

Product data sheet

Miniature connectors

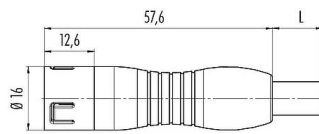


Product description	Snap-In Male cable connector, Contacts: 12, unshielded, moulded on the cable, IP67, UL 2238, PUR, black, 12 x 0.25 mm², 2 m
Area	series 720
Part no.	77 6405 0000 50012-0200

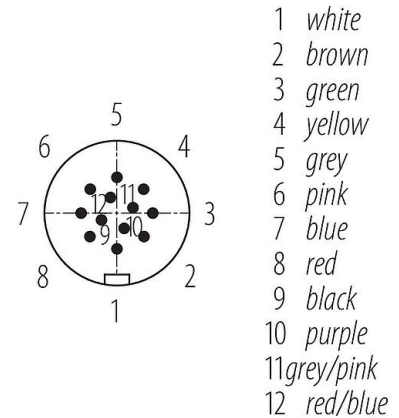
Illustration



Scale drawing



Contact arrangement (Plug-in side)



Technical data

General features

Part no.	77 6405 0000 50012-0200
Notice	Alternative part no.: 79 9177 020 12 Please note that, due to the change from the old to the new order number, there may be deviations in the technical specifications. For questions about product details, please use the 'Contact Customer Service' form on the right.
Connector design	Male cable connector
Cable length	2 m (Standard 2 m and 5 m. Other lengths are available on request.)
Version	Connector pin straight
Connector locking system	snap-in
Termination	moulded on the cable
Degree of protection	IP67
Connection cross-section	0.25 mm ² / AWG 24
Temperature range from/to	-25 °C / 70 °C
Mechanical operation	> 500 Mating cycles
Weight (g)	251.88
Customs tariff number	85444290
Country of Origin	DE

Electrical parameters

Rated voltage	60 V
Rated impulse voltage	800 V
Rated current	2.0 A
Insulation resistance	≥ 10 ¹⁰ Ω
Pollution degree	2

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Overvoltage category	II
Insulating material group	II
EMC compliance	unshielded

Material

Housing material	PUR
Contact body material	PA (UL94 V-0) black
Contact material	CuZn (brass)
Contact plating	Au (gold)
REACH SVHC	CAS 7439-92-1 (Lead)
SCIP number	a062c16d-7ace-45f1-b827-7795f17cb7a8

Authorization/approvals

Approvals	UL 2238
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Classifications

eCl@ss 11.1	27-06-03-11
ETIM 9.0	EC002638

Declarations of conformity

Low Voltage Directive	2014/35/EU (EN 60204-1:2018;EN 60529:1991)
RoHS Directive	2011/65/EU (EN 50581:2012)

Cable data - Structure of the cable

Cable diameter	6.5 mm
Cross section	12 x 0.25 mm ²
Sheath material	PUR
Single-lead insulation	PP9Y halogen-free
Single-lead structure	14 x 0.15 mm
Cable color	black

Cable data - Electrical properties

Conductor resistance	79 Ω/Km (20°C)
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Cable data - Mechanical properties

Bending radius, fixed cable	≥ 5 x Ø
Bending radius, moving cable	≥ 10 x Ø
Bending cycles	> 2 million
Permitted acceleration	5 m/s ²
Travel distance, horizontal	5 m/s ² -> 5 m
Travel distance, vertical	5 m/s ² -> 2 m
Travel speed	≤ 200 m/min (5 m horizontal distance)

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Cable data - Thermal properties

Temperature range cable in move from/to	-25 °C / 80 °C
Temperature range cable fixed from/to	-50 °C / 80 °C

Cable data - Other features

Halogen free	yes
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Area	series 720
Part no.	77 6405 0000 50012-0200

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".

DECLARATION FROM THE MANUFACTURER

For part no.: 77 6405 0000 50012-0200

13/07/2025

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 25/06/2025 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:

- CAS 7439-92-1 (Lead)

Please refer any questions to our Product Compliance Team:

Product-Compliance@binder-connector.de

DECLARATION FROM THE MANUFACTURER

For part no.: 77 6405 0000 50012-0200

13/07/2025

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 with exemption 6c

Please refer any questions to our Product Compliance Team:

Product-Compliance@binder-connector.de

MANUFACTURER'S DECLARATION

For part no.: 77 6405 0000 50012-0200

13/07/2025

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	X	0	0	0	0	0

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

0: 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.

Please refer any questions to our Product Compliance Team:

Product-Compliance@binder-connector.de

Certificate of Compliance

Certificate Number:

UL-US-2354211-1

Report Reference:

E302391-20230328

Issue Date:

2024-06-04

Issued to:

**Franz Binder GmbH & Co. Elektrische Bauelemente KG
Roetelstrasse 27 Neckarsulm 74172
Germany**

This certificate confirms that representative samples of:

CYJV - Cable Assemblies and Fittings for Industrial Control and Signal Distribution

See Addendum Page for Product Designation(s).

Have been evaluated by UL in accordance with the Standard(s) indicated on this Certificate.

UL 2238, Edition 3, Issue Date 2018-10-02, Revision Date 2024-03-12

Additional Information:

See UL Product iQ® at <https://iq.ulprospector.com> for additional information.

This Certificate of Compliance indicates that representative samples of the product described in the certification report have met the requirements for UL certification. It does not provide authorization to apply the UL Mark. Only the Authorization Page that references the Follow-Up Services Procedure for ongoing surveillance provides authorization to apply the UL Mark.

Only those products bearing the UL Mark should be considered as being UL Certified and covered under UL's Follow-Up Services.

Look for the UL Certification Mark on the product.



David Piecuch
UL Mark Certification Program Manager



Any information and documentation involving UL Mark services are provided on behalf of UL LLC (UL) or any authorized licensee of UL. For questions, please contact UL Solutions Customer Service at <https://www.ul.com/contact-us>.

CERTIFICATE OF COMPLIANCE

Certificate number UL-US-2354211-1
Report reference E302391-20230328
Date 2024-06-04

This is to certify that representative samples of the product as specified on this certificate were tested according to the current UL requirements.

Model	Product Description
Male Cable Fittings, Series 720 , Cat. No. 77, followed by 6405, followed by 0000, followed by 50003, 50005, 50008 or 50012	Cable Assemblies
Female Cable Fittings, Series 720 , Cat. No. 77, followed by 6406, followed by 0000, 6406 or 6405, followed by 50003, 50005, 50008 or 50012	Cable Assemblies
Female Cable Fittings, Series 620 , Cat. No. 77, followed by 7406, followed by 0000, 7406 or 7405, followed by 50003, 50004, 50005 or 50008	Cable Assemblies
Male Cable Fittings, Series 620 , Cat. No. 77, followed by 7405, followed by 0000, followed by 50003, 50004, 50005 or 50008	Cable Assemblies
Male Cable Fittings, Series 720 , Cat. No. 79, followed by 9149, 9157, 9169 or 9177, followed by 020, followed by 03, 05, 08 or 12	Cable Assemblies
Female Cable Fittings, Series 620 , Cat. No. 79, followed by 9238, 9242, 9246 or 9258, followed by 020, followed by 03, 04, 05 or 08	Cable Assemblies
Female Cable Fittings, Series 720 , Cat. No. 79, followed by 9150, 9158, 9170 or 9178, followed by 020, followed by 03, 05, 08 or 12	Cable Assemblies
Male Cable Fittings, Series 620 , Cat. No. 79, followed by 9237, 9241, 9245 or 9257, followed by 020, followed by 03, 04, 05 or 08	Cable Assemblies
Splitter, Series 720 , Cat. No. 79, followed by 9179 or 9180, followed by 000, followed by 03 or 05.	Cable Assemblies
Male Cable Fittings, Series 720 , Cat. No. 99, followed by 9105, 9113, 9125 or 9133, followed by 00, 02, 03, 50, 52, 60, 62, 70 or 72, followed by 03, 05, 08 or 12	Cable Assemblies
Female Cable Fittings, Series 620 , Cat. No. 99, followed by 9206, 9210, 9214 or 9226, followed by 00, 050, 060 or 070, followed by 03, 04, 05 or 08	Cable Assemblies
Female Cable Fittings, Series 720 , Cat. No. 99, followed by 9106, 9114, 9126 or 9134, followed by 00, 02, 03, 50, 52, 60, 62, 70 or 72, followed by 03, 05, 08 or 12	Cable Assemblies
Male Cable Fittings, Series 620 , Cat. No. 99, followed by 9205, 9209, 9213 or 9225, followed by 00, 050, 060 or 070, followed by 03, 04, 05 or 08	Cable Assemblies



David Piecuch
 UL Mark Certification Program Manager

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CERTIFICATE OF COMPLIANCE

Certificate number UL-US-2354211-1
Report reference E302391-20230328
Date 2024-06-04

Male Panel Mount, Series 620 , Cat. No. 99, followed by 9207, 9211, 9215 or 9227, followed by 00, 050, 060, 070 or 090, followed by 03, 04, 05 or 08.	Cable Assemblies
Female Panel Mount, Series 620 , Cat. No. 99, followed by 9208, 9212, 9216 or 9228, followed by 00, 050, 060, 070 or 090, followed by 03, 04, 05 or 08.	Cable Assemblies
Male Panel Mount, Series 720 , Cat. No. 99, followed by 9107, 9115, 9127 or 9135, followed by 00, 050, 060, 070 or 090, followed by 03, 05, 08 or 12.	Cable Assemblies
Female Panel Mount, Series 720 , Cat. No. 99, followed by 9108, 9116, 9128 or 9136, followed by 00, 050, 060, 070 or 090, followed by 03, 05, 08 or 12.	Cable Assemblies



David Piecuch
UL Mark Certification Program Manager

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Certificate of Compliance

Certificate Number:

UL-CA-2347159-1

Report Reference:

E302391-20230328

Issue Date:

2024-06-04

Issued to:

Franz Binder GmbH & Co. Elektrische Bauelemente KG
Roetelstrasse 27 Neckarsulm 74172
Germany

This certificate confirms that representative samples of:

CYJV7 - Cable Assemblies and Fittings for Industrial Control and Signal Distribution Certified for Canada

See Addendum Page for Product Designation(s).

Have been evaluated by UL in accordance with the Standard(s) indicated on this Certificate.

CSA C22.2 No. 182.3, 2nd Ed., Issue Date: 2016-07, Revision Date: 2021-5

Additional Information:

See UL Product iQ® at <https://iq.ulprospector.com> for additional information.

This Certificate of Compliance indicates that representative samples of the product described in the certification report have met the requirements for UL certification. It does not provide authorization to apply the UL Mark. Only the Authorization Page that references the Follow-Up Services Procedure for ongoing surveillance provides authorization to apply the UL Mark.

Only those products bearing the UL Mark should be considered as being UL Certified and covered under UL's Follow-Up Services.

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David Piecuch
UL Mark Certification Program Manager



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CERTIFICATE OF COMPLIANCE

Certificate number UL-CA-2347159-1
Report reference E302391-20230328
Date 2024-06-04

This is to certify that representative samples of the product as specified on this certificate were tested according to the current UL requirements.

Model	Product Description
Male Cable Fittings, Series 720, Cat. No 77, followed by 6405, followed by 0000, followed by 50003, 50005, 50008 or 50012	Cable Assemblies
Female Cable Fittings, Series 720, Cat. No. 77, followed by 6406, followed by 0000, 6406 or 6405, followed by 50003, 50005, 50008 or 50012	Cable Assemblies
Female Cable Fittings, Series 620, Cat. No. 77, followed by 7406, followed by 0000, 7406 or 7405, followed by 50003, 50004, 50005 or 50008	Cable Assemblies
Male Cable Fittings, Series 620, Cat. No. 77, followed by 7405, followed by 0000, followed by 50003, 50004, 50005 or 50008	Cable Assemblies
Male Cable Fittings, Series 720, Cat. No. 79, followed by 9149, 9157, 9169 or 9177, followed by 020, followed by 03, 05, 08 or 12	Cable Assemblies
Female Cable Fittings, Series 620, Cat. No. 79, followed by 9238, 9242, 9246 or 9258, followed by 020, followed by 03, 04, 05 or 08	Cable Assemblies
Female Cable Fittings, Series 720, Cat. No. 79, followed by 9150, 9158, 9170 or 9178, followed by 020, followed by 03, 05, 08 or 12	Cable Assemblies
Male Cable Fittings, Series 620, Cat. No. 79, followed by 9237, 9241, 9245 or 9257, followed by 020, followed by 03, 04, 05 or 08	Cable Assemblies
Splitter, Series 720, Cat. No. 79, followed by 9179 or 9180, followed by 000, followed by 03 or 05.	Cable Assemblies
Male Cable Fittings, Series 720, Cat. No. 99, followed by 9105, 9113, 9125 or 9133, followed by 00, 02, 03, 50, 52, 60, 62, 70 or 72, followed by 03, 05, 08 or 12	Cable Assemblies
Female Cable Fittings, Series 620, Cat. No. 99, followed by 9206, 9210, 9214 or 9226, followed by 00, 050, 060 or 070, followed by 03, 04, 05 or 08	Cable Assemblies
Female Cable Fittings, Series 720, Cat. No. 99, followed by 9106, 9114, 9126 or 9134, followed by 00, 02, 03, 50, 52, 60, 62, 70 or 72, followed by 03, 05, 08 or 12	Cable Assemblies



David Piecuch
UL Mark Certification Program Manager

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CERTIFICATE OF COMPLIANCE

Certificate number UL-CA-2347159-1
Report reference E302391-20230328
Date 2024-06-04

Male Cable Fittings, Series 620 , Cat. No. 99, followed by 9205, 9209, 9213 or 9225, followed by 00, 050, 060 or 070, followed by 03, 04, 05 or 08	Cable Assemblies
Male Panel Mount, Series 620 , Cat. No. 99, followed by 9207, 9211, 9215 or 9227, followed by 00, 050, 060, 070 or 090, followed by 03, 04, 05 or 08.	Cable Assemblies
Female Panel Mount, Series 620 , Cat. No. 99, followed by 9208, 9212, 9216 or 9228, followed by 00, 050, 060, 070 or 090, followed by 03, 04, 05 or 08.	Cable Assemblies
Male Panel Mount, Series 720 , Cat. No. 99, followed by 9107, 9115, 9127 or 9135, followed by 00, 050, 060, 070 or 090, followed by 03, 05, 08 or 12.	Cable Assemblies
Female Panel Mount, Series 720 , Cat. No. 99, followed by 9108, 9116, 9128 or 9136, followed by 00, 050, 060, 070 or 090, followed by 03, 05, 08 or 12	Cable Assemblies



David Piecuch
UL Mark Certification Program Manager

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EU DECLARATION OF CONFORMITY

Manufacturer	Franz Binder GmbH & Co. Elektrische Bauelemente KG Rötelstraße 27 D-74172 Neckarsulm
Part no.	77 6405 0000 50012-0200
Product	
Series	series 720

This product complies with the requirements of the following European Directive:
Directive 2014/35/EU of the European Parliament and of the council of 26 February 2014 on the harmonisation of the laws of the Member States relating to the making available on the market of electrical equipment designed for use within certain voltage limits (recast).

The following harmonized standards have been applied for conformity assessment:

EN 60204-1:2018;EN 60529:1991 *)

*) This standard is currently not harmonized

References to standards apply to references to their amendments, if these amendments are listed to the respective directives in the Official Journal of the European Union.

This declaration of conformity is issued under the sole responsibility of the manufacturer.

Neckarsulm, 2025-03-05



i.A. Soner Cakar
Product Compliance Manager

UKCA DECLARATION OF CONFORMITY

Manufacturer	Franz Binder GmbH & Co. Elektrische Bauelemente KG Rötelstraße 27 D-74172 Neckarsulm
Object of the declaration	Connector (COC)
Product	77 6405 0000 50012-0200

The object of the declaration described above is in conformity with the relevant UK-Regulations and UK-Guidelines:

The Electrical Equipment (Safety) Regulations 2016
STATUTORY INSTRUMENTS
2016 No. 1101
CONSUMER PROTECTION
HEALTH AND SAFETY

References of standards and/ or technical specifications applied for this declaration of conformity, or parts thereof:

2016 No. 1101: EN 61984:2009 *)

*) This standard is currently not listed in the assigned directive.

This declaration is issued under the sole responsibility of the manufacturer.

Neckarsulm, 2025-03-05



i.A. Soner Cakar
Product Compliance Manager

EU DECLARATION OF CONFORMITY

Manufacturer	Franz Binder GmbH & Co. Elektrische Bauelemente KG Rötelstraße 27 D-74172 Neckarsulm
Part no.	77 6405 0000 50012-0200
Product	
Series	series 720

This declaration of conformity is issued under the sole responsibility of the manufacturer.
The object of the declaration described above is in conformity with Directive 2011/65/EU of the European Parliament and of the council of 8 June 2011 on the restriction of the use of certain hazardous substances in electrical and electronic equipment (recast).
The following harmonized standards have been applied for conformity assessment:

EN 50581:2012 *)

*) This standard is currently not harmonized

References to standards apply to references to their amendments, if these amendments are listed to the respective directives in the Official Journal of the European Union.

Neckarsulm, 2021-07-27



i.A. Soner Cakar
Product Compliance Manager

UKCA DECLARATION OF CONFORMITY

Manufacturer	Franz Binder GmbH & Co. Elektrische Bauelemente KG Rötelstraße 27 D-74172 Neckarsulm
Object of the declaration	Connector (COC)
Product	77 6405 0000 50012-0200

The object of the declaration described above is in conformity with the relevant UK-Regulations and UK-Guidelines:

**The Restriction of the use of Certain Hazardous Substances in Electrical and Electronic Equipment
Regulations 2012**

STATUTORY INSTRUMENTS
2012 No. 3032
ENVIRONMENTAL PROTECTION

References of standards and/ or technical specifications applied for this declaration of conformity, or parts thereof:

2012 No. 3032: EN IEC 63000:2018

This declaration is issued under the sole responsibility of the manufacturer.

Neckarsulm, 2021-09-17



i.A. Soner Cakar
Product Compliance Manager