M]	EXT Ø [MM]	WEIGHT [KG/KM]	INS. COLOUR EXC
11451	**(2X0,50)ST**	✗	100	500	5.6	51	
11241	**(2X2X0,75+1G0,75)ST**	✓		500	9.5	125	
1178	**(2X1,00)ST**	✓	100	500	6.5	72	
11778	**(3G1,00)ST**	✓	100	500	6.8	86	UNEL TABLE COLOUR
25582	**(3X1,00)ST**	✓	100	500/1000	6.8	86	BLACK CORE WITH WHITE PRINTED NUMBERS.
11678	**(3G1,50)ST**	✓	100	500	7.5	107	UNEL TABLE COLOUR
1829	**(3G1,50)ST**	✓	100	500	7.5	107	
1863	**(4G0,50)ST**	✓	100/200	500	6.3	57	
39291	**(4X0,50)ST**	✓	100/200	500	5.3	57	BLACK CORE WITH WHITE PRINTED NUMBERS.
10665	**(4G1,00)ST**	✓	100	500	7.4	100	
15128	**(4X1,00)ST**	✓	100	500	7.4	100	BLACK CORE WITH WHITE PRINTED NUMBERS.
18278	**(4G1,50)ST**	✓	100	500	8.2	128	UNEL TABLE COLOUR
8144	**(4G1,50)ST**	✓	100	500/1000	8.2	128	
11309	**(4G2,50)ST**	✓	100	500	9.9	195	
18279	**(4G2,50)ST**	✓	100	500/1000	9.9	195	UNEL TABLE COLOUR
18280	**(4G4,00)ST**	✓		500/100	11.7	350	UNEL TABLE COLOUR
6137	**(4G4,00)ST**	✓		500	11.7	350	
11310	**(4G6,00)ST**	✓			14.1	410	
18281	**(4G6,00)ST**	✓			14.1	410	UNEL TABLE COLOUR
18282	**(4G10,00)ST**	✓			17.6	660	UNEL TABLE COLOUR
6716	**(4G10,00)ST**	✓			17.6	660	
18283	**(4G16,00)ST**	✓			20.4	978	UNEL TABLE COLOUR
18284	**(4G25,00)ST**	✓			25.5	1510	UNEL TABLE COLOUR
18285	**(4G35,00)ST**	✓			28.4	1980	UNEL TABLE COLOUR
18286	**(4G50,00)ST**	✓			34.5	2840	UNEL TABLE COLOUR
21805	**(5G0,50)ST**	✓	100	500	7	84	
11654	**(5G1,00)ST**	✓	100	500	8	121	
10673	**(5G1,50)ST**	✓	100	500	9	154	
528	**(7G0,50)ST**	✓	100	500	7.6	105	
10278	**(7G1,00)ST**	✓	100	500	8.8	152	
11658	**(7G1,50)ST**	✓	100	500	9.9	192	
11659	**(7G2,50)ST**	✓		500	11.9	310	
10279	**(12G1,00)ST**	✓		500/100	11.6	270	
2131	**(12G1,50)ST**	✓			13	330	
886	**(18G0,75)ST**	✓		500	12.7	312	
10318	**(18G1,00)ST**	✓			13.6	395	
1580	**(18G1,50)ST**	✓			15.5	480	
10317	**(25G1,00)ST**	✓			15.9	495	
1877	**(25G1,50)ST**	✓			18	630	

STATIC APPLICATION

TECNIFLEX®
POWER&CONTROL MULTICORE BK UL 2570

APPLICATIVE FEATURES

MINIMUM BENDING RADIUS

CROSS SECTION	CROSS SECTION MAX	DYNAMIC INSTALLATION	STATIC INSTALLATION
0.50	95.00	10xø (flexing installation)	4.0xø

DESCRIPTION

UL/CSA certified flexible power and control multi-core cables suitable for static installations or occasional flexing applications with medium mechanical stresses and free movement, in dry, damp, or wet environments, even in the presence of industrial oil residues. Both indoor and outdoor use are permitted thanks to the UV resistance conferred by the outer sheath material. They have an operating voltage of up to 1000 V and a self-extinguishing feature. These cables can be used as wiring for measuring and control purposes in tool machinery, conveyor belts, production lines, plant installations, air conditioning, and in steel production plants and rolling mills. They are designed for ductile and easy workability.

APPROVALS

AWM STYLE 2570 80°C 1000V

AWM I/II A/B 80°C 1000V

2014/35/CEE

2011/65/UE

1907/2006

TECHNICAL DATA

INSTALLATION - 0 + 70°C STATIC - 40°C +80°C (UL); - 40°C +70°C (IEC) OCCASIONAL FLEXING - 5°C + 70°C (IEC 60811-504)

NOMINAL VOLTAGE 1000V (UL); UO/U 0,6/1 KV (EU)

TEST VOLTAGE 4.0KV TEST VOLTAGE REFERENCE EN 50395 PART 6 - 7 - UL 1581

INSULATION RESISTANCE >200MΩ/KM (20°C)

CONSTRUCTION FEATURES

POWER CONDUCTORS	CONDUCTOR	**CL5 FLEXIBLE. BARE COPPER.**
	INSULATION	**PVC COMPOUND.**
	INSULATION COLOR	**BLACK CORE WITH WHITE PRINTED NUMBER + GREEN YELLOW**
OVERALL STRANDING	FILLER	**FILLER POLYPROPYLENE**
	TALC	**TALC POWDER**
	SHEATH	**PVC COMPOUND.**
	SHEATH COLOUR	**MATTE BLACK , RAL: 9005, DESINA: NO**

PRODUCTS FEATURES

FIRE PERFORMANCE
DIN VDE 0482-332-1-2; DIN EN 60332-1-2; IEC 60332-1-2;VW-1 (UL); FT1 (CSA)

OIL PERFORMANCE
VDE 0473-811-404; IEC 60811-404(EU); EN 50290-2-22 TM54 (CEI 20-34/0-1; 4 H / 70°C, OIL IRM 902)

UV PERFORMANCE
ISO 4892-3; EN50289-4-17

TECO CODE	FORMATION	CUT	ROLLS [M]	DRUMS [M]	EXT Ø [MM]	WEIGHT [KG/KM]
52752	**2X1,00** 2XAWG18	✓	100/200	500	5.8	56
52754	**2X2,50** 2XAWG14	✓	100		7.6	110
54138	**3G0,75** 3GAWG19	✓	100/200	500	5.7	55
52755	**3G1,00** 3GAWG18	✓	100/200	500	6.1	68
52756	**3G1,50** 3GAWG16	✓	100	500	6.8	90
52757	**3G2,50** 3GAWG14	✓	100	500	8.1	137
52760	**4G1,00** 4GAWG18	✓	100/200	500	6.8	80
52761	**4G1,50** 4GAWG16	✓	100	500	7.4	110
52764	**4G2,50** 4GAWG14	✓		500	8.8	170
52788	**4G4,00** 4GAWG12	✓		500	10.7	250
52789	**4G6,00** 4GAWG10	✓		500	12.6	360
52762	**4G10,00** 4GAWG08	✓			16	600
52763	**4G16,00** 4GAWG06	✓			19	920
52786	**4G25,00** 4GAWG04	✓			24	1420
52787	**4G35,00** 4GAWG02	✓			27	0
52791	**5G1,00** 5GAWG18	✓	100	500	7.4	100
52792	**5G1,50** 5GAWG16	✓	100	500	8.2	136
52793	**5G2,50** 5GAWG14	✓		500	9.9	210
52796	**7G1,00** 7GAWG18	✓	100	500	8	125
52797	**7G1,50** 7GAWG16	✓			8.8	170
52798	**7G2,50** 7GAWG14	✓			10.8	270
52741	**12G1,00** 12GAWG18	✓		500	10.5	210
52744	**12G1,50** 12GAWG16	✓			11.8	280
52749	**18G1,00** 18GAWG18	✓		500	12.5	305
52799	**18G1,50** 18GAWG16	✓			14	415
52750	**25G1,00** 25GAWG18	✓		500	14.6	400
52751	**25G1,50** 25GAWG16	✓			16.4	560

STATIC APPLICATION

TECNIFLEX®
POWER&CONTROL MULTICORE-SH BK UL 2570

APPLICATIVE FEATURES

MINIMUM BENDING RADIUS

CROSS SECTION	CROSS SECTION MAX	DYNAMIC INSTALLATION	STATIC INSTALLATION
0.50	95.00	10xø (flexing installation)	4.0xø

DESCRIPTION

UL/CSA certified flexible power and control multi-core cables suitable for static installations or occasional flexing applications with medium mechanical stresses and free movement, in dry, damp, or wet environments, even in the presence of industrial oil residues. Both indoor and outdoor use are permitted thanks to the UV resistance conferred by the outer sheath material. They have an operating voltage of up to 1000 V and a self-extinguishing feature. The high degree of shielding guarantees interference-free transmission of signals and impulses. These cables can be used as wiring for measuring and control purposes in tool machinery, conveyor belts, production lines, plant installations, air conditioning, and in steel production plants and rolling mills. They are designed for ductile and easy workability.

APPROVALS

AWM STYLE 2570
80°C 1000V

AWM I/II A/B 80°C
1000V

2014/35/CEE

2011/65/UE

1907/2006

TECHNICAL DATA

INSTALLATION - 0 + 70°C
STATIC - 40°C +80°C (UL); - 40°C +70°C (IEC) OCCASIONAL FLEXING - 5°C + 70°C (IEC 60811-504)

NOMINAL VOLTAGE 1000V (UL); UO/U 0,6/1 KV (EU)

TEST VOLTAGE 4.0KV
TEST VOLTAGE REFERENCE EN 50395 PART 6 - 7 - UL 1581

INSULATION RESISTANCE >200MΩ/KM (20°C)

CONSTRUCTION FEATURES

POWER CONDUCTORS	CONDUCTOR	**CL5 FLEXIBLE. BARE COPPER.**
	INSULATION	**PVC COMPOUND.**
	INSULATION COLOR	**BLACK CORE WITH WHITE PRINTED NUMBER + GREEN YELLOW**
OVERALL STRANDING	FILLER	**FILLER POLYPROPYLENE**
	SEPARATIONLAYER	**TAPE POLYESTER TRANSPARENT.**
	SCREEN	**SHIELDED BRAID TINNED COPPER 85 % ± 5 %**
	SHEATH	**PVC COMPOUND.**

PRODUCTS FEATURES

FIRE PERFORMANCE
DIN VDE 0482-332-1-2; DIN EN 60332-1-2; IEC 60332-1-2;VW-1 (UL); FT1 (CSA)

OIL PERFORMANCE
VDE 0473-811-404; IEC 60811-404(EU); EN 50290-2-22 TM54 (CEI 20-34/0-1; 4 H / 70°C, OIL IRM 902)

UV PERFORMANCE
ISO 4892-3; EN50289-4-17

TECO CODE	FORMATION	CUT	ROLLS [M]	DRUMS [M]	EXT Ø [MM]	WEIGHT [KG/KM]
54024	**2X1,00** 2XAWG18	✓	100/200	500	6.4	65
54026	**2X1,50** 2XAWG16	✓	100/200	500	7.2	88
54025	**3G1,00** 3GAWG18	✓	100/200	500	6.9	80
54037	**3G1,50** 3GAWG16	✓	100	500	7.4	100
54034	**4G1,00** 4GAWG18	✓	100	500	7.4	97
54038	**4G1,50** 4GAWG16	✓	100	500	8.2	120
54074	**4G2,50** 4GAWG14	✓		500	9.1	180
54075	**4G4,00** 4GAWG12	✓		500	11.1	260
54076	**4G6,00** 4GAWG10	✓			13	384
54077	**4G10,00** 4GAWG08	✓			17.3	680
54070	**5G1,00** 5GAWG18	✓	100	500	8.1	118
54073	**5G1,50** 5GAWG16	✓	100	500	9.1	155
54071	**7G1,00** 7GAWG18	✓		500	8.7	155
54072	**7G1,50** 7GAWG16	✓		500	9.5	190
54027	**12G1,50** 12GAWG16	✓			12.5	300
54028	**18G1,50** 18GAWG16	✓		500	15	450

STATIC APPLICATION

TECNIFLEX®
POWER&CONTROL MULTICORE AR

APPLICATIVE FEATURES

MINIMUM BENDING RADIUS

CROSS SECTION	CROSS SECTION MAX	DYNAMIC INSTALLATION	STATIC INSTALLATION
0.50	16.00		6xØ

DESCRIPTION

Power and control cables for static installation use, with high physical/mechanical stress resistance due to the galvanized steel armor and an additional inner jacket. Suitable for hostile environments inside cable ducts.

APPROVALS

2014/35/CEE

2011/65/UE
2015/863/UE

CPR ECA

TECHNICAL DATA

INSTALLATION -5°C +80°C
STATIC -40°C +80°C

NOMINAL VOLTAGE UO/U 450/750

TEST VOLTAGE 4000

CONSTRUCTION FEATURES

POWER CONDUCTORS	CONDUCTOR	**CL5 FLEXIBLE. BARE COPPER.**
	INSULATION	**PVC COMPOUND.**
	INSULATION COLOR	**BLACK CORE WITH WHITE PRINTED NUMBER + GREEN YELLOW**
OVERALL STRANDING	TALC	**TALC POWDER**
	SHEATH	**INTERMEDIATE SHEATH PVC 80°C TM2 TYPE**
	SCREEN	**ARMOR ZINC PLATED STEEL 65 % ± 5 %**
	SHEATH	**PVC COMPOUND.**
	SHEATH COLOUR	**TRANSPARENT DESINA: NO**

PRODUCTS FEATURES

FIRE PERFORMANCE
IEC 60332-1-2(EU); CPR ECA

TECO CODE	FORMATION	CUT	ROLLS [M]	DRUMS [M]	EXT Ø [MM]	WEIGHT [KG/KM]	INS. COLOUR EXC
497	**(2X0,50)R/AR**	✓	100	500	7.7	77	
24192	**(2X1,50)R/AR**	✓	100	500	9.2	129	
9975	**(3G0,50)R/AR**	✓	100	500	7.9	85	
11516	**(3G1,00)R/AR**	✓	100	500/1000	9	113	
2092	**(3G1,50)R/AR**	✓		500	9.8	149	UNEL TABLE COLOUR
7054	**(4G1,50)R/AR**	✓	100	500	10.6	172	
8418	**(4G2,50)R/AR**	✓		500	11.8	238	
35877	**(4G4,00)R/AR**	✓			14.5	365	
28507	**(4G6)R/AR**	✓			17.8	500	
35878	**(4G10,00)R/AR**	✓			20.3	780	
1206	**(5G0,50)R/AR**	✓		500	9.4	114	
5664	**(5G1,00)R/AR**	✓		500	10.6	162	UNEL TABLE COLOUR
8092	**(5G1,50)R/AR**	✓		500	11.8	220	
10642	**(7G1,00)R/AR**	✓		500	11.4	189	
9960	**(7G1,50)R/AR**	✓		500	12.8	259	
35876	**(7G2,50)R/AR**	✓			13.8	376	
24183	**(7G4,00)R/AR**	✓			18	517	
2605	**(8G1,00)R/AR**	✓		500	12.9	240	
39853	**(10G0,50)R/AR**	✓		500	11.4	185	
5114	**(12G1,00)R/AR**	✓			14	323	
7053	**(18G0,50)R/AR**	✓			14	306	
7507	**(18G1,00)R/AR**	✓			16.6	444	
9926	**(25G1,00)R/AR**	✓			20	566	
6015	**(34G1,00)R/AR**	✓			21.6	782	

MULTIRATED MTW-TEW-HAR

- MACHINE-TOOLS
- FLAME-RETARDANT
- OIL-RESISTANT
- ELECTRICAL PANELS

These multi-rated single core cables are UL, CSA, and HAR approved (where applicable for sections and colors), primarily designed for control cabinet wiring or installation in protective tubes.

They can also be used indoors for fixed installations on bare walls, pipes, ducts, switchgears, or signal and control panels, within the specifications of UL-CSA or European standards.

STATIC APPLICATION

MULTIRATED
POWER&CONTROL SINGLE CORE MULTIRATED-UL-CSA-05V2-K

APPLICATIVE FEATURES

MINIMUM BENDING RADIUS

CROSS SECTION	CROSS SECTION MAX	DYNAMIC INSTALLATION	STATIC INSTALLATION
0.35			6 xØ

DESCRIPTION

These multi-rated flexible single core cables are UL, CSA approved, mainly designed for control cabinet wiring or installation in protective tubes. They can also be applicated indoor as fixed lay on bare walls, pipes, ducts, switchgears or signal and control panels, within the UL-CSA standard specifications.

APPROVALS

MTW 90°C 600V

AWM STYLE 1015
105°C 600V

AWM STYLE 10269
105°C 1000V

BS TYPE CK (90°C)

CSA TEW 105°C
600V

2014/35/CEE
-05V2-K

2011/65/UE
2015/863/UE

TECHNICAL DATA

INSTALLATION +5°C +70°C
STATIC -40°C +105°C(AWM, CSA TEW); +90°C(MTW,EU)
OCCASIONAL FLEXING +5°C +105°C(AWM, CSA TEW); +90°C(MTW,EU)

TEST VOLTAGE 3000V (UL); 2KV (300/500V)
TEST VOLTAGE REFERENCE ACC. TO EN 50525-1 RESP. EN 50525-2-31

NOMINAL VOLTAGE (UL/CSA TEW) 600V; (RU) 1000V; 300/500V (EU)

CONSTRUCTION FEATURES

GROUP 1	CONDUCTOR	**CL5 FLEXIBLE. BARE COPPER.**
	INSULATION	**PVC COMPOUND.**
	INSULATION COLOR	**VARIOUS COLOURS**

PRODUCTS FEATURES

FIRE PERFORMANCE
DIN VDE 0482-332-1-2, DIN EN 60332-1-2, VW-1(UL), FT1(CSA), IEC 60332-1-2(EU)

OIL PERFORMANCE
OIL RESISTANT I 60 °C RATING (UL 1063)
IEC 60811-404(EU)

TECO CODE	FORMATION	CUT	ROLLS [M]	DRUMS [M]	EXT Ø [MM]	WEIGHT [KG/KM]	INS. COLOUR EXC
39835	**1XAWG22** 1X0,35	X		1220	2.4	10	BLACK RAL 9005
39836	**1XAWG22** 1X0,35	X		1220	2.4	10	BLUE RAL 5010
39837	**1XAWG22** 1X0,35	X		1220	2.4	10	RED RAL 3000
39838	**1XAWG22** 1X0,35	X		1220	2.4	10	WHITE RAL 9010
39839	**1XAWG22** 1X0,35	X		1220	2.4	10	BROWN RAL 8003
39840	**1XAWG22** 1X0,35	X		1220	2.4	10	YELLOW RAL 1021
39841	**1XAWG22** 1X0,35	X		1220	2.4	10	GRAY RAL 7001
39842	**1XAWG22** 1X0,35	X		1220	2.4	10	GREEN RAL 6018
39843	**1XAWG22** 1X0,35	X		1220	2.4	10	ORANGE RAL 2003
39844	**1XAWG22** 1X0,35	X		1220	2.4	10	PINK RAL 3015

STATIC APPLICATION

MULTIRATED
POWER&CONTROL SINGLE CORE MULTIRATED-UL-CSA-H05V2-K

APPLICATIVE FEATURES

MINIMUM BENDING RADIUS

CROSS SECTION	CROSS SECTION MAX	DYNAMIC INSTALLATION	STATIC INSTALLATION
0.50	1.00		6 xØ

DESCRIPTION

These multi-rated flexible single-core cables are UL and CSA approved, primarily designed for control cabinet wiring or installation in protective tubes. They can also be used indoors as fixed lay on bare walls, pipes, ducts, switchgears, or signal and control panels, within the UL-CSA standard specifications.

APPROVALS

MTW 90°C 600V

AWM STYLE 1015
105°C 600V

AWM STYLE 10269
105°C 1000V

CSA TEW 105°C
600V

H05V2-K 300/500V

BS TYPE CK (90°C)

2014/35/CEE

2011/65/UE
2015/863/UE

TECHNICAL DATA

INSTALLATION +5°C +70°C
STATIC -40°C +105°C(AWM, CSA TEW); +90°C(MTW,HAR)
OCCASIONAL FLEXING +5°C +105°C(AWM, CSA TEW); +90°C(MTW,HAR)

NOMINAL VOLTAGE (UL/CSA TEW) 600V; (RU) 1000V; 300/500V (HAR)

TEST VOLTAGE 3000V (UL); 2KV (HAR)
TEST VOLTAGE REFERENCE ACC. TO EN 50525-1 RESP. EN 50525-2-31

CONSTRUCTION FEATURES

GROUP 1	CONDUCTOR	**CL5 FLEXIBLE. BARE COPPER.**
	INSULATION	**PVC COMPOUND.**
	INSULATION COLOR	**VARIOUS COLOURS**

PRODUCTS FEATURES

FIRE PERFORMANCE
DIN VDE 0482-332-1-2, DIN EN 60332-1-2, VW-1(UL), FT1(CSA), IEC 60332-1-2(EU)

OIL PERFORMANCE
OIL RESISTANT I 60 °C RATING (UL 1063)
IEC 60811-404(EU)

TECO CODE	FORMATION	CUT	ROLLS [M]	DRUMS [M]	EXT Ø [MM]	WEIGHT [KG/KM]	INS. COLOUR EXC
38701	**1XAWG20** 1X0,50	X	100	1220	2.6	12	YELLOW RAL 1021 - GREEN RAL 6018
38702	**1XAWG20** 1X0,50	X	100	1220	2.6	12	BLACK RAL 9005
38703	**1XAWG20** 1X0,50	X	100	1220	2.6	12	BLUE RAL 5010
38704	**1XAWG20** 1X0,50	X	100	1220	2.6	12	RED RAL 3000
38705	**1XAWG20** 1X0,50	X	100	1220	2.6	12	WHITE RAL 9010
38706	**1XAWG20** 1X0,50	X		1220	2.6	12	BROWN RAL 8003
38707	**1XAWG20** 1X0,50	X		1220	2.6	12	YELLOW RAL 1021
38708	**1XAWG20** 1X0,50	X		1220	2.6	12	GRAY RAL 7001
38709	**1XAWG20** 1X0,50	X		1220	2.6	12	GREEN RAL 6018
38710	**1XAWG20** 1X0,50	X	100	1220	2.6	12	ORANGE RAL 2003
38712	**1XAWG20** 1X0,50	X	100	1220	2.6	12	WHITE RAL 9010 - BLUE RAL 5015
39257	**1XAWG20** 1X0,50	X		1220	2.6	12	PALE BLUE RAL 5015
39300	**1XAWG20** 1X0,50	X	100		2.6	12	VIOLET RAL 4005
38714	**1XAWG19** 1X0,75	X	100	915	2.8	15	BLACK RAL 9005
38715	**1XAWG19** 1X0,75	X	100	915	2.8	15	BLUE RAL 5010
38716	**1XAWG19** 1X0,75	X	100	915	2.8	15	RED RAL 3000
38717	**1XAWG19** 1X0,75	X	100	915	2.8	15	WHITE RAL 9010
38718	**1XAWG19** 1X0,75	X		915	2.8	15	BROWN RAL 8003
38719	**1XAWG19** 1X0,75	X		915	2.8	15	YELLOW RAL 1021
38720	**1XAWG19** 1X0,75	X		915	2.8	15	GRAY RAL 7001
38721	**1XAWG19** 1X0,75	X		915	2.8	15	GREEN RAL 6018
38722	**1XAWG19** 1X0,75	X	100	915	2.8	15	ORANGE RAL 2003
38723	**1XAWG19** 1X0,75	X	100	915	2.8	15	WHITE RAL 9010 - BLUE RAL 5015
38731	**1XAWG19** 1X0,75	X	100	915	2.8	15	YELLOW RAL 1021 - GREEN 6018
39258	**1XAWG19** 1X0,75	X	100	915	2.8	15	PALE BLUE RAL 5015
37465	**1XAWG18** 1X1,00	X	100	915	2.9	18	YELLOW RAL 1021 - GREEN 6018
37466	**1XAWG18** 1X1,00	X	100	915	2.9	18	BLACK RAL 9005
37467	**1XAWG18** 1X1,00	X	100	915	2.9	18	BLUE RAL 5010
37468	**1XAWG18** 1X1,00	X	100	915	2.9	18	RED RAL 3000
37469	**1XAWG18** 1X1,00	X	100	915	2.9	18	WHITE RAL 9010
37470	**1XAWG18** 1X1,00	X	100	915	2.9	18	BROWN RAL 8003

TECO CODE	FORMATION	CUT	ROLLS [M]	DRUMS [M]	EXT Ø [MM]	WEIGHT [KG/KM]	INS. COLOUR EXC
37471	**1XAWG18** 1X1,00	X	100	915	2.9	18	YELLOW RAL 1021
37472	**1XAWG18** 1X1,00	X	100	915	2.9	18	GRAY RAL 7001
37473	**1XAWG18** 1X1,00	X	100	915	2.9	18	GREEN RAL 6018
37474	**1XAWG18** 1X1,00	X	100	915	2.9	18	ORANGE RAL 2003
37475	**1XAWG18** 1X1,00	X	100	915	2.9	18	WHITE RAL 9010 - BLUE RAL 5015
39259	**1XAWG18** 1X1,00	X	100		2.9	18	PALE BLUE RAL 5015
39302	**1XAWG18** 1X1,00	X	100		2.9	18	VIOLET RAL 4005

STATIC APPLICATION

MULTIRATED
POWER&CONTROL SINGLE CORE
MULTIRATED-UL-CSA-07V2-K

APPLICATIVE FEATURES

MINIMUM BENDING RADIUS

CROSS SECTION	CROSS SECTION MAX	DYNAMIC INSTALLATION	STATIC INSTALLATION
1.50	300.00		6 xØ

DESCRIPTION

These multi-rated flexible single core cables are UL, CSA approved, mainly designed for control cabinet wiring or installation in protective tubes. They can also be applicated indoor as fixed lay on bare walls, pipes, ducts, switchgears or signal and control panels, within the UL-CSA standard specifications.

APPROVALS

MTW 90°C 600V

AWM STYLE 1015
105°C 600V

AWM STYLE 10269
105°C 1000V

CSA TEW 105°C
600V

AWM I A/B 105°C
1000V (>120MMQ)

BS TYPE CK (90°C)

2014/35/CEE
-07V2-K

2011/65/UE
2015/863/UE

TECHNICAL DATA

INSTALLATION +5°C +70°C
STATIC -40°C +105°C(AWM, CSA TEW,CSA AWM);
+90°C(MTW,HAR) OCCASIONAL FLEXING +5°C +105°C(AWM, CSA TEW, CSA AWM);
+90°C(MTW,HAR)

NOMINAL VOLTAGE (UL/CSA TEW) 600V; (RU/CSA AWM) 1000V; 450/750V (EU)

TEST VOLTAGE 3000V (UL); 2,5V (EU)
TEST VOLTAGE REFERENCE EU ACC. TO EN 50525-1 RESP. EN 50525-2-31

CONSTRUCTION FEATURES

GROUP 1	CONDUCTOR	CL5 FLEXIBLE. BARE COPPER.
	INSULATION	PVC COMPOUND.
	INSULATION COLOR	VARIOUS COLOURS

PRODUCTS FEATURES

FIRE PERFORMANCE
DIN VDE 0482-332-1-2, DIN EN 60332-1-2, VW-1(UL), FT1(CSA), IEC 60332-1-2(EU)

OIL PERFORMANCE
OIL RESISTANT I 60 °C RATING (UL 1063)
IEC 60811-404(EU)

TECO CODE	FORMATION	CUT	ROLLS [M]	DRUMS [M]	EXT Ø [MM]	WEIGHT [KG/KM]	INS. COLOUR EXC
37482	**1XAWG16** 1X1,50	✗	100	915	3.2	23	YELLOW RAL 1021
37484	**1XAWG16** 1X1,50	✗	100	915	3.2	23	GREEN RAL 6018
37486	**1XAWG16** 1X1,50	✗	100	915	3.2	23	WHITE RAL 9010 - RED RAL 3000
37487	**1XAWG16** 1X1,50	✗	100	915	3.2	23	WHITE RAL 9010 - BLUE RAL 5015
38693	**1XAWG16** 1X1,50	✗	100	915	3.2	23	WHITE RAL 9010 - ORANGE RAL 2003
38697	**1XAWG16** 1X1,50	✗	100	915	3.2	23	WHITE RAL 9010 - YELLOW RAL 1021
38067	**1XAWG14** 1X2,50	✗	100	610	3.6	34	YELLOW RAL 1021
38069	**1XAWG14** 1X2,50	✗	100	610	3.6	34	GREEN RAL 6018
38071	**1XAWG14** 1X2,50	✗	100	610	3.6	34	WHITE RAL 9010 - RED RAL 3000
38072	**1XAWG14** 1X2,50	✗	100	610	3.6	34	WHITE RAL 9010 - BLUE RAL 5015
38073	**1XAWG14** 1X2,50	✗	100	610	3.6	34	WHITE RAL 9010 - ORANGE RAL 2003
38080	**1XAWG12** 1X4,00	✗	100	305	4.1	48	YELLOW RAL 1021
38082	**1XAWG12** 1X4,00	✗	100	305	4.1	48	GREEN RAL 6018
38084	**1XAWG12** 1X4,00	✗	100	305	4.1	48	WHITE RAL 9010 - RED RAL 3000
38085	**1XAWG12** 1X4,00	✗	100	305	4.1	48	WHITE RAL 9010 - BLUE RAL 5015
38086	**1XAWG12** 1X4,00	✗		305	4.1	48	WHITE RAL 9010 - YELLOW RAL 1021
38694	**1XAWG12** 1X4,00	✗	100	305	4.1	48	WHITE RAL 9010 - ORANGE RAL 2003
38093	**1XAWG10** 1X6,00	✗	100	305	4.7	67	YELLOW RAL 1021
38095	**1XAWG10** 1X6,00	✗	100	305	4.7	67	GREEN RAL 6018
38097	**1XAWG10** 1X6,00	✗	100	305	4.7	67	WHITE RAL 9010 - BLUE RAL 5015
38098	**1XAWG10** 1X6,00	✗		305	4.7	67	WHITE RAL 9010 - YELLOW RAL 1021
38099	**1XAWG10** 1X6,00	✗	100	305	4.7	67	WHITE RAL 9010 - RED RAL 3000
38728	**1XAWG10** 1X6,00	✗	100	305	4.7	67	WHITE RAL 9010 - ORANGE RAL 2003
38106	**1XAWG08** 1X10,00	✗		100	6.3	119	YELLOW RAL 1021
38108	**1XAWG08** 1X10,00	✗		100	6.3	119	GREEN RAL 6018
38111	**1XAWG08** 1X10,00	✗		100	6.3	119	WHITE RAL 9010 - BLUE RAL 5015
38729	**1XAWG08** 1X10,00	✗		100	6.3	119	WHITE RAL 9010 - ORANGE RAL 2003
38118	**1XAWG06** 1X16,00	✗		100	8	187	YELLOW RAL 1021
38120	**1XAWG06** 1X16,00	✗		100	8	187	GREEN RAL 6018
39299	**1XAWG06** 1X16,00	✗		100	8	187	WHITE RAL 9010 - BLUE RAL 5015
38126	**1XAWG04** 1X25,00	✓		100	9.2	291	YELLOW RAL 1021

TECO CODE	FORMATION	CUT	ROLLS [M]	DRUMS [M]	EXT Ø [MM]	WEIGHT [KG/KM]	INS. COLOUR EXC
38127	**1XAWG04** 1X25,00	✗		100	9.2	291	WHITE RAL 9010 - BLUE RAL 5015
38134	**1XAWG01** 1X50,00	✓			12.9	580	YELLOW RAL 1021 - GREEN RAL 6018
38135	**1XAWG01** 1X50,00	✓			12.9	580	BLACK RAL 9005
38140	**1XAWG01** 1X50.00	✓			12.9	580	GREEN RAL 6018
38724	**1XAWG1/0** 1X50,00	✓			13.9	615	YELLOW RAL 1021 - GREEN RAL 6018
38725	**1XAWG1/0** 1X50,00	✓			13.9	615	BLACK RAL 9005
38726	**1XAWG1/0** 1X50,00	✓			13.9	615	GREEN RAL 6018
38727	**1XAWG1/0** 1X50,00	✓			13.9	615	ORANGE RAL 2003
38142	**1XAWG2/0** 1X70,00	✓			15	780	YELLOW RAL 1021 - GREEN 6018
38143	**1XAWG2/0** 1X70,00	✓			15	780	BLACK RAL 9005
38146	**1XAWG2/0** 1X70,00	✓			15	780	GREEN RAL 6018
38147	**1XAWG2/0** 1X70,00	✓			15	780	ORANGE RAL 2003
38149	**1XAWG3/0** 1X95,00	✓			16.2	1055	YELLOW RAL 1021 - GREEN 6018
38150	**1XAWG3/0** 1X95,00	✓			16.2	1055	BLACK RAL 9005
38151	**1XAWG3/0** 1X95,00	✓			16.2	1055	GREEN RAL 6018
38154	**1XAWG4/0** 1X120,00	✓			17.9	1175	BLACK RAL 9005
38155	**1XAWG4/0** 1X120,00	✓			17.9	1175	GREEN RAL 6018
38156	**1X250KCMIL** 1X150,00	✓			20.2	1425	BLACK RAL 9005
38698	**1X250KCMIL** 1X150,00	✓			20.2	1425	YELLOW RAL 1021 - GREEN RAL 6018
38157	**1X350KCMIL** 1X185,00	✓			22.4	1735	BLACK RAL 9005
38158	**1X450KCMIL** 1X240,00	✓			24.3	2310	BLACK RAL 9005
38159	**1X550KCMIL** 1X300,00	✓			27.1	2950	BLACK RAL 9005

STATIC APPLICATION

MULTIRATED
POWER&CONTROL SINGLE CORE MULTIRATED-UL-CSA-H07V2-K

APPLICATIVE FEATURES

MINIMUM BENDING RADIUS

CROSS SECTION	CROSS SECTION MAX	DYNAMIC INSTALLATION	STATIC INSTALLATION
1.50	35.00		6 xØ

DESCRIPTION

These multi-rated single-core cables are UL, CSA, and HAR approved, primarily designed for control cabinet wiring or installation in protective tubes. They can also be used indoors for fixed laying on bare walls, pipes, ducts, switchgears, or signal and control panels, within the UL-CSA or European standard specifications.

APPROVALS

MTW 90°C 600V

AWM STYLE 1015
105°C 600V

AWM STYLE 10269
105°C 1000V

CSA TEW 105°C
600V

H07V2-K 450/750V

BS TYPE CK (90°C)

2014/35/CEE

2011/65/UE
2015/863/UE

TECHNICAL DATA

INSTALLATION +5°C +70°C
STATIC -40°C +105°C(AWM, CSA TEW); +90°C(MTW,HAR)
OCCASIONAL FLEXING +5°C +105°C(AWM, CSA TEW); +90°C(MTW,HAR)

NOMINAL VOLTAGE (UL/CSA TEW) 600V; (RU) 1000V; 450/750V (HAR)

TEST VOLTAGE 3000V (UL); 2,5V (450/750V)
TEST VOLTAGE REFERENCE (HAR) ACC. TO EN 50525-1 RESP. EN 50525-2-31

CONSTRUCTION FEATURES

GROUP 1	CONDUCTOR	**CL5 FLEXIBLE. BARE COPPER.**
	INSULATION	**PVC COMPOUND.**
	INSULATION COLOR	**VARIOUS COLOURS**

PRODUCTS FEATURES

FIRE PERFORMANCE
DIN VDE 0482-332-1-2, DIN EN 60332-1-2, VW-1(UL), FT1(CSA), IEC 60332-1-2(EU)

OIL PERFORMANCE
OIL RESISTANT I 60 °C RATING (UL 1063)
IEC 60811-404(EU)

TECO CODE	FORMATION	CUT	ROLLS [M]	DRUMS [M]	EXT Ø [MM]	WEIGHT [KG/KM]	INS. COLOUR EXC
37476	**1XAWG16** 1X1,50	X	100	915	3.2	23	YELLOW RAL 1021 - GREEN 6018
37477	**1XAWG16** 1X1,50	X	100	915	3.2	23	BLACK RAL 9005
37478	**1XAWG16** 1X1,50	X	100	915	3.2	23	BLUE RAL 5010
37479	**1XAWG16** 1X1,50	X	100	915	3.2	23	RED RAL 3000
37480	**1XAWG16** 1X1,50	X	100	915	3.2	23	WHITE RAL 9010
37481	**1XAWG16** 1X1,50	X	100	915	3.2	23	BROWN RAL 8003
37483	**1XAWG16** 1X1,50	X	100	915	3.2	23	GRAY RAL 7001
37485	**1XAWG16** 1X1,50	X	100	915	3.2	23	ORANGE RAL 2003
39260	**1XAWG16** 1X1,50	X	100	915	3.2	23	PALE BLUE RAL 5015
39303	**1XAWG16** 1X1,50	X	100	915	3.2	23	VIOLET RAL 4005
38061	**1XAWG14** 1X2,50	X	100	610	3.6	34	YELLOW RAL 1021 - GREEN 6018
38062	**1XAWG14** 1X2,50	X	100	610	3.6	34	BLACK RAL 9005
38063	**1XAWG14** 1X2,50	X	100	610	3.6	34	BLUE RAL 5010
38064	**1XAWG14** 1X2,50	X	100	610	3.6	34	RED RAL 3000
38065	**1XAWG14** 1X2,50	X	100	610	3.6	34	WHITE RAL 9010
38066	**1XAWG14** 1X2,50	X	100	610	3.6	34	BROWN RAL 8003
38068	**1XAWG14** 1X2,50	X	100	610	3.6	34	GRAY RAL 7001
38070	**1XAWG14** 1X2,50	X	100	610	3.6	34	ORANGE RAL 2003
39261	**1XAWG14** 1X2,50	X	100	610	3.6	34	PALE BLUE RAL 5015
39304	**1XAWG14** 1X2,50	X	100		3.6	34	VIOLET RAL 4005
38074	**1XAWG12** 1X4,00	X	100	305	4.1	48	YELLOW RAL 1021 - GREEN 6018
38075	**1XAWG12** 1X4,00	X	100	305	4.1	48	BLACK RAL 9005
38076	**1XAWG12** 1X4,00	X	100	305	4.1	48	BLUE RAL 5010
38077	**1XAWG12** 1X4,00	X	100	305	4.1	48	RED RAL 3000
38078	**1XAWG12** 1X4,00	X	100	305	4.1	48	WHITE RAL 9010
38079	**1XAWG12** 1X4,00	X	100	305	4.1	48	BROWN RAL 8003
38081	**1XAWG12** 1X4,00	X	100	305	4.1	48	GRAY RAL 7001
38083	**1XAWG12** 1X4,00	X	100	305	4.1	48	ORANGE RAL 2003
39262	**1XAWG12** 1X4,00	X	100	305	4.1	48	PALE BLUE RAL 5015
38087	**1XAWG10** 1X6,00	X	100	305	4.7	67	YELLOW RAL 1021 - GREEN 6018
38088	**1XAWG10** 1X6,00	X	100	305	4.7	67	BLACK RAL 9005
38089	**1XAWG10** 1X6,00	X	100	305	4.7	67	BLUE RAL 5010
38090	**1XAWG10** 1X6,000	X	100	305	4.7	67	RED RAL 3000
38091	**1XAWG10** 1X6,00	X	100	305	4.7	67	WHITE RAL 9010

TECO CODE	FORMATION	CUT	ROLLS [M]	DRUMS [M]	EXT Ø [MM]	WEIGHT [KG/KM]	INS. COLOUR EXC
38092	**1XAWG10** 1X6,00	✗	100	305	4.7	67	BROWN RAL 8003
38094	**1XAWG10** 1X6,00	✗	100	305	4.7	67	GRAY RAL 7001
38096	**1XAWG10** 1X6,00	✗	100	305	4.7	67	ORANGE RAL 2003
39263	**1XAWG10** 1X6,00	✗	100	305	4.7	67	PALE BLUE RAL 5015
38100	**1XAWG08** 1X10,00	✗		100	6.3	119	YELLOW RAL 1021 - GREEN 6018
38101	**1XAWG08** 1X10,00	✗		100	6.3	119	BLACK RAL 9005
38102	**1XAWG08** 1X10,00	✗		100	6.3	119	BLUE RAL 5010
38103	**1XAWG08** 1X10,00	✗		100	6.3	119	RED RAL 3000
38104	**1XAWG08** 1X10,00	✗		100	6.3	119	WHITE RAL 9010
38105	**1XAWG08** 1X10,00	✗		100	6.3	119	BROWN RAL 8003
38107	**1XAWG08** 1X10,00	✗		100	6.3	119	GRAY RAL 7001
38109	**1XAWG08** 1X10,00	✗		100	6.3	119	ORANGE RAL 2003
39264	**1XAWG08** 1X10,00	✗		100	6.3	119	PALE BLUE RAL 5015
38112	**1XAWG06** 1X16,00	✗		100	8	187	YELLOW RAL 1021 - GREEN 6018
38113	**1XAWG06** 1X16,00	✗		100	8	187	BLACK RAL 9005
38114	**1XAWG06** 1X16,00	✗		100	8	187	BLUE RAL 5010
38115	**1XAWG06** 1X16,00	✗		100	8	187	RED RAL 3000
38116	**1XAWG06** 1X16,00	✗		100	8	187	WHITE RAL 9010
38119	**1XAWG06** 1X16,00	✗		100	8	187	GRAY RAL 7001
39297	**1XAWG06** 1X16,00	✗		100	8	187	ORANGE RAL 2003
39854	**1XAWG06** 1X16,00	✗		100	8	187	PALE BLUE RAL 5015
38121	**1XAWG04** 1X25,00	✓		100	9.2	291	WHITE RAL 9010
38122	**1XAWG04** 1X25,00	✓		100	9.2	291	YELLOW RAL 1021 - GREEN RAL 6018
38123	**1XAWG04** 1X25,00	✓		100	9.2	291	BLACK RAL 9005
38124	**1XAWG04** 1X25,00	✓		100	9.2	291	BLUE RAL 5010
38125	**1XAWG04** 1X25,00	✓		100	9.2	291	RED RAL 3000
39298	**1XAWG04** 1X25,00	✓		100	9.2	291	ORANGE RAL 2003
39855	**1XAWG04** 1X25,00	✓		100	9.2	291	PALE BLUE RAL 5015
38128	**1XAWG02** 1X35,00	✓		100	10.9	406	YELLOW RAL 1021 - GREEN RAL 6018
38129	**1XAWG02** 1X35,00	✓		100	10.9	406	BLACK RAL 9005
38133	**1XAWG02** 1X35,00	✓		100	10.9	406	ORANGE RAL 2003

MULTI PAIRS UL

MACHINE-TOOLS

FLAME-RETARDANT

OIL-RESISTANT

ELECTRICAL PANELS

These data cables are UL/CSA certified for use in static applications as signal and measuring cables in machine tools, assembly lines, conveyor belts, plant construction, air conditioning devices, metallurgical plants, and steel mills.

The twisted pair construction combined with the braid shield provides optimal protection against electromagnetic interference.

STATIC APPLICATION

MULTI PAIRS UL
SIGNAL WITH PAIR-ST

APPLICATIVE FEATURES

MINIMUM BENDING RADIUS

CROSS SECTION	CROSS SECTION MAX	DYNAMIC INSTALLATION	STATIC INSTALLATION
0,14	0,25	occ. flexing 15xø	7,5xø

DESCRIPTION

These data cables are UL/CSA certified for use as signal and measuring cables in machine tools, assembly lines, conveyor belts, plant construction, air conditioning devices, metallurgical plants, and steel mills. The twisted pair construction combined with the braid shield provides optimal screening against electromagnetic interference.

APPROVALS

AWM STYLE 2464
80°C 300V

AWM I/II A/B 80°C
300V

2014/30/EU

2014/35/CEE

2011/65/UE
2015/863/UE

TECHNICAL DATA

STATIC -40°C +80°C
OCCASIONAL FLEXING -10°C +80°C

MAX OPERATING VOLTAGE 300 V (NOT FOR POWER APPLICATIONS)

TEST VOLTAGE 1500 V

CONSTRUCTION FEATURES

TWISTED PAIR	CONDUCTOR	**CL5 FLEXIBLE. TINNED COPPER**
	INSULATION	**PVC COMPOUND.**
	INSULATION COLOR	**VARIOUS COLOURS**
OVERALL STRANDING	FILLER	**FILLER NOT HYGROSCOPIC, PRODUCED OUT OF SUITABLE MATERIALS**
	SEPARATIONLAYER	**TAPE POLYESTER TRANSPARENT.**
	SCREEN	**SHIELD TINNED COPPER 85 % ± 5 %**
	SHEATH	**PVC COMPOUND.**
	SHEATH COLOUR	**GRAY RAL: 7001, DESINA: NO**

PRODUCTS FEATURES

FIRE PERFORMANCE
DIN VDE 0482-332-1-2, DIN EN 60332-1-2, IEC 60332-1-2, UL 1581, UL VW-1, CSA FT1.

OIL PERFORMANCE
VDE 0473-811-404, IEC 60811-404, UL 1581.

TECO CODE	FORMATION	CUT	ROLLS [M]	DRUMS [M]	EXT Ø [MM]	WEIGHT [KG/KM]	INS. COLOUR EXC
376	**(2X2X0,25)ST** (2X2XAWG24)ST	✕	100	500	6	59	BLACK-WHITE, RED-GREEN
504	**(3X2X0,25)ST** (3X2XAWG24)ST	✓	100	500	6.4	68	BLACK-WHITE, RED-GREEN, BROWN-BLUE.
508	**(4X2X0,25)ST** (4X2XAWG24)ST	✓	100	500	6.8	80	BLACK-WHITE, RED-GREEN, BROWN-BLUE, ORANGE-YELLOW
505	**(5X2X0,25)ST** (5X2XAWG24)ST	✓	100	500	7.5	100	BLACK-WHITE, RED-GREEN, BROWN-BLUE, ORANGE-YELLOW, GRAY-VIOLET.
507	**(6X2X0,25)ST** (6X2XAWG24)ST	✓	100	500	7.5	108	BLACK-WHITE, RED-GREEN, BROWN-BLUE, ORANGE-YELLOW, GRAY-VIOLET, WHITE/BLUE*-BLUE/WHITE*. *RING BICOLOR
510	**(8X2X0,25)ST** (8X2XAWG24)ST	✓	100	500	9.2	120	BLACK-WHITE, RED-GREEN, BROWN-BLUE, ORANGE-YELLOW, GRAY-VIOLET, WHITE/BLUE*-BLUE/WHITE*, WHITE/ORANGE*-BLUE/ORANGE*, WHITE/GREEN*-BLUE/GREEN*. *RING BICOLOR

STYLE 1007-1569

AUTOMATIC MACHINERY

MACHINE-TOOLS

FLAME-RETARDANT

OIL-RESISTANT

UL/CSA certified power and control single-core cables are designed for static applications in protective tubes, cabinet wiring, electrical panels, junction box wiring, and industrial machines, according to NFPA 79.

These cables are highly resistant to industrial oils at room temperature and possess self-extinguishing and flame-retardant properties.

They are manufactured without silicone and lacquer-damaging substances, ensuring excellent performance even at high temperatures.

STATIC APPLICATION

STYLE 1007-1569
POWER&CONTROL SINGLE CORE

APPLICATIVE FEATURES

MINIMUM BENDING RADIUS

CROSS SECTION	CROSS SECTION MAX	DYNAMIC INSTALLATION	STATIC INSTALLATION
0.14	1.50	occ. flexing 10 x ø	5xø

DESCRIPTION

UL/CSA certified power and control single-core cables, designed for static applications in protective tubes, cabinet wiring, electrical panels, junction box wiring, and industrial machines, according to NFPA 79. The single-core UL/CSA style 1007/1569 cables are highly resistant to industrial oils at room temperature. They possess self-extinguishing and flame-retardant properties and are manufactured without the use of silicone and lacquer-damaging substances.

APPROVALS

E244280
AWM STYLE 1007
80°C 300V
AWM STYLE 1569
105°C 300V

AWM I A/B 105°C
300V

2014/35/CEE

2011/65/UE
2015/863/UE

TECHNICAL DATA

INSTALLATION 0°C +70°C
STATIC -40°C +105°C
OCCASIONAL FLEXING -5°C +105°C

NOMINAL VOLTAGE 300 V

TEST VOLTAGE 2000 V
TEST VOLTAGE REFERENCE UL 1581

CONSTRUCTION FEATURES

POWER CONDUCTOR	CONDUCTOR	**CL5 FLEXIBLE. TINNED COPPER**
	INSULATION	**PVC COMPOUND.**
	INSULATION COLOR	**VARIOUS COLOURS**

PRODUCTS FEATURES

FIRE PERFORMANCE
DIN VDE 0482-332-1-2, DIN EN 60332-1-2, IEC 60332-1-2, UL 1581, UL VW-1, CSA FT1.

OIL PERFORMANCE
60 °C RATING (UL)
IEC 60811-404(EU)

TECO CODE	FORMATION	CUT	ROLLS [M]	DRUMS [M]	EXT Ø [MM]	WEIGHT [KG/KM]	INS. COLOUR EXC
16791	**1X0,14** 1XAWG26	X		1000	1.35	2.8	YELLOW RAL 1021
4555	**1X0,14** 1XAWG26	X		1000	1.35	2.8	BLACK RAL 9005
4556	**1X0,14** 1XAWG26	X		1000	1.35	2.8	RED RAL 3000
1869	**1X0,25** 1XAWG24	X		2135	1.4	4.2	PALE BLUE RAL 5015
362	**1X0,25** 1XAWG24	X		2135	1.4	4.2	BROWN RAL 8003
363	**1X0,25** 1XAWG24	X		2135	1.4	4.2	GREEN RAL 6018
369	**1X0,25** 1XAWG24	X		2135	1.4	4.2	GRAY RAL 7001
370	**1X0,25** 1XAWG24	X		2135	1.4	4.2	VIOLET RAL 4005
374	**1X0,25** 1XAWG24	X		2135	1.4	4.2	YELLOW RAL 1021
375	**1X0,25** 1XAWG24	X		2135	1.4	4.2	PINK RAL 3015
451	**1X0,25** 1XAWG24	X		2135	1.4	4.2	RED RAL 3000
685	**1X0,25** 1XAWG24	X		2135	1.4	4.2	WHITE RAL 9010
686	**1X0,25** 1XAWG24	X		2135	1.4	4.2	BLUE RAL 5010
861	**1X0,25** 1XAWG24	X		2135	1.4	4.2	ORANGE RAL 2003
9651	**1X0,25** 1XAWG24	X		2135	1.4	4.2	BLACK RAL 9005
1443	**1X0,34** 1XAWG22	X		2135	1.7	6	YELLOW RAL 1021
8035	**1X0,34** 1XAWG22	X		2135	1.7	6	VIOLET RAL 4005
927	**1X0,34** 1XAWG22	X		2135	1.7	6	BLACK RAL 9017
928	**1X0,34** 1XAWG22	X		2135	1.7	6	BROWN RAL 8003
929	**1X0,34** 1XAWG22	X		2135	1.7	6	RED RAL 3000
930	**1X0,34** 1XAWG22	X		2135	1.7	6	GRAY RAL 7001
931	**1X0,34** 1XAWG22	X		2135	1.7	6	BLUE RAL 5010
932	**1X0,34** 1XAWG22	X		2135	1.7	6	ORANGE RAL 2003
933	**1X0,34** 1XAWG22	X		2135	1.7	6	WHITE RAL 9010
934	**1X0,34** 1XAWG22	X		2135	1.7	6	GREEN RAL 6018
464	**1X0,50** 1XAWG20	X		2135	1.9	8	ORANGE RAL 2003
465	**1X0,50** 1XAWG20	X		2135	1.9	8	WHITE RAL 9010
466	**1X0,50** 1XAWG20	X		2135	1.9	8	YELLOW RAL 1021
467	**1X0,50** 1XAWG20	X		2135	1.9	8	GRAY RAL 7001
468	**1X0,50** 1XAWG20	X		2135	1.9	8	BLACK RAL 9005
469	**1X0,50** 1XAWG20	X		2135	1.9	8	RED RAL 3000

TECO CODE	FORMATION	CUT	ROLLS [M]	DRUMS [M]	EXT Ø [MM]	WEIGHT [KG/KM]	INS. COLOUR EXC
470	**1X0,50** 1XAWG20	X		2135	1.9	8	GREEN RAL 6018
471	**1X0,50** 1XAWG20	X		2135	1.9	8	BLUE RAL 5010
473	**1X0,50** 1XAWG20	X		2135	1.9	8	BROWN RAL 8003
474	**1X0,50** 1XAWG20	X		2135	1.9	8	VIOLET RAL 4005
1691	**1X1,00** 1XAWG18	X		1220	2.1	11	WHITE RAL 9010
1716	**1X1,00** 1XAWG18	X		1220	2.1	11	YELLOW RAL 1021 - GREEN RAL 6018
2543	**1X1,00** 1XAWG18	X		1220	2.1	11	YELLOW RAL 1021
457	**1X1,00** 1XAWG18	X		1220	2.1	11	ORANGE RAL 2003
458	**1X1,00** 1XAWG18	X		1220	2.1	11	VIOLET RAL 4005
459	**1X1,00** 1XAWG18	X		1220	2.1	11	GRAY RAL 7001
460	**1X1,00** 1XAWG18	X		1220	2.1	11	BROWN RAL 8003
461	**1X1,00** 1XAWG18	X		1220	2.1	11	BLACK RAL 9017
462	**1X1,00** 1XAWG18	X		1220	2.1	11	BLUE RAL 5010
463	**1X1,00** 1XAWG18	X		1220	2.1	11	RED RAL 3000
10089	**1X1,50** 1XAWG16	X		1220	2.4	16	BLUE RAL 5010
2646	**1X1,50** 1XAWG16	X		1220	2.4	16	BLACK RAL 9005
28076	**1X1,50** 1XAWG16	X		1220	2.4	16	YELLOW RAL 1021
7974	**1X1,50** 1XAWG16	X		1220	2.4	16	RED RAL 3000

STYLE 21179

AUTOMATIC MACHINERY

MACHINE-TOOLS

FLAME-RETARDANT

OIL-RESISTANT

UL/CSA certified flexible power and control multi-core cables with a PVC outer sheath and an operating voltage of up to 1000 V.

Suitable for environments with potential contact with general industrial oil residues, these cables are mainly used on-board machinery.

They are available in both shielded and unshielded versions.

STATIC APPLICATION

STYLE 21179
POWER&CONTROL MULTICORE

APPLICATIVE FEATURES

MINIMUM BENDING RADIUS

CROSS SECTION	CROSS SECTION MAX	DYNAMIC INSTALLATION	STATIC INSTALLATION
0.50	95.00	occ. flexing 10xø	4xø

DESCRIPTION

UL/CSA certified flexible power and control multi-core cables. They have an operating voltage of up to 1000V and are also suitable for environments where there may be contact with generic industrial oil residues. Mainly used on-board machinery.

APPROVALS

AWM STYLE 21179
90°C 1000V

AWM I/II A/B 90°C
1000V

2014/35/CEE

2011/65/UE
2015/863/UE

TECHNICAL DATA

INSTALLATION -5°C /+90°C
STATIC -40°C/+90°C
OCCASIONAL FLEXING
-20°C/+90°C (IEC 60811-504)

NOMINAL VOLTAGE 1000 V
(UL/CSA); UO/U 0,6/1 KV (VDE)

TEST VOLTAGE 4.0KV
TEST VOLTAGE REFERENCE EN
50395 PART 6-7; UL/1581

INSULATION RESISTANCE AT
20°C > 200 MOHM/KM

CONSTRUCTION FEATURES

POWER CONDUCTORS	CONDUCTOR	**CL5 FLEXIBLE. BARE COPPER.**
	INSULATION	**PVC COMPOUND.**
	INSULATION COLOR	**BLACK CORE WITH WHITE PRINTED NUMBER + GREEN YELLOW**
OVERALL STRANDING	FILLER	**FILLER POLYPROPYLENE**
	TALC	**TALC POWDER**
	SHEATH	**PVC COMPOUND.**
	SHEATH COLOUR	**GRAY RAL: 7001, DESINA: NO**

PRODUCTS FEATURES

FIRE PERFORMANCE
SELF-EXTINGUISHING AND FLAME RETARDANT ACC. TO DIN VDE 0482-332-1-2; DIN EN 60332-1-2;VW-1(UL); FT1(CSA); IEC 60332-1-2(EU)

OIL PERFORMANCE
VDE 0473-811-404(EU); IEC 60811-404(EU); EN 50290-2-22 TM54(EU) (CEI 20-34/0-1; 4 H / 70°C, OIL IRM 902); UL 1581(UL).

UV PERFORMANCE
ISO 4892-3 / EN 50289-4-17(EU)

TECO CODE	FORMATION	CUT	ROLLS [M]	DRUMS [M]	EXT Ø [MM]	WEIGHT [KG/KM]	INS. COLOUR EXC
34273	**2X0,50** 2XAWG21	✗	100	500	5.2	41	
34241	**2X1,00** 2XAWG18	✗	100	500	5.8	53	
39856	**2X1,50** 2XAWG16	✓	100	500	6.5	73	
39857	**2X2,50** 2XAWG14	✓	100	500	7.6	110	
39879	**2X4,00** 2XAWG12	✓	100	500	8.8	155	
38160	**3G0,50** 3GAWG21	✗	100	500	5.4	48	
39276	**3X0,50** 3XAWG21	✗		500	5.4	48	BLACK CORE WITH WHITE PRINTED NUMBERS.
34242	**3G1,00** 3GAWG18	✓	100/200	500/1000	6.1	65	
34251	**3G1,50** 3GAWG16	✓	100	500	6.8	90	
34258	**3G2,50** 3GAWG14	✓	100	500/1000	8.1	137	
34266	**3G4,00** 3GAWG12	✓		500	9.4	200	
34269	**3G6,00** 3GAWG10	✓		500	11.3	290	
38161	**4G0,50** 4GAWG21	✗	100	500	5.9	55	
34243	**4G1,00** 4GAWG18	✓	100	500	6.8	80	
34252	**4G1,50** 4GAWG16	✓	100	500	7.4	110	
34259	**4G2,50** 4GAWG14	✓	100	500/1000	8.8	170	
34267	**4G4,00** 4GAWG12	✓		500/100	10.7	250	
34270	**4G6,00** 4GAWG10	✓		100	12.6	360	
34271	**4G10,00** 4GAWG08	✓			16	600	
34272	**4G16,00** 4GAWG06	✓			19	920	
37438	**4G25,00** 4GAWG04	✓			24	1420	
34274	**5G0,50** 5GAWG21	✓	100	500	6.5	65	
34244	**5G1,00** 5GAWG18	✓	100	500/1000	7.4	100	
34253	**5G1,50** 5GAWG16	✓	100	500	8.2	136	
34260	**5G2,50** 5GAWG14	✓		500	9.9	210	
34268	**5G4,00** 5GAWG12	✓		500	11.7	320	
34939	**5G6,00** 5GAWG10	✓			14	460	
39858	**5G16,00** 5GAWG06	✓			21.7	1099	
39859	**5G25,00** 5GAWG04	✓			26.5	1694	
38162	**7G0,50** 7GAWG21	✓	100	500	6.9	78	
34245	**7G1,00** 7GAWG18	✓	100	500	8	125	

TECO CODE	FORMATION	CUT	ROLLS [M]	DRUMS [M]	EXT Ø [MM]	WEIGHT [KG/KM]	INS. COLOUR EXC
37453	**7X1,00** 7XAWG18	✓	100	500	8	125	BLACK CORE WITH WHITE PRINTED NUMBERS.
34254	**7G1,50** 7GAWG16	✓			8.8	170	
34261	**7G2,50** 7GAWG14	✓		100	10.8	270	
38163	**12G0,50** 12GAWG21	✓	100	500	8.9	130	
34246	**12G1,00** 12GAWG18	✓	100	500	10.5	210	
34255	**12G1,50** 12GAWG16	✓		500	11.8	280	
34262	**12G2,50** 12GAWG14	✓			14.5	450	
34263	**14G2,50** 14GAWG14	✓			15.7	530	
38164	**18G0,50** 18GAWG21	✓		500	10.6	188	
34247	**18G1,00** 18GAWG18	✓		500/100	12.5	305	
34256	**18G1,50** 18GAWG16	✓			14	415	
34264	**18G2,50** 18GAWG14	✓			17.4	660	
38165	**25G0,50** 25GAWG21	✓		500	12.3	260	
34248	**25G1,00** 25GAWG18	✓		100	14.6	400	
34257	**25G1,50** 25GAWG16	✓			16.4	560	
34265	**25G2,50** 25GAWG14	✓			20.4	890	
37455	**25G4,00** 25GAWG12	✗			25.2	1428	
34249	**34G1** 34GAWG18	✓			17.1	560	
34250	**41G1,00** 41GAWG18	✓			18.4	670	

STATIC APPLICATION

STYLE 21179
POWER&CONTROL MULTICORE-ST

APPLICATIVE FEATURES

MINIMUM BENDING RADIUS

CROSS SECTION	CROSS SECTION MAX	DYNAMIC INSTALLATION	STATIC INSTALLATION
0.50	95.00	occ. flexing 10xø	4xø

DESCRIPTION

UL/CSA certified flexible power and control multi-core cables. They are shielded with operating voltage up to 1000V; also suitable for environments where there may be contact with generic industrial oil residuals. Mainly used on on-board machinery.

APPROVALS

E244280 AWM STYLE 21179 90°C 1000V

AWM I/II A/B 90°C 1000V

2014/35/CEE

RoHS 2011/65/UE 2015/863/UE

EMC 2014/30/EU

TECHNICAL DATA

INSTALLATION -5°C /+80°C STATIC -40°C/+90°C OCCASIONAL FLEXING -20°C /+90°C (IEC 60811-504)

NOMINAL VOLTAGE 1000 V (UL/CSA); UO/U 0,6/1 KV (VDE)

TEST VOLTAGE 4.0KV TEST VOLTAGE REFERENCE EN 50395 PART 6-7; UL/1581

INSULATION RESISTANCE AT 20°C > 200 MOHM/KM

CONSTRUCTION FEATURES

POWER CONDUCTORS	CONDUCTOR	**CL5 FLEXIBLE. BARE COPPER.**
	INSULATION	**PVC COMPOUND.**
	INSULATION COLOR	**BLACK CORE WITH WHITE PRINTED NUMBER + GREEN YELLOW**
OVERALL STRANDING	FILLER	**FILLER POLYPROPYLENE**
	SEPARATIONLAYER	**TAPE POLYESTER TRANSPARENT.**
	SCREEN	**SCREEN TINNED COPPER 85 % ± 5 %**
	SHEATH	**PVC COMPOUND.**
	SHEATH COLOUR	**GRAY RAL: 7001, DESINA: NO**

PRODUCTS FEATURES

FIRE PERFORMANCE
SELF-EXTINGUISHING AND FLAME RETARDANT ACC. TO DIN VDE 0482-332-1-2; DIN EN 60332-1-2;VW-1(UL); FT1(CSA); IEC 60332-1-2(EU)

OIL PERFORMANCE
VDE 0473-811-404(EU); IEC 60811-404(EU); EN 50290-2-22 TM54(EU) (CEI 20-34/0-1; 4 H / 70°C, OIL IRM 902); UL 1581(UL).

UV PERFORMANCE
ISO 4892-3 / EN 50289-4-17(EU)

TECO CODE	FORMATION	CUT	ROLLS [M]	DRUMS [M]	EXT Ø [MM]	WEIGHT [KG/KM]	INS. COLOUR EXC
37451	**(2X0.50)ST** (2XAWG21)ST	✓	100/200	500	5.6	47	
34163	**(2X1,00)ST** (2XAWG18)ST	✓	100/200		6.4	65	
34164	**(3X1,00)ST** (3XAWG18)ST	✓	100/200		6.9	80	BLACK CORE WITH WHITE PRINTED NUMBERS.
39277	**(3G1,00)ST** (3GAWG18)ST	✓	100	500	6.9	80	
34170	**(3G1,50)ST** (3GAWG16)ST	✓	100	500	7.5	100	
34829	**(3G2,50)ST** (3GAWG14)ST	✓	100	500	8.9	155	
39278	**(4X0,50)ST** (4XAWG21)ST	✓	100/200	500	6.4	67	
34165	**(4G1,00)ST** (4GAWG18)ST	✓	100	500	7.4	97	
34171	**(4G1,50)ST** (4GAWG16)ST	✓	100	500	8.2	120	
34176	**(4G2,50)ST** (4GAWG14)ST	✓	100	500	9.6	180	
34177	**(4G4,00)ST** (4GAWG12)ST	✓		500	11.3	260	
34178	**(4G6,00)ST** (4GAWG10)ST	✓		500	13.4	384	
34179	**(4G10,00)ST** (4GAWG08)ST	✓			17.1	680	
34180	**(4G16,00)ST** (4GAWG06)ST	✓			19.7	890	
34181	**(4G25,00)ST** (4GAWG04)ST	✓			25	1500	
34182	**(4G35,00)ST** (4GAWG02)ST	✓			28.8	2041	
34162	**(5G0,50)ST** (5GAWG21)ST	✓	100	500	7	80	
34828	**(5G6,00)ST** (5GAWG10)ST	✓		500	15	470	
39860	**(6G1,00)ST** (6GAWG18)ST	✓	100	500	8.7	140	
37452	**(7G1,00)ST** (7GAWG18)ST	✓	100	500	8.7	155	
34172	**(7G1,50)ST** (7GAWG16)ST	✓		500	9.5	190	
34833	**(7G2,50)ST** (7GAWG14)ST	✓		500	11.5	280	
34166	**(12G1,00)ST** (12GAWG18)ST	✓		500	11.2	230	
34173	**(12G1,50)ST** (12GAWG16)ST	✓		500	12.5	300	
34909	**(12G2,5)ST** (12GAWG14)ST	✓			15.4	475	
34167	**(18G1,00)ST** (18GAWG18)ST	✓		500	13.1	320	
34174	**(18G1,50)ST** (18GAWG16)ST	✓		500	15	450	
34910	**(18G2,50)ST** (18GAWG14)ST	✓			18.1	690	
34168	**(25G1,00)ST** (25GAWG18)ST	✓			15.3	440	
34175	**(25G1,50)ST** (25GAWG16)ST	✓			17.7	595	

STYLE 2516

AUTOMATIC MACHINERY

MACHINE-TOOLS

FLAME-RETARDANT

OIL-RESISTANT

UL/CSA certified flexible data cables designed for static applications as signal and measuring cables in machine tools, assembly lines, conveyor belts, plant construction, air conditioning devices, metallurgical plants, and steel mills.

These cables ensure excellent performance even at high temperatures.

STATIC APPLICATION

STYLE 2516

POWER&CONTROL MULTICORE

APPLICATIVE FEATURES

MINIMUM BENDING RADIUS

CROSS SECTION	CROSS SECTION MAX	DYNAMIC INSTALLATION	STATIC INSTALLATION
0.34	0.34	occ. flexing 10 x ø	4xø

DESCRIPTION

UL/CSA certified flexible data cables for use as signal and measuring cables in machine tools, assembly lines, conveyor belts, plant construction, air conditioning devices, metallurgical plants, and steel mills.

APPROVALS

E244280 AWM STYLE 2516 105°C 600V

AWM I/II A/B 105°C 600V

2014/35/CEE

2011/65/UE
2015/863/UE

TECHNICAL DATA

INSTALLATION -5°C +80°C
STATIC -40°C +105°C
OCCASIONAL FLEXING -5°C +105°C

NOMINAL VOLTAGE 600V

TEST VOLTAGE 2000V
TEST VOLTAGE REFERENCE EN 50395 P.6-7 - UL1581

CONSTRUCTION FEATURES

SIGNAL CONDUCTORS	CONDUCTOR	**CL5 FLEXIBLE. TINNED COPPER**
	INSULATION	**PVC COMPOUND.**
	INSULATION COLOR	**COLOURS SEQUENCE REFERS TO DIN 47100 STANDARD.**
OVERALL STRANDING	FILLER	**FILLER NOT HYGROSCOPIC, PRODUCED OUT OF SUITABLE MATERIALS**
		TALC POWDER
	SHEATH	**PVC COMPOUND.**
	SHEATH COLOUR	**GRAY RAL: 7001, DESINA: NO**

PRODUCTS FEATURES

FIRE PERFORMANCE
DIN VDE 0482-332-1-2; DIN EN 60332-1-2; VW-1; FT1; IEC 60332-1-2

OIL PERFORMANCE
VDE 0473-811-404; IEC 60811-404; UL 1581

TECO CODE	FORMATION	CUT	ROLLS [M]	DRUMS [M]	EXT Ø [MM]	WEIGHT [KG/KM]
13455	**2X0,34** 2XAWG22	✗	100	500	7.2	65
13456	**3X0,34** 3XAWG22	✗	100	500	7.8	78
13457	**4X0,34** 4XAWG22	✓	100		8.3	90
13458	**6X0,34** 6XAWG22	✓	100	500	9.8	110

DRIVEFLEX VFD 2XSLCYK-JB UL-CSA

SERVOMOTOR

MACHINE-TOOLS

FLAME-RETARDANT

OIL-RESISTANT

This line of cables is designed to power three-phase electric motors, providing excellent current capacity while minimizing cable encumbrance. This is achieved through the use of advanced materials and by dividing the earth conductor into three parts, which are inserted into the gaps between each phase conductor. This geometric construction significantly reduces the overall diameter. Additionally, the double shielding prevents electromagnetic interference, which is common in high-frequency motors, allowing other cables to be laid parallel nearby.

STATIC APPLICATION

DRIVEFLEX VFD 2XSLCYK-JB UL-CSA
INVERTER

APPLICATIVE FEATURES

MINIMUM BENDING RADIUS

CROSS SECTION	CROSS SECTION MAX	DYNAMIC INSTALLATION	STATIC INSTALLATION
1.50	4.00	occ. flexing 15 x ø	8 x ø
6.00	240.00	occ. flexing 20 x ø	8 x ø

DESCRIPTION

UL/CSA certified cables for connection between the motor and frequency converter for applications involving static or occasional free movement, with medium mechanical stress in dry, damp, and wet environments, both indoor and outdoor. The symmetrical configuration with a reduced diameter, achieved by splitting the earth protection conductor into three, is designed to allow corrected and balanced control of the motor by the inverter, significantly reducing electromagnetic disturbances thanks to the double shielding. These cables are particularly suitable for the paper industry, metal processing, heavy industry, and installations with presses.

APPROVALS

E244280 AWM STYLE 21179 90°C 1000V

AWM I/II A/B 90°C 1000V

2014/35/CEE

EMC 2014/30/EU

RoHS 2011/65/UE 2015/863/UE

TECHNICAL DATA

STATIC -40°C +90°C
OCCASIONAL FLEXING -5°C +90°C

NOMINAL VOLTAGE 1000 V

TEST VOLTAGE 4000 V

INSULATION RESISTANCE AT 20°C > 1 GΩ KM

CONSTRUCTION FEATURES

GROUP PHASE CONDUCTORS	CONDUCTOR	CL5 FLEXIBLE. BARE COPPER.
	INSULATION	XLPE (UL 1581)
	INSULATION COLOR	UNEL TABLE COLOUR
GROUP GROUNDING CONDUCTORS	CONDUCTOR	CL5 FLEXIBLE. BARE COPPER.
	INSULATION	XLPE (UL 1581)
	INSULATION COLOR	GREEN/YELLOW
OVERALL STRANDING	FILLER	FILLER NOT HYGROSCOPIC, PRODUCED OUT OF SUITABLE MATERIALS
	SEPARATIONLAYER	TAPE POLYESTER TRANSPARENT.
	SEPARATIONLAYER	SCREEN TAPE ALLUMINIUM INSIDE/POLYESTER OUTSIDE
	SCREEN	SCREEN TINNED COPPER 85 % ± 5 %
	SHEATH	PVC COMPOUND.
	SHEATH COLOUR	MATTE BLACK RAL: 9005, DESINA: NO

PRODUCTS FEATURES

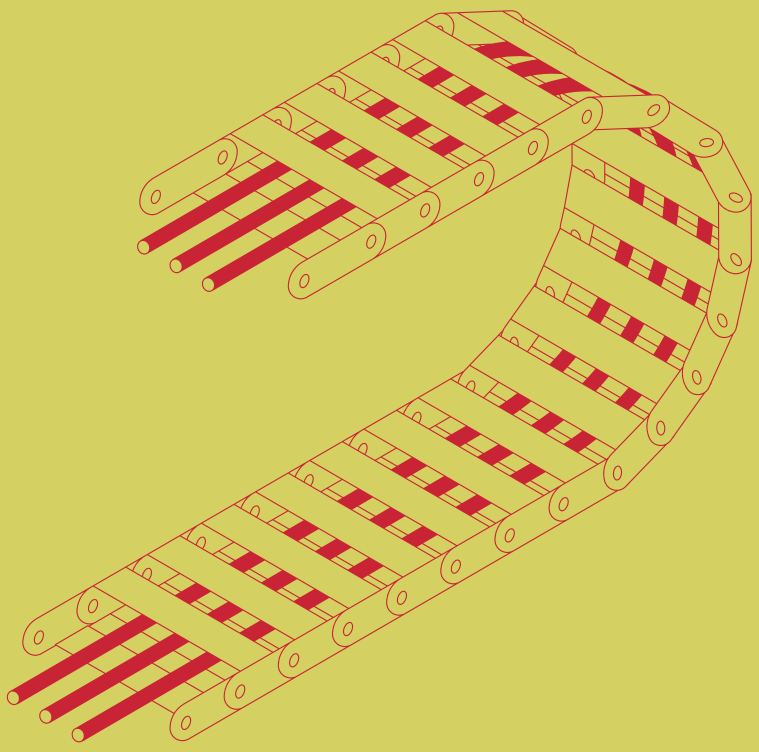
FIRE PERFORMANCE
VW-1(UL); FT1(CSA); CABLE FLAME (UL), IEC 60332-1-2(EU)

OIL PERFORMANCE
IEC 60811-404(EU); DIN EN 50290-2-22 VDE 0819-102; TM54

UV PERFORMANCE
ISO 4892-3

TECO CODE	FORMATION	CUT	ROLLS [M]	DRUMS [M]	EXT Ø [MM]	WEIGHT [KG/KM]
41960	**(3X1,50+3G0,25)ST** (3XAWG16+3GAWG24)ST	✓	100	500	8.3	120
41961	**(3X2,50+3G0,50)ST** (3XAWG14+3GAWG21)ST	✓		500	10	196
41962	**(3X4,00+3G0,75)ST** (3XAWG12+3GAWG19)ST	✓		500	12	255
41963	**(3X6,00+3G1,00)ST** (3XAWG10+3GAWG18)ST	✓			13	350
41964	**(3X10,00+3G1,50)ST** (3XAWG08+3GAWG16)ST	✓			16	550
41965	**(3X16,00+3G2,50)ST** (3XAWG06+3GAWG14)ST	✓			18	810
41966	**(3X25,00+3G4,00)ST** (3XAWG04+3GAWG12)ST	✓			21	1220
41967	**(3X35,00+3G6,00)ST** (3XAWG02+3GAWG10)ST	✓			24	1710
41968	**(3X50,00+3G10,00)ST** (3XAWG01+3GAWG08)ST	✓			29.5	2405
41969	**(3X70,00+3G10,00)ST** (3XAWG2/0+3XAWG08)ST	✓			33	3180
41970	**(3X95,00+3G16,00)ST** (3XAWG3/0+3GAWG06)ST	✓			37	3920
41971	**(3X120,00+3G16,00)ST** (3XAWG4/0+3GAWG06)ST	✓			41	5900
41972	**(3X150,00+3G25,00)ST** (3X250KCMIL+3GAWG04)ST	✓			45.5	6460
41973	**(3X185,00+3G35,00)ST** (3X350KCMIL+3GAWG02)ST	✓			52	8350

DYNAMIC
APPLICATION



FRX®

- DRAG CHAINS
- AUTOMATIC MACHINERY
- FLAME-RETARDANT
- OIL-RESISTANT
- HALOGEN FREE
- SIGNAL TRANSMISSION

UL/CSA certified flexible cables designed for use in dynamic drag chains and automatic machinery applications, allowing for free movement without tensile stress or forced movements, in dry or moist environments.

The PVC jacket provides excellent flexibility, while the insulation material has low capacitive buildup, ensuring high electrical performance with reduced dimensions.

This makes them an ideal choice when space is limited or a minimal bending radius is required.

They also offer good resistance to industrial cleaners and chemical agents, along with excellent workability.

These features make this product line the ideal starting point for a range of TECO families designed for demanding mobile applications, particularly in the packaging sector.

BUS

DYNAMIC APPLICATION

FRX®
PROFIBUS

APPLICATIVE FEATURES

UP TO 5 MIO.
GUARANTEED CYCLES

4,0 M/SEC²
ACCELERATION

10,0 M
CABLE LENGTH

120,0 M/MIN
TRAVEL SPEED

MINIMUM BENDING RADIUS

CROSS SECTION	CROSS SECTION MAX	DYNAMIC INSTALLATION	STATIC INSTALLATION
0.14	0.34	12xø	10xø

DESCRIPTION

UL/CSA certified flexible cables for industrial devices that work with the PROFIBUS® data transmission standard, designed for dynamic applications in drag chains but also suitable for static laying. The construction of these cables is designed to limit electromagnetic interference for optimal and clean communication. They are mainly used to connect the central controlling unit and the input/output peripheral devices.

APPROVALS

E244280 AWM STYLE 2571
80°C 300V

AWM I/II A/B 80°C
300V

2014/35/CEE

EMC 2014/30/EU

RoHS 2011/65/UE
2015/863/UE

TECHNICAL DATA

DYNAMIC -5°C +80°C
STATIC -40°C +80°C

NOMINAL VOLTAGE 300V

TEST VOLTAGE 2000V

INSULATION RESISTANCE 5 GOHM/KM

NOMINAL IMPEDANCE
150OHM ± 10%

ATTENUATION

MHz	22 AWG dB/100m
1.00 MHz	
4.00 MHz	2.2
10.00 MHz	
16.00 MHz	4.4
20.00 MHz	4.9
31.00 MHz	
62.50 MHz	
100.00 MHz	
155.52 MHz	
200.00 MHz	
250.00 MHz	

CONSTRUCTION FEATURES

PAIR	CONDUCTOR	**CL5 FLEXIBLE. BARE COPPER.**
	INSULATION	**EXPANDED POLYETHYLENE (PEE)**
OVERALL STRANDING	FILLER	**FILLER POLYPROPYLENE**
	SEPARATIONLAYER	**INTERMEDIATE TAPE NON-WOVEN TAPE**
	SCREEN	**SHIELD TAPE MYLAR INSIDE - ALLUMINIUM OUTSIDE 100 % ± 20 %**
	SCREEN	**SCREEN TINNED COPPER 60 % ± 5 %**
	SEPARATIONLAYER	**OVERALL TAPE NON-WOVEN TAPE**
	SHEATH	**PVC COMPOUND.**
	SHEATH COLOUR	**VIOLET RAL: 4001, DESINA: YES**

PRODUCTS FEATURES

FIRE PERFORMANCE
VW-1(UL); FT1(CSA); IEC 60332-1-2(EU)

OIL PERFORMANCE
1581(UL); IEC 60811-404(EU); CEI EN 50363-4-1(EU); ICEA S-82-552; IRM 902

TECO CODE	FORMATION	CAPACITANCE [NF/KM]	CUT	ROLLS [M]	DRUMS [M]	EXT Ø [MM]	WEIGHT [KG/KM]	INS. COLOUR EXC
11604	**(1X2XAWG22-19)SN-ST**	30	✓	100	500	8	65	GREEN, RED

PMXX®

- DRAG CHAINS
- AUTOMATIC MACHINERY
- FLAME-RETARDANT
- OIL-RESISTANT
- HALOGEN FREE
- SIGNAL TRANSMISSION

UL/CSA certified flexible cables designed for use in high-performance dynamic drag chains and automatic machinery applications, allowing for free movement without tensile stress or forced movements, in dry or moist environments.

The polyurethane jacket provides excellent resistance to mechanical and chemical stress, making these cables suitable for automation sectors with harsh environments, such as the ceramics and wood industries, where abrasive dust and chips are present, or the food industry, where temperatures can be particularly low.

The insulation material has low capacitive buildup, ensuring high electrical performance with reduced dimensions.

These features make this product line the ideal starting point for a range of TECO families designed for demanding mobile applications.

DYNAMIC APPLICATION

PMXX®
PROFIBUS

APPLICATIVE FEATURES

UP TO 5 MIO GUARANTEED CYCLES

10,0M/SEC² ACCELERATION

15,0M CABLE LENGTH

200,0M/MIN TRAVEL SPEED

MINIMUM BENDING RADIUS

CROSS SECTION	CROSS SECTION MAX	DYNAMIC INSTALLATION	STATIC INSTALLATION
0.34	0.34	7.5xø	6xø

DESCRIPTION

UL/CSA certified flexible cables for industrial devices that work with the PROFIBUS® data transmission standard, designed for dynamic applications in drag chains but also suitable for static laying. The construction of these cables is designed to limit electromagnetic interference for optimal and clean communication. The polyurethane outer jacket provides good resistance properties against mechanical stress and chemical agents.

APPROVALS

E244280 — AWM STYLE 20236 80°C 30V

AWM I-II A-B 80°C 30V

EMC 2014/30/EU

RoHS 2011/65/UE 2015/863/UE

HF HALOGEN FREE — IEC 60754-1

TECHNICAL DATA

DYNAMIC -40°C +80°C
STATIC -50°C +80°C

NOMINAL VOLTAGE 30V

TEST VOLTAGE 500V

INSULATION RESISTANCE >=1 GOHM/KM

NOMINAL IMPEDANCE 150±10% OHM

ATTENUATION

	22 AWG
MHz	dB/100m
1.00 MHz	1.2
4.00 MHz	
10.00 MHz	
16.00 MHz	4.9
20.00 MHz	5.4
31.00 MHz	
62.50 MHz	
100.00 MHz	
155.52 MHz	
200.00 MHz	
250.00 MHz	

CONSTRUCTION FEATURES

SIGNAL	CONDUCTOR	**BARE COPPER.**
	INSULATION	**EXPANDED POLYETHYLENE (PEE)**
	INSULATION COLOR	**GREEN RED**
OVERALL STRANDING	FILLER	**FILLER POLYPROPYLENE**
	SEPARATIONLAYER	**TAPE PET - POLYESTER.**
	SCREEN	**SHIELD BRAID TINNED COPPER 85 % ± 5 %**
	SCREEN	**SHIELD TAPE ALLUMINIUM INSIDE/NON-WOVEN OUTSIDE 100 % ± 5 %**
	SCREEN	**SHIELD TAPE ALLUMINIUM INSIDE/NON-WOVEN OUTSIDE 100 % ± 5 %**
	SHEATH	**POLYURETHANE COMPOUND (TMPU)**
	SHEATH COLOUR	**VIOLET RAL: 4001, DESINA: YES**

PRODUCTS FEATURES

FIRE PERFORMANCE
VW-1(UL); FT1(CSA); IEC 60332-1-2(EU)

OIL PERFORMANCE
1581(UL); IEC 60811-404(EU); CEI EN 50363-4-1(EU); ICEA S-82-552; IRM902

UV PERFORMANCE
UV RESISTANT

TECO CODE	FORMATION	CAPACITANCE [NF/KM]	CUT	ROLLS [M]	DRUMS [M]	EXT Ø [MM]	WEIGHT [KG/KM]
12746	**(1X2XAWG22/44)ST/SN**	30	✓	100	500	8	85

DYNAMIC APPLICATION

PMXX®
PROFINET-ETHERCAT 1000V CAT.5E

APPLICATIVE FEATURES

10,0M/S2
ACCELERATION

15,0M
CABLE LENGTH

200,0M/MIN
TRAVEL SPEED

MINIMUM BENDING RADIUS

CROSS SECTION	CROSS SECTION MAX	DYNAMIC INSTALLATION	STATIC INSTALLATION
		10xø	6xø

DESCRIPTION

UL/CSA certified flexible cables for industrial devices that work with the PROFINET®-ETHERCAT® data transmission standard, designed for dynamic applications in drag chains but also suitable for static laying. The construction of these cables is designed to limit electromagnetic interference, matching the PROFINET®-ETHERCAT® CAT. 5E standard. The polyurethane outer jacket provides good resistance properties against mechanical stress and chemical agents.

APPROVALS

AWM STYLE 21223
80°C 1000V

AWM I/II A/B 80°C
1000V

2014/35/CEE

2014/30/EU

2011/65/UE
2015/863/UE

IEC 60754-1

TECHNICAL DATA

DYNAMIC -40°C +80°C
STATIC -50°C +80°C

NOMINAL VOLTAGE 1000V (UL)
MAX OPERATING VOLTAGE 100V
EN 50288-2-1 / 2-2

TEST VOLTAGE 1000V (EU);
3000V (UL)
TEST VOLTAGE REFERENCE
ACC.TO IEC 61156-5, EN 50288-2-1 / 2-2 (EU)

INSULATION RESISTANCE
≥500MOHM/KM

NOMINAL IMPEDANCE
100±15% OHM

ATTENUATION

	22 AWG
MHz	dB/100m
1.00 MHz	2.4
4.00 MHz	4.9
10.00 MHz	8.5
16.00 MHz	9.9
20.00 MHz	11.1
31.00 MHz	14.1
62.50 MHz	20.5
100.00 MHz	25.5
155.52 MHz	
200.00 MHz	
250.00 MHz	

CONSTRUCTION FEATURES

GROUP 1	CONDUCTOR	**CL6 EXTRA-FLEXIBLE. TINNED COPPER**
	INSULATION	**POLYETHYLENE COMPOUND (PE)**
	INSULATION COLOR	**CLOCKWISE SEQUENCE: WHITE, YELLOW, BLUE, ORANGE PAIRS IN STAR QUAD POSITION.**
OVERALL STRANDING	SEPARATIONLAYER	**TAPE POLYPROPYLENE TRANSPARENT PP**
	SHEATH	**INTERMEDIATE SHEATH TPE**
	SEPARATIONLAYER	**SHILDED TAPE MYLAR INSIDE - ALLUMINIUM OUTSIDE**
	SCREEN	**SHIELD BRAID TINNED COPPER 85 % ± 5 %**
	SEPARATIONLAYER	**TAPE TNT NON-WOVEN TAPE**
	SHEATH	**POLYURETHANE COMPOUND (TMPU)**
	SHEATH COLOUR	**GREEN RAL: 6018, DESINA: NO**

PRODUCTS FEATURES

FIRE PERFORMANCE
FT1(CSA); IEC 60332-1-2(EU)

OIL PERFORMANCE
OIL RESISTANT

HYDROCARBONS PERFORMANCE
UL 1581; EN 50267-2-1

TECO CODE	OEM REF.	FORMATION	CAPACITANCE [NF/KM]	CUT	ROLLS [M]	DRUMS [M]	EXT Ø [MM]	WEIGHT [KG/KM]
36855	SIEMENS 6XV1870-2D	**(1X4XAWG22/19)Q-M-SN-ST**	0.06	✓	100	500	6.7	63

DYNAMIC APPLICATION

PMXX®

ETHERNET 30V CAT.7

APPLICATIVE FEATURES

UP TO 5 MILIONS GUARANTEED CYCLES

5,0 M/S2 ACCELERATION

15,0M CABLE LENGTH

300,0 M/MIN TRAVEL SPEED

MINIMUM BENDING RADIUS

CROSS SECTION	CROSS SECTION MAX	DYNAMIC INSTALLATION	STATIC INSTALLATION
0.14	0.34	10xø	6xø

DESCRIPTION

UL/CSA certified flexible cables for industrial ETHERNET data transmission devices, designed for dynamic applications in drag chains but also suitable for static laying. The construction of these cables is designed to limit electromagnetic interference, matching the CATEGORY 7 ETHERNET standard. The polyurethane outer jacket provides good resistance to mechanical stress and chemical agents.

APPROVALS

E244280 AWM STYLE 20236 80°C 30V

AWM I-II A-B 80°C 30V

EMC 2014/30/EU

RoHS 2011/65/UE 2015/863/UE

HF IEC 60754-1

TECHNICAL DATA

DYNAMIC -30°C +70°C
STATIC -50°C +80°C

NOMINAL VOLTAGE 30V

TEST VOLTAGE 1500V/1MIN (C/C); 1500V/1MIN (C/S);

INSULATION RESISTANCE 5000 OHM

NOMINAL IMPEDANCE
1÷250MHZ 100OHM±15%
250÷600MHZ 100OHM±20%

ATTENUATION

	26 AWG
MHz	dB/100m
1.00 MHz	3.1
4.00 MHz	5.7
10.00 MHz	8.9
16.00 MHz	11.2
20.00 MHz	12.6
31.00 MHz	15.8
62.50 MHz	22.5
100.00 MHz	28.7
155.52 MHz	36.2
200.00 MHz	40.0
250.00 MHz	45.6

CONSTRUCTION FEATURES

PAIRS	CONDUCTOR	**CL6 EXTRA-FLEXIBLE. BARE COPPER.**
	INSULATION	**POLYPROPYLENE COMPOUND (PP)**
	SEPARATIONLAYER	**TAPE DOUBLE NON-WOVEN TAPE**
	SCREEN	**SHIELD TAPE MYLAR INSIDE - ALLUMINIUM OUTSIDE 100 % ± 5 %**
	SCREEN	**SHIELD BRAID TINNED COPPER 85 % ± 5 %**
OVERALL STRANDING	FILLER	**FILLER POLYPROPYLENE**
	SCREEN	**SHIELD BRAID TINNED COPPER 85 % ± 5 %**
	SEPARATIONLAYER	**TAPE NON-WOVEN TAPE**
	SHEATH	**POLYURETHANE COMPOUND (TMPU)**
	SHEATH COLOUR	**GREEN RAL: 6018, DESINA: YES**

PRODUCTS FEATURES

FIRE PERFORMANCE
FT1(CSA); IEC 60332-1-2(EU)

OIL PERFORMANCE
1581 (UL); IEC60811-404(EU); CEI EN 50363-10-2(EU); IRM 902

UV PERFORMANCE
UV RESISTANT

TECO CODE	FORMATION	CAPACITANCE [NF/KM]	CUT	ROLLS [M]	DRUMS [M]	EXT Ø [MM]	WEIGHT [KG/KM]	INS. COLOUR EXC
39832	**[4X(2XAWG26-19)SN-ST]ST**	48	✓	100	500	9	112	ORANGE-WHITE, GREEN-WHITE, BLUE-WHITE, BROWN-WHITE

DYNAMIC APPLICATION

PMXX®

ETHERNET 300V CAT.5E

APPLICATIVE FEATURES

5MIO
GUARANTEED CYCLES

10,0M/S2
ACCELERATION

15,0M
CABLE LENGTH

200,0M/MIN
TRAVEL SPEED

MINIMUM BENDING RADIUS

CROSS SECTION	CROSS SECTION MAX	DYNAMIC INSTALLATION	STATIC INSTALLATION
0.22	0.22	10xø	7.5xø

DESCRIPTION

UL/CSA certified flexible cables for industrial ETHERNET data transmission devices, designed for dynamic applications in drag chains but also suitable for static laying. The construction of these cables is designed to limit electromagnetic interference, matching the CATEGORY 5E ETHERNET standard. The polyurethane outer jacket provides good resistance to mechanical stress and chemical agents.

APPROVALS

AWM STYLE 20549
80°C 300V

AWM I/II A/B 80°C
300V

2014/35/CEE

2014/30/EU

2011/65/UE

1907/2006

IEC 60754-1

TECHNICAL DATA

DYNAMIC -40°C +80°C
STATIC -50°C +80°C

NOMINAL VOLTAGE 300V

TEST VOLTAGE 2000V

INSULATION RESISTANCE > 1GOHM/KM

NOMINAL IMPEDANCE
100±15% OHM

ATTENUATION

	24 AWG
MHz	dB/100m
1.00 MHz	3.2
4.00 MHz	6.0
10.00 MHz	9.5
16.00 MHz	12.1
20.00 MHz	13.6
31.00 MHz	
62.50 MHz	
100.00 MHz	32.0
155.52 MHz	40.2
200.00 MHz	46.5
250.00 MHz	

CONSTRUCTION FEATURES

TWISTED PAIRS	CONDUCTOR	**CL6 EXTRA-FLEXIBLE. TINNED COPPER**
	INSULATION	**POLYETHYLENE COMPOUND (PE)**
OVERALL STRANDING	FILLER	**FILLER POLYPROPYLENE**
	SEPARATIONLAYER	**TAPE POLYPHENYL ETHYLENE COMPOUND (PPE)**
	SCREEN	**SHIELD BRAID TINNED COPPER 85 % ± 5 %**
	SCREEN	**SHIELD TAPE POLYESTER INSIDE / ALLUMINIUM OUTSIDE 100 % ± 5 %**
	SHEATH	**POLYURETHANE COMPOUND (TMPU)**
	SHEATH COLOUR	**GREEN RAL: 6016, DESINA: NO**

PRODUCTS FEATURES

FIRE PERFORMANCE
FT2(CSA); IEC 60332-1-2(EU)

OIL PERFORMANCE
1581(UL); IEC 60811-404(EU); CEI EN 50363-10-2(EU); IRM 902

UV PERFORMANCE
UV RESISTANT

TECO CODE	FORMATION	CAPACITANCE [NF/KM]	CUT	ROLLS [M]	DRUMS [M]	EXT Ø [MM]	WEIGHT [KG/KM]	INS. COLOUR EXC
24188	**(2X2XAWG24)ST-SN**	50	✕	100	500	5.8	41	ORANGE-WHITE/ORANGE*, GREEN-WHITE/GREEN* *RING BICOLOR.

DYNAMIC APPLICATION

PMXX®
ETHERNET 1000V CAT.5E

APPLICATIVE FEATURES

UP TO 3 MIO GUARANTEED CYCLES

10 M/S2 ACCELERATION

15M CABLE LENGTH

200 M/MIN TRAVEL SPEED

MINIMUM BENDING RADIUS

CROSS SECTION	CROSS SECTION MAX	DYNAMIC INSTALLATION	STATIC INSTALLATION
		10xø	7xø

DESCRIPTION

UL/CSA certified flexible cables for industrial ETHERNET data transmission devices, designed for dynamic applications in drag chains but also suitable for static laying. The construction of these cables is designed to limit electromagnetic interference, matching the CATEGORY 5E ETHERNET standard. The polyurethane outer jacket provides good resistance to mechanical stress and chemical agents.

APPROVALS

E244280 — AWM STYLE 21223 80°C 1000V

AWM I/II A/B 80°C 1000V

2014/35/CEE

EMC 2014/30/EU

RoHS 2011/65/UE 2015/863/UE

HF HALOGEN FREE — IEC 60754-1

TECHNICAL DATA

DYNAMIC -40°C +80°C
STATIC -50°C +80°C

NOMINAL VOLTAGE 1000V (UL)
MAX OPERATING VOLTAGE 100V
EN 50288-2-1 / 2-2

TEST VOLTAGE 1000V (EU); 3000V (UL)
TEST VOLTAGE REFERENCE ACC.TO IEC 61156-5, EN 50288-2-1 / 2-2 (EU)

INSULATION RESISTANCE ≥1 GOHM/KM

NOMINAL IMPEDANCE
100±15% OHM

ATTENUATION

	26 AWG
MHz	dB/100m
1.00 MHz	4
4.00 MHz	7.4
10.00 MHz	11.2
16.00 MHz	14
20.00 MHz	16.2
31.00 MHz	20.1
62.50 MHz	28.6
100.00 MHz	35.7
155.52 MHz	
200.00 MHz	
250.00 MHz	

CONSTRUCTION FEATURES

GROUP 1	CONDUCTOR	**CL6 EXTRA-FLEXIBLE. BARE COPPER.**
	INSULATION	**POLYETHYLENE COMPOUND (PE)**
	INSULATION COLOR	**ORANGE-WHITE/ORANGE*, GREEN-WHITE/GREEN*, BLUE-WHITE/BLUE*, BROWN-WHITE/BROWN*. *RING BICOLOR.**
STRANDING	FILLER	**FILLER NOT HYGROSCOPIC, PRODUCED OUT OF SUITABLE MATERIALS**
	SEPARATIONLAYER	**TAPE POLYETHYLENE COMPOUND (PE)**
	SCREEN	**SHILDED BRAID TINNED COPPER 85 % ± 5 %**
	SEPARATIONLAYER	**SHILDED TAPE ALLUMINIUM/NON WOWEN TAPE**
	SHEATH	**POLYURETHANE COMPOUND (TMPU)**
	SHEATH COLOUR	**GREEN RAL: 6016, DESINA: NO**

PRODUCTS FEATURES

FIRE PERFORMANCE
FT1(CSA); IEC 60332-1-2(EU)

OIL PERFORMANCE
OIL RESISTANT

HYDROCARBONS PERFORMANCE
UL 1581; EN 50267-2-1

TECO CODE	FORMATION	CAPACITANCE [NF/KM]	CUT	ROLLS [M]	DRUMS [M]	EXT Ø [MM]	WEIGHT [KG/KM]
37446	**(4X2XAWG26)ST/SN**	0.06	✓	100	500/1000	6.8	53

DYNAMIC APPLICATION

PMXX®

ETHERNET 1000V CAT.6 CMX

APPLICATIVE FEATURES

10 M/SEC²
ACCELERATION

15 M
CABLE LENGTH

200 M/MIN
TRAVEL SPEED

MINIMUM BENDING RADIUS

CROSS SECTION	CROSS SECTION MAX	DYNAMIC INSTALLATION	STATIC INSTALLATION
		10.0xø	7.5xø

DESCRIPTION

UL/CSA certified flexible cables for industrial ETHERNET data transmission devices, designed for dynamic applications in drag chains but also suitable for static laying. The construction of these cables is designed to limit electromagnetic interference, matching the CATEGORY 6 CMX ETHERNET™ standard. The polyurethane outer jacket provides good resistance to mechanical stress and chemical agents.

APPROVALS

TYPE CMX 75°C
300V

AWM STYLE 21576
80°C 1000V

AWM I/II A/B 80°C
1000V

2014/35/CEE

2014/30/EU

2011/65/UE
2015/863/UE

IEC 60754-1

TECHNICAL DATA

DYNAMIC -40°C +80°C
STATIC -50°C +80°C

NOMINAL VOLTAGE 1000V (RU);
300V (UL)
MAX OPERATING VOLTAGE 100V
EN 50288-5-1 / 5-2

TEST VOLTAGE 1000V (EU);
3000V (UL)
TEST VOLTAGE REFERENCE
ACC.TO IEC 61156-5, EN 50288-5-1 / 5-2 (EU)

INSULATION RESISTANCE >1 GOHM/KM

NOMINAL IMPEDANCE
100±15% OHM

ATTENUATION

	26 AWG
MHz	dB/100m
1.00 MHz	3.1
4.00 MHz	5.8
10.00 MHz	9.0
16.00 MHz	11.4
20.00 MHz	12.8
31.00 MHz	15.8
62.50 MHz	23.3
100.00 MHz	29.9
155.52 MHz	38.1
200.00 MHz	43.8
250.00 MHz	49.7

CONSTRUCTION FEATURES

GROUP 1	CONDUCTOR	**CL6 EXTRA-FLEXIBLE. BARE COPPER.**
	INSULATION	**EXPANDED POLYETHYLENE (PEE)**
	INSULATION COLOR	**ORANGE-WHITE/ORANGE*, GREEN-WHITE/GREEN*, BLUE-WHITE/BLUE*, BROWN-WHITE/BROWN*. *RING BICOLOR.**
	SOLID SEPARATION	**PVC COMPOUND.**
OVERALL STRANDING	SEPARATIONLAYER	**SHIELD TAPE MYLAR INSIDE - ALLUMINIUM OUTSIDE**
	SCREEN	**SHIELD BRAID TINNED COPPER 85 % ± 5 %**
	SEPARATIONLAYER	**TAPE NON-WOVEN TAPE**
	SHEATH	**POLYURETHANE COMPOUND (TMPU)**
	SHEATH COLOUR	**GREEN RAL: 6016, DESINA: NO**

PRODUCTS FEATURES

FIRE PERFORMANCE
VW-1(UL); FT2(CSA); IEC 60332-1-2(EU)

OIL PERFORMANCE
OIL RESISTANT

HYDROCARBONS PERFORMANCE
EN 50267-2-1

TECO CODE	OEM REF.	FORMATION	CAPACITANCE [NF/KM]	CUT	ROLLS [M]	DRUMS [M]	EXT Ø [MM]	WEIGHT [KG/KM]
38736	SIEMENS 6XV1878-2C/B	**(4X2XAWG26)SN/ST**	0.06	✓	100	500/1000	7.2	64

DYNAMIC APPLICATION

PMXX®
DRIVE-CLIQ

APPLICATIVE FEATURES

5 MIO
GUARANTEED CYCLES

10,0M/S2
ACCELERATION

15,0M
CABLE LENGTH

200,0M/S
TRAVEL SPEED

MINIMUM BENDING RADIUS

CROSS SECTION	CROSS SECTION MAX	DYNAMIC INSTALLATION	STATIC INSTALLATION
0.128	0.128	10xø	8xø

DESCRIPTION

UL/CSA certified flexible cables for industrial devices that work with the DRIVE-CLIQ® data transmission standard, designed for dynamic applications in drag chains but also suitable for static laying. The construction of these cables is designed to limit electromagnetic interference for optimal and clean communication. The polyurethane outer jacket provides good resistance to mechanical stress and chemical agents.

APPROVALS

E244280 — AWM STYLE 20236 80°C 30V

AWM I-II A-B 80°C 30V

EMC 2014/30/EU

RoHS 2011/65/UE 2015/863/UE

HF HALOGEN FREE — IEC 60754-1

TECHNICAL DATA

DYNAMIC -40°C +80°C
STATIC -50°C +80°C

NOMINAL VOLTAGE 30V

TEST VOLTAGE 500V

INSULATION RESISTANCE > 1GOHM/KM

NOMINAL IMPEDANCE
100±15% OHM

ATTENUATION

	26 AWG
MHz	dB/100m
1.00 MHz	3.2
4.00 MHz	6.0
10.00 MHz	9.5
16.00 MHz	12.1
20.00 MHz	13.6
31.00 MHz	
62.50 MHz	
100.00 MHz	32.0
155.52 MHz	
200.00 MHz	
250.00 MHz	

CONSTRUCTION FEATURES

DATA TRANSMISSION	CONDUCTOR	**CL6 EXTRA-FLEXIBLE. BARE COPPER.**
	INSULATION	**POLYETHYLENE COMPOUND (PE)**
POWER SUPPLY	CONDUCTOR	**CL6 EXTRA-FLEXIBLE. TINNED COPPER**
	INSULATION	**POLYETHYLENE COMPOUND (PE)**
	INSULATION COLOR	**BLACK AND RED**
OVERALL STRANDING	FILLER	**FILLER POLYPROPYLENE**
	SEPARATIONLAYER	**INTERNAL TAPE NON-WOVEN TAPE**
	SCREEN	**SHIELD TAPE MYLAR INSIDE - ALLUMINIUM OUTSIDE 100 % ± 5 %**
	SCREEN	**SHIELD TINNED COPPER 85 % ± 5 %**
	SEPARATIONLAYER	**TAPE NON-WOVEN TAPE**
	SHEATH	**POLYURETHANE COMPOUND (TMPU)**
	SHEATH COLOUR	**GREEN RAL: 6018, DESINA: YES**

PRODUCTS FEATURES

FIRE PERFORMANCE
FT1(CSA); IEC 60332-1-2(EU)

OIL PERFORMANCE
CEI EN 50363-10-2(EU); IRM 902

UV PERFORMANCE
UV RESISTANT

TECO CODE	OEM REF.	FORMATION	CAPACITANCE [NF/KM]	CUT	ROLLS [M]	DRUMS [M]	EXT Ø [MM]	WEIGHT [KG/KM]	INS. COLOUR EXC
22575	SIEMENS 6FX80	**(2X2XAWG26+2XAWG22)SN-ST**	50	✓	100	500	7	67	PINK-BLUE, YELLOW-GREEN

DYNAMIC APPLICATION

PMXX®
CANOPEN

APPLICATIVE FEATURES

5 MIO
GUARANTEED CYCLES

10,0M/SEC²
ACCELERATION

15,0M
CABLE LENGTH

200,0M/MIN
TRAVEL SPEED

MINIMUM BENDING RADIUS

CROSS SECTION	CROSS SECTION MAX	DYNAMIC INSTALLATION	STATIC INSTALLATION
0.34	0.34	10xø	6xø

DESCRIPTION

UL/CSA certified flexible cables for industrial devices that work with the CANOPEN® data transmission standard, designed for dynamic applications in drag chains but also suitable for static laying. The construction of these cables is designed to limit electromagnetic interference for optimal and clean communication. The polyurethane outer jacket provides good resistance to mechanical stress and chemical agents.

APPROVALS

E244280 AWM STYLE 20236 80°C 30V

AWM I-II A-B 80°C 30V

2014/35/CEE

EMC 2014/30/EU

RoHS 2011/65/UE 2015/863/UE

HF HALOGEN FREE IEC 60754-1 EN 50267-1

TECHNICAL DATA

DYNAMIC -40 °C +80°C
STATIC -50°C +80°C

NOMINAL VOLTAGE 30V

TEST VOLTAGE 500V

NOMINAL IMPEDANCE
120±10% OHM

ATTENUATION

MHz	22 AWG dB/100m
1.00 MHz	1.9
4.00 MHz	4.6
10.00 MHz	
16.00 MHz	
20.00 MHz	
31.00 MHz	
62.50 MHz	
100.00 MHz	
155.52 MHz	
200.00 MHz	
250.00 MHz	

CONSTRUCTION FEATURES

TWO TWISTED PAIRS	CONDUCTOR	CL6 EXTRA-FLEXIBLE. TINNED COPPER
	INSULATION	POLYETHYLENE COMPOUND (PE)
	INSULATION COLOR	WHITE-BROWN; GREEN-YELLOW
SINGLE TWISTED PAIR	CONDUCTOR	CL6 EXTRA-FLEXIBLE. TINNED COPPER
	INSULATION	POLYETHYLENE COMPOUND (PE)
	INSULATION COLOR	WHITE-BROWN
SINGLE WIRE	CONDUCTOR	CL6 EXTRA-FLEXIBLE. TINNED COPPER
	INSULATION	POLYETHYLENE COMPOUND (PE)
	INSULATION COLOR	GREEN
OVERALL STRANDING COD. 19195	FILLER	FILLER POLYPROPYLENE
	SEPARATIONLAYER	TAPE POLYESTER PET - POLYESTER.
	SCREEN	SCREEN TINNED COPPER 85 % ± %
	SEPARATIONLAYER	TAPE NON-WOVEN TAPE
	SHEATH	POLYURETHANE COMPOUND (TMPU)
	SHEATH COLOUR	VIOLET, RAL: 4001, DESINA: YES
OVERALL STRANDING COD. 17585	FILLER	FILLER POLYPROPYLENE
	SEPARATIONLAYER	TAPE POLYESTER PET - POLYESTER.
	SCREEN	SCREEN TINNED COPPER 85 % ± %
	SEPARATIONLAYER	TAPE NON-WOVEN TAPE
	SHEATH	POLYURETHANE COMPOUND (TMPU)
	SHEATH COLOUR	VIOLET, RAL: 4001, DESINA: YES
OVERALL STRANDING COD. 17584	SEPARATIONLAYER	TAPE TRANSPARENT PE TRANSPARENT POLYETHYLENE (PE)
	SCREEN	SCREEN TINNED COPPER 85 % ± %
	SEPARATIONLAYER	TAPE NON-WOVEN TAPE
	SHEATH	POLYURETHANE COMPOUND (TMPU)
	SHEATH COLOUR	VIOLET, RAL: 4001, DESINA: YES

PRODUCTS FEATURES

FIRE PERFORMANCE
FT1(CSA); IEC 60332-1-2(EU)

OIL PERFORMANCE
1581(UL); IEC 60811-404(EU); CEI EN 50363-10-2(EU); IRM 902

UV PERFORMANCE
UV RESISTANT

TECO CODE	FORMATION	CAPACITANCE [NF/KM]	CUT	ROLLS [M]	DRUMS [M]	EXT Ø [MM]	WEIGHT [KG/KM]
17584	**(1X2X0,34+1X0,34)CCST** (1X2XAWG22+1XAWG22)CCST	50	✓	100	500	7	64
19195	**(1X2X0,34)CCST** (1X2XAWG22)CCST	50	✗	100	500/1000	6.1	51
17585	**(2X2X0,34)CCST** (2X2XAWG22)CCST	50	✓	100	500	7.4	67

DYNAMIC APPLICATION

PMXX®
CANOPEN 20162

APPLICATIVE FEATURES

5MIO
GUARANTEED CYCLES

10M/SEC²
ACCELERATION

15M
CABLE LENGTH

200M/MIN
TRAVEL SPEED

MINIMUM BENDING RADIUS

CROSS SECTION	CROSS SECTION MAX	DYNAMIC INSTALLATION	STATIC INSTALLATION
0.25	0.25	10xø	6xø

DESCRIPTION

UL/CSA certified flexible cables for industrial devices that work with the CANOPEN® data transmission standard, designed for dynamic applications in drag chains but also suitable for static laying. The construction of these cables is designed to limit electromagnetic interference for optimal and clean communication. The polyurethane outer jacket provides good resistance to mechanical stress and chemical agents.

APPROVALS

E244280 AWM STYLE 20236 80°C 30V

AWM I-II A-B 80°C 30V

2014/35/CEE

EMC 2014/30/EU

RoHS 2011/65/UE 2015/863/UE

HF HALOGEN FREE IEC 60754-1

TECHNICAL DATA

DYNAMIC -40°C +80°C
STATIC -50°C +80°C

NOMINAL VOLTAGE 30V

TEST VOLTAGE 500V

INSULATION RESISTANCE 20MOHM/KM

NOMINAL IMPEDANCE
120±10% OHM

CONSTRUCTION FEATURES

PAIRS	CONDUCTOR	CL6 EXTRA-FLEXIBLE. TINNED COPPER
	INSULATION	POLYETHYLENE COMPOUND (PE)
	INSULATION COLOR	WHITE-BROWN; GREEN-YELLOW
	SEPARATIONLAYER	TAPE PE TRANSPARENT POLYETHYLENE COMPOUND (PE)
	SCREEN	TINNED COPPER 90 % ± 5 %
	SEPARATIONLAYER	PET TAPE PET - POLYESTER.
POWER&CONTROL	CONDUCTOR	CL6 EXTRA-FLEXIBLE. TINNED COPPER
	INSULATION	PET POLYESTER COMPOUND
OVERALL STRANDING	SEPARATIONLAYER	TAPE NON-WOVEN TAPE
	SHEATH	POLYURETHANE COMPOUND (TMPU)
	SHEATH COLOUR	MATTE BLACK RAL: 9005, DESINA: NO

PRODUCTS FEATURES

FIRE PERFORMANCE
FT1(CSA); IEC 60332-1-2(EU)

OIL PERFORMANCE
1581(UL); IEC 60811-404(EU); CEI EN 50363-10-2(EU); IRM 902

UV PERFORMANCE
UV RESISTANT

TECO CODE	FORMATION	CAPACITANCE [NF/KM]	CUT	ROLLS [M]	DRUMS [M]	EXT Ø [MM]	WEIGHT [KG/KM]	INS. COLOUR EXC
20162	**2X(2X0,25)ST/N+6X0,25** 2X(2XAWG24)ST/N+6XAWG24	50	✓		500	10.7	140	GREY, PINK, BLUE, RED, BLACK, VIOLET

DYNAMIC APPLICATION

PMXX®
CANOPEN 25595

APPLICATIVE FEATURES

5MIO
GUARANTEED CYCLES

10M/SEC²
ACCELERATION

15M
CABLE LENGTH

200M/MIN
TRAVEL SPEED

MINIMUM BENDING RADIUS

CROSS SECTION	CROSS SECTION MAX	DYNAMIC INSTALLATION	STATIC INSTALLATION
0.34	0.34	10xø	6xø

DESCRIPTION

UL/CSA certified flexible cables for industrial devices that work with the CANOPEN® data transmission standard, designed for dynamic applications in drag chains but also suitable for static laying. The construction of these cables is designed to limit electromagnetic interference for optimal and clean communication. The polyurethane outer jacket provides good resistance to mechanical stress and chemical agents.

APPROVALS

E244280 AWM STYLE 20236 80°C 30V

AWM I-II A-B 80°C 30V

2014/35/CEE

EMC 2014/30/EU

RoHS 2011/65/UE 2015/863/UE

HF HALOGEN FREE IEC 60754-1

TECHNICAL DATA

DYNAMIC -40°C +80°C
STATIC -50°C +80°C

NOMINAL VOLTAGE 30V

TEST VOLTAGE 500V

NOMINAL IMPEDANCE
120+-10% OHM

CONSTRUCTION FEATURES

PAIRS	CONDUCTOR	**BARE COPPER.**
	INSULATION	**POLYETHYLENE COMPOUND (PE)**
	INSULATION COLOR	**WHITE-BROWN; GREEN-YELLOW**
OVERALL STRANDING	SEPARATIONLAYER	**TAPE PE TRANSPARENT** **TRANSPARENT POLYETHYLENE (PE)**
	SCREEN	**SCREEN** **TINNED COPPER** **85 % ± 5 %**
	SEPARATIONLAYER	**TAPE** **NON-WOVEN TAPE**
	SHEATH	**POLYURETHANE COMPOUND (TMPU)**
	SHEATH COLOUR	**VIOLET** **RAL: 4001, DESINA: YES**

PRODUCTS FEATURES

FIRE PERFORMANCE
FT1(CSA); IEC 60332-1-2(EU)

OIL PERFORMANCE
1581(UL); IEC 60811-404(EU); CEI EN 50363-10-2(EU); IRM 902

UV PERFORMANCE
UV RESISTANT

TECO CODE	FORMATION	CAPACITANCE [NF/KM]	CUT	ROLLS [M]	DRUMS [M]	EXT Ø [MM]	WEIGHT [KG/KM]
25595	**(1X4X0,34)Q/ST** (1X4XAWG22)Q/ST	50	✓	100	500	6.8	64

DYNAMIC APPLICATION

PMXX®
DEVICE NET

APPLICATIVE FEATURES

5 MIO
GUARANTEED CYCLES

10,0M/S2
ACCELERATION

15,0M
CABLE LENGTH

200,0M/MIN
TRAVEL SPEED

MINIMUM BENDING RADIUS

CROSS SECTION	CROSS SECTION MAX	DYNAMIC INSTALLATION	STATIC INSTALLATION
0.20	1.65	10xø	6xø

DESCRIPTION

UL/CSA certified flexible cables for industrial devices that work with the DEVICE NET® data transmission standard, designed for dynamic applications in drag chains but also suitable for static laying. The construction of these cables is designed to limit electromagnetic interference for optimal and clean communication. The polyurethane outer jacket provides good resistance to mechanical stress and chemical agents.

APPROVALS

E244280 — AWM STYLE 20233 80°C 300V

AWM I/II A/B 80°C 300V

2014/35/CEE

EMC 2014/30/EU

RoHS 2011/65/UE 2015/863/UE

HF HALOGEN FREE — IEC 60754-1

TECHNICAL DATA

DYNAMIC -40°C +80°C
STATIC -50°C +80°C

NOMINAL VOLTAGE 300V

TEST VOLTAGE 2000V

INSULATION RESISTANCE <5GOHM/KM

NOMINAL IMPEDANCE 120±10%

CONSTRUCTION FEATURES

DATA PAIR	CONDUCTOR	**CL6 EXTRA-FLEXIBLE. TINNED COPPER**
	INSULATION	**EXPANDED POLYETHYLENE (PEE)**
	INSULATION COLOR	**BLUE CORE AND WHITE CORE.**
	SCREEN	**TAPE SHIELD POLYESTER INSIDE / ALLUMINIUM OUTSIDE 100 % ± 5 %**
SUPPLY PAIR	CONDUCTOR	**CL6 EXTRA-FLEXIBLE. TINNED COPPER**
	INSULATION	**EXPANDED POLYETHYLENE (PEE)**
	INSULATION COLOR	**BLACK AND RED**
	SCREEN	**TAPE SHIELD POLYESTER INSIDE / ALLUMINIUM OUTSIDE 100 % ± 5 %**
OVERALL STRANDING	DRAINWIRE	**DRAIN WIRE TINNED COPPER**
	SCREEN	**SHIELD TINNED COPPER 85 % ± 5 %**
	SEPARATIONLAYER	**TAPE NON-WOVEN TAPE**
	SHEATH	**POLYURETHANE COMPOUND (TMPU)**
	SHEATH COLOUR	**VIOLET RAL: 4001, DESINA: YES**

PRODUCTS FEATURES

FIRE PERFORMANCE
FT1(CSA); IEC 60332-1-2(EU)

OIL PERFORMANCE
1581(UL); IEC 60811-404(EU); CEI EN 50363-10-2(EU); IRM 902

UV PERFORMANCE
UV RESISTANT

TECO CODE	FORMATION	CAPACITANCE [NF/KM]	CUT	ROLLS [M]	DRUMS [M]	EXT Ø [MM]	WEIGHT [KG/KM]
14391	**[(2XAWG24)SN+ (2XAWG22)SN]CCST**	40	✓	100	500	7	65
14423	**[(2XAWG18)SN+ (2XAWG15)SN]CCST**	46	✗			11.6	175

DYNAMIC APPLICATION

PMXX®
INTERBUS

APPLICATIVE FEATURES

5MIO
GUARANTEED CYCLES

10,0M/S²
ACCELERATION

15,0M
CABLE LENGTH

200,0M/MIN
TRAVEL SPEED

MINIMUM BENDING RADIUS

CROSS SECTION	CROSS SECTION MAX	DYNAMIC INSTALLATION	STATIC INSTALLATION
0.25	1.00	10xØ	6xØ

DESCRIPTION

UL/CSA certified flexible cables for industrial devices that work with the INTERBUS® data transmission standard, designed for dynamic applications in drag chains but also suitable for static laying. The construction of these cables is designed to limit electromagnetic interference for optimal and clean communication. The polyurethane outer jacket provides good resistance properties against mechanical stress and chemical agents.

APPROVALS

AWM STYLE 20236
80°C 30V

AWM I-II A-B 80°C
30V

2014/35/CEE

2014/30/EU

2011/65/UE

1907/2006

IEC 60754-1

TECHNICAL DATA

DYNAMIC -40°C +80°C
STATIC -50°C +80°C

NOMINAL VOLTAGE 30V

TEST VOLTAGE 500V

NOMINAL IMPEDANCE
120±10% OHM

CONSTRUCTION FEATURES

DATA TRANSMISSION	CONDUCTOR	**CL6 EXTRA-FLEXIBLE. BARE COPPER.**
	INSULATION	**POLYETHYLENE COMPOUND (PE)**
POWER SUPPLY	CONDUCTOR	**CL6 EXTRA-FLEXIBLE. BARE COPPER.**
	INSULATION	**POLYETHYLENE COMPOUND (PE)**
OVERALL STRANDING	FILLER	**FILLER CENTRAL POLYPROPYLENE**
	SEPARATIONLAYER	**TAPE POLYESTER POLYESTER TRANSPARENT TAPE OR NON-WOVEN TAPE**
	SCREEN	**SHIELD BRAID TINNED COPPER 85 % ± 5 %**
	SEPARATIONLAYER	**TAPE NON-WOVEN TAPE**
	SHEATH	**POLYURETHANE COMPOUND (TMPU)**
	SHEATH COLOUR	**VIOLET RAL: 4001, DESINA: YES**

PRODUCTS FEATURES

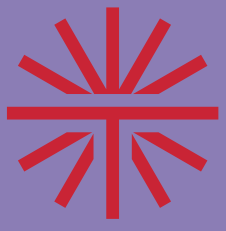
FIRE PERFORMANCE
FT1(CSA); IEC 60332-1-2(EU)

OIL PERFORMANCE
1581(UL); IEC 60811-404(EU); CEI EN 50363-10-2(EU); IRM 902

UV PERFORMANCE
UV RESISTANT

TECO CODE	FORMATION	CAPACITANCE [NF/KM]	CUT	ROLLS [M]	DRUMS [M]	EXT Ø [MM]	WEIGHT [KG/KM]	INS. COLOUR EXC
22569	**(3X2X0,25+3G1,00)ST** (3X2XAWG24+3GAWG18)ST	60	✓	100	500	8.4	110	GREEN-YELLOW, WHITE-BROWN, PINK-GREY.

STATIC
APPLICATION



FE

DRAG CHAINS

AUTOMATIC MACHINERY

FLAME-RETARDANT

OIL-RESISTANT

HALOGEN FREE

SIGNAL TRANSMISSION

UL/CSA certified flexible multicore cables mainly designed for static applications.

They feature low-capacity insulation materials.

Dynamic applications are allowed in accordance with the technical specifications of each product family.

BUS

STATIC APPLICATION

FE
PROFIBUS

APPLICATIVE FEATURES

MINIMUM BENDING RADIUS

CROSS SECTION	CROSS SECTION MAX	DYNAMIC INSTALLATION	STATIC INSTALLATION
0.34	0.34		10xØ

DESCRIPTION

UL/CSA certified flexible cables for industrial devices that work with the PROFIBUS® data transmission standard, designed for static application between the central controlling unit and the input/output peripheral components. The construction of these cables is designed to limit electromagnetic interference for optimal and clean communication.

APPROVALS

AWM STYLE 2571
80°C 300V

AWM I/II A/B 80°C
300V

2014/35/CEE

2014/30/EU

2011/65/UE
2015/863/UE

TECHNICAL DATA

INSTALLATION -5°C +80°C
STATIC -30°C +80°C

NOMINAL VOLTAGE 300V

TEST VOLTAGE 2000V

INSULATION RESISTANCE 5 GOHM/KM

NOMINAL IMPEDANCE
150±10% OHM

ATTENUATION

	22 AWG
MHz	dB/100m
1.00 MHz	
4.00 MHz	3,20
10.00 MHz	
16.00 MHz	4,00
20.00 MHz	
31.00 MHz	
62.50 MHz	
100.00 MHz	
155.52 MHz	
200.00 MHz	
250.00 MHz	

CONSTRUCTION FEATURES

TWISTED PAIR	CONDUCTOR	**CL2 FLEXIBLE. BARE COPPER.**
	INSULATION	**EXPANDED POLYETHYLENE (PEE)**
	INSULATION COLOR	**GREEN RED**
OVERALL STRANDING	FILLER	**FILLER POLYPROPYLENE**
	SEPARATIONLAYER	**TAPE PET POLYESTER COMPOUND**
	SCREEN	**SHIELD TAPE MYLAR INSIDE - ALLUMINIUM OUTSIDE 100 % ± 5 %**
	SCREEN	**SHIELD TINNED COPPER 65 % ± 5 %**
	SHEATH	**PVC COMPOUND.**
	SHEATH COLOUR	**VIOLET RAL: 4001, DESINA: YES**

PRODUCTS FEATURES

FIRE PERFORMANCE
VW-1(UL); FT1(CSA); IEC 60332-1-2(EU)

OIL PERFORMANCE
1581(UL); IEC 60811-404(EU); CEI EN 50363-4-1(EU); ICEA S-82-552; IRM902

TECO CODE	OEM REF.	FORMATION	CAPACITANCE [NF/KM]	CUT	ROLLS [M]	DRUMS [M]	EXT Ø [MM]	WEIGHT [KG/KM]
15050	SIEMENS 6XV1830-0EH10	**(1X2XAWG22/7)SN/ST**	30	✓	100	500	8	65

STATIC APPLICATION

FE
PROFINET-ETHERCAT 1000V CAT.5E

APPLICATIVE FEATURES

MINIMUM BENDING RADIUS

CROSS SECTION	CROSS SECTION MAX	DYNAMIC INSTALLATION	STATIC INSTALLATION
			6xØ

DESCRIPTION

UL/CSA certified flexible cables for industrial devices that work with the PROFINET®-ETHERCAT® data transmission standard, designed for static application between the central controlling unit and the input/output peripheral components. The construction of these cables is designed to limit electromagnetic interference, matching the PROFINET®-ETHERCAT® CAT. 5E standard.

APPROVALS

E244280 AWM STYLE 2570 80°C 1000V

AWM I/II A/B 80°C 1000V

2014/35/CEE

EMC 2014/30/EU

RoHS 2011/65/UE 2015/863/UE

TECHNICAL DATA

INSTALLATION -5°C +80°C
STATIC -30°C +80°C

NOMINAL VOLTAGE 1000V (UL)
MAX OPERATING VOLTAGE 100V
EN 50288-2-1 / 2-2

TEST VOLTAGE 1000V (EU), 3000V (UL)
TEST VOLTAGE REFERENCE ACC.TO IEC 61156-5, EN 50288-2-1 / 2-2 (EU)

INSULATION RESISTANCE ≥500 MOHM/KM

NOMINAL IMPEDANCE
100±15% OHM

ATTENUATION

	22 AWG
MHz	dB/100m
1.00 MHz	1.9
4.00 MHz	3.9
10.00 MHz	6.2
16.00 MHz	7.8
20.00 MHz	8.8
31.00 MHz	10,7
62.50 MHz	14.8
100.00 MHz	18.9
155.52 MHz	
200.00 MHz	
250.00 MHz	

CONSTRUCTION FEATURES

GROUP 1	CONDUCTOR	**CL2 FLEXIBLE. TINNED COPPER**
	INSULATION	**POLYETHYLENE COMPOUND (PE)**
	INSULATION COLOR	**CLOCKWISE SEQUENCE: WHITE, YELLOW, BLUE, ORANGE PAIRS IN STAR QUAD POSITION.**
OVERALL STRANDING	SEPARATIONLAYER	**TAPE PET - POLYESTER.**
	SHEATH	**SHEATH INTERMEDIATE TPE**
	SEPARATIONLAYER	**SHILDED TAPE MYLAR INSIDE - ALLUMINIUM OUTSIDE**
	SCREEN	**SHIELD BRAID TINNED COPPER 85 % ± 5 %**
	SHEATH	**PVC COMPOUND.**
	SHEATH COLOUR	**GREEN RAL: 6018, DESINA: NO**

PRODUCTS FEATURES

FIRE PERFORMANCE
FT1(CSA); IEC 60332-1-2(EU)

OIL PERFORMANCE
OIL RESISTANT

TECO CODE	OEM REF.	FORMATION	CAPACITANCE [NF/KM]	CUT	ROLLS [M]	DRUMS [M]	EXT Ø [MM]	WEIGHT [KG/KM]
37488	SIEMENS 6XV1870-2BU10	**(1X4XAWG22/7)Q-R-SN-ST**	0.05	✓	100	500	6.5	63

STATIC APPLICATION

FE
ETHERNET POLYURETHANE CAT.5E

APPLICATIVE FEATURES

MINIMUM BENDING RADIUS

CROSS SECTION	CROSS SECTION MAX	DYNAMIC INSTALLATION	STATIC INSTALLATION
0.14	0.22		8xØ

DESCRIPTION

UL/CSA certified flexible cables for industrial ETHERNET data transmission devices, designed for static application between the central controlling unit and the input/output peripheral components. The construction of these cables is designed to limit electromagnetic interference, matching the CATEGORY 5E ETHERNET standard. The polyurethane outer jacket provides good resistance properties against mechanical stress and chemical agents.

APPROVALS

AWM STYLE 20549
80°C 300V

AWM I/II A/B 80°C
300V

2014/35/CEE

2014/30/EU

2011/65/UE
2015/863/UE

IEC 60754-1
EN 50267-1

TECHNICAL DATA

INSTALLATION -5°C +80°C
STATIC -40°C +80°C

NOMINAL VOLTAGE 300V

TEST VOLTAGE 2000V

INSULATION RESISTANCE >1 GOHM/KM

NOMINAL IMPEDANCE
100±15%OHM

ATTENUATION

	24 AWG	26 AWG
MHz	dB/100m	dB/100m
1.00 MHz	2.0	3.1
4.00 MHz	3.8	5.7
10.00 MHz	5.7	9.1
16.00 MHz	7.1	11.43
20.00 MHz	7.9	
31.00 MHz	11.0	16.14
62.50 MHz		23.25
100.00 MHz	18.3	
155.52 MHz	23.4	38.05
200.00 MHz	26.3	49.69
250.00 MHz		

CONSTRUCTION FEATURES

TWISTED PAIRS	CONDUCTOR	**CL7 EXTRAFLEXIBLE. BARE COPPER.**
	INSULATION	**POLYETHYLENE COMPOUND (PE)**
OVERALL STRANDING	FILLER	**FILLER POLYPROPYLENE**
	SEPARATIONLAYER	**TAPE TRANSPARENT TRANSPARENT POLYETHYLENE (PE)**
	SCREEN	**SHIELD MYLAR-AL MYLAR INSIDE - ALLUMINIUM OUTSIDE 100 % ± 5 %**
	SCREEN	**SHIELD BRAID TINNED COPPER 85 % ± 5 %**
	SEPARATIONLAYER	**TAPE NON-WOVEN TAPE**
	SHEATH	**POLYURETHANE COMPOUND (TMPU)**
	SHEATH COLOUR	**GREEN RAL: 6016, DESINA: NO**

PRODUCTS FEATURES

FIRE PERFORMANCE
FT1(CSA); IEC 60332-1-2(EU)

OIL PERFORMANCE
1581(UL); IEC 60811-404(EU); IRM 902

TECO CODE	FORMATION	CAPACITANCE [NF/KM]	CUT	ROLLS [M]	DRUMS [M]	EXT Ø [MM]	WEIGHT [KG/KM]	INS. COLOUR EXC	SHEATH COLOUR EXC
15010	**(2X2XAWG24/7)SN/ST/PUR**	50	✕	100	500/1000	5.8	40	ORANGE-WHITE/ORANGE*, GREEN-WHITE/GREEN* *RING BICOLOR	GREEN

STATIC APPLICATION

FE
ETHERNET POLYURETHANE CAT.6 CMX

DESCRIPTION

UL/CSA certified flexible cables for industrial ETHERNET data trasmission devices, designed for static application between the central controlling unit and the input/output peripheral components. The construction of these cables is designed to limits electromagnetic interferences matching the CATEGORY 6 CMX ETHERNET. The polyurethane outer jacket gives good resistance properties from mechanical stress and chemical agents.

APPROVALS

TYPE CMX 75°C
300V

AWM STYLE 20233
80°C 300V

AWM I/II A/B 80°C
300V

2014/35/CEE

2014/30/EU

IEC 60754-1
EN 50267-1

TECHNICAL DATA

INSTALLATION -5°C +80°C
STATIC -40°C +80°C

NOMINAL VOLTAGE 300V

TEST VOLTAGE 2000V

INSULATION RESISTANCE >1 GOHM/KM

NOMINAL IMPEDANCE 100±15%OHM

CONSTRUCTION FEATURES

PAIRS	CONDUCTOR	BARE COPPER.
	INSULATION	EXPANDED POLYETHYLENE (PEE)
OVERALL STRANDING	FILLER	FILLER POLYPROPYLENE
	SCREEN	SHIELD TAPE MYLAR INSIDE - ALLUMINIUM OUTSIDE 100 % ± 5 %
	SCREEN	SCREEN BRAID TINNED COPPER 90 % ± 5 %
	SEPARATIONLAYER	TAPE NON-WOVEN TAPE
	SHEATH	POLYURETHANE COMPOUND (TMPU)
	SHEATH COLOUR	GREEN RAL: 6016, DESINA: NO

PRODUCTS FEATURES

FIRE PERFORMANCE
FT1(CSA); IEC 60332-1-2(EU)

OIL PERFORMANCE
1581(UL); IEC 60811-404(EU); IRM 90

TECO CODE	FORMATION	CAPACITANCE [NF/KM]	CUT	ROLLS [M]	DRUMS [M]	EXT Ø [MM]	WEIGHT [KG/KM]	INS. COLOUR EXC	SHEATH COLOUR EXC
36843	**(4X2XAWG26/7)SN/ST/PUR**	50	✓	100	500	6.6	52	BLUE-WHITE/BLUE*, ORANGE-WHITE/ORANGE*, GREEN-WHITE/GREEN*, BROWN-WHITE/BROWN*. *RING BICOLOR	GREEN

STATIC APPLICATION

FE

ETHERNET PVC 1000V CAT.7 CMX

APPLICATIVE FEATURES

MINIMUM BENDING RADIUS

CROSS SECTION	CROSS SECTION MAX	DYNAMIC INSTALLATION	STATIC INSTALLATION
			8xØ

DESCRIPTION

UL/CSA certified flexible cables for industrial ETHERNET data transmission devices, designed for static application between the central controlling unit and the input/output peripheral components. The construction of these cables is designed to limit electromagnetic interference, matching the CATEGORY 7 CMX ETHERNET standard. The polyurethane outer jacket provides good resistance properties against mechanical stress and chemical agents.

APPROVALS

TYPE CMX 75°C
300V

AWM STYLE 20886
80°C 1000V

AWM I/II A/B 80°C
1000V

2014/35/CEE

2011/65/UE
2015/863/UE

2014/30/EU

TECHNICAL DATA

INSTALLATION -5°C +80°C
STATIC -30°C +80°C

NOMINAL VOLTAGE 1000V (RU); 300V(UL)
MAX OPERATING VOLTAGE 100V
EN 50288-4-1 /4-2

TEST VOLTAGE 1000V (EU); 3000V (UL)
TEST VOLTAGE REFERENCE ACC.TO IEC 61156-5, EN 50288-4-1 /4-2 (EU)

INSULATION RESISTANCE ≥500 MOHM/KM (100V÷500V)

NOMINAL IMPEDANCE
100±15% OHM AT 100MHZ

ATTENUATION

	26 AWG	23 AWG
MHz	dB/100m	dB/100m
1.00 MHz	3.00	2.90
4.00 MHz	5.60	5.50
10.00 MHz	8.80	8.50
16.00 MHz	11.10	10.80
20.00 MHz	12.40	12.10
31.00 MHz	15.50	15.20
62.50 MHz		21.70
100.00 MHz	28.50	27.80
155.52 MHz	36.00	35.00
200.00 MHz	41.20	40.10
250.00 MHz		

CONSTRUCTION FEATURES

GROUP 1	CONDUCTOR	**CL2 FLEXIBLE. BARE COPPER.**
	INSULATION	**EXPANDED POLYETHYLENE (PEE)**
	INSULATION COLOR	**WHITE-ORANGE, WHITE-GREEN, WHITE-BLUE, WHITE-BROWN.**
	SEPARATIONLAYER	**SHIELDED TAPE MYLAR INSIDE - ALLUMINIUM OUTSIDE**
OVERALL STRANDING 38733	SCREEN	**SHIELD BRAID 65% TINNED COPPER 65 % ± 5 %**
	SEPARATIONLAYER	**TAPE NON-WOVEN TAPE**
	SHEATH	**PVC COMPOUND.**
	SHEATH COLOUR	**GREEN , RAL: 6016, DESINA: NO**
OVERALL STRANDING 39873	SCREEN	**SHIELD BRAID 85% TINNED COPPER 85 % ± 5 %**
	SEPARATIONLAYER	**TAPE NON-WOVEN TAPE**
	SHEATH	**PVC COMPOUND.**
	SHEATH COLOUR	**GREEN RAL: 6018, DESINA: NO**

PRODUCTS FEATURES

FIRE PERFORMANCE
COD: 39873
VW-1(UL); FT2(CSA); IEC 60332-1-2(EU)
COD: 38733
VW-1(UL); FT1(CSA); IEC 60332-1-2(EU)

OIL PERFORMANCE
OIL RESISTANT

TECO CODE	OEM REF.	FORMATION	CAPACITANCE [NF/KM]	CUT	ROLLS [M]	DRUMS [M]	EXT Ø [MM]	WEIGHT [KG/KM]
38733	SIEMENS 6XV1878-2E	**[4X(2XAWG26/7)SN]ST**	45	✓	100/200	500	6.3	48
39873		**[4X(2XAWG23/7)SN]ST**	55	✓	100	500	8.7	83

STATIC APPLICATION

FE

CANOPEN 30V

APPLICATIVE FEATURES

MINIMUM BENDING RADIUS

CROSS SECTION	CROSS SECTION MAX	DYNAMIC INSTALLATION	STATIC INSTALLATION
0.34	0.50		6xØ

DESCRIPTION

UL/CSA certified flexible cables for industrial devices that work with the CANOPEN® data transmission standard, designed for static application between the central controlling unit and the input/output peripheral components. The construction of these cables is designed to limit electromagnetic interference for optimal and clean communication.

APPROVALS

E244280 AWM STYLE 2502 80°C 30V

AWM I-II A-B 80°C 30V

EMC 2014/30/EU

RoHS 2011/65/UE 2015/863/UE

TECHNICAL DATA

INSTALLATION -5°C +80°C
STATIC -30 °C +80 °C

TEST VOLTAGE 500V

NOMINAL IMPEDANCE 120±15%OHM

NOMINAL VOLTAGE 30V

INSULATION RESISTANCE 500 MOHM/KM (COD.17570 10MOHM/KM)

CONSTRUCTION FEATURES

TWISTED PAIRS PE	CONDUCTOR	CL7 EXTRAFLEXIBLE. TINNED COPPER
	INSULATION	POLYETHYLENE COMPOUND (PE)
	INSULATION COLOR	WHITE-BROWN; GREEN-YELLOW
TWISTED PAIRS PEE	CONDUCTOR	CL7 EXTRAFLEXIBLE. TINNED COPPER
	INSULATION	EXPANDED POLYETHYLENE (PEE)
	INSULATION COLOR	WHITE-BROWN
GROUND CONDUCTOR	CONDUCTOR	CL7 EXTRAFLEXIBLE. TINNED COPPER
	INSULATION	POLYETHYLENE COMPOUND (PE)
	INSULATION COLOR	GREEN
OVERALL STRANDING COD.17570	FILLER	FILLER POLYPROPYLENE
	SEPARATIONLAYER	TAPE PET PET - POLYESTER.
	SCREEN	SCREEN TINNED COPPER 85 % ± 5 %
	SEPARATIONLAYER	TAPE NON-WOVEN TAPE
	SHEATH	PVC COMPOUND.
	SHEATH COLOUR	VIOLET, RAL: 4001, DESINA: YES

CONSTRUCTION FEATURES

OVERALL STRANDING COD.17970	FILLER	**FILLER** **POLYPROPYLENE**
	SEPARATIONLAYER	**TAPE PET** **PET - POLYESTER.**
	SCREEN	**SCREEN MYLAR-AL** **MYLAR INSIDE - ALLUMINIUM OUTSIDE** **100 % ± 5 %**
	SCREEN	**SCREEN** **TINNED COPPER** **85 % ± 5 %**
	SEPARATIONLAYER	**TAPE** **NON-WOVEN TAPE**
	SHEATH	**PVC COMPOUND.**
	SHEATH COLOUR	**VIOLET** **, RAL: 4001, DESINA: YES**
OVERALL STRANDING COD.17571	SEPARATIONLAYER	**TAPE PET** **PET - POLYESTER.**
	SCREEN	**SCREEN** **TINNED COPPER** **85 % ± 5 %**
	SEPARATIONLAYER	**TAPE** **NON-WOVEN TAPE**
	SHEATH	**PVC COMPOUND.**
	SHEATH COLOUR	**VIOLET** **RAL: 4001, DESINA: YES**

PRODUCTS FEATURES

FIRE PERFORMANCE
FT1(CSA); IEC 60332-1-2(EU)

OIL PERFORMANCE
1581(UL); IEC 60811-404(EU); IRM 902

TECO CODE	FORMATION	CAPACITANCE [NF/KM]	CUT	ROLLS [M]	DRUMS [M]	EXT Ø [MM]	WEIGHT [KG/KM]
17570	**(1X2X0,34+1X0,34)CCST** (1X2XAWG22+1XAWG22)CCST	50	✓	100	500	6.9	70
17970	**(1X2X0,50)SN/CCST** (1X2XAWG21)SN/CCST	50	✓	100	500	6.7	65
17571	**(2X2X0,34)CCST** (2X2XAWG22)CCST	50	✓	100	500/2000	7	71

STATIC APPLICATION

FE

CANOPEN 300V

APPLICATIVE FEATURES

MINIMUM BENDING RADIUS

CROSS SECTION	CROSS SECTION MAX	DYNAMIC INSTALLATION	STATIC INSTALLATION
0.22	0.22		6xØ

DESCRIPTION

UL/CSA certified flexible cables for industrial devices that work with the CANOPEN® data transmission standard, designed for static application between the central controlling unit and the input/output peripheral components. The construction of these cables is designed to limit electromagnetic interference for optimal and clean communication.

APPROVALS

AWM STYLE 2571
80°C 300V

AWM I/II A/B 80°C
300V

2014/35/CEE

2014/30/EU

2011/65/UE
2015/863/UE

TECHNICAL DATA

INSTALLATION -5°C +80°C
STATIC -30°C +80°C

NOMINAL VOLTAGE 300V

TEST VOLTAGE 2000V

NOMINAL IMPEDANCE
120±15% OHM

ATTENUATION

MHz	24 AWG dB/100m
1.00 MHz	1.8
4.00 MHz	3.7
10.00 MHz	
16.00 MHz	
20.00 MHz	
31.00 MHz	
62.50 MHz	
100.00 MHz	
155.52 MHz	
200.00 MHz	
250.00 MHz	

CONSTRUCTION FEATURES

TWISTED PAIR	CONDUCTOR	**CL2 FLEXIBLE. BARE COPPER.**
	INSULATION	**POLYETHYLENE COMPOUND (PE)**
OVERALL STRANDING	FILLER	**FILLER POLYPROPYLENE**
	SEPARATIONLAYER	**TAPE PET POLYESTER COMPOUND**
	SCREEN	**SHIELD BRAID TINNED COPPER 85 % ± 5 %**
	SHEATH	**PVC COMPOUND.**
	SHEATH COLOUR	**VIOLET RAL: 4001, DESINA: YES**

PRODUCTS FEATURES

FIRE PERFORMANCE
FT1(CSA); IEC 60332-1-2(EU)

OIL PERFORMANCE
1581(UL); IEC 60811-404(EU); IRM 902

TECO CODE	FORMATION	CAPACITANCE [NF/KM]	CUT	ROLLS [M]	DRUMS [M]	EXT Ø [MM]	WEIGHT [KG/KM]	INS. COLOUR EXC
27372	**(1X2X0,22)ST** (1X2XAWG24)ST	50	✕	100	500	5.9	44	WHITE, BROWN.

STATIC APPLICATION

FE

DEVICE NET

APPLICATIVE FEATURES

MINIMUM BENDING RADIUS

CROSS SECTION	CROSS SECTION MAX	DYNAMIC INSTALLATION	STATIC INSTALLATION
0.22	1.66		6xØ

DESCRIPTION

UL/CSA certified flexible cables for industrial devices that work with the DEVICE NET® data transmission standard, designed for static application between the central controlling unit and the input/output peripheral components. The construction of these cables is designed to limit electromagnetic interference for optimal and clean communication.

APPROVALS

AWM STYLE 2464
80°C 300V

AWM I/II A/B 80°C
300V

2014/35/CEE

2014/30/EU

2011/65/UE
2015/863/UE

TECHNICAL DATA

INSTALLATION -5°C +80°C
STATIC -30 °C +80 °C

NOMINAL VOLTAGE 300V

TEST VOLTAGE 2000V

INSULATION RESISTANCE <=5 GOHM/KM

NOMINAL IMPEDANCE
120±10%OHM

CONSTRUCTION FEATURES

DATA PAIR	CONDUCTOR	**CL5 FLEXIBLE. TINNED COPPER**
	INSULATION	**EXPANDED POLYETHYLENE (PEE)**
	INSULATION COLOR	**BLUE CORE AND WHITE CORE.**
	SCREEN	**SCREEN MYLAR-AL MYLAR INSIDE - ALLUMINIUM OUTSIDE 100 % ± %**
SUPPLY PAIR	CONDUCTOR	**CL5 FLEXIBLE. TINNED COPPER**
	INSULATION	**EXPANDED POLYETHYLENE (PEE)**
	SCREEN	**SCREEN MYLAR-AL MYLAR INSIDE - ALLUMINIUM OUTSIDE 100 % ± %**
OVERALL STRANDING	SCREEN	**SCREEN TINNED COPPER 85 % ± %**
	DRAINWIRE	**DRAIN WIRE TINNED COPPER**
	SEPARATIONLAYER	**TAPE NON-WOVEN TAPE**
	SHEATH	**PVC COMPOUND.**
	SHEATH COLOUR	**VIOLET RAL: 4001, DESINA: YES**

PRODUCTS FEATURES

FIRE PERFORMANCE
FT1(CSA); IEC 60332-1-2(EU)

OIL PERFORMANCE
1581(UL); IEC 60811-404(EU); IRM 902

TECO CODE	FORMATION	CAPACITANCE [NF/KM]	CUT	ROLLS [M]	DRUMS [M]	EXT Ø [MM]	WEIGHT [KG/KM]
13339	**[(2XAWG24)SN+ (2XAWG22)SN]CCST**	40	✓	100	500	7	67
13338	**[(2XAWG18)SN+ (2XAWG15)SN]CCST**	46	✓		500	11.6	175

STATIC APPLICATION

FE
INTERBUS

APPLICATIVE FEATURES

MINIMUM BENDING RADIUS

CROSS SECTION	CROSS SECTION MAX	DYNAMIC INSTALLATION	STATIC INSTALLATION
0.22	0.22		6xØ

DESCRIPTION

UL/CSA certified flexible cables for industrial devices that work with the INTERBUS® data transmission standard, designed for static application between the central controlling unit and the input/output peripheral components. The construction of these cables is designed to limit electromagnetic interference for optimal and clean communication.

APPROVALS

AWM STYLE 2502
80°C 30V

AWM I-II A-B 80°C
30V

EMC 2014/30/EU

RoHS 2011/65/UE
2015/863/UE

TECHNICAL DATA

INSTALLATION -5°C +80°C
STATIC -30°C +80°C

NOMINAL VOLTAGE 30V

TEST VOLTAGE 500V

NOMINAL IMPEDANCE
100±15% OHM

CONSTRUCTION FEATURES

TWISTED PAIR	CONDUCTOR	**CL5 FLEXIBLE. BARE COPPER.**
	INSULATION	**POLYETHYLENE COMPOUND (PE)**
OVERALL STRANDING	FILLER	**FILLER POLYPROPYLENE**
	SEPARATIONLAYER	**TAPE POLYESTER PET - POLYESTER.**
	SCREEN	**SHIELD TAPE MYLAR INSIDE - ALLUMINIUM OUTSIDE 100 % ± 5 %**
	SCREEN	**SHIELD BRAID TINNED COPPER 85 % ± 5 %**
	SEPARATIONLAYER	**TAPE NON-WOVEN TAPE**
	SHEATH	**PVC COMPOUND.**
	SHEATH COLOUR	**GREEN RAL: 6017, DESINA: NO**

PRODUCTS FEATURES

FIRE PERFORMANCE
FT1(CSA); IEC 60332-1-2(EU)

OIL PERFORMANCE
1581(UL); IEC 60811-404(EU); IRM 902

TECO CODE	FORMATION	CAPACITANCE [NF/KM]	CUT	ROLLS [M]	DRUMS [M]	EXT Ø [MM]	WEIGHT [KG/KM]	INS. COLOUR EXC
13194	**(3X2X0,22)SN-ST** (3X2XAWG24)SN/ST	60	✓	100	500	7	65	GREEN-YELLOW, WHITE-BROWN, PINK-GREY.

STATIC APPLICATION

FE

RS485

APPLICATIVE FEATURES

MINIMUM BENDING RADIUS

CROSS SECTION	CROSS SECTION MAX	DYNAMIC INSTALLATION	STATIC INSTALLATION
0.22	0.22		6xØ

DESCRIPTION

UL/CSA certified flexible cables for industrial devices that work with the RS485 data transmission standard, designed for static application between the central controlling unit and the input/output peripheral components. The construction of these cables is designed to limit electromagnetic interference for optimal and clean communication.

APPROVALS

AWM STYLE 20236
80°C 30V

AWM I-II A-B 80°C
30V

2014/30/EU

2011/65/UE
2015/863/UE

TECHNICAL DATA

INSTALLATION -5°C +80°C
STATIC -30°C +80°C

NOMINAL VOLTAGE 30V

TEST VOLTAGE 500V

INSULATION RESISTANCE 5 GOHM/KM

CONSTRUCTION FEATURES

RS485 SERIAL	CONDUCTOR	CL2 FLEXIBLE. TINNED COPPER
	INSULATION	EXPANDED POLYETHYLENE (PEE)
GND	CONDUCTOR	CL2 FLEXIBLE. TINNED COPPER
	INSULATION	EXPANDED POLYETHYLENE (PEE)
	INSULATION COLOR	GRAY RAL 7001
OVERALL STRANDING	FILLER	FILLER POLYPROPYLENE
	SEPARATIONLAYER	TAPE PE TRANSPARENT POLYETHYLENE (PE)
	SCREEN	SHIELD BRAID TINNED COPPER 85 % ± %
	SEPARATIONLAYER	TAPE NON-WOVEN TAPE
	SHEATH	POLYURETHANE COMPOUND (TMPU)
	SHEATH COLOUR	GRAY, RAL: 7001, DESINA: NO

PRODUCTS FEATURES

FIRE PERFORMANC
FT1(CSA); IEC 60332-1-2(EU)

OIL PERFORMANCE
1581(UL); IEC 60811-404(EU); CEI EN 50363-10-2(EU); IRM 902

TECO CODE	FORMATION	CUT	ROLLS [M]	DRUMS [M]	EXT Ø [MM]	WEIGHT [KG/KM]	INS. COLOUR EXC
15166	**(2X2X0,22+1X0,22)ST** (2X2XAWG24+1XAWG24)ST	✕	100	500/1000	5.8	42	WHITE-BROWN, GREEN-YELLOW

UE

DRAG CHAINS

AUTOMATIC MACHINERY

FLAME-RETARDANT

OIL-RESISTANT

HALOGEN FREE

SIGNAL TRANSMISSION

UL/CSA certified cables for industrial data transmission devices, designed for static application between the central controlling unit and the input/output peripheral components.

Each conductor is made up of a single solid bare copper wire.

STATIC APPLICATION

UE

PROFIBUS

APPLICATIVE FEATURES

MINIMUM BENDING RADIUS

CROSS SECTION	CROSS SECTION MAX	DYNAMIC INSTALLATION	STATIC INSTALLATION
0.64	22		10xø

DESCRIPTION

UL/CSA certified cables for industrial devices that work with the PROFIBUS® data transmission standard, designed for static application between the central controlling unit and the input/output peripheral components. The construction of these cables is designed to limit electromagnetic interference for optimal and clean communication. Each conductor is made up of a single solid bare copper wire.

APPROVALS

E244280 AWM STYLE 2571 80°C 300V

AWM I/II A/B 80°C 300V

2014/35/CEE

EMC 2014/30/EU

RoHS 2011/65/UE 2015/863/UE

TECHNICAL DATA

INSTALLATION -5°C +80°C
STATIC -30°C +80°C

NOMINAL VOLTAGE 300V

TEST VOLTAGE 2000V

INSULATION RESISTANCE 5 GOHM/KM

NOMINAL IMPEDANCE
150±10% OHM

ATTENUATION

	22 AWG
MHz	dB/100m
1.00 MHz	
4.00 MHz	2.2
10.00 MHz	
16.00 MHz	4
20.00 MHz	
31.00 MHz	
62.50 MHz	
100.00 MHz	
155.52 MHz	
200.00 MHz	
250.00 MHz	

CONSTRUCTION FEATURES

GROUP 1	CONDUCTOR	**SOLID** **BARE COPPER.**
	INSULATION	**EXPANDED POLYETHYLENE (PEE)**
	INSULATION COLOR	**GREEN RED**
OVERALL STRANDING	FILLER	**FILLER** **POLYPROPYLENE**
	SEPARATIONLAYER	**TAPE POLYESTER** **PET - POLYESTER.**
	SCREEN	**SHIELD TAPE** **MYLAR INSIDE - ALLUMINIUM OUTSIDE** **100 % ± %**
	SCREEN	**SHIELD BRAID** **TINNED COPPER** **65 % ± %**
	SEPARATIONLAYER	**TAPE** **NON-WOVEN TAPE**
	SHEATH	**PVC COMPOUND.**
	SHEATH COLOUR	**VIOLET** **RAL: 4001, DESINA: YES**

PRODUCTS FEATURES

FIRE PERFORMANCE
VW-1(UL); FT1(CSA); IEC 60332-1-2(EU)

OIL PERFORMANCE
1581(UL); IEC 60811-404(EU); CEI EN 50363-4-1(EU); ICEA S-82-552; IRM902

TECO CODE	OEM REF.	FORMATION	CAPACITANCE [NF/KM]	CUT	ROLLS [M]	DRUMS [M]	EXT Ø [MM]	WEIGHT [KG/KM]
11337	SIEMENS 6XV1830-0EH10	**(1X2XAWG22/1)SN/ST**	30	✓	100	500	8	65

STATIC APPLICATION

UE

PROFINET-ETHERCAT 1000V CAT.5E

APPLICATIVE FEATURES

MINIMUM BENDING RADIUS

CROSS SECTION	CROSS SECTION MAX	DYNAMIC INSTALLATION	STATIC INSTALLATION
			10x ø

DESCRIPTION

UL/CSA certified cables for industrial devices that work with the PROFINET®-ETHERCAT® data transmission standard, designed for static application between the central controlling unit and the input/output peripheral components. The construction of these cables is designed to limit electromagnetic interference, matching the PROFINET®-ETHERCAT® CAT. 5E standard. Each conductor is made up of a single solid bare copper wire.

APPROVALS

E244280 AWM STYLE 2570 80°C 1000V

AWM I/II A/B 80°C 1000V

2014/35/CEE

EMC 2014/30/EU

RoHS 2011/65/UE 2015/863/UE

TECHNICAL DATA

INSTALLATION -5°C +80°C
STATIC -20°C +80°C

NOMINAL VOLTAGE 1000V (UL)
MAX OPERATING VOLTAGE 100V EN 50288

TEST VOLTAGE 1000V (EU); 3000V (UL)
TEST VOLTAGE REFERENCE ACC.TO IEC 61156-5, EN 50288-2-1

INSULATION RESISTANCE ≥500 MOHM/KM

NOMINAL IMPEDANCE
100±15% OHM

ATTENUATION

	22 AWG
MHz	dB/100m
1.00 MHz	2.40
4.00 MHz	4.90
10.00 MHz	7.80
16.00 MHz	9.90
20.00 MHz	11.10
31.00 MHz	14.10
62.50 MHz	20.50
100.00 MHz	26.50
155.52 MHz	
200.00 MHz	
250.00 MHz	

CONSTRUCTION FEATURES

GROUP 1	CONDUCTOR	**SOLID** **BARE COPPER.**
	INSULATION	**POLYETHYLENE COMPOUND (PE)**
	INSULATION COLOR	**CLOCKWISE SEQUENCE: WHITE, YELLOW, BLUE, ORANGE** **PAIRS IN STAR QUAD POSITION.**
OVERALL STRANDING	FILLER	**FILLER** **POLYPROPYLENE**
	SEPARATIONLAYER	**TAPE** **PET - POLYESTER.**
	SHEATH	**INTERMEDIATE SHEATH** **LSZH-FLAME RETARDANT AND NOT CORROSIVE.**
	SEPARATIONLAYER	**SHILDED TAPE** **ALLUMINIUM INSIDE AND OUTSIDE**
	SCREEN	**SHIELD BRAID** **TINNED COPPER** **85 % ± 5 %**
	SHEATH	**PVC COMPOUND.**
	SHEATH COLOUR	**GREEN** **RAL: 6018, DESINA: NO**

PRODUCTS FEATURES

FIRE PERFORMANCE
FT1(CSA); IEC 60332-1-2(EU)

OIL PERFORMANCE
OIL RESISTANT

TECO CODE	OEM REF.	FORMATION	CAPACITANCE [NF/KM]	CUT	ROLLS [M]	DRUMS [M]	EXT Ø [MM]	WEIGHT [KG/KM]
37464	SIEMENS 6XV1840-2AT10/20/50	**(1X4XAWG22/1)Q-R/SN/ST**	0.06	✓	100	500	6.5	63

STATIC APPLICATION

UE

ETHERNET PVC 30V

APPLICATIVE FEATURES

MINIMUM BENDING RADIUS

CROSS SECTION	CROSS SECTION MAX	DYNAMIC INSTALLATION	STATIC INSTALLATION
0.22	24		8xØ

DESCRIPTION

UL/CSA certified cables for industrial ETHERNET data transmission devices, designed for static application between the central controlling unit and the input/output peripheral components. The construction of these cables is designed to limit electromagnetic interference, matching the CATEGORY 5E ETHERNET standard. Each conductor is made up of a single solid bare copper wire.

APPROVALS

E244280 AWM STYLE 2571 80°C 300V

AWM I-II A-B 80°C 30V

EMC 2014/30/EU

RoHS 2011/65/UE 2015/863/UE

TECHNICAL DATA

INSTALLATION -5°C +80°C
STATIC -30°C +80°C

NOMINAL VOLTAGE 30V

TEST VOLTAGE 500V

INSULATION RESISTANCE >1 GOHM/KM

NOMINAL IMPEDANCE
100±15% OHM

ATTENUATION

	24 AWG
MHz	dB/100m
1.00 MHz	2.0
4.00 MHz	3.8
10.00 MHz	5.7
16.00 MHz	7.1
20.00 MHz	7.9
31.00 MHz	11
62.50 MHz	
100.00 MHz	18.3
155.52 MHz	23.4
200.00 MHz	26.3
250.00 MHz	

CONSTRUCTION FEATURES

GROUP 1	CONDUCTOR	**SOLID** **BARE COPPER.**
	INSULATION	**EXPANDED POLYETHYLENE (PEE)**
OVERALL STRANDING	FILLER	**FILLER** **POLYPROPYLENE**
	SEPARATIONLAYER	**TAPE** **PET - POLYESTER.**
	SCREEN	**SHIELD TAPE** **MYLAR INSIDE - ALLUMINIUM OUTSIDE** **100 % ± 5 %**
	SCREEN	**SHIELD BRAID** **TINNED COPPER** **85 % ± 5 %**
	SHEATH	**PVC COMPOUND.**
	SHEATH COLOUR	**GREEN** **RAL: 6016, DESINA: NO**

PRODUCTS FEATURES

FIRE PERFORMANCE
VW-1(UL); FT1(CSA); IEC 60332-1-2(EU)

OIL PERFORMANCE
1581(UL); IEC 60811-404(EU); IRM 902

TECO CODE	FORMATION	CAPACITANCE [NF/KM]	CUT	ROLLS [M]	DRUMS [M]	EXT Ø [MM]	WEIGHT [KG/KM]	INS. COLOUR EXC
10137	**(4X2XAWG24-1)SN-ST**	50	✓	100/200	500/1000	6.3	54	ORANGE-WHITE/ORANGE*, GREEN-WHITE/GREEN*, BLUE-WHITE/BLUE*, BROWN-WHITE/BROWN*. *RING BICOLOR.

STATIC APPLICATION

UE

ETHERNET PVC 300V

APPLICATIVE FEATURES

MINIMUM BENDING RADIUS

CROSS SECTION	CROSS SECTION MAX	DYNAMIC INSTALLATION	STATIC INSTALLATION
0.22	0.22		8xØ

DESCRIPTION

UL/CSA certified cables for industrial ETHERNET data transmission devices, designed for static application between the central controlling unit and the input/output peripheral components. The construction of these cables is designed to limit electromagnetic interference, matching the CATEGORY 5E ETHERNET standard. Each conductor is made up of a single solid bare copper wire.

APPROVALS

AWM STYLE 2571
80°C 300V

AWM I/II A/B 80°C
300V

2014/35/CEE

2014/30/EU

2011/65/UE
2015/863/UE

TECHNICAL DATA

INSTALLATION -5°C +80°C
STATIC -30°C +80°C

NOMINAL VOLTAGE 300V

TEST VOLTAGE 2000V

INSULATION RESISTANCE >1 GOHM/KM

NOMINAL IMPEDANCE
100±15% OHM

ATTENUATION

	24 AWG
MHz	dB/100m
1.00 MHz	2.0
4.00 MHz	3.8
10.00 MHz	5.7
16.00 MHz	7.1
20.00 MHz	7.9
31.00 MHz	11
62.50 MHz	
100.00 MHz	18.3
155.52 MHz	23.4
200.00 MHz	26.3
250.00 MHz	

CONSTRUCTION FEATURES

GROUP 1	CONDUCTOR	**SOLID** **BARE COPPER.**
	INSULATION	**EXPANDED POLYETHYLENE (PEE)**
OVERALL STRANDING	FILLER	**FILLER** **POLYPROPYLENE**
	SEPARATIONLAYER	**TAPE** **PET - POLYESTER.**
	SCREEN	**SHIELD TAPE** **MYLAR INSIDE - ALLUMINIUM OUTSIDE** **100 % ± 5 %**
	SCREEN	**SHIELD BRAID** **TINNED COPPER** **85 % ± 5 %**
	SHEATH	**PVC COMPOUND.**
	SHEATH COLOUR	**GREEN** **RAL: 6016, DESINA: NO**

PRODUCTS FEATURES

FIRE PERFORMANCE
VW-1(UL); FT1(CSA); IEC 60332-1-2(EU)

OIL PERFORMANCE
1581(UL); IEC 60811-404(EU); IRM 902

TECO CODE	FORMATION	CAPACITANCE [NF/KM]	CUT	ROLLS [M]	DRUMS [M]	EXT Ø [MM]	WEIGHT [KG/KM]	INS. COLOUR EXC
14970	**(2X2XAWG24-1)SN-ST**	50	✕	100	500/1500	5.8	42	ORANGE-WHITE/ORANGE*, GREEN-WHITE/GREEN* *RING BICOLOR

TECHNICAL INFORMATION

GUIDELINES FOR THE CORRECT CABLE CHOICE

CABLE SELECTION GUIDE

The use of cables in the industrial sector presents complex and varied challenges. The materials currently used allow for dynamic applications in various conditions. To avoid improper cable installation that could compromise its reliability, it is essential to select the most suitable product considering:

- Continuous flexing
- Continuous torsion
- Combined flexing and torsion
- Lubricating oils, greases, etc.
- Cutting coolant oils
- High/low temperatures
- External electrical interference
- Heavy mechanical stresses

In addition to compliance with major safety standards, the choice of cable must consider additional factors such as:

ENVIRONMENT

Minimum/maximum operating temperature
Presence of chemicals
Storage temperature

INSTALLATION

Fixed
Mobile – in cable chains
Festooned or on cable drums
Torsion

LOAD TYPE

Cable Chain
Minimum bending radius
Translation speed
Acceleration
Chain length

Cable Chain
Drum diameter
Tensile force

ELECTRICAL CHARACTERISTICS

Number of conductors
Cross-section
Pair formation
Optional shielding
Operating voltage

IMPACT OF INCORRECT DIMENSIONING

Some cable application compatibility issues may arise only after the automation system is operational.

EFFECTS ON PRODUCTION

- Machine downtime, resulting in production loss.
- Difficulty locating the fault, often preceded by intermittent contact.
- High maintenance costs, especially for remote support.
- Loss of company reputation.
- Risk of electric shock and fire.

EFFECTS ON THE CABLE	CAUSES	POSSIBLE SOLUTIONS
Stiffening of the sheath, leading to breakage.	- Incompatibility with oils or greases present in the work environment	- Appropriate sheaths guaranteed for prevailing agents
The cable takes on a “spring” or snake shape during flexing	- Inadequate bending radius - Improper fastening to the cable chain - Excessive cable chain length - Lack of dividers	- Cables guaranteed for the specified bending radius - Proper fastening of the cable to the cable chain - Declare cable chain lengths greater than 7-8 meters
Cable elongation inside the cable chain	- Excessive acceleration	- Insert appropriate sealing member - Make the cable inextensible
Sheath wear leading to breakage	- Abrasion between cables, cable and chain, or other components	- Use low-friction sheath materials - Insert separators between cables to prevent abrasion

INSULATION'S AND SHEATH'S MATERIAL CHARACTERISTICS

	MATERIAL		ELECTRICAL				THERMIC				
	VDE Abb.	Material	Density	Breakdown Voltage	Volume Resistivity	Dielectric Constant	Working Temperature			Flame Resistance	Oxygen Index
			g/m2	kV/mm	y/cm	50 Hz	Permissible °C (-/+)		short circuit °C		(% O2)
THERMOPLASTICS	Y PVC	PVC	1,35 - 1,5	25	10^{13} - 10^{15}	3,6 - 6	- 30	+ 70	+100	self extinguish	23 - 42
	Yw PVC	PVC 90°C	1,35 - 1,5	25		4 - 6,5	- 20	+ 90	+ 120		
	Yw PVC	PVC 105°C	1,35 - 1,5	25		4,5 - 6,5	- 20	+ 105	+ 120		24 - 42
	Yk PVC	PVC cold resistant	1,2 - 1,4	25		4,5 - 6,5	- 40	+ 70	+ 100		
	2Y LDPE	Low Density Polyethylene	0,92 - 0,94	70	10^{17}	2,3	- 50	+ 70	+ 100	flammable	≤ 22
	2Y HDPE	High Density Polyethylene	0,94 - 0,98	85	10^{17}	2,3	- 50	+ 100	+ 120		
	2X VPE	Cross-Linked Polyethylene	0,92	50	10^{12} - 10^{16}	4 - 6	- 35	+ 90	+ 100		
	02Y	Foamed Polyethylene	~0,65	30	10^{17}	~1,55	- 40	+ 70			18 - 30
	3Y PS	Polystirole	1,05	30	10^{16}	2,5	- 50	+ 80			≤ 22
	4Y PA	Polyamyde	1,02 - 1,1	30	10^{15}	4	- 60	+ 105	+ 125		
	9Y PP	Polypropylene	0,91	75	10^{16}	2,3 - 2,4	- 10	+ 90	+ 140		
	11Y PUR	Polyurethane	1,15 - 1,2	20	10^{10} - 10^{12}	4 - 7	- 55	+ 80	+ 100		20 - 26
	12YT TPE-E	Polyester-Elastomer	1,2 - 1,4	40	> 10^{10}	3,7 - 5,1	- 50	+ 100	+ 140		≤ 29
	TPE-O	Polyolefin-Elastomer	0,89 - 1,0	30	> 10^{14}	2,7 - 3,6			+ 130		≤ 25
ELASTOMERS	G NR SBR	Natural Rubber	1.5 - 1,7	20	10^{12} - 10^{15}	3 - 5	- 65	+ 60	+ 120	flammable	≤ 22
	2G SIR	Silicone Rubber	1,2 - 1,3	20	10^{15}	3 - 4	- 60	+ 180	+ 260	high flash-point	25 - 35
	3G EPR	Ethylene-Propylen Rubber	1,3 - 1,55	20	10^{14}	3 - 3,8	- 30	+ 90	+ 160	flammable	≤ 22
	4G EVA	Ethylen-Vynylacetat Rubber	1,3 - 1,5	30	10^{12}	5 - 6,5	- 30	+ 125	+ 200		
	5G CR	Polychloroprene Compound	1,4 - 1,65	20	10^{10}	6 - 8,5	- 40	+ 100	+ 140	self extinguish	30 - 35
	6G CSM	Chlorsulfonated Polyethylene cmp	1,3 - 1,6	25	10^{12}	6 - 9	- 30	+ 80	+ 140		
FLUOROPOLYMERS	10Y EPR	Polyvinyldilene Fluoride Dyflor	1,7 - 1,9	25	10^{14}	9 - 7	- 40	+ 135	+ 160	self extinguish	40 - 45
	7Y ETFE	Ethylene-Tetrafluorethylene	1,6 - 1,8	36	10^{16} - 10^{18}	2,6	- 100	+ 150	+ 180		30 - 35
	6Y FEP	Fluorine Ethylene Propylene	2,0 - 2,3	25	10^{18}	2,1	- 100	+ 205	+ 230		> 95
	5YX PFA	Perfluoraloxypolymeric	2,0 - 2,3	25	10^{18}	2,1	- 190	+ 260	+ 280		
	5Y PTFE	Polytetrafluorethylene	2,0 - 2,3	20	10^{18}	2,1	- 190	+ 260	+ 300		
H.F.	H nXlink	Halogen Free Not Cross link	1,4 - 1,6	25	10^{12} - 10^{14}	3,4 - 5	- 30	+ 70	+ 100	self extinguish	≤ 40
	HX Xlink	Halogen Free Cross Linked	1,4 - 1,6	25	10^{13} - 10^{14}	3,4 - 5	- 30	+ 90	+ 150		

	MATERIAL	MECHANICAL			WEATHER		CHEMICAL RESISTANCE				
	VDE Abb.	Tensile Strength	Elongation at break	Shore Hardness	Weather Resistance	Cold Resistance	Water	Oil and Greases	Solvents	Alcohol	Acids
		N/mm2	%								
THERMOPLASTICS	Y PVC	10-25	130 - 350	70-95 (A)	medium (black outer sheath)	moder-ate-good	* * *	* * *	*	* *	* *
	Yw PVC					very good					
	Yw PVC										
	Yk PVC										
	2Y LDPE	10 - 20	400 - 600	43 - 50 (D)		good	* * * *	* * *	* * *	* * * *	* * *
	2Y HDPE	20 - 30	500 - 1000	60 - 63 (D)							
	2X VPE	12,5 - 20	300 - 400	40 - 45 (D)	good						
	02Y	8 - 12	350 - 450	-							
	3Y PS	55 - 65	300 - 400	35 - 50 (D)	medium - good	moder-ate-good	* * *	* * *	* * *	* *	* *
	4Y PA	50 - 60	50 - 170	-	good	good	*	* * *	* * * *	*	* *
	9Y PP	20 - 35	300	55 - 60 (A)	moderate		* * * *	* * * *	* *	* * *	* * *
	11Y PUR	30 - 45	500 - 700	70 - 100 (A)	very good	very good	* * * *	* * * *	* *	* *	* *
	12YT TPE-E	30	> 300	85 (A) - 70 (D)			*	* * * *	* *	*	* *
	TPE-O	20		55 (A) - 70 (D)			* * * *	* *	* *	* *	* *
ELASTOMERS	G NR SBR	5 - 10	300 - 600	60 - 70 (A)	moderate	very good	* * *	* * * *	* * *	* *	* *
	2G SIR			40 - 80 (A)	good						
	3G EPR		200 - 400	65 - 85 (A)	very good	good					
	4G EVA	8 - 12	250 - 350	70 - 80 (A)	good						
	5G CR	10 - 20	400 - 700	55 - 70 (A)	very good	moderate-good					
	6G CSM		350 - 600	60 - 70 (A)		moderate					
FLUOROPOLYMERS	10Y EPR	50 - 80	150	75 - 80 (D)	very good	very good	* * * *	* * * *	* * * *	* * * *	* * * *
	7Y ETFE		40 - 50	55 - 60 (D)							
	6Y FEP	15 - 25	250								
	5YX PFA	25 - 30									
	5Y PTFE	80	50								
H.F.	H nXlink	8 - 13	150 - 250	65 - 95 (A)	medium (good with black outer sheath)	average	*	*	-	-	-
	HX Xlink						* * *	* * *	*	*	*

ELECTRICAL RESISTANCE

IEC 60228 CLASS 1/2

Nominal Cross Section mm²	Minimum number of wires in the conductor				Shaped conductor		Maximum conductor res. at 20°C Copper conductor	
	Circular (non compact) conductor		Circular compact conductor					
	Cu	Al	Cu	Al	Cu	Al	Plain Wires (x/km)	Metal-coated Wires (x/km)
0,5	7	-	-	-	-	-	36,7	36
0,75	7	-	-	-	-	-	24,8	24,5
1	7	-	-	-	-	-	18,2	18,1
1,5	7	-	6	-	-	-	12,1	12,2
2,5	7	7	6	-	-	-	7,41	7,56
4	7	7	6	-	-	-	4,7	4,61
6	7	7	6	-	-	-	3,11	3,08
10	7	7	6	-	-	-	1,84	1,83
16	7	7	6	6	-	-	1,16	1,15
25	7	7	6	6	6	6	734	727
35	7	7	6	6	6	6	529	524
50	19	19	6	6	6	6	391	387
70	19	19	12	12	12	12	0,27	268
95	19	19	15	15	15	15	195	193
120	37	37	18	15	18	15	154	153
150	37	37	18	15	18	15	126	124
185	37	37	30	30	30	30	0,1	0,0991
240	61	61	34	30	34	30	0,0762	0,0754
300	61	61	34	30	34	30	0,0607	0,0601
400	61	61	53	53	53	53	0,0475	47
500	61	61	53	53	53	53	0,0369	0,0366
630	91	91	53	53	53	53	0,0286	0,0283
800	91	91	53	53	-	-	0,0224	0,0221
1000	91	91	53	53	-	-	0,0177	0,0176

IEC 60228 DIN VDE 0295 CLASS 5/6

Nominal Cross Section mm²	Maximum diameter of wires in the conductor (mm)		Maximum conductor resistance at 20°C (Ω/km)	
	Class 5	Class 6	Plain Wires	Metal-coated Wires
0,08	-	0,10	243,0	250,0
0,14	-	0,10	138,0	142,0
0,25	-	0,10	79,0	82,0
0,34	-	0,16	57,0	59,0
0,38	-	0,16	48,5	52,8
0,5	0,21	0,16	39	40,1
0,75	0,21	0,16	26	26,7
1	0,21	0,16	19,5	20
1,5	0,26	0,16	13,3	13,7
2,5	0,26	0,16	7,98	8,21
4	0,31	0,16	4,95	5,09
6	0,31	0,21	3,3	3,39
10	0,41	0,21	1,91	1,95
16	0,41	0,21	1,21	1,24
24	0,41	0,21	0,78	795
35	0,41	0,21	554	565
50	0,41	0,31	386	393
70	0,51	0,31	272	277
95	0,51	0,31	206	0,21
120	0,51	0,31	161	164
150	0,51	0,31	129	132
185	0,51	0,41	106	108
240	0,51	0,41	0,0801	0,0817
300	0,51	0,41	0,0641	0,0654
400	0,51	-	0,0486	0,0495
500	0,61	-	0,0384	0,0391
630	0,61	-	0,0287	0,0292

AWG, KMILS, MM²

	Diameter		Cross-section		R @20°C	Weight
AWG	Mils	mm	Circ Mils	mm²	D/km	g/m
44	2,0	0,05	4,00	0,0020	8498	0,0180
43	2,2	0,055	4,84	0,0025	7021	0,0218
42	2,5	0,063	6,25	0,032	5446	0,0281
41	2,8	0,071	7,84	0,0039	4330	0,0352
40	3,1	0,079	9,61	0,0049	3540	0,0433
39	3,5	0,089	12,3	0,0062	2780	0,0552
38	4,0	0,102	16,0	0,0081	2130	0,0720
37	4,5	0,114	20,3	0,0103	1680	0,0912
36	5,0	0,127	25,0	0,0127	1360	0,1126
35	5,6	0,142	31,4	0,0159	1080	0,1412
34	6,3	0,160	39,7	0,0201	857	0,1785
33	7,1	0,180	50,4	0,0255	675	0,2276
32	8,0	0,203	64,0	0,0324	532	0,2886
31	8,9	0,226	79,2	0,0401	430	0,3571
30	10,0	0,254	100	0,0507	340	0,4508
29	11,3	0,287	128	0,0649	266	0,5758
28	12,6	0,320	159	0,0806	214	0,7157
27	14,2	0,361	202	0,102	169	0,9076
26	15,9	0,404	253	0,128	135	1,1383
25	17,9	0,455	320	0,162	106	1,4433
24	20,1	0,511	404	0,205	84,2	1,8153
23	22,6	0,574	511	0,259	66,6	2,3064
22	25,3	0,643	640	0,324	53,2	2,8867
21	28,5	0,724	812	0,411	41,9	3,6604
20	32,0	0,813	1020	0,519	33,2	4,6128
19	35,9	0,912	1290	0,653	26,4	5,8032
18	40,3	1,024	1620	0,823	21,0	7,3209
17	45,3	1,150	2050	1,04	16,6	9,2404
16	50,8	1,291	2580	1,31	13,2	11,6212
15	57,1	1,450	3260	1,65	10,4	14,6885
14	64,1	1,630	4110	2,08	8,28	18,4512
13	72,0	1,830	5180	2,63	6,56	23,3616
12	80,8	2,053	6530	3,31	5,21	29,4624
11	90,7	2,305	8230	4,17	4,14	37,0512
10	101,9	2,588	10380	5,26	3.277	46,7232
9	114,4	2,906	13090	6,63	2.600	58,9248
8	125,5	3,264	16510	8,37	2.061	74,4000

	Diameter		Cross-section		R @20°C	Weight
AWG	Mils	mm	Circ Mils	mm²	D/km	g/m
7	114,3	3,655	20820	10,55	1,634	93,744
6	162	4,115	26240	13,3	1.296	118,1472
5	181,9	4,62	33090	16,77	1.028	148,8
4	204,3	5,189	41740	21,15	0,8152	187.488
3	229,4	5,287	52260	26,67	0,6466	235.592
2	257,6	6,543	66360	33,62	0,5128	299.088
1	289,3	7,348	83690	42,41	0,4065	376.464
1/0	324,9	8,252	105600	53,49	0,3223	474.672
2/0	364,8	9,266	133100	67,43	0,2557	599.664
3/0	409,6	10,4	167800	85,01	0,2028	755.904
4/0	460	11,68	211600	107,22	0,1608	953.808
kcmil				mm²	,/km	g/m
250	-	-	-	0,0324	0,1357	1129,75
300	-	-	-	0,0401	0,1134	1352,14
350	-	-	-	0,0507	0,0974	1574,53
400	-	-	-	0,0649	0,0849	1805,82
450	-	-	-	0,0806	0,0756	2028,21
500	-	-	-	0,102	0,0681	2250,60
550	-	-	-	0,128	0,0618	2481,89
600	-	-	-	0,162	0,0567	2704,28
650	-	-	-	0,205	0,0524	2926,68
700	-	-	-	0,259	0,0486	3157,96
750	-	-	-	0,324	0,0454	3380,35
800	-	-	-	0,411	0,0426	3602,75
900	-	-	-	0,519	0,0378	4056,43
1000	-	-	-	0,653	0,0340	4510,10
1100	-	-	-	0,823	0,0310	4954,89
1200	-	-	-	1,04	0,0284	5408,57
1250	-	-	-	1,31	0,0272	5630,96
1300	-	-	-	1,65	0,0262	5862,25
1400	-	-	-	2,08	0,0243	6307,03
1500	-	-	-	2,63	0,0227	6760,71
1600	-	-	-	3,31	0,0213	7214,39
1700	-	-	-	4,17	0,0200	7659,17
1800	-	-	-	5,26	0,0189	8112,85
1900	-	-	-	6,63	0,0179	8566,53
2000	-	-	-	8,37	0,0171	8984,63

EXCERPT FROM IEC 60204 STANDARD FOR ELECTRICAL SAFETY IN MACHINERY

9.3 CROSS-SECTION OF CONDUCTORS

The cross-section of conductors shall be adequate for the hightest possible steady current under normal working conditions, taking into consideration the ambient conditions (for example cooling, nearby heat generating components and devices). The maximum permissible conductor temperature may be limited by be its effects on nearby components and devices.

The cross-section of insulated cables used for the wiring:

- in control cabinets
- between several control cabinets belonging to the same machine
- between such control cabinets and the machine
- on and in the machine itself, shall satisfy the requirements of all three Subclauses 9.3.1 to 9.3.3 (see also Note 2 of Sub-clause 5.2.3)

Note: the wiring of electronic circuits with steady currents below 2A located within enclosures of electronic equipment, need not comply with Sub-clauses 9.3.1 and 9.3.3.

9.3.1 CURRENT-CARRYING CAPACITY

The cross-section of the conductors shall be determined according to Appendix B. Clause BI, columns 2 and 3 of Table BII, dependent on the highest possible steady current under normal working conditions in the circuit considered.

The reduced current loading of cable according to columns 4 and 5 of Table BII in Appendix B shall be used. However if the structure of a building is involved for d-supporting the cables, the cross-section of these conductors shall be determined according to Chapter C2 of IEC Publication 364. For intermittent duty, the thermally equivalent current, i.e. therms value of the intermittent current, may be used for de- termining the cross-sections if the period of the duty cycle is much shorter than the time constant fo heating up the cable.

9.3.3 MINIMUM CROSS-SECTIONS OF COPPER CONDUCTORS

For mechanical reasons the cross-section used shall be not less than shown in Table VI. However, due to design considerations, conductors with smaller cross-section than shown in Table A1 may be used in the equipment where necessary, provided its proper functioning is not impaired.

TABLE A1 - MINIMUM CROSS-SECTION OF CABLES

Location and description	Single core cables				Multicore cables two cores				Three and more cores	
	Stranded		Solid		Stranded		Solid			
	mm² (AWG)		mm² (AWG)		mm² (AWG)		mm² (AWG)		mm² (AWG)	
①	②		③		④		⑤		⑥	
Outside enclosures	1	(17)	1,5	(16)	0,75	(18)	0,75	(18)	0,75	(18)
Connections of machine parts subjected to frequent movement: only flexible cables[1]	1	(17)			1	(17)	1	(17)	1	(17)
Connections of very low-current circuits[2]	1	(17)	1.5	(16)	0.3[3]	(22)	0.5	(20)	0.3[3]	(22)
Inside enclosures	0,75	(18)	0,75	(18)	0,75	(18)	0,75	(18)	0,75	(18)
Connections of very low-current circuits[2]	0.2≤	(24)	0.2≤	(24)	0.2≤	(24)	0.2≤	(24)	0.2≤	(24)

[1] See Sub-clauses 9.1, 10.1.3 and 10.4.2
[2] Such as electronic logic and similar low-level (signal) circuits
[3] Corresponding to 0.6 mm diameter
[4] Corresponding to 0.5 mm diameter
Note: for comparison of conductor areas in square millimeters with the American (AWG) and British wire gauge, circular-mils and square inches see Appendix C

B1.2 - TEMPERATURES AND AMBIENT AIR TEMPERATURE

TABLE B1

Ambient air temperature (°C)	De-rating factors
30	1
35	0,93
40	0,87
45	0,79
50	0,71
55	0,61
60	0,50

Note: these are the same factors as indicated for PVC in Table VI of IEC Publication 448 "Current-carrying Capacities of Conductors for Electrical Installation of Buildings".

B1.3 CURRENT-CARRYING CAPACITIES OF FULLY-LOADED CABLES

B1.3.1 - TABLE C1 - CABLES HAVING COPPER CONDUCTORS

Maximum permissible currents under normal working conditions of the machine for single or multicore cables without a metallic sheath, having PVC – insulated copper conductors, with a permissible working temperature of 70° C, for a nominal ambient air temperature of 30° C (see also Sub-clause B1.2). The values of this table apply where any number of cables are laid together. For multicore cables with shaped conductors (of large cross-section) the values of this table must be reduced by 6A.

TABLE C1 - CABLES HAVING COPPER CONDUCTORS

Nominal cross-section of cables	Current-carrying capacities of cables for machines			
	In normal use		Used in large series production processes, see Sub-clauses 1.3 and 9.3.1	
	In ducts	In free air	In ducts	In free air
①	②	③	④	⑤
mm²	A	A	A	A
0,1961	2,5	2,7	2	2,2
0,2832	3,5	3,8	3	3,3
0,5	6	6,6	5	5,5
0,75	9	10	7,5	8,5
1	12	13,5	10	11,5
1,5	15,5	17,5	13	15
2,5	21	24	18	20
4	28	32	24	27
6	36	41	31	34
10	50	57	43	48
16	68	76	58	65
25	89	101	76	86
35	111	125	94	106
503	134	151	114	128
70	171	192	145	163
95	207	232	176	197
120	239	269	203	228
150	275	309	234	262
185	314	353	367	300
240	369	415	314	353

Note. The current values, given in Table C1 have been calculated for cross-section above 1mm using the following formula:

$I = a \times S^{0,625}$

I = current in amperes

S = cross-section in square millimetres

a = current values tabulted for 1 mm²

The values given for cross-section 1 mm² to 120 mm² in column ② are the same as those given for current carrying capacity of copper conductors in Table 1 of IEC Publication 448, and the values given for cross-section mm² to 240 mm² in column ③ are the same as those given for three loaded copper conductors in Table III of the same publication. Taking into account that generally on most machines not all the cables of different circuits will be fully loaded in continuous duty (this for various reasons, such as: intermittent duty, drives that are not fully loaded, cables available on with discrete cross-section, etc.) the values given in Table B II may be applied to many numbers of cables, even where they are laid together and follow the same course. In certain critical cases, however, it would be wise to check that the cable temperature stays within permissible limits.

B1.3.2

If cables having aluminium conductors are used instead of copper conductors, a de-rating factor by 0.78 shall be applied to the values of Table B II. Aluminium is permitted only for fixed connections: in particular, it is prohibited for connections to moving elements.

EXCERPT FROM IEC 60204-1 STANDARD FOR CABLE SELECTION IN ELECTRICAL MACHINERY INSTALLATIONS

Cables must be selected to ensure that the insulation function remains effective throughout the cable's lifetime. Therefore, the cable must be selected based on:

- The operating environment
- Voltage (value and waveform)
- The electrical current of the circuit in which the cable is used, and therefore the operating temperature of the insulation

The standard used for cable selection is "IEC 60364-5-52 - Low-voltage electrical installations - Part 5-52: Selection and erection of electrical equipment - Wiring systems."

To correctly choose the cable cross-section, the following must be considered:

- Type of conductor material
- Insulation material
- Installation method
- Presence or absence of other cables
- Maximum ambient temperature at which the cable operates

IEC 60204-1 allows sizing of cable cross-sections for conduits typically used in industrial environments. The method is applicable for PVC cables.

Method Explanation:

1. Define the ampacity (*Iz*) of the cable based on its cross-section and installation method → Table 1
2. If the ambient temperature (maximum temperature around the cable) differs from 40°C, apply the correction factor K_t → Table 2
3. If the cable is installed together with other cables, apply the correction factor K_g → Table 3
   or if the cable is multicore with a cross-section not exceeding 10 mm² → Table 4
4. The effective ampacity of the cable Iz_k is equal to:
   $Iz_k = Iz \times K_g \times K_t$
5. The effective ampacity of the cable must satisfy the following condition: $Ib \leq In \leq Iz_k$ Where:
   Ib = Nominal current of the load powered by the cable
   In = Nominal current of the protection device
   If the condition is not met, repeat the procedure by selecting a larger cross-section

EXCERPT FROM IEC 60204-1 STANDARD REGARDING THE SELECTION OF CABLES IN ELECTRICAL INSTALLATIONS FOR MACHINERY

PVC CABLE CAPACITY CHART AT 40°C

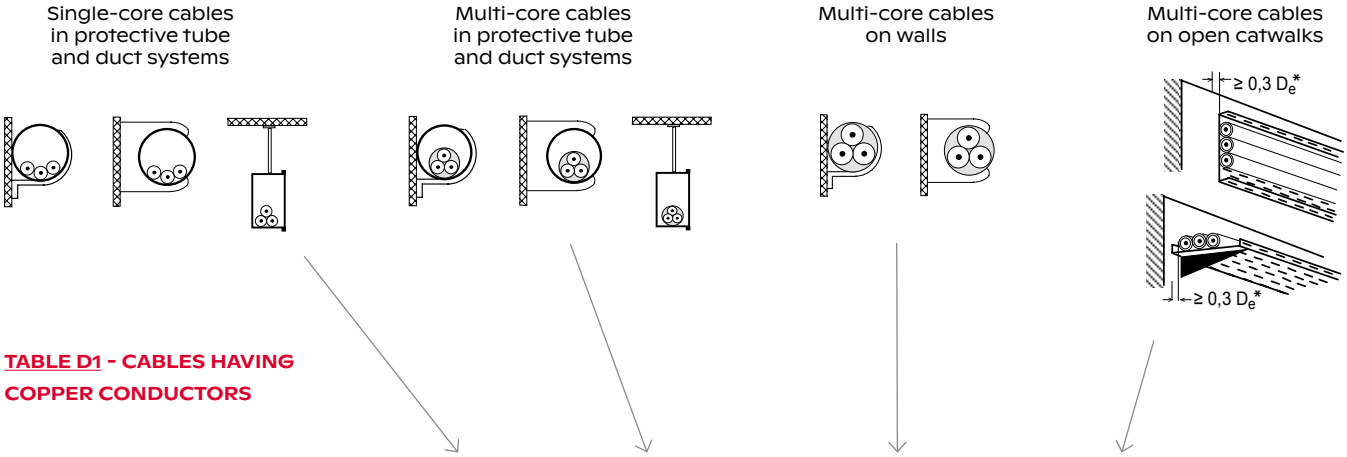


TABLE D1 - CABLES HAVING COPPER CONDUCTORS

Cross-sectional area mm²	Installation method (See D.2.2)			
	B1	B2	C	E
	Current-carrying capacity Iz for three phase circuits A			
0.75	8.6	8.5	9.8	10.4
1.0	10.3	10.1	11.7	12.4
1.5	13.5	13.1	15.2	16.1
2.5	18.3	17.4	21	22
4	24	23	28	30
6	31	30	36	37
10	44	40	50	52
16	59	54	66	70
25	77	70	84	88
35	96	86	104	110
50	117	103	125	133
70	149	130	160	171
95	180	156	194	207
120	208	179	225	240
Control circuit pairs				
0.20	4.5	4.3	4.4	4.4
0.5	7.9	7.5	7.5	7.8
0.75	9.5	9.0	9.5	10

NOTE 1
The values of the current-carrying capacity of Table D1 are based on:
- one symmetrical three-phase circuit for cross-sectional areas 0.75 mm² and greater;
- one control circuit pair for cross-sectional areas between 0.2 mm² and 0.75 mm²

Where more loaded cables/pairs are installed, derating factors for the values of table 6 can be found in table D.2 or D.3.
NOTE 2
For ambient temperatures other than 40° C, correction factors for current-carrying capacities are provided in table D.1.
NOTE 3
These values are not applicable to flexible cables wound on drums (see 12.6.3).
NOTE 4
Current-carrying capacities of other cables are provided in IEC 60364-5-52.

* De = larger cable outer diameter

TABLE E1

Ambient air temperature (°C)	Correction factor
40	1,00
45	0,91
50	0,82
55	0,71
60	0,58

NOTE
The correction factors are derived from IEC 60364-5-52.
The maximum temperature under normal conditions for PVC 70°C.

TABLE E2

Methods of installation (see D.1) (see Note 3)	Number of loaded circuits			
	2	4	6	9
B1 (conductors or single core cables) and B2 (multicore cables)	0,80	0,65	0,57	0,50
C single layer with no gap between cables	0,85	0,75	0,72	0,70
E single layer on one perforated tray without gap between cables	0,88	0,77	0,73	0,72
E as before but with 2 or 3 trays, with a vertical spacing between each tray of 300 mm (see Note 4)	0,86	0,76	0,71	0,66
Control circuit pairs ≤ 0,5 mm² independent of methods of installation	0,76	0,57	0,48	0,40

NOTE 1
These factors are applicable to:
- cables, all equally loaded, the circuit itself symmetrically loaded
- groups of circuits of insulated conductors or cables having the same allowable maximum operating temperature

NOTE 2
The same factors are applied to:
- groups of two or three single-core cables
- multicore cables

NOTE 3
Factors derived from IEC 60364-5-52: 2009.

NOTE 4
A perforated cable tray is a tray where the holes occupy more than 30% of the area of the base.
(Derived from IEC 60364-5-52: 2009).

TABLE E3 - TABLE FOR DOWNGRADING CABLES UP TO 10 MM²

Number of loaded conductors or pairs	Conductors (≥ 1 mm²) (see Note 3)	Pairs (0,25 mm² to 0,75 mm²)
1	-	1,0
3	1,0	0,5
5	0,75	0,39
7	0,65	0,34
10	0,55	0,29
24	0,40	0,21

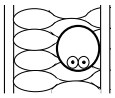
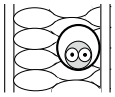
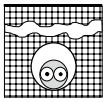
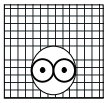
NOTE 1
Applicable to multicore cables with equally loaded conductors/pairs.

NOTE 2
For grouping of multicore cables, see derating factors of table D.2.

NOTE 3
Factors derived from IEC 60364-5-52:2009.

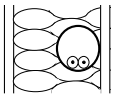
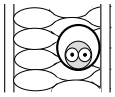
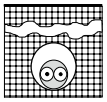
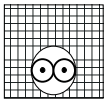
EXCERPT FROM IEC 60364-5-52 STANDARD FOR THE INSTALLATION OF ELECTRICAL CABLES IN LOW VOLTAGE SYSTEMS

PVC INSULATION/TWO LOADED CONDUCTORS/COPPER OR ALUMINIUM - CONDUCTOR TEMPERATURE: 70°C, AMBIENT TEMPERATURE: 30°C IN AIR, 20°C IN GROUND (According to table B.52.2 - Current-carrying capacities in amperes for methods of installation in Table B.52.1)

Nominal cross-sectional area of conductor mm²	Installation methods of Table B.52.1						
	A1	A2	B1	B2	C	D1	D2
							
1	2	3	4	5	6	7	8
Copper							
1,5	14,5	14	17,5	16,5	19,5	22	22
2,5	19,5	18,5	24	23	27	29	28
4	26	25	32	30	36	37	38
6	34	32	41	38	46	46	48
10	46	43	57	52	63	60	64
16	61	57	76	69	85	78	83
25	80	75	101	90	112	99	110
35	99	92	125	111	138	119	132
50	119	110	151	133	168	140	156
70	151	139	192	168	213	173	192
95	182	167	232	201	258	204	230
120	210	192	269	232	299	231	261
150	240	219	300	258	344	261	293
185	273	248	341	294	392	292	331
240	321	291	400	344	461	336	382
300	367	334	458	394	530	379	427
Aluminium							
2,5	15	14,5	18,5	17,5	21	22	
4	20	19,5	25	24	28	29	
6	26	25	32	30	36	36	
10	36	33	44	41	49	47	
16	48	44	60	54	66	61	63
25	63	58	79	71	83	77	82
35	77	71	97	86	103	93	98
50	93	86	118	104	125	109	117
70	118	108	150	131	160	135	145
95	142	130	181	157	195	159	173
120	164	150	210	181	226	180	200
150	189	172	234	201	261	204	224
185	215	195	266	230	298	228	255
240	252	229	312	269	352	262	298
300	289	263	358	308	406	296	336

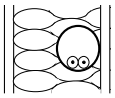
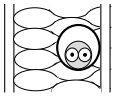
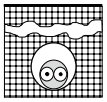
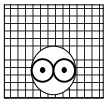
NOTE
In columns 3, 5, 6, 7 and 8, circular conductors are assumed for sizes up to and including 16 mm2. Values for larger sizes relate to shaped conductors and may safely be applied to circular conductors.

XLPE OR EPR INSULATION, TWO LOADED CONDUCTORS/COPPER OR ALUMINIUM - CONDUCTOR TEMPERATURE: 90°C, AMBIENT TEMPERATURE: 30°C IN AIR, 20°C IN GROUND (According to table B.52.3 - Current-carrying capacities in amperes for methods of installation in Table B.52.1)

Nominal cross-sectional area of conductor mm²	Installation methods of Table B.52.1						
	A1	A2	B1	B2	C	D1	D2
							
1	2	3	4	5	6	7	8
Copper							
1,5	19	18,5	23	22	24	25	27
2,5	26	25	31	30	33	33	35
4	35	33	42	40	45	43	46
6	45	42	54	51	58	53	58
10	61	57	75	69	80	71	77
16	81	76	100	91	107	91	100
25	106	99	133	119	138	116	129
35	131	121	164	146	171	139	155
50	158	145	198	175	209	164	183
70	200	183	253	221	269	203	225
95	241	220	306	265	328	239	270
120	278	253	354	305	382	271	306
150	318	290	393	334	441	306	343
185	362	329	449	384	506	343	387
240	424	386	528	459	599	395	448
300	486	442	603	532	693	446	502
Aluminium							
2,5	20	19,5	25	23	26	26	
4	27	26	33	31	35	33	
6	35	33	43	40	45	42	
10	48	45	59	54	62	56	
16	64	60	79	72	84	71	76
25	84	78	105	94	101	90	98
35	103	96	130	115	126	108	117
50	125	115	157	138	154	128	139
70	158	145	200	175	198	158	170
95	191	175	242	210	241	186	204
120	220	201	281	242	280	211	233
150	253	230	307	261	324	238	261
185	288	262	351	300	371	267	296
240	338	307	412	358	439	307	343
300	387	352	471	415	508	346	386

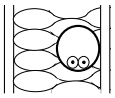
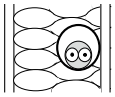
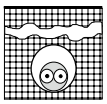
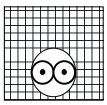
NOTE
In columns 3, 5, 6, 7 and 8, circular conductors are assumed for sizes up to and including 16 mm2. Values for larger sizes relate to shaped conductors and may safely be applied to circular conductors.

PVC INSULATION/THREE LOADED CONDUCTORS/COPPER OR ALUMINIUM - CONDUCTOR TEMPERATURE: 70°C, AMBIENT TEMPERATURE: 30°C IN AIR, 20°C IN GROUND (According to table B.52.4 - Current-carrying capacities in amperes for methods of installation in Table B.52.1)

Nominal cross-sectional area of conductor mm²	Installation methods of Table B.52.1						
	A1	A2	B1	B2	C	D1	D2
							
1	2	3	4	5	6	7	8
Copper							
1,5	13,5	13	15,5	15	17,5	18	19
2,5	18	17,5	21	20	24	24	24
4	24	23	28	27	32	30	33
6	31	29	36	34	41	38	41
10	42	39	50	46	57	50	54
16	56	52	68	62	76	64	70
25	73	68	89	80	96	82	92
35	89	83	110	99	119	98	110
50	108	99	134	118	144	116	130
70	136	125	171	149	184	143	162
95	164	150	207	179	223	169	193
120	188	172	239	206	259	192	220
150	216	196	262	225	299	217	246
185	245	223	296	255	341	243	278
240	286	261	346	297	403	280	320
300	328	298	394	339	464	316	359
Aluminium							
2,5	14	13,5	16,5	15,5	18,5	18,5	
4	18,5	17,5	22	21	25	24	
6	24	23	28	27	32	30	
10	32	31	39	36	44	39	
16	43	41	53	48	59	50	53
25	57	53	70	62	73	64	69
35	70	65	86	77	90	77	83
50	84	78	104	92	110	91	99
70	107	98	133	116	140	112	122
95	129	118	161	139	170	132	148
120	149	135	186	160	197	150	169
150	170	155	204	176	227	169	189
185	194	176	230	199	259	190	214
240	227	207	269	232	305	218	250
300	261	237	306	265	351	247	282

NOTE
In columns 3, 5, 6, 7 and 8, circular conductors are assumed for sizes up to and including 16 mm2. Values for larger sizes relate to shaped conductors and may safely be applied to circular conductors.

XLPE OR EPR INSULATION, THREE LOADED CONDUCTORS/COPPER OR ALUMINIUM - CONDUCTOR TEMPERATURE: 90°C, AMBIENT TEMPERATURE: 30°C IN AIR, 20°C IN GROUND (According to table B.52.5 - Current-carrying capacities in amperes for installation methods in table XXXXXXXX)

Nominal cross-sectional area of conductor mm²	Installation methods of Table B.52.1						
	A1	A2	B1	B2	C	D1	D2
							
1	2	3	4	5	6	7	8
Copper							
1,5	17	16,5	20	19,5	22	21	23
2,5	23	22	28	25	30	28	30
4	31	30	37	35	40	36	39
6	40	38	48	44	52	44	49
10	54	51	66	60	71	58	65
16	73	68	88	80	96	75	84
25	95	89	117	105	119	96	107
35	117	109	144	128	147	115	129
50	141	130	175	154	179	135	153
70	179	164	222	194	229	167	188
95	216	197	269	233	278	197	226
120	249	227	312	268	322	223	257
150	285	259	342	300	371	251	287
185	324	295	384	340	424	281	324
240	380	346	450	398	500	324	375
300	435	396	514	455	576	365	419
Aluminium							
2,5	19	18	22	21	24	22	
4	25	24	29	28	32	28	
6	32	31	38	35	41	35	
10	44	41	52	48	57	46	
16	58	55	71	64	76	59	64
25	76	71	93	84	90	75	82
35	94	87	116	103	112	90	98
50	113	104	140	124	136	106	117
70	142	131	179	156	174	130	144
95	171	157	217	188	211	154	172
120	197	180	251	216	245	174	197
150	226	206	267	240	283	197	220
185	256	233	300	272	323	220	250
240	300	273	351	318	382	253	290
300	344	313	402	364	440	286	326

NOTE
In columns 3, 5, 6, 7, and 8, circular conductors are assumed for sizes up to and including 16 mm². Values for larger sizes refer to shaped conductors and can safely be applied to circular conductors.

CERTIFICATIONS

UL LISTING AND OTHER CERTIFICATIONS

UL AND NFPA MARKINGS

The UL Listed mark refers to a type of cable for fixed installations, both in commercial and industrial environments. Listed cables must not only comply with UL standards but also adhere to NEC (National Electric Code) regulations.
The NEC provides specific guidelines for proper cable installation and use. Cables can be used to connect various components, equipment, electrical instruments, machines, or for powering the structure in accordance with NFPA 79 and NFPA 70.

Examples of UL Listed cable codes:
MTW (Machine Tool Wiring)
THHW (Thermoplastic High Heat Resistance Water)
TC (Tray Cable)
THWM (Thermoplastic High Wet Resistance Nylon)
PLTC (Power Limited Tray Cables)
ER (Exposed Run)
WTTC (Wind Turbine Tray Cable)
DB (Direct Burial)

AWM CABLE MARKING

AWM (Appliance Wiring Material) is the marking for cables intended for use in electrical equipment in accordance with NFPA 79 and UL508A. AWM cables must be used according to the specified style. Using "listed" or "recognized" cables allows manufacturers of automated machinery or other electrical equipment to meet a key requirement for certifying their products in North America (e.g., UL Listed).

NFPA

NFPA 79 is a standard derived from the NEC that addresses the electrical installation of machinery (NEC art. 670). It is the standard to be used in the industrial sector for the design and construction of electrical systems for machines with power up to 1000 V.

NOTE
See UL LISTING - AWM - STYLES tables on pages XXXXXXXXXXXXX

HOW TO INTERPRET MARKINGS ISSUED BY RECOGNIZED CERTIFICATION BODIES (NRTL), SUCH AS UL

UL TEST AND CERTIFICATION

USA | **CANADA** | **CANADA and USA**

RECOGNIZED MARKS

UL mark
(UL certified products)

C-UL mark
(CSA conforming products)

C-UL mark
(UL certified products/ CSA conforming products)

LISTING MARKS

CSA NRTL / CSA US mark
(UL conforming products)

CSA mark
(CSA certified products)

CSA NRTL / CSA US mark
(CSA certified products/ UL conforming products)

NRTL US | NRTL / C C US

CSA TEST AND CERTIFICATION

HOW TO INTERPRET UL MARKINGS

The United States and Canada have a Mutual Recognition Agreement (MRA) that allows for unified certification. UL is recognized by the Standards Council of Canada (SCC) as a Certification Body (CO) and Testing Organization (TO), while CSA is recognized as an NRTL (Nationally Recognized Testing Laboratory) by the United States Occupational Safety and Health Administration (OSHA). This allows UL to test, evaluate, and certify compliance with CSA standards, and CSA to test, evaluate, and certify compliance with U.S. standards.

HAZARDOUS LOCATIONS

DEFINITION OF HAZARDOUS LOCATIONS ACCORDING TO NEC (National Electric Code)

Hazardous Locations, as defined by the ANSI/NFPA 70 National Electric Code (NEC), refer to areas where fires or explosions may occur due to the presence of flammable gases, vapors, liquids, or combustible dusts/fibers.
Electrical equipment can become a fire source—due to a short circuit, for example—and the NEC addresses installation and usage rules for such equipment in these areas through articles 500 to 504 and 510 to 517. Hazardous Locations (HL) are classified based on three factors: area type, hazard condition, and the nature of materials present.
The classification includes:

CLASS I
Areas where gases or vapors are present in sufficient quantities to pose a high risk of explosion, which can be triggered by electrical equipment.

CLASS II
Areas where combustible dusts, even in suspension, can lead to explosions.

CLASS III
Areas where fibers or flyings generated from material processing, handling, or storage may cause fire if they settle on machinery and are ignited by overheating or sparks.
The NEC identifies two main hazard conditions based on the materials present:

DIVISION 1 - NORMAL CONDITIONS
The hazard is present during production or maintenance operations.

DIVISION 2 - ABNORMAL CONDITIONS
The hazard arises when hazardous materials are contained in closed systems (e.g., containers, barrels) and may be released into the atmosphere only due to breakage or leakage.

Finally, hazardous materials are grouped by the NEC based on their combustion temperature, explosion risk, or other flammability characteristics. The groups are: A, B, C, D, E, F, G.

GROUP A
Atmosphere with acetylene

GROUP B
Atmosphere with hydrogen or similar gases

GROUP C
Atmosphere with ethylene or similar gases

GROUP D
Atmosphere with butane, gasoline, natural gases, propane

GROUP E
Atmosphere with metal dust

GROUP F
Atmosphere with combustible materials (e.g., coal)

GROUP G
Atmosphere with grain dust or similar materials

UL508A - AMPACITY TABLE FOR INSULATED CABLES BASED ON THEIR CROSS-SECTIONAL AREA AND INSTALLATION METHOD

TABLE F1 - AMPACITIES OF INSULATED CONDUCTORS

Wire size		60°C (140°F)		75°C (167°F)	
In ducts	In free air	In ducts	In free air	In ducts	In free air
AWG (mm²)	Copper	Aluminium	Copper	Aluminium	
14	(2.1)	15	-	15	-
12	(3.3)	20	15	20	15
12	(5.3)	30	25	30	25
8	(8.4)	40	30	50	40
6	(13.3)	55	40	65	50
4	(21.2)	70	55	85	65
3	(26.7)	85	65	100	75
2	(33.6)	95	75	115	90
1	(42.4)	110	85	130	100
1/0	(53.5)	-	-	150	120
2/0	(67.4)	-	-	175	135
3/0	(85.0)	-	-	200	155
4/0	(107.2)	-	-	230	180
250 kcmil	(127)	-	-	255	205
300	(152)	-	-	285	230
350	(177)	-	-	310	250
400	(203)	-	-	335	270
500	(253)	-	-	380	310
600	(304)	-	-	420	340
700	(355)	-	-	460	375
750	(380)	-	-	475	385
800	(405)	-	-	490	395
900	(456)	-	-	520	425
1000	(506)	-	-	545	445
1250	(633)	-	-	590	485
1500	(760)	-	-	625	520
1750	(887)	-	-	650	545
2000	(1013)	-	-	665	560

NOTE 1
For multiple conductors of equal size (1/0 AWG or larger) connected to a single terminal (parallel conductors), the ampacity is equal to the table value multiplied by the number of conductors that the terminal can accommodate.

NOTE 2
The ampacity values apply only when no more than three conductors are installed in the conduit. If there are four or more conductors (neutral is not considered if present), the ampacity of each conductor is:

- 80% of these values if 4-6 conductors are involved
- 70% of these values if 7-24 conductors are involved
- 60% of these values if 25-42 conductors are involved
- 50% if 43 or more conductors are involved

NFPA 79

NFPA 79 adotta un metodo analogo a quello di IEC 60204-1, seguono le tabelle. L'unica differenza è che la portata non dipende direttamente dal tipo di isolante ma dalla temperatura nominale stampigliata sul cavo (temperature rating).

TABLE G1 - CONDUCTOR AMPACITY BASED ON COPPER CONDUCTORS WITH 60°C (140°F), 75°C (167°F) AND 90°C (194°F). INSULATION IN AN AMBIENT TEMPERATURE OF 30°C (86°F)

Conductor size	Ampacity		
AWG	60°C (140°F)	75°C (167°F)	90°C (194°F)
30	-	0,5	0,5
28	-	0,8	0,8
26	-	1	1
24	2	2	2
22	3	3	3
20	5	5	5
18	7	7	14
16	10	10	18
14	15	20	25
12	20	25	30
10	30	35	40
8	40	50	55
6	55	65	75
4	70	85	95
3	85	100	115
2	95	115	130
1	110	130	145
1/0	125	150	170
2/0	145	175	195
3/0	165	200	225
4/0	195	230	260
250	215	255	290
300	240	285	320
350	260	310	350
400	280	335	380
500	320	380	430
600	355	420	475
700	385	460	520
750	400	475	535
800	410	490	555
900	435	520	585
1000	455	545	615

NOTE 1 Conductor types listed 12.3.1 shall be permitted to be used in the ampacities listed in this table.
NOTE 2 The source for the ampacities in this table is Table 310.15 (B) (16) of NFPA 70.

TABLE G2 - AMBIENT TEMPERATURE CORRECTION FACTORS

For ambient temperatures other than 30°C (86° F), multiply the allowable ampacity by the appropriate factor shown below			
Ambient temperature (°C)	Correction factor 60°C	Correction factor 75°C	Correction factor 69°C
21-25	1,08	1,05	1,04
26-30	1,00	1,00	1,00
31-35	0,91	0,94	0,96
36-40	0,82	0,88	0,91
41-45	0,71	0,82	0,87
46-50	0,58	0,75	0,82
51-55	0,41	0,67	0,76
56-60	-	0,58	0,71
61-70	-	0,33	0,58
71-80	-	-	0,41

TABLE G3 -ADJUSTMENT FACTORS FOR MORE THAN THREE CURRENT-CARRYING CONDUCTORS IN A RACEWAY OR CABLE

Number of current-carrying conductors	Percent of values in table a as adjusted for ambient temperature if necessary
4-6	80
7-9	70
10-20	50
21-30	45
31-40	40
41 and above	35

AMPACITY OF CONDUCTORS ACCORDING TO CSA C22.2 NO. 286

The tables show the ampacities of the conductors published in the standard to which reference must always be made.

TABLE H1 - ALLOWABLE AMPACITIES OF INSULATED COPPER CONDUCTORS INSIDE INDUSTRIAL CONTROL EQUIPMENT ENCLOSURES (AMBIENT TEMPERATURE 40°C) ACCORDING TO CSA C22.2 NO.286 – ED. 2015-2017 (CLAUSE 4.6.2, TABLE 7)

Wire Size [AWG/kcmil]	Copper conductor's ampacity with 90 °C insulation [A]		Copper conductor's ampacity with 105 °C insulation [A]	
	Non-ventilated enclosure	Open or in ventilated enclosure	Non-ventilated enclosure	Open or in ventilated enclosure
24 AWG	1	2	1	2
22	2	3	2	3
20	3	4	3	4
18	4	6	4	6
16	6	9	6	9
14	9	13	10	15
12	12	17	15	22
10	18	27	22	35
8	31	47	35	55
6	45	67	52	80
4	61	91	71	108
3	70	104	80	121
2	80	120	90	140
1	94	141	107	164
0	110	164	133	190
0	128	191	148	221
0	148	221	171	257
0	173	258	200	300
250 kcmil	194	285	221	340
300	214	322	250	384
350	242	355	276	420
400	262	385	299	449
500	298	442	343	515

TABLE H2 - AMPACITY ADJUSTMENT FACTORS BASED ON THE NUMBER OF CONDUCTORS ACCORDING TO CSA C22.2 NO.286 – ED. 2015-2017 (CLAUSE 4.6.2, TABLE 8)

Number of conductors	Correction factor
1÷3	1,00
4÷6	0,80
7÷24	0,70
25÷42	0,60
>42	0,50

AMPACITY OF CONDUCTORS ACCORDING TO CSA C22.1 (CE CODE)

The tables show the ampacities of conductors published in the standard, which must always be followed.

TABLE I1 - AMPACITIES OF CONDUCTORS IN FREE AIR WITH 60°C INSULATION TEMPERATURE ACCORDING TO CSA C22.1 (CE CODE) – ED. 2015-2024 (TABLE 1)

Conductor's size [AWG/kcmil]	Allowable ampacities of insulated copper conductors [A], rated not more than 5000V, in free air Insulation temperature 60°C										
	Ambient temperature Ta										
	30°C	31÷35°C	36÷40°C	41÷45°C	46÷50°C	51÷55°C	56÷60°C	61÷65°C	66÷70°C	71÷75°C	76÷80°C
14 AWG	25,0	22,7	20,5	17,7	14,5	10,2	-	-	-	-	-
12	30,0	27,3	24,6	21,3	17,4	12,3	-	-	-	-	-
10	40,0	36,4	32,8	28,4	23,2	16,4	-	-	-	-	-
8	60,0	54,6	49,2	42,6	34,8	24,6	-	-	-	-	-
6	80,0	72,8	65,6	56,8	46,4	32,8	-	-	-	-	-
4	105,0	95,5	86,1	74,5	60,9	43,0	-	-	-	-	-
3	120,0	109,2	98,4	85,2	69,6	49,2	-	-	-	-	-
2	140,0	127,4	114,8	99,4	81,2	57,4	-	-	-	-	-
1	165,0	150,1	135,3	117,1	95,7	67,6	-	-	-	-	-
1/0	195,0	177,4	159,9	138,4	113,1	79,9	-	-	-	-	-
2/0	220,0	200,2	180,4	156,2	127,6	90,2	-	-	-	-	-
3/0	260,0	236,6	213,2	184,6	150,8	106,6	-	-	-	-	-
4/0	300,0	273,0	246,0	213,0	174,0	123,0	-	-	-	-	-
250 kcmil	340,0	309,4	278,8	241,4	197,2	139,4	-	-	-	-	-
300	370,0	336,7	303,4	262,7	214,6	151,7	-	-	-	-	-
350	425,0	386,7	348,5	301,7	246,5	174,2	-	-	-	-	-
400	455,0	414,0	373,1	323,0	263,9	186,5	-	-	-	-	-
500	520,0	473,2	426,4	369,2	301,6	213,2	-	-	-	-	-
600	580,0	527,8	475,6	411,8	336,4	237,8	-	-	-	-	-
700	630,0	573,3	516,6	447,3	365,4	258,3	-	-	-	-	-
750	655,0	596,0	537,1	465,0	379,9	268,5	-	-	-	-	-
800	680,0	618,8	557,6	482,8	394,4	278,8	-	-	-	-	-
900	730,0	664,3	598,6	518,3	423,4	299,3	-	-	-	-	-
1000	785,0	714,3	643,7	557,3	455,3	321,8	-	-	-	-	-
1250	890,0	809,9	729,8	631,9	516,2	364,9	-	-	-	-	-
1500	985,0	896,3	807,7	699,3	571,3	403,8	-	-	-	-	-
1750	1070,0	973,7	877,4	759,7	620,6	438,7	-	-	-	-	-
2000	1160,0	1055,6	951,2	823,6	672,8	475,6	-	-	-	-	-

TABLE I2 - AMPACITIES OF CONDUCTORS IN FREE AIR WITH 75°C INSULATION TEMPERATURE ACCORDING TO CSA C22.1 (CE CODE) – ED. 2015-2024 (TABLE 1)

Conductor's size [AWG/kcmil]	Allowable ampacities of insulated copper conductors [A], rated not more than 5000V, in free air Insulation temperature 75°C										
	Ambient temperature Ta										
	30°C	31÷35°C	36÷40°C	41÷45°C	46÷50°C	51÷55°C	56÷60°C	61÷65°C	66÷70°C	71÷75°C	76÷80°C
14 AWG	30,0	28,2	26,4	24,6	22,5	20,1	17,4	14,1	9,9	-	-
12	35,0	32,9	30,8	28,7	26,2	23,4	20,3	16,4	11,5	-	-
10	50,0	47,0	44,0	41,0	37,5	33,5	29,0	23,5	16,5	-	-
8	70,0	65,8	61,6	57,4	52,5	46,9	40,6	32,9	23,1	-	-
6	95,0	89,3	83,6	77,9	71,2	63,6	55,1	44,6	31,3	-	-
4	125,0	117,5	110,0	102,5	93,7	83,7	72,5	58,7	41,2	-	-
3	145,0	136,3	127,6	118,9	108,7	97,1	84,1	68,1	47,8	-	-
2	170,0	159,8	149,6	139,4	127,5	113,9	98,6	79,9	56,1	-	-
1	195,0	183,3	171,6	159,9	146,2	130,6	113,1	91,6	64,3	-	-
1/0	230,0	216,2	202,4	188,6	172,5	154,1	133,4	108,1	75,9	-	-
2/0	265,0	249,1	233,2	217,3	198,7	177,5	153,7	124,5	87,4	-	-
3/0	310,0	291,4	272,8	254,2	232,5	207,7	179,8	145,7	102,3	-	-
4/0	360,0	338,4	316,8	295,2	270,0	241,2	208,8	169,2	118,8	-	-
250 kcmil	405,0	380,7	356,4	332,1	303,7	271,3	234,9	190,3	133,6	-	-
300	445,0	418,3	391,6	364,9	333,7	298,1	258,1	209,1	146,8	-	-
350	505,0	474,7	444,4	414,1	378,7	338,3	292,9	237,3	166,6	-	-
400	545,0	512,3	479,6	446,9	408,7	365,1	316,1	256,1	179,8	-	-
500	620,0	582,8	545,6	508,4	465,0	415,4	359,6	291,4	204,6	-	-
600	690,0	648,6	607,2	565,8	517,5	462,3	400,2	324,3	227,7	-	-
700	755,0	709,7	664,4	619,1	566,2	505,8	437,9	354,8	249,1	-	-
750	785,0	737,9	690,8	643,7	588,7	525,9	455,3	368,9	259,0	-	-
800	815,0	766,1	717,2	668,3	611,2	546,0	472,7	383,0	268,9	-	-
900	870,0	817,8	765,6	713,4	652,5	582,9	504,6	408,9	287,1	-	-
1000	935,0	878,9	822,8	766,7	701,2	626,4	542,3	439,4	308,5	-	-
1250	1065,0	1001,1	937,2	873,3	798,7	713,5	617,7	500,5	351,4	-	-
1500	1175,0	1104,5	1034,0	963,5	881,2	787,2	681,5	552,2	387,7	-	-
1750	1280,0	1203,2	1126,4	1049,6	960,0	857,6	742,4	601,6	422,4	-	-
2000	1385,0	1301,9	1218,8	1135,7	1038,7	927,9	803,3	650,9	457,0	-	-

TABLE I3 - AMPACITIES OF CONDUCTORS IN FREE AIR WITH 90°C INSULATION TEMPERATURE ACCORDING TO CSA C22.1 (CE CODE) – ED. 2015-2024 (TABLE 1)

Conductor's size [AWG/kcmil]	Allowable ampacities of insulated copper conductors [A], rated not more than 5000V, in free air Insulation temperature 90°C										
	Ambient temperature Ta										
	30°C	31÷35°C	36÷40°C	41÷45°C	46÷50°C	51÷55°C	56÷60°C	61÷65°C	66÷70°C	71÷75°C	76÷80°C
14 AWG	35,0	33,6	31,8	30,4	28,7	26,6	24,8	22,7	20,3	17,5	14,3
12	40,0	38,4	36,4	34,8	32,8	30,4	28,4	26,0	23,2	20,0	16,4
10	55,0	52,8	50,0	47,8	45,1	41,8	39,0	35,7	31,9	27,5	22,5
8	80,0	76,8	72,8	69,6	65,6	60,8	56,8	52,0	46,4	40,0	32,8
6	105,0	100,8	95,5	91,3	86,1	79,8	74,5	68,2	60,9	52,5	43,0
4	140,0	134,4	127,4	121,8	114,8	106,4	99,4	91,0	81,2	70,0	57,4
3	165,0	158,4	150,1	143,5	135,3	125,4	117,1	107,2	95,7	82,5	67,6
2	190,0	182,4	172,9	165,3	155,8	144,4	134,9	123,5	110,2	95,0	77,9
1	220,0	211,2	200,2	191,4	180,4	167,2	156,2	143,0	127,6	110,0	90,2
1/0	260,0	249,6	236,6	226,2	213,2	197,6	184,6	169,0	150,8	130,0	106,6
2/0	300,0	288,0	273,0	261,0	246,0	228,0	213,0	195,0	174,0	150,0	123,0
3/0	350,0	336,0	318,5	304,5	287,0	266,0	248,5	227,5	203,0	175,0	143,5
4/0	405,0	388,8	368,5	352,3	332,1	307,8	287,5	263,2	234,9	202,5	166,0
250 kcmil	455,0	436,8	414,0	395,8	373,1	345,8	323,0	295,7	263,9	227,5	186,5
300	500,0	480,0	455,0	435,0	410,0	380,0	355,0	325,0	290,0	250,0	205,0
350	570,0	547,2	518,7	495,9	467,4	433,2	404,7	370,5	330,6	285,0	233,7
400	615,0	590,4	559,6	535,0	504,3	467,4	436,6	399,7	356,7	307,5	252,1
500	700,0	672,0	637,0	609,0	574,0	532,0	497,0	455,0	406,0	350,0	287,0
600	780,0	748,8	709,8	678,6	639,6	592,8	553,8	507,0	452,4	390,0	319,8
700	850,0	816,0	773,5	739,5	697,0	646,0	603,5	552,5	493,0	425,0	348,5
750	885,0	849,6	805,3	769,9	725,7	672,6	628,3	575,2	513,3	442,5	362,8
800	920,0	883,2	837,2	800,4	754,4	699,2	653,2	598,0	533,6	460,0	377,2
900	980,0	940,8	891,8	852,6	803,6	744,8	695,8	637,0	568,4	490,0	401,8
1000	1055,0	1012,8	960,0	917,8	865,1	801,8	749,0	685,7	611,9	527,5	432,5
1250	1200,0	1152,0	1092,0	1044,0	984,0	912,0	852,0	780,0	696,0	600,0	492,0
1500	1325,0	1272,0	1205,7	1152,7	1086,5	1007,0	940,7	861,2	768,5	662,5	543,2
1750	1445,0	1387,2	1314,9	1257,1	1184,9	1098,2	1025,9	939,2	838,1	722,5	592,4
2000	1560,0	1497,6	1419,6	1357,2	1279,2	1185,6	1107,6	1014,0	904,8	780,0	639,6

TABLE I4 - ADJUSTMENT FACTORS FOR THE AMPACITIES INDICATED IN THE PREVIOUS TABLES AND BASED ON THE NUMBER OF CONDUCTORS. It applies when the space between cables is less than 25% of the largest cable diameter. Values according to CSA C22.1 (CE Code) – Ed. 2015-2024 (Table XXXXXXXXXXXX)

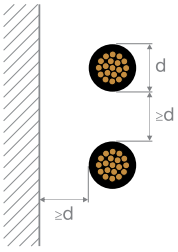
Number of conductors	Correction factor
2	0,90
3	0,85
4	0,80

NOTE Where more than four conductors are in contact, the ratings for conductors in raceways shall be used.

AMPACITIES OF CONDUCTORS ACCORDING TO VDE 0298-4

The tables show the ampacities of the conductors published in the standard to which reference must always be made.

TABLE L1 - AMPACITIES OF CONDUCTORS WITH RATED VOLTAGE UP TO 1000V ACCORDING TO VDE 0298-4 – ED. 2013 - TABLE 11

Conductor's size [mm2]	Cable's type and method of installation				
	Single-core cables insulated with rubber, PVC, or TPE, heat resistant, laid in free air	Multicore cables (rubber, PVC, TPE insulated) for home and portable devices, laid on surfaces		Multicore cables (rubber, PVC, TPE insulated; heat resistant③) excluded for home and portable apparatus, laid on surfaces	
					
	Number of current-carrying conductors				
	1	2	3	2	3
	Allowable ampacity [A]				
0,08[1]	1,5	-	-	1	1
0,14[1]	3	-	-	2	2
0,25[1]	5	-	-	4	4
0,34[1]	8	-	-	6	6
0,5	12[2]	3	3	9②	9②
0,75	15	6	6	12	12
1	19	10	10	15	15
1,5	24	16	16	18	18
2,5	32	25	20	26	26
4	42	32	25	34	34
6	54	40	-	44	44
10	73	63	-	61	61
16	98	-	-	82	82
25	129	-	-	108	108
35	158	-	-	135	135
50	198	-	-	168	168
70	245	-	-	207	207
95	292	-	-	250	250
120	344	-	-	292	292
150	391	-	-	335	335
185	448	-	-	382	382
240	528	-	-	453	453
300	608	-	-	523	523
400	726	-	-	-	-
500	830	-	-	-	-
Factor	**Reference table for the correction factors for the ampacities indicated above**				
Ambient temperature	-	-	-	-	-
Circuits of single-core cables	-	-	-	-	-
Circuits of multi-cores cables	-	-	-	-	-
Cables winded in spool, reel, drum or helix-type coiled	-	-	-	-	-
Installation on surfaces, in raceways or conduits	-	-	-	-	-
Installation in cable trays	-	-	-	-	-

NOTE 1 According to VDE 0891-1, values not included in VDE 0298-4.
NOTE 2 According to VDE 0100-523, values not included in VDE 0298-4.
NOTE 3 Heat resistant cables are typically with at least 90°C insulation temperature (see VDE 0298-4 for more details).

TABLE L2 - CORRECTION FACTORS FOR THE AMPACITIES INDICATED IN THE TABLE L1 FOR DIFFERENT AMBIENT TEMPERATURES AND DIFFERENT INSULATION TEMPERATURES OF CABLES ACCORDING TO VDE 0298-4 ED. 2013 - TABLE 17-18

Ambient temperature Ta	Insulation temperature						
	60°C	70°C	80°C	90°C [1]	110°C [1]	135°C [1]	180°C [1]
	Correction factor						
30	1,00	1,00	1,00	1,00	1,00	1,00	1,00
35	0,91	0,94	0,95	1,00	1,00	1,00	1,00
40	0,82	0,87	0,89	1,00	1,00	1,00	1,00
45	0,71	0,79	0,84	1,00	1,00	1,00	1,00
50	0,58	0,71	0,77	1,00	1,00	1,00	1,00
55	0,41	0,61	0,71	0,94	1,00	1,00	1,00
60	-	0,50	0,63	0,87	1,00	1,00	1,00
65	-	0,35	0,55	0,79	1,00	1,00	1,00
70	-	-	0,45	0,71	1,00	1,00	1,00
75	-	-	0,32	0,61	1,00	1,00	1,00
80	-	-	-	0,50	1,00	1,00	1,00
85	-	-	-	0,35	0,91	1,00	1,00
90	-	-	-	-	0,82	1,00	1,00
95	-	-	-	-	0,71	1,00	1,00
100	-	-	-	-	0,58	0,94	1,00
105	-	-	-	-	0,41	0,87	1,00
110	-	-	-	-	-	0,79	1,00
115	-	-	-	-	-	0,71	1,00
120	-	-	-	-	-	0,61	1,00
125	-	-	-	-	-	0,50	1,00
130	-	-	-	-	-	0,35	1,00
135	-	-	-	-	-	-	1,00
140	-	-	-	-	-	-	1,00
145	-	-	-	-	-	-	1,00
150	-	-	-	-	-	-	1,00
155	-	-	-	-	-	-	0,91
160	-	-	-	-	-	-	0,82
165	-	-	-	-	-	-	0,71
170	-	-	-	-	-	-	0,58
175	-	-	-	-	-	-	0,41

NOTE 1 Heat resistant cables (see VDE 0298-4 for more details).

TABLE L3 - CORRECTION FACTORS FOR SINGLE-CORE CABLES' CIRCUITS ACCORDING TO VDE 0298-4 – ED. 2013 - TABLE 10 – NOTE A

Ambient temperature Ta	Type of installation for single core cables	
	Clusters of single core cables in touch to each other or bundled installed on surfaces	Clusters of single core cables in touch to each other or bundled installed free in air or in cable trays
	Correction factor	
A.C. single-phase circuits or D.C. circuits	0,76	0,80
A.C. three-phase circuits	0,67	0,70

Attention: for single core cables installed in conduits or in ducts please see rule of Table 10 of VDE 0298-4 standard.

TABLE L4 - CORRECTION FACTORS FOR MULTI CORE CABLES' CIRCTUITS UP TO 10 MM2 SIZE ACCORDING TO VDE 0298-4 – ED. 2013 - TABLE 26

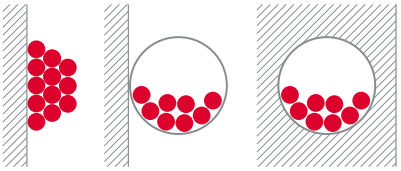
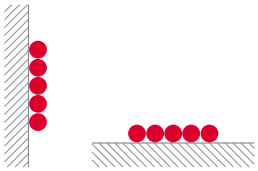
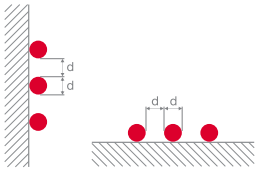
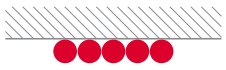
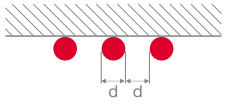
Number of current carrying conductors	Correction factor for cables in free air	Correction factor for cables in earth (burial)
5	0,75	0,70
7	0,65	0,60
10	0,55	0,50
14	0,50	0,45
19	0,45	0,40
24	0,40	0,35
40	0,35	0,30
61	0,30	0,25

TABLE L5 - CORRECTION FACTORS FOR CABLES WINDED IN SPOOL, REEL, DRUM OR HELIX-TYPE COILED ACCORDING TO VDE 0298-4 – ED. 2013 - TABLE 27

Number of layers on spool, reel or drum	1	2	3	4	5
Correction factor	0,80 [1]	0,61	0,49	0,42	0,38

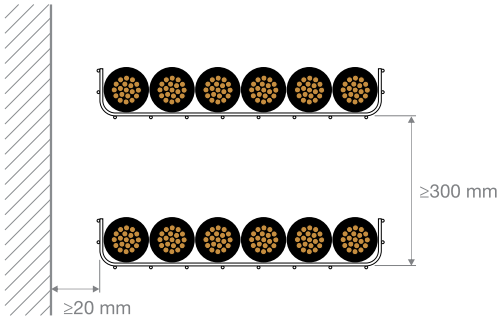
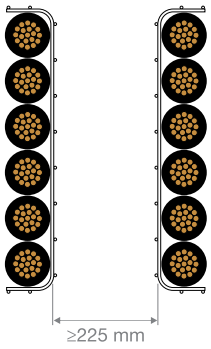
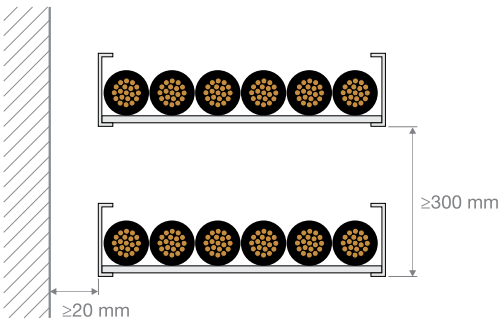
NOTE 1 Use this correction factor for spiral cables (in one layer).

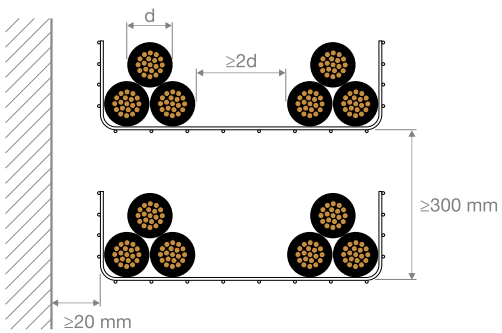
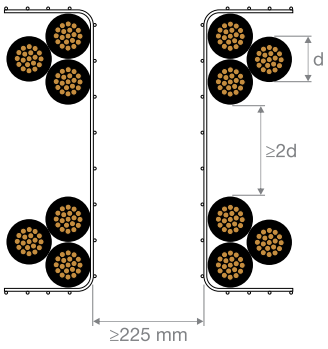
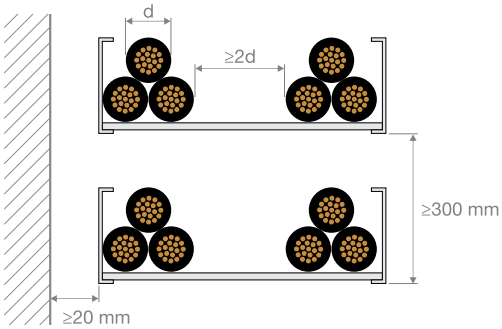
TABLE L6 - CORRECTION FACTORS FOR SINGLE-CORE AND MULTICORE CABLES' CIRCUITS ON SURFACES, WALLS, CEILING OR IN CONDUITS ACCORDING TO VDE 0298-4 – ED. 2013 - TABLE 21

Installation method	Number of multi-core cables or number of A.C. or three-phase circuits of single-core cables (2 or 3 current-carrying conductors)														
	1	2	3	4	5	6	7	8	9	10	12	14	16	18	20
Bunched directly and in touch between each other on floors, on walls, in conduits or in wireways or in the wall 	1,00	0,80	0,70	0,65	0,60	0,57	0,54	0,52	0,50	0,48	0,45	0,43	0,41	0,39	0,38
In one layer in touch between each other on floors or attached to walls 	1,00	0,85	0,79	0,75	0,73	0,72	0,72	0,71	0,70	0,70	0,70	0,70	0,70	0,70	0,70
In one layer with a clearance equal to the external diameter "d" on floors or attached to walls 	1,00	0,94	0,90	0,90	0,90	0,90	0,90	0,90	0,90	0,90	0,90	0,90	0,90	0,90	0,90
In one layer in touch between each other under the ceiling 	0,95	0,81	0,72	0,68	0,66	0,64	0,63	0,62	0,61	0,61	0,61	0,61	0,61	0,61	0,61
In one layer with a clearance equal to the external diameter "d" under the ceiling 	0,95	0,85	0,85	0,85	0,85	0,85	0,85	0,85	0,85	0,85	0,85	0,85	0,85	0,85	0,85

NOTE 1 Correction factors can be applied only to similarly loaded cables with a similar type of installation, where nominal cross sections differ by only one step.
NOTE 2 If the actual horizontal space between adjacent cables is more than double the outer diameter, no correction factor is needed.
NOTE 3 For a system consisting of multicore cables, the number of circuits must be considered. The correction factor should be applied to the ampacity of the two or three current-carrying conductors in the cables.
NOTE 4 If the grouping of single-core cables consists of n loaded single-core cables, the correction factor must be determined for n/2 or n/3 circuits depending on the number of current-carrying conductors.

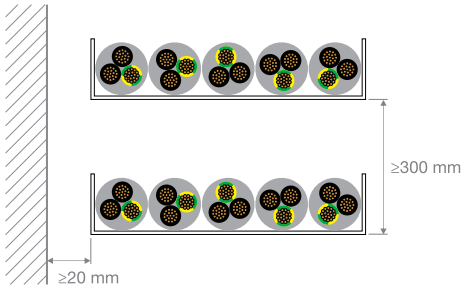
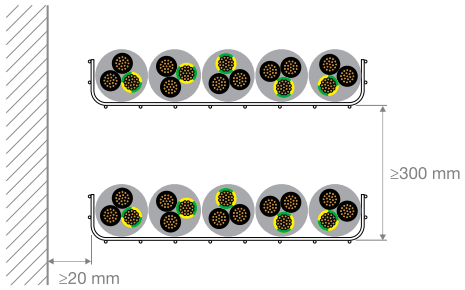
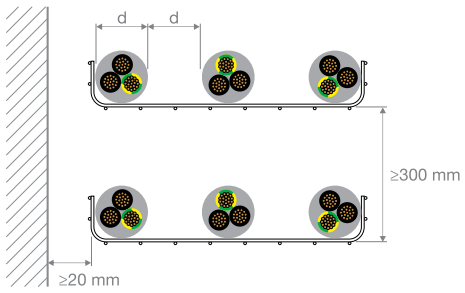
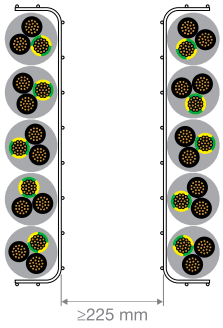
TABLE L7 - CORRECTION FACTORS FOR SINGLE-CORE CABLES' CIRCUITS INSTALLED IN CABLE TRAYS ACCORDING TO VDE 0298-4 – ED. 2013 - TABLE 23

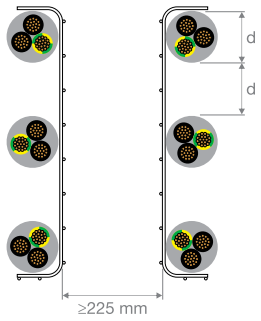
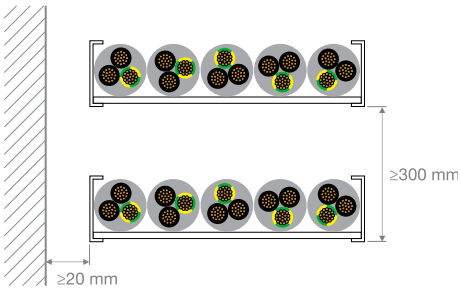
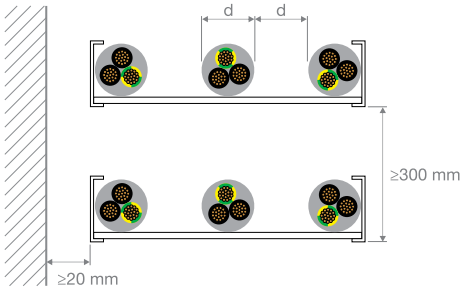
Installation method	Number of cable trays	Number of three-phase circuits of single-core cables		
		1	2	3
		Correction factor		
Single layer in touch between each other in **ventilated cable trays** in a horizontal plane arrangement 	1	0,98	0,91	0,87
	2	0,96	0,87	0,81
	3	0,95	0,85	0,78
Single layer between each other in **ventilated cable trays** in a vertical plane arrangement 	1	0.96	0,86	-
	2	0,95	0,84	-
Single layer between each other in **cable ladders** in a horizontal plane arrangement 	1	1	0,97	0,96
	2	0,98	0,93	0,89
	3	0,97	0,9	0,86

Installation method	Number of cable trays	Number of three-phase circuits of single-core cables		
		1	2	3
		Correction factor		
Delta configuration in **ventilated cable trays** in a horizontal plane arrangement 	1	1	0,98	0,96
	2	0,97	0,93	0,89
	3	0,96	0,92	0,86
Delta configuration in **ventilated cable trays** in a vertical plane arrangement 	1	1	0,91	0,89
	2	1	0,9	0,86
Delta configuration in **cable ladders** in a horizontal plane arrangement 	1	1	1	1
	2	0,97	0,95	0,93
	3	0,96	0,94	0,9

NOTE 1 If the cables are lying on top of each other or if the minimum required distance is not guaranteed, extra correction factors must be applied

TABLE L8 - CORRECTION FACTORS FOR MULTICORE CABLES INSTALLED IN CABLE TRAYS ACCORDING TO VDE 0298-4 – ED. 2013 - TABLE 22

Installation method	Number of cable trays	Number of multicore cables					
		1	2	3	4	5	9
		Correction factor					
Single layer in touch between each other in **non ventilated cable trays** in a horizontal plane arrangement 	1	0,97	0,84	0,78	0,75	0,71	0,68
	2	0,97	0,83	0,76	0,72	0,68	0,63
	3	0,97	0,82	0,75	0,71	0,66	0,61
	6	0,97	0,81	0,73	0,69	0,63	0,58
Single layer in touch between each other in **ventilated cable trays** in a horizontal plane arrangement 	1	1,00	0,88	0,82	0,79	0,76	0,73
	2	1,00	0,87	0,80	0,77	0,73	0,68
	3	1,00	0,86	0,79	0,76	0,71	0,66
	6	1,00	0,84	0,77	0,73	0,68	0,64
Single layer with a clearance equal to the external diameter "d" in **ventilated cable trays** in a horizontal plane arrangement. 	1	1,00	1,00	0,98	0,95	0,91	-
	2	1,00	0,99	0,96	0,92	0,87	-
	3	1,00	0,98	0,95	0,91	0,85	-
Single layer between each other in **ventilated cable trays** in a vertical plane arrangement. 	1	1,00	0,88	0,82	0,78	0,73	0,72
	2	1,00	0,88	0,81	0,76	0,71	0,70

Installation method	Number of cable trays	Number of multicore cables					
		1	2	3	4	5	9
		Correction factor					
Single layer with a clearance equal to the external diameter "d" in **ventilated cable trays** in a vertical plane arrangement 	1	1,00	0,91	0,89	0,88	0,87	-
	2	1,00	0,91	0,88	0,87	0,85	-
Single layer between each other in **cable ladders** in a horizontal plane arrangement. 	1	1,00	0,87	0,82	0,80	0,79	0,78
	2	1,00	0,86	0,81	0,78	0,76	0,73
	3	1,00	0,85	0,79	0,76	0,73	0,70
	6	1,00	0,83	0,76	0,73	0,69	0,66
Single layer with a clearance equal to the external diameter "d" in **cable ladders** in a horizontal plane arrangement 	1	1,00	1,00	1,00	1,00	1,00	-
	2	1,00	0,99	0,98	0,97	0,96	-
	3	1,00	0,98	0,97	0,96	0,93	-
	6	0,96	0,94				0,9

NOTE 1 If the cables are lying on top of each other or if the minimum required distance is not guaranteed, extra correction factors must be applied

UL IQ™ FOR APPLIANCE WIRING MATERIALS

SINGLE-CONDUCTOR, THERMOPLASTIC INSULATION							
1001	1002	1003	1007	1011	1012	1013	1014
1015	1016	1017	1018	1019	1020	1021	1022
1023	1024	1025	1026	1027	1028	1029	1030
1032	1034	1035	1039	1041	1043	1045	1047
1049	1051	1053	1054	1055	1056	1057	1058
1059	1060	1061	1062	1063	1064	1065	1066
1071	1074	1076	1078	1080	1095	1096	1099
1101	1107	1108	1109	1110	1113	1114	1115
1116	1117	1118	1119	1120	1121	1122	1123
1124	1141	1142	1143	1146	1148	1149	1150
1152	1153	1158	1159	1160	1161	1162	1168
1170	1176	1177	1184	1185	1186	1193	1195
1196	1197	1207	1208	1211	1218	1220	1230
1233	1235	1237	1239	1253	1269	1274	1281
1282	1283	1284	1287	1288	1289	1291	1295
1296	1297	1298	1299	1300	1301	1302	1303
1304	1305	1306	1307	1308	1309	1314	1316
1317	1318	1319	1320	1324	1325	1326	1330
1331	1332	1333	1334	1335	1336	1337	1338
1339	1340	1341	1347	1348	1349	1350	1352
1353	1354	1365	1366	1371	1375	1379	1380
1381	1382	1385	1386	1400	1401	1402	1403
1404	1405	1406	1407	1408	1409	1410	1411
1412	1413	1414	1420	1427	1428	1435	1436
1437	1438	1439	1443	1444	1447	1459	1466
1475	1477	1478	1479	1480	1483	1484	1493
1494	1495	1497	1498	1499	1500	1504	1506
1507	1508	1509	1511	1516	1517	1518	1519
1520	1521	1522	1523	1538	1541	1545	1546
1555	1556	1558	1568	1569	1571	1575	1576
1577	1581	1582	1589	1591	1592	1596	1598
1600	1605	1609	1610	1613	1618	1632	1642
1645	1647	1649	1650	1662	1672	1674	1679
1680	1683	1686	1687	1689	1692	1702	1706
1707	1708	1709	1710	1723	1726	1727	1729
1730	1731	1792	1809	1816	1825	1831	1836
1847	1848	1849	1860	1865	1866	1872	1873
1882	1886	1887	1890	1895	1896	1897	1900
1901	1903	1905	1908	1909	1920	1921	1922
1926	1929	1930	1933	1940	1943	1948	1950
1956	1958	1967	1968	1973	1982	1984	1986
1987	1992	1994	1999	10002	10009	10011	10012
10016	10024	10026	10027	10029	10030	10031	10032
10042	10052	10053	10059	10060	10062	10067	10070
10075	10076	10082	10086	10098	10107	10113	10117
10118	10124	10127	10131	10137	10138	10152	10154
10198	10227	10229	10232	10233	10234	10235	10236
10237	10239	10240	10258	10263	10264	10268	10269
10271	10309	10321	10337	10356	10377	10378	10381

10390	10429	10434	10437	10438	10442	10449	10450
10452	10466	10467	10477	10483	10489	10492	10493
10494	10495	10516	10518	10523	10524	10532	10536
10547	10548	10559	10574	10578	10585	10587	10593
10604	10615	10624	10627	10628	10630	10639	10660
10661	10675	10676	10677	10678	10679	10680	10681
10682	10683	10684	10685	10686	10687	10688	10689
10690	10691	10692	10693	10700	10701	10702	10703
10705	10707	10708	10719	10746	10747	10748	10749
10750	10751	10752	10753	10754	10755	10756	10757
10758	10759	10760	10761	10762	10763	10764	10765
10766	10767	10768	10769	10770	10771	10772	10773
10774	10775	10785	10835	10848	10856	10857	10858
10867	10913	10914	10924	10925	10955	10956	10958
10973	10976	10977	10978	10979	10980	10988	10989
11008	11009	11036	11110	11113	11117	11170	11171
11172	11173	11179	11233	11241	11295	11321	11323
11445	11551	11568	11602	11613	11624	11632	11635
11657	11658	11725	11726	11727	11728	11729	11730
11773	11785	11789	11802	11822	11846	11935	11936
11939	11947						

MULTIPLE-CONDUCTOR, THERMOPLASTIC INSULATION

2089	2090	2091	2092	2093	2094	2095	2096
2097	2098	2099	2100	2101	2102	2103	2106
2107	2108	2112	2113	2114	2115	2116	2117
2121	2122	2123	2124	2125	2126	2127	2128
2129	2134	2135	2145	2146	2147	2151	2165
2166	2262	2263	2264	2265	2266	2267	2268
2269	2270	2271	2272	2273	2274	2275	2276
2277	2278	2279	2280	2281	2282	2283	2284
2285	2286	2287	2288	2310	2311	2317	2319
2321	2325	2331	2332	2338	2339	2340	2343
2344	2345	2346	2347	2350	2351	2352	2353
2354	2355	2356	2384	2385	2386	2387	2388
2397	2405	2422	2423	2424	2425	2426	2430
2431	2441	2446	2448	2461	2462	2463	2464
2481	2482	2483	2486	2490	2493	2498	2501
2502	2516	2517	2518	2526	2530	2532	2535
2549	2550	2551	2560	2570	2571	2574	2576
2582	2584	2586	2587	2589	2598	2610	2611
2614	2626	2630	2631	2637	2651	2653	2654
2655	2656	2660	2661	2662	2668	2704	2709
2726	2732	2733	2754	2777	2778	2785	2786
2789	2803	2833	2835	2839	2841	2842	2854
2876	2885	2889	2897	2907	2919	2920	2921
2929	2930	2931	2934	2935	2936	2937	2938
2941	2960	2961	2967	2969	2990	2991	2992
2993	2996	20002	20039	20041	20042	20060	20063
20066	20082	20083	20084	20090	20099	20106	20112
20113	20121	20124	20125	20130	20132	20135	20150

20153	20154	20155	20167	20173	20181	20195	20200
20201	20207	20233	20234	20235	20236	20241	20242
20243	20253	20254	20265	20266	20267	20276	20280
20288	20293	20294	20295	20317	20319	20322	20336
20339	20352	20361	20379	20381	20402	20405	20429
20432	20433	20437	20438	20448	20464	20470	20475
20481	20482	20492	20517	20531	20549	20552	20553
20554	20572	20601	20626	20668	20671	20724	20850
20851	20882	20886	20910	20939	20940	20950	20963
20978	21014	21060	21061	21080	21089	21095	21096
21098	21100	21115	21126	21132	21143	21161	21165
21176	21179	21184	21188	21198	21209	21216	21217
21218	21223	21235	21238	21273	21274	21281	21282
21330	21339	21441	21481	21484	21527	21576	21613
21694	21695	21926	21947	22008	22009	22010	22021
22066	22083	22176	22177	22178	22179	22180	22182
22187	22192	22193	22225	22254	22381	22382	22383
SINGLE-CONDUCTOR, THERMOSET INSULATION							
3066	3067	3068	3069	3070	3071	3074	3075
3076	3077	3078	3098	3099	3100	3101	3113
3114	3122	3123	3125	3126	3127	3128	3129
3130	3132	3133	3134	3135	3136	3137	3138
3139	3140	3141	3142	3143	3144	3145	3146
3147	3148	3149	3150	3151	3152	3153	3160
3161	3162	3167	3172	3173	3179	3180	3182
3195	3207	3212	3213	3214	3231	3236	3237
3239	3243	3262	3266	3268	3270	3271	3272
3278	3288	3289	3290	3296	3298	3301	3303
3305	3316	3318	3321	3322	3323	3324	3332
3342	3343	3344	3348	3351	3352	3353	3367
3408	3410	3435	3440	3456	3482	3487	3496
3508	3512	3513	3522	3527	3529	3530	3535
3536	3546	3547	3548	3549	3566	3580	3604
3605	3646	3674	3795	3796	3814	3819	30050
30051	30052	30053	30054	30055			
MULTIPLE-CONDUCTOR, THERMOSET INSULATION							
4389	4421	4487					
SINGLE AND MULTIPLE-CONDUCTOR SPECIALTY ITEMS							
5592							

GUIDELINES FOR CABLE USE

GENERAL REQUIREMENTS

These 'General Requirements' have to be understood as generalized directions for proper use of electric cables in safety condition; unless it is otherwise stated, the cables must not be used for purposes other than transmission and distribution of electricity. The cables must be installed, used and protected in the best way to avoid any hazard, as far as it is reasonably possible, ensuring the necessary maintenance. The cables must be used following the boundary conditions of use for which they were produced and guaranteed. The cables must not be exposed to harmful chemicals' actions unless they have been constructed to withstand these actions. For example: solvents, hydrocarbons, oils and grease, flora attacks (especially by mold or by acidic or basic solutions and by wood processing chemicals). The cables must be adequately protected against the risk of mechanical damages to which they could be exposed under normal service conditions or during installation, for instance if attacked by the fauna (particularly rodents and termites) or during the passages through metal covers (pipes, holes, load handling, etc...). The cables must not be installed in locations that are exposed to the rain, or immersed in running or stagnant water unless they are declared suitable to withstand these conditions.
The effect of ultraviolet radiation on the outer jacket of the cable must be taken into consideration.

PERIODIC INSPECTIONS BY THE PURCHASER

The unprotected cables and therefore subjected to the danger of accidental contacts, must be visually inspected all the way up and, if necessary, must be controlled in an appropriate way both after installation and periodically during the service.
The accessible cables for fixed installation or for fixed or portable devices must be periodically examined and whenever the fear arises that the cable may have been damaged by internal (overvoltage, overload) or external stresses. If the cable shows visible changes in appearance or clear signs of damage, it must be repaired by qualified and expert personnel through the use of appropriate devices or it must be replaced. If the external appearance of the cable show signs of wear, damage or visible change in appearance, the cable must be replaced.
One year is the period of time indicated as frequency of control for fixed installation.
The cables accessible to mobile or portable devices have to be examined at the end of each use.

GENERAL CONDITIONS OF STORAGE

The cables which are not intended to be installed outdoor must be stored in a dry environment. All the cables which are suited and intended to be stored outside must have sealed ends in order to avoid the penetration of moisture.

SUGGESTIONS FOR CORRECT CABLE UNROLLING

Unreel the cable from the skein or the drums avoiding eyelets or torsions, as shown in (Fig. A), but following the directions of the (Fig. B).

FIGURE A

INCORRECT PROCESS

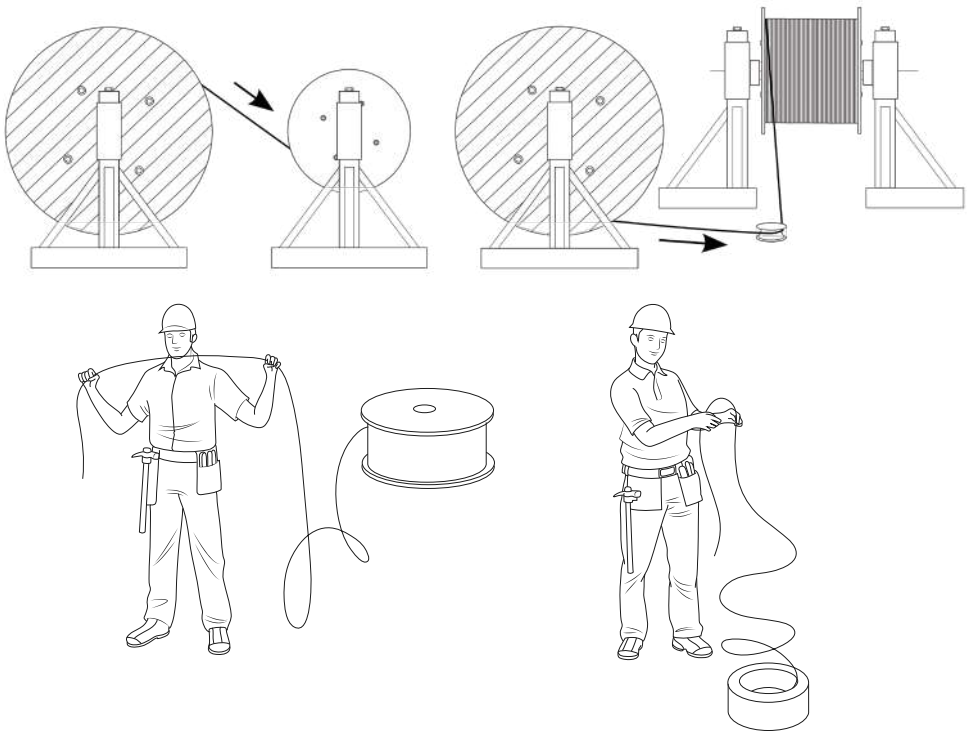
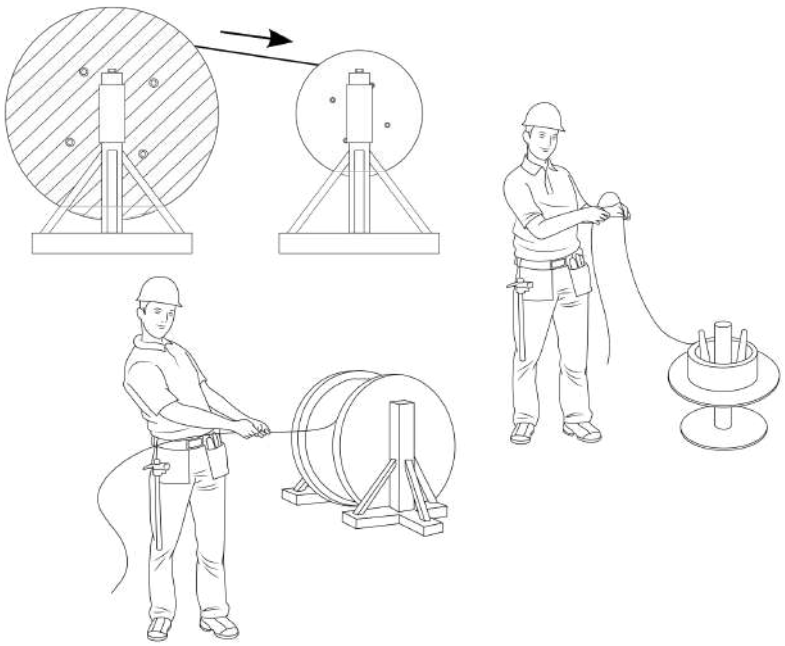


FIGURE B

CORRECT PROCESS



STATIC INSTALLATION

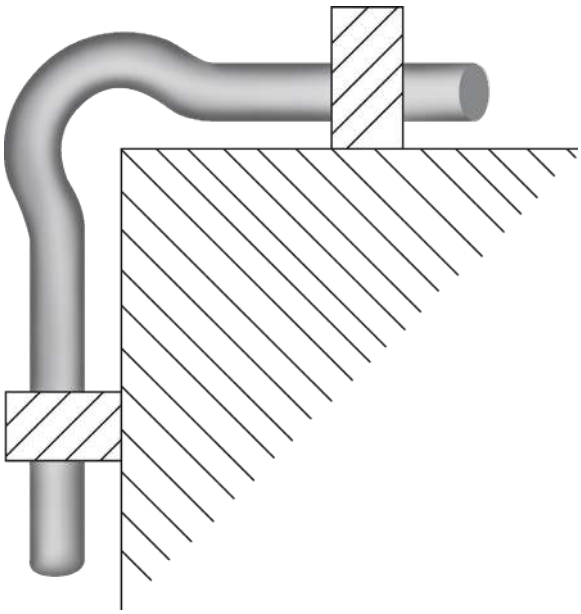
In absence of any specific installation instructions, please comply with the following ones:

- The cables must not be installed in contact or close to hot surfaces, unless they have been projected for these conditions.
- The cables should not normally be directly buried.
- The cables must be adequately supported.
- The cables must not be damaged by mechanical fastening elements used to support them.

DIRECTIONS FOR THE STATIC INSTALLATION OF THE CABLES

The cables are installed and left in a defined position. The cables are moved only for maintenance, repairs or exceptional operations.
Typical case: cables laid in raceways, in pipes, fixed to parts of buildings or industrial equipment.
The cable should be installed complying with the minimum bending radius indicated in the technical specification, avoiding direct contact with sharp edges (Fig. C).

FIGURE C



TRACTION STRESSES

While installing cables in a static installation, inside pipes, raceways, or other, or in a dynamic installation in cable drag chains, it is good to apply a traction limited to the maximum value that the cable can support. The following expressions are meant to calculate the maximum applicable value:
Maximum tensile stress during cable installation, max. 50N per mm2 of conductor section.
Maximum tensile stress in constant fixed position, max. 15N per mm2 of conductor cross section.

INSTALLATION IN DRAG CHAIN

For connections to mobile equipment, portable or transportable, the cables that are used must be flexible or very flexible. The exposed segments of the flexible or highly flexible cable, that are used as terminal connection to fixed equipment, must be as short as possible and must be connected to the fixed parts of the plant and of the equipment in an appropriate way. Flexible or highly flexible cables must not be subjected to excessive force of traction, as well as twist, torque-flex, to crushing, to abrasion or angle bending (in particular, the provided bending radii have to be respected). These cables must not be used in contact or close to hot surfaces, unless they have been provided for these conditions. With regard to the 'boundary conditions' of use (nominal voltage, current flow rate, operating temperature, thermal effects) reference should be made to what is prescribed in the mandatory purchase or technical specification or technical standard reference.
All materials used for cables production allow dynamic use in a wide variety of industrial environment conditions, from the tropics to the lowest temperatures of artic regions. It is nevertheless important to prevent that an inappropriate installation could cause a malfunctioning difficult to be noticed and machine tool breakdown.

IN DRAG CHAIN INSTALLATION SUGGESTIONS

Leave cables unrolled so that they can recover their natural position. For chains longer than 7/8m it is better to leave cables unrolled in vertical position.
Insert cables in the chain following their natural curvature.
Avoid cable twirling, overlapping or torsional stresses. The cables must be placed parallel without overlapping inside the guide. If possible every cable should have its own seat separated from the other.
In the chain include a free space, for the cables, which is at least 10% of the total space. Increase the free space up to 20% of the total if hydraulic pipes are present. The height must be dimensioned according to the cable which has the greater diameter, with a free space which must be at least 10% of the total space.
In the presence of two or more cables, the following rules are recommended to avoid overlapping:

D1 + D2> 1.2 x H THE SEPARATOR IS NOT NEEDED

d1 + d2 ≤ 1.2 x H INSERT THE SEPARATOR

If the chain is in a vertical position it is suggested to slightly oversize the gaps because the cables after an initial period of work will suffer a stretch. Program a repositioning if necessary.

FIGURE D

INCORRECT

The cables must be placed parallel without overlapping inside the guide.

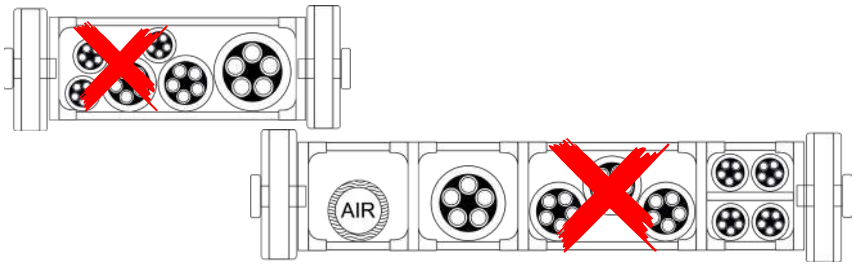


FIGURE E

CORRECT

Every cable should, if possible, have its own seat separated from the other.

In the chain it has to be provided a free space for the cables, which is at least 10% of the total space. Increase the free space up to 20% of the total if hydraulic pipes are present.

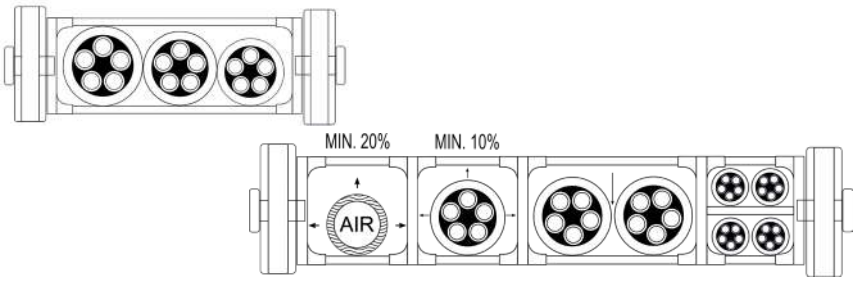
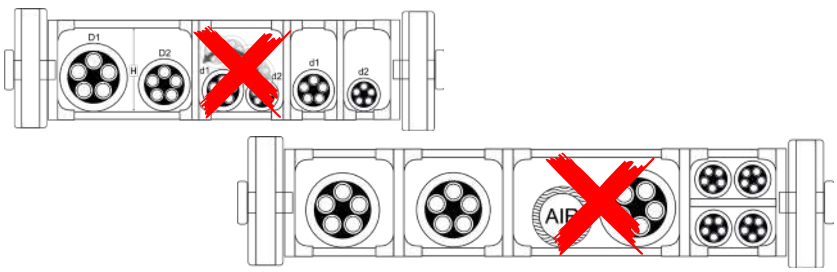


FIGURE F

INCORRECT

Avoid cable twirlings, overlappings or torsional stresses.
Hydraulic or air pipes should be separated from power cables with the separator.



- Cables must not be attached or bound one to the other inside the guide. An utmost care must be taken to allow the cables to freely slide throughout the curve in order to avoid twistings or tension stresses on the cable (Fig. G).
- Connect the cables to the moving carriage. If the cable is provided with a drive element or braid support, it must be fastened at both ends so that it can withstand the mechanical stress of traction.
- Once cables are connected to the moving unit, before connecting them to the fixed end, it is recommend to start the chain and allow some hundreds cycles so as to be sure that cables have reached the most stable position inside the chain without any tension and/or torsion stress; then complete the cable fastening.
- Cables' fastening must allow a certain degree of ease inside the chain so that cables, during motion, always move in the middle of the bending curve (Fig. H).
- The best way to fasten cables at both ends, in particular to the non-moving end, is to secure them at a distance of about 15-20-30 times of the cable diameter (depending on cable type), possibly on a cable terminal unit at 90° to the chain axis (Fig. I). This is particularly recommended in case of high-performance and great acceleration/deceleration needs and/or for very low temperature applications. For 'standard' applications cable fastening can be carried out as shown in (Fig. L) and (Fig. M).

FIGURE G

INCORRECT

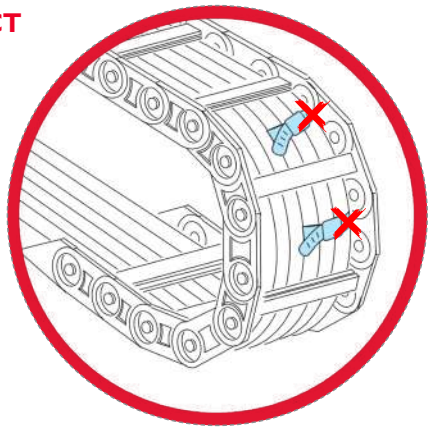
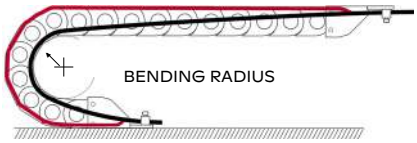


FIGURE H

INCORRECT



CORRECT

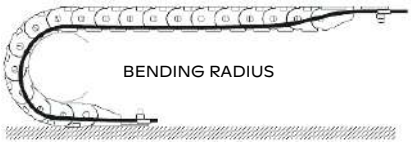
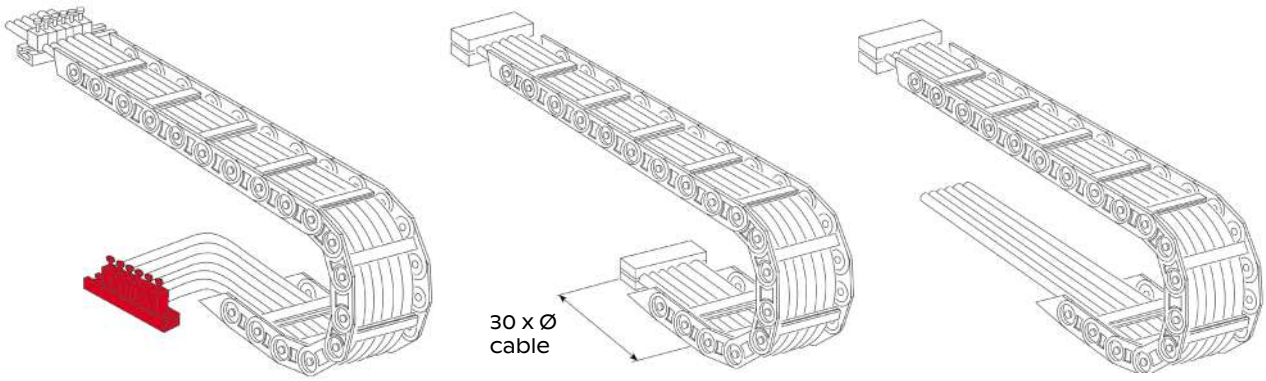


FIGURE I-L-M



UNGUIDED TORSION INSTALLATION

SUGGESTIONS FOR APPLICATIONS INVOLVING TORSIONAL STRESS

In case of applications involving torsional stress, please make sure to assess:

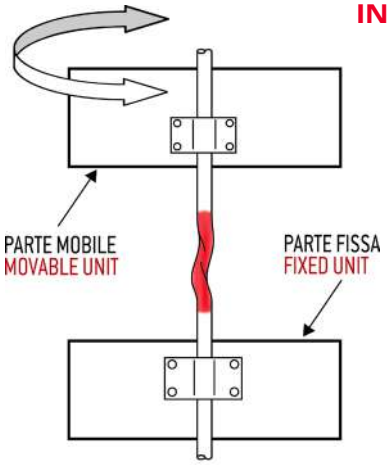
- the fastening distance between the two cable ends;
- the turning angle from the "0°" starting point (i.e: ±180°);
- the speed, acceleration and number of cycles per time unit;
- the working environment.

SUGGESTIONS FOR INSTALLING THE CABLES

- Between a static and a rotating unit, cables must be fastened at the widest possible distance so as to form an arch (Fig. P).
- For installation on robots or rotary devices (Fig. Q) it is recommended to use O.R. PMXX® cables and please ask our technical department for the precautions to take during the installation.
- For the fixing inside the machineries it is important to leave the cable as linear as possible and not to place it on an edge in order not to create twists. Where it is not possible to avoid contact between the cable and the camera body, it is recommended to apply the special lubrificant grease. PLEASE ASK OUR TECHNICAL DEPARTMENT ANYWAY.

FIGURE P

INCORRECT



CORRECT

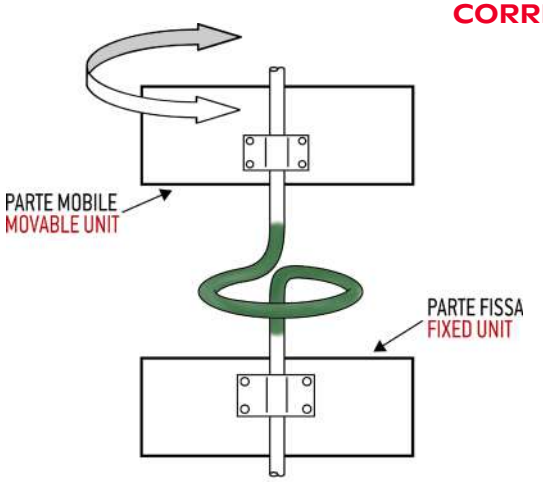
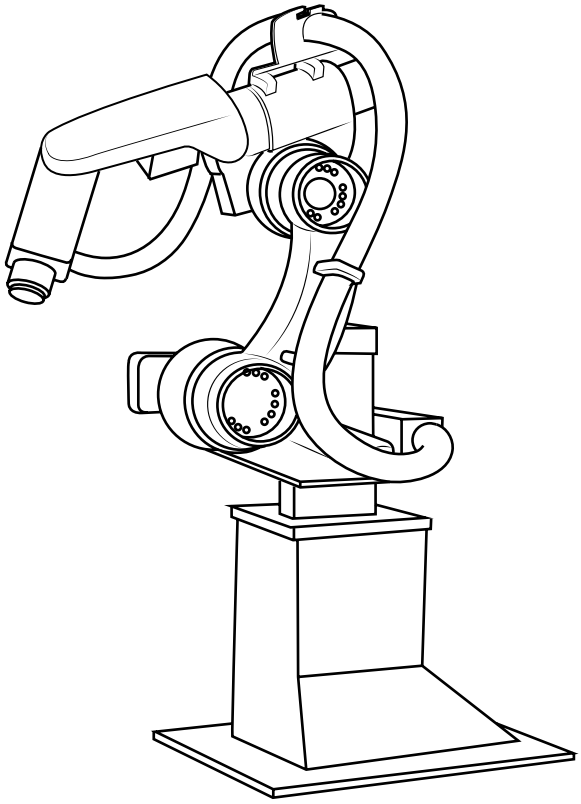


FIGURE Q



REWINDING INSTALLATION

SUGGESTIONS FOR APPLICATIONS WITH ON CABLE REEL OR WINCH INSTALLATION

- For these applications use our cables PMMXX®. Depending on the context, please ask our technical department for suggestions.
- The drum should have a diameter at least 15 times the one of the used cable.
- Before fixing, the cable should be stretched along its whole length in a linear way avoiding a direct rewinding from the supply reel to the operating drum. The rewinding should be without any torsional stress keeping the cable slightly tensioned by placing the coils one next to each other.
- The end of the cable on the drum side should not be stuck, but should be left free. The other end of the cable should only be blocked on the cable jacket and braid to prevent the conductors from being subjected to traction.
- The distance between the cable output from the drum and the first deviation shall be at least 40 times the cable diameter. "S" deviations have to be avoided, if this is not possible, keep a distance of at least 25 times the diameter of the cable between the two points (Fig. R,S).
- While working, the winding and unwinding must be guided by a layerer that allows the coils to be arranged side by side. In any case, the maximum unrolling must include the remanence of at least two layers of coils wound on the drum.
- The winding and unwinding speeds must not exceed 120 m/min with a maximum acceleration of 0,4 m/s2. It is important that, during these winding and unwinding processes, the cable isn't subjected to any sharp pull.

FIGURE R

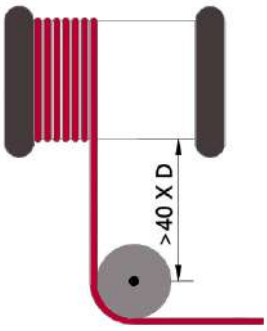
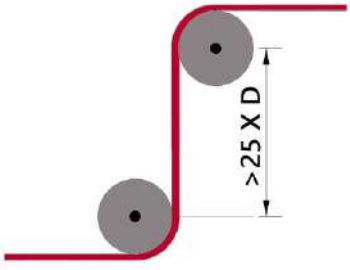


FIGURE S



TABLES

DIN 47100 COLOUR CODE

Number	Colour
1	White
2	Brown
3	Green
4	Yellow
5	Grey
6	Pink
7	Blue
8	Red
9	Black
10	Purple
11	Grey/Pink
12	Red/Blue
13	White/Green
14	Brown/Green
15	White/Yellow
16	Yellow/Brown
17	White/Grey
18	Grey/Brown
19	White/Pink
20	Pink/Brown
21	White/Blue
22	Brown/Blue
23	White/Red
24	Brown/Red
25	White/Black
26	Brown/Black
27	Grey/Green
28	Yellow/Grey
29	Pink/Green
30	Yellow/Pink
31	Green/Blu
32	Yellow/Blue
33	Green/Red
34	Yellow/Red
35	Green/Black
36	Yellow/Black
37	Grey/Blue
38	Pink/Blue
39	Grey/Red
40	Pink/Red
41	Grey/Black
42	Pink/Black
43	Blue/Black
44	Red/Black

Over 45 conductors,
colours upon request

Number	1st Conductor	2nd Conductor
1	White	Brown
2	Green	Yellow
3	Grey	Pink
4	Blue	Red
5	Black	Purple
6	Grey/Pink	Red/Blue
7	White/Green	Brown/Green
8	White/Yellow	Yellow/Brown
9	White/Grey	Grey/Brown
10	White/Pink	Pink/Brown
11	White/Blue	Brown/Blue
12	White/Red	Brown/Red
13	White/Black	Brown/Black
14	Grey/Green	Yellow/Grey
15	Pink/Green	Yellow/Pink
16	Green/Blue	Yellow/Blue
17	Green/Red	Yellow/Red
18	Green/Black	Yellow/Black
19	Grey/Blue	Pink/Blue
20	Grey/Red	Pink/Red
21	Grey/Black	Pink/Black
22	Blue/Black	Red/Black

Upon request

23	Orange	White/Orange
24	Orange/Green	Orange/Yellow
25	Orange/Grey	Orange/Blue
26	Orange/Black	Orange/Red
27	Orange/Pink	Orange/Purple
28	Purple/White	Purple/Brown
29	Purple/Green	Purple/Yellow
30	Purple/Grey	Purple/Pink
31	Purple/Blue	Purple/Red
32	Purple/Black	Green/Yellow

COLOURS ABBREVIATIONS

BK	Black
BN	Brown
RD	Red
OG	Orange
YE	Yellow
GN	Green
BU	Blue
VT	Violet
GY	Grey
WH	White
PK	Pink
GD	Gold
TQ	Turquoise
SR	Silver
GNYE	Green/Yellow

CENELEC COLOR CHART FOR CONDUCTOR IDENTIFICATION

CENELEC HD 308 S2, CEI-UNEL 00722

New scheme for low voltage cables up to 5 conductors

	Cable with GNYE	Cable without GNYE
bipolar		
tripolar		
quadripolar		
pentapolar		

DIN 4075 - CEI/IEC 60446

Identification of conductors such as phase, mid-point, PEN and Protective by conductor letter and color

Conductor	Alphanumeric		Color	
	Old	**New**	Old	**New**
AC				
Phase 1	R	L1	Black	N.D.
Phase 2	S	L2	Red	N.D.
Phase 3	T	L3	Blue	N.D.
Mid-point	MP	N	Grey	Turquoise
DC				
Positive Negative Mid-point	L+	+	.-	N.D.
	L-	-	-	N.D.
	M	-	-	Turquoise
Protection	-	PE	-	GNYE
Neutral with protection	-	PEN	-	GNYE - TQ
Grounding	-	E	-	N.D.
Grounding for external voltage	-	TE	-	N.D.
Clamps	-	aL1 aL2 aL3 aN	-	

MAIN ABBREVIATIONS USED IN VDE STANDARDS

	USAGE
A	for outdoor use
AB	outdoor use for lightning protection
J	installation cable
JE	electronic installation cable
L	installation in conduit
Li	flexible wire
S	control panel/signal cable

	ELEMENTS
B	armor
Bd	bundle construction
C	copper braid shield
D	spiral copper wire shield
F	jelly filling compound
J	cable with grounding conductor
JZ	numbered, with grounding conductor
L	smooth aluminum sheath
(L)	overlapped aluminum tape
LD	corrugated aluminum sheath
Lg	concentric construction
(L)2Y	aluminum tape laminated with PE
(ms)	magnetic shield
M	lead sheath
Mz	lead alloy sheath
PiMF	single screened pairs
Q	steel wire braid
(St)	metallic foil shield
(T)	support element
W	corrugated steel sheath
Yv	reinforced PVC sheath
2Yv	reinforced PE sheath
(Z)	self-supporting armor

	MATERIALS
G	rubber
2G	silicone rubber (SIR)
3G	ethylene-propylene rubber (EPR)
4G	ethylene-vinyl acetate (EVA)
5G	chlorosulfonated polyethylene (CR)
6G	chlorosulfonated polyethylene (CSM)
7G	fluoroelastomer
GL	fiberglass braid with silicone insulation
H	halogen-free
X	cross-linked PVC
2X	cross-linked polyethylene (PE)
11X	cross-linked polyurethane (PUR)
Y	polyvinyl chloride (PVC)
Yu	flame-retardant polyvinyl chloride (PVC)
Yv	reinforced polyvinyl chloride (PVC) sheath
Yw	polyvinyl chloride (PVC) - 90°C
2Y	polyethylene (PE)
02Y	cellular polyethylene (PE)
02Y S	foam-skin insulation
3Y	styroflex insulation
4Y	polyamide (PA)
5Y	polytetrafluoroethylene (PTFE)
6Y	fluorinated ethylene propylene (FEP)
7Y	ethylene tetrafluoroethylene (ETFE)
8Y	polyimide (PI)
9Y	polypropylene (PP)
10Y	polyvinylidene fluoride (PVDF)
11Y	polyurethane (PUR)

PRACTICAL GUIDE TO CABLE DESIGNATION CODES

According to CEI UNEL 35011 - 36011 regulations

Designation groups	Symbol	Denomination
Conductor material	-	Copper
	A	Aluminum
Conductor form	EF	Extra flexible, round stranded or special construction
	F	Flexible, round stranded
	FF	Extra flexible, round stranded
	R	Rigid, round stranded
	U	Rigid, single wire
Insulation material	E	Thermoplastic polyethylene
	E4	Cross-linked polyethylene for 85°C temperatures
	G 10	Elastomeric compound, low smoke, low toxic and corrosive gas emissions
	G 16	Ethylene-propylene rubber compound, high modulus, low smoke and acidity emissions, 90°C temperature rating (CPR)
	G 17	Cross-linked elastomeric compound, low smoke and acidity emissions, suitable for cables without protective sheaths, 90°C temperature rating (CPR)
	G 18	Cross-linked elastomeric compound, low smoke and acidity emissions, 90°C temperature rating (CPR)
	G 21	Cross-linked compound, low smoke, low toxic and corrosive gas emissions
	G 26	Ethylene-propylene rubber compound, high modulus, low smoke and acidity emissions, 105°C temperature rating (CPR)
	G 7	High modulus ethylene-propylene rubber for 90°C operating temperature
	G 9	Elastomeric compound, low smoke, low toxic and corrosive gas emissions
	M	Plastic material, low toxic and corrosive gas emissions (36011)
	R	PVC for 70°C operating temperature, quality TI1 and TI2
	R2	PVC for 70°C operating temperature, superior quality (anti-aging)
	R7	PVC for 90°C operating temperature, quality TI3
	S17	PVC compound with 70°C temperature rating (CPR)
	S18	PVC insulation compound with 70°C temperature rating (CPR)
	T	One or more mica glass tapes or closed glass braid
Cable form	O	Cores bundled for round cable
	X	Cores helically laid visible
Metallic sheaths (shields and armor)	A	Metal braid or wire armor
	AC	Aluminum concentric conductor
	C	Copper concentric conductor
	F	Steel wire armor
	H	Aluminum tape or metallized paper shield
	H1	Copper tape, flat or wire shield
	H2	Copper braid or wire shield
	N	Steel tape armor
	Z	Steel flat armor
Sheath material	E	Linear polyethylene, EZ quality
	E4	Cross-linked polyethylene, E4M quality
	G	Synthetic rubber, Gy quality
	K	Polychloroprene, Ky, Kn, or Kz quality
	M	Plastic material, low toxic and corrosive gas emissions (36011)
	M1	Thermoplastic compound, low smoke, low toxic and corrosive gas emissions
	M2	Elastomeric compound, low smoke, low toxic and corrosive gas emissions
	M16	Thermoplastic compound, low smoke and acidity emissions (CPR)
	M18	Cross-linked elastomeric compound, low smoke and acidity emissions (CPR)
	M20	Thermoplastic compound, low smoke and acidity emissions (CPR)
	R	PVC of quality TM1, TM2, Rz
	R12	PVC-based sheath compound (CPR)
	R16	Thermoplastic PVC compound (CPR)
	R18	PVC-based sheath compound (CPR)

According to CEI 20-27 regulations

Designation groups	Symbol	Denomination
Reference Standards	A	Authorized national cable
	H	Harmonized cable
	N	Other type of national cable
Rated voltage Uo/U	01	100/100 V
	03	300/300 V
	05	300/500 V
	07	450/750 V
	1	0.6/1 kV
Insulation material	B	Ethylene-propylene rubber for 60°C temperature
	G	Ethylene-vinyl acetate
	N2	Polychloroprene for welding cables
	R	Synthetic rubber for 60°C temperature
	S	Silicone rubber
	V	General-purpose PVC
	V2	PVC for 90°C temperature
	Z	Cross-linked polyolefins, low smoke, low toxic and corrosive gas emissions
	Z1	Thermoplastic polyolefins, low smoke, low toxic and corrosive gas emissions
	Z2	Cross-linked compound, low smoke, low toxic and corrosive gas emissions
Metallic sheaths (shields and armor)	C4	Copper braid shield on all cores
	C5	Copper braid shield on individual cores
	C7	Copper tape, wire, or flat bar shield on all cores
	C	Copper concentric conductor
	Z2	Round steel wire armor
	Z3	Steel flat bar armor
	Z4	Steel tape armor
	Z5	Steel wire braid armor
Cable form	H2	Non-separable flat cables
	H6	Flat cables with three or more cores
	H7	Cables with double-layer insulation applied by extrusion
Sheath material	B	Ethylene-propylene rubber
	G	Ethylene-vinyl acetate
	N	Polychloroprene
	N4	Chlorosulfonated or chlorinated polyethylene
	N8	Water-resistant polychloroprene
	Q	Polyurethane
	R	Synthetic rubber
	S	Silicone rubber
	V	General-purpose PVC
	V2	PVC for 90°C operating temperature
	V5	Oil-resistant PVC
	Z	Cross-linked polyolefins, low smoke, low toxic and corrosive gas emissions
	Z1	Thermoplastic polyolefins, low smoke, low toxic and corrosive gas emissions
	Z2	Cross-linked compound, low smoke, low toxic and corrosive gas emissions
Conductor material	-	Copper
	A	Aluminum
Conductor form	D	Flexible for welding cables
	E	Extra flexible for welding cables
	F	Flexible for mobile installation
	K	Flexible for fixed installation
	R	Rigid, round stranded
	U	Rigid, single wire

CONVERSIONS AND METRIC PREFIXES

CONVERSIONS

	FROM	BY	TO
AREA	Sq. Inch	x 6.452	= Sq. Centimeter
	Sq. Centimeter	x 0.1.550	= Sq. Inch
	Sq. Foot	x 0.0920	= Sq. Meter
	Sq. Meter	x 10.76	= Sq. Foot
	Sq. Mile	x 2.590	= Sq. Kilometer
	Sq. Kilometer	x 0.3861	= Sq. Mile
	Circular mil	x 0.7854	= Sq. Mil
LENGTH	Inch.	x 25.40	= Millimeters
	Millimeters	x 0.03937	= Inches
	Feet	x 0.3048	= Meters
	Miles	x 1.609	= Kilometers
	Kilometers	x 0.6214	= Miles
	Ohms/km	x 0. 3048	= Ohms/kft
	Meters	x 3.2808	= Feet
	Meters	x 39.3701	= Inches
	Meters	x 1.0936	= Yards
	Mils	x 0.001	= Inches
	Mils	x 0.0254	= Millimeters
	Ohms/kft	x 3.2808	= Ohms/km
WEIGHT	Pf/foot	x 3.285	= pF/meter
	Ounce	x 28.35	= Gram
	Gram	x 0.003527	= Ounce
	Pound	x 0.4536	= Kilogram
	Kilogram	x 2.205	= Pound
	Kilograms/km	x 0.6214	= Pound/kft
	Pounds/kft	x 1.4881	= Kilogram/km

METRIC PREFIXES

PREFIX	VALUE	SYMBOL
Tera	10^{12}	T
Giga	10^{9}	G
Mega	10^{6}	M
Kilo	10^{3}	K
Ecto	10^{2}	H
Deca	10^{1}	da
Deci	10^{-1}	da
Centi	10^{-2}	c
Milli	10^{-3}	m
Micro	10^{-6}	µ
Nano	10^{-9}	ŋ
Pico	10^{-12}	P

UNIT MEASURES CORRESPONDANCES

LENGTH

1 mil	=	0,0254 mm
1 in. (inch)	=	25,4 mm
1 ft. (foot)	=	0,3048 m
1 yd. (yard)	=	0,9144 m
1 ch. (Chain)	=	20,1 m
1 mile (land mile)	=	1,609 km
	=	1760 yards
1 mile (nautic mile)	=	1,852 km
1 mm	=	0,039370 inches
1 m	=	39,370079 inches

AREA

1 CM (circular mil)	=	0.507 · 10-3 mm^2
1 MCM	=	0.5067 mm^2
1 sq. inch (sq. inch)	=	645,16 mm^2
1 sq. ft. (sq. foot)	=	0.0929 m^2
1 square yard	=	0,836 m^2
1 acre	=	4047 m^2
1 square mil	=	2.59 km^2

DENSITY

1 cu. in. (cubic inch)	=	16,39 cm^3
1 cu. ft. (cubic foot)	=	0,0283 m^3
1 cu. yd. (cubic yard)	=	0,7646 m^3
1 gal. (US gallon)	=	3,785 l
1 gal. (brit gallon)	=	4,546 l
1 US pint	=	0,473 l
1 US quart	=	0,946 l
1 US barrel	=	158,8 l
1 lb./cu. ft.	=	16,02 kg/m^3
1 lb./cu. in.	=	27,68 t/m^3

TEMPERATURE

F (Fahrenheit)	=	(1,8 x C) + 3°
C (Celsius)	=	0,5556 x (F - 32°)

WEIGHT

1 grain	=	64,8 mg
1 dram	=	1,77 g
1 oz. (ounce)	=	28,35 g
1 lb. (pound)	=	0,4536 kg
1 stone	=	6,35 kg
1 qu. (quarter)	=	12,7 kg
1 US-cwt (hundredweight)	=	45,36 kg
1 US ton (short ton)	=	0,907 t
1 brit. ton (long ton)	=	1,016 t

FORCE

1 lb.	=	4,448 N
1 brit. ton	=	9954 N
1 pdl (Poundal)	=	0,1383 N
1 kp	=	9,81 N
1 N	=	0,102 kp

SPEED

1 mile/h.	=	1,609 km/h
1 knoten	=	1,852 km/h
1 ft./s.	=	0,305 m/s
1 ft./min.	=	5,08 · 10-3 m/s

ENERGY

1 lb./mile	=	0,282 g/m
1 lb./yard	=	0,496 kg/m
1 lb./foot	=	1,488 kg/m

RADIATION ABSORBED DOSE

1 Gray	=	1 J/kg
1 rad	=	10 - 2 J/kg
	=	1 Centi Gy
	=	0,01 Gy
1 Centi	=	100 joule
1 rad	=	cj/kg = 0,01 Gy
1 Mrad	=	1 x 106 cj/kg

PRESSURE

1 psi (lb./sq.) =	=	68,95 mbar
	=	6,895 · 10^{-3} Nmm^2
1 lb./sq. ft.	=	0,478 mbar
1 pdl/sq. ft.	=	1,489 N/m^2
1 in. Hg	=	33,86 mbar
1 ft. H2 O	=	29,89 mbar
1 in. H2 O	=	2,491 mbar
1 N/mm^2	=	145 psi
	=	10 bar
1 kp/mm^2	=	1422 psi
1 at.	=	736 Torr
	=	1 kp/cm^2
1 Torr	=	1 mm Hg
1 bar	=	0,1 H Pa
1 Pa	=	1N/m^2

HORSE POWER

1 hp · h	=	1.0139 PS · h
	=	2,684 · 106 joule
	=	746 W x h
1 BTU (brit. term. unit)	=	1055 joule

ELECTRICAL UNITS

1 ohm/1000 yd.	=	1.0936/km
1 ohm/1000 ft.	=	3,28/km
1 F/mile	=	0,62 F/km
1 megohm/mile	=	1,61 M/km
1 f/foot	=	3,28 pF/m
1 decibel/mile	=	71.5 mN/m

POWER RATE

1 PS	=	0,736 kW
1 kW	=	1,36 PS
1 hp	=	0,7457 kW
1 kW	=	1,31 hp

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