

# Product data sheet

## Automation technology - Voltage and Power Supply



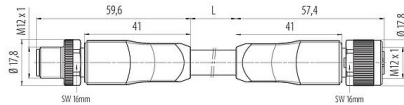
Product description **M12 Male cable connector - female cable connector M12x1, Contacts: 4+PE, unshielded, moulded on the cable, IP68, PUR, black, 5 x 1.50 mm<sup>2</sup>, UL in preparation, 5 m**

Area **M12-K**  
Part no. **77 0679 0670 70505-0500**

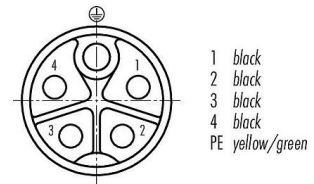
### Illustration



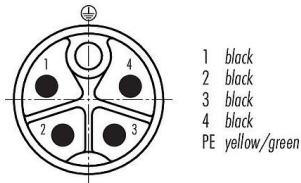
### Scale drawing



### Contact arrangement (Plug-in side)



### Contact arrangement (Plug-in side)



## Technical data

### General features

Part no.	<b>77 0679 0670 70505-0500</b>
Connector design	Male cable connector - female cable connector M12x1
Cable length	5 m (Standard 2 m and 5 m. Other lengths are available on request.)
Version	Connecting cordsets
Connector locking system	screw
Termination	moulded on the cable
Degree of protection	IP68
Cross-sectional area	1.50 mm <sup>2</sup> / AWG 16
Temperature range from/to	-40 °C / 90 °C
Mechanical operation	> 100 Mating cycles
Additional information	UL in preparation
Weight (g)	0.00
Customs tariff number	85444290
Country of Origin	DE

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### Electrical parameters

Rated voltage	630 V
Rated impulse voltage	6000 V
Rated current	12.0 A
Insulation resistance	> 10 <sup>10</sup> 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	9.1 mm
Cross section	5 x 1.50 mm <sup>2</sup>
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)
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### Cable data - Mechanical properties

Bending radius, fixed cable	min. 5 x Ø
Bending radius, moving cable	min. 10 x Ø
Bending cycles	> 4 million
Permitted acceleration	10 m/s <sup>2</sup>
Travel distance, horizontal	5 m/s <sup>2</sup> -> 5 m
Travel distance, vertical	5 m/s <sup>2</sup> -> 5 m

### Cable data - Thermal properties

Temperature range cable in move from/to	-30 °C / 90 °C
Temperature range cable fixed from/to	-50 °C / 90 °C

### Cable data - Other features

Halogen free	yes
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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.

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.

The plug connector is not suitable for mains voltages. 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).

In the case of cable connectors with a metal threaded ring, it is imperative to ensure a connection with the PE protective contact of the appliance connector. Connecting cables between appliance connectors that are not connected to the PE contact are not permitted. The user must ensure a continuous connection of the protective earth conductor.

## DECLARATION FROM THE MANUFACTURER

For part no.: 77 0679 0670 70505-0500

17/05/2024

With regard to the

**Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC.**

With the REACH regulation, the EU has created a uniform system for the Registration, Evaluation, Authorisation and restriction of CHEMicals – or REACH. The purpose of this regulation is to ensure a high level of protection of human health and the environment.

Franz Binder GmbH & Co. Elektrische Bauelemente KG hereby confirms that it acts as a downstream user (producer of products) according to the aforementioned regulation.

We obtain all raw materials and/or preparations, from which the connectors are made, from suppliers who have already registered or pre-registered all substances, including those present in the preparations. The products supplied by the company are not subject to registration.

With regard to Article 33(1) of the REACH regulation, Franz Binder GmbH & Co. Elektrische Bauelemente KG complies with its information obligations:

An up-to-date candidate list (candidate list of substances of very high concern for authorisation, as of 23/01/2024 see: <https://echa.europa.eu/de/candidate-list-table>) in accordance with Article 59 (1, 10) of the regulation (EC) No 1907/2006 (REACH) has been published.

The aforementioned article includes the following substances from the up-to-date candidate list in concentrations of more than 0,1 percent by mass:

- None (No pollutants)

Please refer any questions to our Product Compliance Team:

[Product-Compliance@binder-connector.de](mailto:Product-Compliance@binder-connector.de)

## DECLARATION FROM THE MANUFACTURER

For part no.: 77 0679 0670 70505-0500

17/05/2024

With regard to the

**COMMISSION DELEGATED DIRECTIVE (EU) 2015/863  
of 31 March 2015**

**amending Annex II to Directive 2011/65/EU of the European Parliament and of the Council as regards  
the list of restricted substances**

Directive 2011/65/EU stipulates provisions on the restriction of the use of hazardous substances in electrical and electronic equipment (EEE) with a view to contributing to the protection of human health and the environment, including the environmentally sound recovery and disposal of EEE waste.

### ANNEX II

Restricted substances referred to in Article 4(1) and maximum concentration values tolerated by weight in homogeneous materials

Lead (0,1%) mercury (0,1%) cadmium (0,01%) hexavalent chromium (0,1%) polybrominated biphenyls (PBB) (0,1%) polybrominated diphenyl ethers (PBDE) (0,1%) bis(2-ethylhexyl) phthalate (DEHP) (0,1%) butyl benzyl phthalate (BBP) (0,1%) dibutyl phthalate (DBP) (0,1%) diisobutyl phthalate (DIBP) (0,1%)

Franz Binder GmbH & Co. Elektrische Bauelemente KG hereby confirms that it complies with all standard articles of the aforementioned Directive. Our products do not contain any of the specified prohibited substances above the maximum permitted concentrations specified therein, taking into account the exemptions in Annex III of Directive 2011/65/EU.

- Complies with RoHS III without exemption

Please refer any questions to our Product Compliance Team:

Product-Compliance@binder-connector.de

## MANUFACTURER'S DECLARATION

For part no.: 77 0679 0670 70505-0500

17/05/2024

with regard to

### Declaration of compliance with China RoHS – Components

We herewith declare the compliance of this product with the Chinese marking requirements. This product can be recycled and used safely during its environmentally friendly use period of 50 years. These articles will be sold as components only for manufacturing. According to the Electronic Industry Standard SJ/T 11364-2014 it needs not to be marked with Environmentally Friendly Use Period (EFUP) label. This product should be recycled after its environmental protection use period has expired because it may contain substances or elements as shown in the following table:

Part Name	Hazardous Substance					
	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent Chromium (Cr(VI))	Polybrominated biphenyls (PBB)	Polybrominated diphenyl ethers (PBDE)
Connectors	0	0	0	0	0	0

This table is prepared in accordance with the provisions of SJ/T 11364.

O: Indicates that said hazardous substance contained in all of the homogeneous materials for this part is below the limit requirement of GB/T 26572

X: Indicates that said hazardous substance contained in at least one of the homogeneous materials used for this part is above the limit requirement of GB/T 26572

The table shows where these substances may be found in this Electrical and Electronic Product.

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