Product data sheet

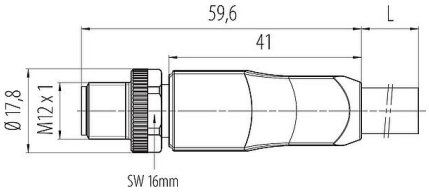
Automation technology - Voltage and Power Supply

Product description	**M12 Male cable connector, Contacts: 4+FE, unshielded, moulded on the cable, IP68, UL 2238, M12x1.0, PUR, black, 5 x 1.50 mm², 2 m**
Area	**M12-L**
Coding	**L-coded**
Series	**823**
Part no.	**77 0649 0000 70505-0200**

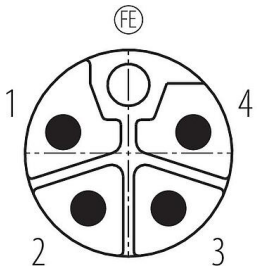
Illustration (may vary)



Scale drawing



Contact arrangement (Plug-in side)



1 *brown*
2 *white*
3 *blue*
4 *black*
FE *pink*

Cable length tolerance

cable length	*tolerance*
≥ 0,10 m	+ 0,03 m
≥ 0,20 m	+ 0,04 m
≥ 0,50 m	+ 0,07 m
≥ 1,00 m	+ 0,10 m
≥ 2,00 m	+ 0,15 m
≥ 5,00 m	+ 0,20 m
≥ 10,0 m	+ 0,25 m
≥ 20,0 m	+ 0,35 m

Technical data

General features

Part no.	77 0649 0000 70505-0200
Connector design	Male cable connector
Coding	L-coded
Cable length	2 m (Standard 2 m and 5 m. Other lengths are available on request.)
Version	Single ended cordsets
Connector locking system	screw

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Termination	moulded on the cable
Degree of protection	IP68
Connection cross-section	1.50 mm² / AWG 16
Temperature range from/to	-40 °C / 90 °C
Mechanical operation	> 100 Mating cycles
Weight (g)	847.56
Customs tariff number	85444290
Country of Origin	DE

Electrical parameters

Rated voltage	63 V
Rated impulse voltage	1500 V
Rated current	12.0 A
Insulation resistance	> 10^{10} Ω
Pollution degree	3
Overvoltage category	III
Insulating material group	I
EMC compliance	unshielded

Material

Housing material	PA
Contact body material	PA
Contact material	CuZn (brass)
Contact plating	Au (gold)
Locking material	CuZn (brass)
REACH SVHC	None (No pollutants)
SCIP number	SCIP-number not available

Cable data - Structure of the cable

Cable diameter	8.1 mm
Cross section	5 x 1.50 mm²
Sheath material	PUR
Single-lead insulation	PP
Single-lead structure	84 x 0.15 mm
Cable color	black

Cable data - Electrical properties

Conductor resistance	8 Ω/Km (20°C)

Cable data - Mechanical properties

Bending radius, fixed cable	min. 5 x Ø
Bending radius, moving cable	min. 10 x Ø
Bending cycles	> 4 million

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Permitted acceleration	10 m/s²
Travel distance, horizontal	5 m/s² -> 30 m
Travel distance, vertical	5 m/s² -> 5 m

Cable data - Thermal properties

Temperature range cable in move from/to	-30 °C / 90 °C
Temperature range cable fixed from/to	-40 °C / 90 °C

Cable data - Other features

Halogen free	yes

Authorization/approvals

Approvals	UL 2238

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Security notices

The connector must not be plugged or unplugged under load. Non-observance and improper use can result in personal injury.

The connectors have been developed for applications in plant engineering, control and electrical equipment construction. The user is responsible for checking whether the connectors can also be used in other areas of application.

To protect against unintentional opening of the connector, the thread between the housing and the connector head must be secured with a suitable cyanoacrylate adhesive when used in circuits with voltages dangerous to the touch. This does not apply to connectors used in SELV and PELV circuits according to IEC 61140 (EN 61140, VDE 0140-1).

Connectors which are used in circuits with voltages dangerous to the touch may only be installed and used by, or under the supervision of, persons with electrical engineering training, taking into account the applicable regulations and standards.

The user must take suitable safety precautions to ensure that the connector cannot be accidentally disconnected.

Plug connectors with enclosure protection IP67 and IP68 are not suitable for use under water. When used outdoors, the plug connectors must be protected separately against corrosion. For further information on the IP protection classes, please refer to the "Technical Information" download centre.

Please observe the pollution degree and the overvoltage category. For further information, please refer to the download center "Technical Information".

To lock the cable connector with the device connector, the threaded ring is tightened "hand-tight" (approx. 60 cNm).