

CORFLEX® MC

Armored Instrumentation Cable

Contact

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Part Number: MC

Armored Instrumentation Cable UL Type MC HL 600V, 90°C rated - LEAD FREE

DESCRIPTION

Single or multiple individually shielded pairs or triads, overall cable shield, PVC inner jacket, continuous corrugated aluminum sheath, PVC jacket

Construction

Conductor: Bare, annealed copper conforming to ASTM B3 and Class B stranded in accordance with ASTM B8.

Insulation: PVC/Nylon type TFN in accordance with UL 66, flame retardant, 90°C temperature rating.

Insulation shield: Aluminum foil/polyester shield helically wrapped to provide 100% coverage and tinned copper drain wire that is two gauge sizes smaller than the circuit conductors.

Assembly: Pairs/triads are cabled in concentric layers with interstices filled with suitable non-hygroscopic fillers, as required. A binder tape of synthetic material assembles the core in an essentially round configuration.

Overall cable shield: Aluminum foil/polyester shield helically wrapped to provide 100% coverage and tinned copper drain wire that is the same size as the circuit conductors.

Inner jacket: Polyvinyl chloride jacket, over cabled core as per UL 1569, 90°C temperature rating, with additional resistance to fire spread. A rip cord is laid longitudinally under the jacket to facilitate stripping.

Armor: Continuous corrugated aluminum sheath with no more than 0.2% trace copper providing complete protection against liquid & gas ingress. It also provides excellent mechanical protection, additional electrostatic shielding, and serves as an easy means of grounding equipment.

Jacket: Overall black polyvinyl chloride jacket per UL 1569, 90°C temperature rating; low gas emission; limited flame spread and excellent corrosion resistance.

Identification of Conductors

Pairs: black/white & number coded

Triads: black/white/red & number coded

Bending Radius

Fixed position: 7 x cable overall diameter

During pulling: 12 x cable overall diameter

Specifications

- * Meets UL 66, TFN rated 90°C 600V conductors
- * Meets UL 1569 requirements for Type MC, Metal Clad cables
- * Meets UL 2225 for Hazardous Locations
- * Designated Type MC as per NEC Article 330



STANDARDS

National
UL 1569; UL 2225; UL 66

CHARACTERISTICS

Construction characteristics

Conductor material	Copper
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Electrical characteristics

Maximum operating voltage	600 V
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Usage characteristics

Maximum operating temperature	90 °C
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MULTI PAIRS, 600 V - 18 AWG (7W) SPOS

Part Number	# of Pairs	Insulation Thickness		Nominal Diameter over Core (inches)	Inner Jacket Thickness (mils)	Nominal Diameter over Inner Jacket (inches)	Nominal Diameter over Sheath (inches)	Outer Jacket Thickness (mils)	Nominal Diameter over Outer Jacket (inches)	Approximate Net Cable Weight (lb/kft)
		PVC (mils)	Nylon (mils)							
654988	2	15	4	0.319	40	0.405	0.594	50	0.699	218
654921	4	15	4	0.38	40	0.465	0.633	50	0.735	257
654947	8	15	4	0.517	50	0.621	0.836	50	0.940	373
654962	12	15	4	0.647	50	0.753	0.976	50	1.080	621
665250	16	15	4	0.731	50	0.837	1.142	50	1.247	817
662116	24	15	4	1.016	50	1.124	1.420	50	1.525	969

MULTI PAIRS, 600 V - 16 AWG (7W) SPOS

Part Number	# of Pairs	Insulation Thickness		Nominal Diameter over Core (inches)	Inner Jacket Thickness (mils)	Nominal Diameter over Inner Jacket (inches)	Nominal Diameter over Sheath (inches)	Outer Jacket Thickness (mils)	Nominal Diameter over Outer Jacket (inches)	Approximate Net Cable Weight (lb/kft)
		PVC (mils)	Nylon (mils)							
*645390	1	15	4	0.209	40	0.293	0.492	50	0.605	157
*659052	2	15	4	0.424	40	0.477	0.639	50	0.744	216
*645291	4	15	4	0.482	50	0.533	0.767	50	0.871	375
*659078	8	15	4	0.635	50	0.676	0.926	50	1.030	604
*650796	12	15	4	0.797	50	0.835	1.140	50	1.246	862
654889	16	15	4	0.882	50	0.983	1.320	50	1.431	1151
*654905	24	15	4	1.124	50	1.126	1.422	50	1.526	1432
650788	36	15	4	1.312	50	1.370	1.746	60	1.879	2121

* Stock Items

MULTI TRIADS, 600 V - 16 AWG (7W) STOS

Part Number	# of Pairs	Insulation Thickness		Nominal Diameter over Core (inches)	Inner Jacket Thickness (mils)	Nominal Diameter over Inner Jacket (inches)	Nominal Diameter over Sheath (inches)	Outer Jacket Thickness (mils)	Nominal Diameter over Outer Jacket (inches)	Approximate Net Cable Weight (lb/kft)
		PVC (mils)	Nylon (mils)							
*654863	1	15	4	0.225	40	0.304	0.507	50	0.619	171
644344	4	15	4	0.484	50	0.587	0.798	50	0.900	300
670083	8	15	4	0.680	50	0.786	0.998	50	1.102	467
*670067	12	15	4	0.820	50	0.925	1.212	50	1.317	1007

* Stock items

ELECTRICAL PROPERTIES

600 V Shielded Pairs / Triads with an overall Cable Shield

Conductor Size (AWG)	DC Resistance 20°C Ω/kft	Capacitance			
		Pairs		Triads	
		Conductor -Conductor (pf/ft)	Conductor -Shield (pf/ft)	Conductor -Conductor (pf/ft)	Conductor -Shield (pf/ft)
18	6.64	74	148	63	156
16	4.18	86	172	87	180

PRODUCT FEATURES

- UL listed as Marine Shipboard Cable (File E86139)
- UL listed as Type MV-105 kV and 8 kV (File E66901)
- Cables pass UL 1685 and IEEE 383 vertical tray fire tests at 70,000 BTU/hr, IEC 332-3 category a fire test, IEEE 1202 and CSA FT4
- Cables are American Bureau of Shipping (ABS) listed as CWC MC Type MC Type MV/MC
- Cables are marked "-40°C" and are suitable for handling and installation down to -10°C (based on -40°C impact and bend tests per UL 1569)
- 105°C Temperature Rating
- Continuous, impervious metallic sheath corrugated for flexibility, prevents ingress of moisture, gases and liquids
- Aluminum armor resistance exceeds requirements of the NEC Article 250.178 for equipment grounding conductor
- Excellent mechanical & physical properties
- Minimal noise and signal interference
- Sunlight resistant jacket
- Suitable for direct burial and use in cable tray and embedment in concrete
- Suitable for Class I, II and III, Divisions 1 & 2 as per NEC (HL Rated)
- Three symmetrical grounding conductors for PW M/VFD and other modern AC drive/motor applications

SELLING INFORMATION

All drawings, designs, specifications, plans and particulars of weights, size and dimensions contained in the technical or commercial documentation of Nexans is indicative only and shall not be binding on Nexans or be treated as constituting a representation on the part of Nexans.



Options

The following constructions can be provided on special orders:

- Different conductor size
- Different pair or triad configurations
- Specially colored jackets
- Other constructions and combinations (some manufacturing restrictions apply)
 - UL 1309 listing and marking