M5

The Connector Programme

www.binder-connector.de

SPECIALIST FOR
CIRCULAR CONNECTORS

SMALL BUT POWERFUL: THE M5 CONNECTOR

Small connector, big effect. The advantages of this series are obvious: the size, the weight and the price.

In addition to the overmoulded male cable connector and the overmoulded female cable connector, the family of M5 connectors also includes angled cable connectors, receptacles and male and female panel mount connectors, which are available with dip-solder contacts or single wires.
Connecting cables that can be configured at the ends according to customer requirements, such as male to female, male angled to male angled and other possible combinations, are also very popular with customers. The pole patterns (3- and 4-pole) are compatible with each other in the M5, in contrast to the M8. For example, a 3-pole M5 male connector can be plugged to a 4-pole M5 female one.

MANUFACTURING
The production of M5 circular connectors, which began in 2002 in manual production, was converted to line production at the end of 2014 and takes place in plant 3 at binder in Neckarsulm.
In addition to cost savings, the changeover means that it is now possible to react much more flexibly to customer requirements. At the same time, continuous attention is paid to "Made in Germany" quality.

MINIATURISATION
The trend towards miniaturisation also continues in sensor technology. Because installation space is precious and expensive, many customers are opting for ever smaller dimensions and connection options for their products. This is precisely where the M5 connector comes into play. With its 6.5 millimetre outer diameter and screw locking, it is very easy to handle.

In addition, it is waterproof with the tested IP67 protection class when mated and locked.

WEIGHT REDUCTION
Due to the ever-smaller connection options for data and signal transmission, it is advantageous for the service life of the connections if the hardware to be connected does not weigh so much, which is also a huge advantage of the M5 connectors.
Due to the low material usage, a standard cable connector with two metres of cable, for example, only weighs around 30 grams in total. This material saving is also noticeable in the form of a more favourable price.

FURTHER DEVELOPMENT
For the M5 connector, a 360 degree shielding was recently successfully introduced to the market. This ensures undisturbed signal transmission, with which shielding attenuation values of 60 decibels in the range of one gigahertz can be achieved.

We are driving progress in the field of M5 with the constant further development of our products. This applies to both standard products and customised applications.

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FEATRURES

- Screw termination acc. to DIN EN 61076-2-105
- 3 and 4 contacts
- Degree of protection IP67
- Configurable to customer requirements
- Unshielded and shielded versions
- Overmoulded versions
- PUR cable

SECTORS AND FIELDS OF APPLICATION

The M5 connector is used for a wide range of applications. In addition to the classic areas of application in sensor technology, M5 connectors are also used in the field of cobot applications, which often offer little space or installation space for connections. Other areas of application include measuring devices, miniature valves, weather stations and drones.

- Cobot applications
- Drones
- Measuring devices
- Miniature valves
- Sensor and automation technology
- Weather stations

PRODUCT OVERVIEW

M5 Automation Technology
707 Series

- Screw locking according to DIN EN 61076-2-105
- 3 and 4 contacts
- Degree of protection IP67
- Moulded versions
- Thread nut with immunity to vibration
- Easy assembly
- Solder/dip solder termination/single wires
- Various variants

CONTENTS

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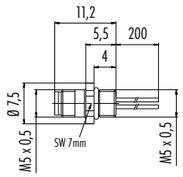
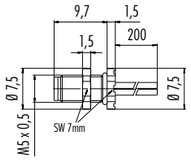
- Overmoulded versions with PUR cable in 2 and 5 m cable length
- Configurable according to customer requirements
- Unshielded and shielded versions
- UL approval

Male panel mount connector with single wires



Contacts	Wire gauge	Ordering-No.
3	3 x 0,14 mm²	09 3105 00 03
	3 x 0,25 mm²	09 3105 01 03
4	4 x 0,14 mm²	09 3111 00 04
	4 x 0,25 mm²	09 3111 01 04

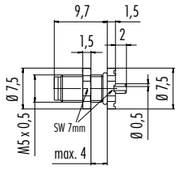
Male panel mount connector, front fastened, with single wires



Contacts	Wire gauge	Ordering-No.
3	3 x 0,14 mm²	09 3105 86 03
4	4 x 0,14 mm²	09 3111 86 04

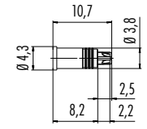
Male panel mount connector, dip solder

Drilling schemes see page 12



Contacts	Ordering-No.
3	09 3105 81 03
4	09 3111 81 04

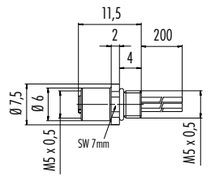
Male receptacle for sensor tubes, tube Ø 3,75–H7



Contacts	Ordering-No.
4	09 3111 71 04

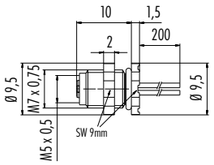
Number of contacts	3	4
Connector locking system	screw	
Termination	single wires, dip solder, solder	
Wire gauge	0,14 mm² (AWG 26), 0,25 mm² (AWG 24)/ —	
Cable outlet	—	
Degree of protection	IP67	
Mechanical operation	> 100 mating cycles	
Upper temperature	+ 80 °C	
Lower temperature	– 25 °C	
Rated voltage	60 V	
Rated impulse voltage	800 V	
Pollution degree	3	
Overvoltage categorie	II	
Material group	I	
Rated current (40 °C)	1 A	
Material of contact	CuZn (brass)	
Contact plating	Au (gold)	
Material of contact body	PA	
Material of housing	CuZn (brass nickel plated)	
Material of locking	—	

Female panel mount connector with single wires



Contacts	Wire gauge	Ordering-No.
3	3 x 0,14 mm²	09 3106 00 03
	3 x 0,25 mm²	09 3106 01 03
4	4 x 0,14 mm²	09 3112 00 04
	4 x 0,25 mm²	09 3112 01 04

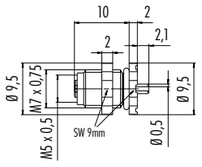
Female panel mount connector, front fastened, with single wires



Contacts	Wire gauge	Ordering-No.
3	3 x 0,14 mm²	09 3106 86 03
4	4 x 0,14 mm²	09 3112 86 04

Female panel mount connector, front fastened, dip solder

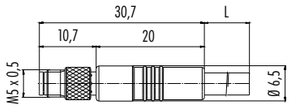
Drilling schemes see page 12



Contacts	Ordering-No.
3	09 3106 81 03
4	09 3112 81 04

Number of contacts	3	4
Connector locking system	screw	
Termination	single wires, dip solder	
Wire gauge	0,14 mm² (AWG 26), 0,25 mm² (AWG 24)/ —	
Cable outlet	—	
Degree of protection	IP67	
Mechanical operation	> 100 mating cycles	
Upper temperature	+ 80 °C	
Lower temperature	– 25 °C	
Rated voltage	60 V	
Rated impulse voltage	800 V	
Pollution degree	3	
Overvoltage categorie	II	
Material group	I	
Rated current (40 °C)	1 A	
Material of contact	CuSn (bronze)	
Contact plating	Au (gold)	
Material of contact body	PA	
Material of housing	CuZn (brass nickel plated)	
Material of locking	—	

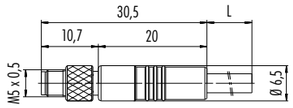
Male cable connector, moulded, M5 x 0,5



c UL US LISTED

Contacts	Cable length	Ordering-No. [2]
3	2 m	77 3459 0000 40003–0200
	5 m	77 3459 0000 40003–0500
	2 m	77 3459 0000 50003–0200
	5 m	77 3459 0000 50003–0500
4	2 m	77 3459 0000 40004–0200
	5 m	77 3459 0000 40004–0500
	2 m	77 3459 0000 50004–0200
	5 m	77 3459 0000 50004–0500

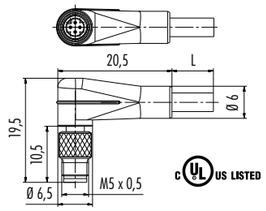
Male cable connector, moulded, M5 x 0,5, shielded



c UL US LISTED

Contacts	Cable length	Ordering-No. [2]
3	2 m	77 3559 0000 40003-0200
	5 m	77 3559 0000 40003-0500
4	2 m	77 3559 0000 40004-0200
	5 m	77 3559 0000 40004-0500

Male angled connector, moulded, M5 x 0,5



c UL US LISTED

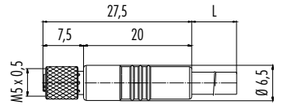
Contacts	Cable length	Ordering-No. [2]
3	2 m	77 3457 0000 40003–0200
	5 m	77 3457 0000 40003–0500
	2 m	77 3457 0000 50003–0200
	5 m	77 3457 0000 50003–0500
4	2 m	77 3457 0000 40004–0200
	5 m	77 3457 0000 40004–0500
	2 m	77 3457 0000 50004–0200
	5 m	77 3457 0000 50004–0500

Specifications of cable	3		4	
Wire gauge mm² [1]	3 x 0,14 mm² (AWG 26)	3 x 0,25 mm² (AWG 24)	4 x 0,14 mm² (AWG 26)	4 x 0,25 mm² (AWG 24)
Material jacket	PUR			
Insulation wire	PVC			
Design of wire (mm)	18 x 0,1	32 x 0,1	18 x 0,1	32 x 0,1
Cable jacket Ø (mm)	3,1	3,7	3,5	4
Resistance of wire	148 Ω/Km (20 °C)	79 Ω/Km (20 °C)	148 Ω/Km (20 °C)	79 Ω/Km (20 °C)
Temperature range (cable in move)	– 5 °C /+80 °C			
Temperature range (static cable)	– 25 °C /+ 80 °C			
Bending radius (cable in move)	10 x D			
Bending radius (static cable)	5 x D			
Approval	—			

Number of contacts	3	4
Connector locking system	screw	
Termination	crimp, moulded	
Wire gauge	0,14 mm² (AWG 26), 0,25 mm² (AWG 24)	
Cable outlet	—	
Degree of protection	IP67	
Mechanical operation	> 100 mating cycles	
Upper temperature	+ 80 °C	
Lower temperature	– 25 °C	
Rated voltage	60 V	
Rated impulse voltage	1500 V	
Pollution degree	3	
Overvoltage categorie	II	
Material group	I	
Rated current (40 °C)	1 A	
Material of contact	CuSn (bronze)	
Contact plating	Au (gold)	
Material of contact body	PUR	
Material of housing	PUR	
Material of locking	CuZn (brass nickel plated)	

[1] Comparable AWG conductors see technical information. [2] Standard cable length is 2 m/5 m. Other lengths upon request.

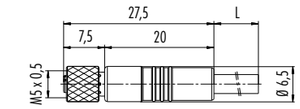
Female cable connector, moulded, M5 x 0,5



c UL US LISTED

Contacts	Cable length	Ordering-No. [2]
3	2 m	77 3450 0000 40003–0200
	5 m	77 3450 0000 40003–0500
	2 m	77 3450 0000 50003–0200
	5 m	77 3450 0000 50003–0500
4	2 m	77 3450 0000 40004–0200
	5 m	77 3450 0000 40004–0500
	2 m	77 3450 0000 50004–0200
	5 m	77 3450 0000 50004–0500

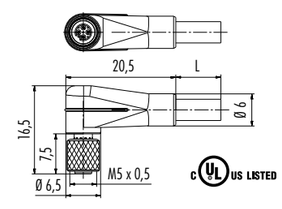
Female cable connector, moulded, M5 x 0,5, shielded



c UL US LISTED

Contacts	Cable length	Ordering-No. [2]
3	2 m	77 3550 0000 40003-0200
	5 m	77 3550 0000 40003-0500
4	2 m	77 3550 0000 40004-0200
	5 m	77 3550 0000 40004-0500

Female angled connector, moulded, M5 x 0,5



c UL US LISTED

Contacts	Cable length	Ordering-No. [2]
3	2 m	77 3454 0000 40003–0200
	5 m	77 3454 0000 40003–0500
	2 m	77 3454 0000 50003–0200
	5 m	77 3454 0000 50003–0500
4	2 m	77 3454 0000 40004–0200
	5 m	77 3454 0000 40004–0500
	2 m	77 3454 0000 50004–0200
	5 m	77 3454 0000 50004–0500

Specifications of cable	3		4	
Wire gauge mm² [1]	3 x 0,14 mm² (AWG 26)	3 x 0,25 mm² (AWG 24)	4 x 0,14 mm² (AWG 26)	4 x 0,25 mm² (AWG 24)
Material jacket	PUR			
Insulation wire	PVC			
Design of wire (mm)	18 x 0,1	32 x 0,1	18 x 0,1	32 x 0,1
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Temperature range (cable in move)	– 5 °C /+80 °C			
Temperature range (static cable)	– 25 °C /+ 80 °C			
Bending radius (cable in move)	10 x D			
Bending radius (static cable)	5 x D			
Approval	—			

Number of contacts	3	4
Connector locking system	screw	
Termination	crimp, moulded	
Wire gauge	0,14 mm² (AWG 26), 0,25 mm² (AWG 24)	
Cable outlet	—	
Degree of protection	IP67	
Mechanical operation	> 100 mating cycles	
Upper temperature	+ 80 °C	
Lower temperature	– 25 °C	
Rated voltage	60 V	
Rated impulse voltage	1500 V	
Pollution degree	3	
Overvoltage categorie	II	
Material group	I	
Rated current (40 °C)	1 A	
Material of contact	CuSn (bronze)	
Contact plating	Au (gold)	
Material of contact body	PUR	
Material of housing	PUR	
Material of locking	CuZn (brass nickel plated)	

[1] Comparable AWG conductors see technical information. [2] Standard cable length is 2 m/5 m. Other lengths upon request.

Contact arrangements

Male insert (mating side)

Female insert (mating side)

3 contacts

1 *brown*
2 *not assembled*
3 *blue*
4 *black*

1 *brown*
2 *not assembled*
3 *blue*
4 *black*

4 contacts

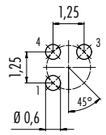
1 *brown*
2 *white*
3 *blue*
4 *black*

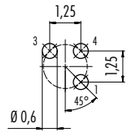
1 *brown*
2 *white*
3 *blue*
4 *black*

Drilling schemes male insert (PCB), shielding sheet

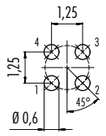
Drilling schemes female insert (PCB), shielding sheet

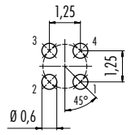
3 contacts





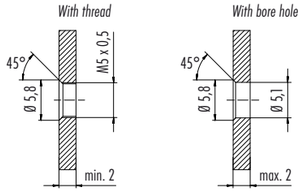
4 contacts



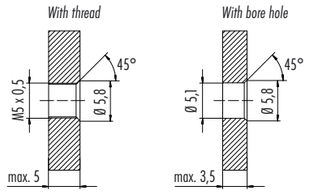


Panel cut outs

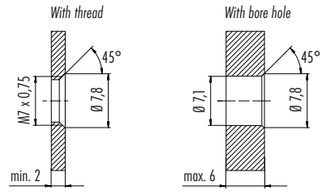
Panel mount connectors

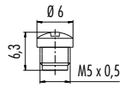
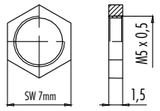


Male panel mount connectors, front fastened



Female panel mount connectors, front fastened



Description	Drawing	Ordering-No.
Protection cap for female connectors 		08 2610 000 000
Hexagonal nut M5 x 0,5 		01 5118 001

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The Connector Programme

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11/2022

Ordering-No. W M5 EN 2023

FB082007B1e-01