

# ■ M5

## CONNECTOR PROGRAMME



# SMALL BUT POWERFUL: THE M5 CONNECTOR

M8 and M12 have long been established sizes on the sensor market. Compared to these, the smallest binder connector, M5, is still in its infancy.

## SMALL CONNECTOR, BIG IMPACT

Screw locking according to DIN EN 61076-2-105

Moulded versions

Degree of protection IP67

3 and 4 contacts

The advantages of this series are obvious: the size, the weight and the price.

Besides moulded male and female cable connectors, the M5 connector family includes female angled connectors, male receptacles, and male and female panel mount connectors which can be delivered with dip-solder contacts or single wires. Very popular among customers are also connecting cables whose ends are freely configurable, e.g. male cable connector to female cable connector, male angled connector to male angled connector, and a large number of other possible combinations.

The contact arrangements (with three and four contacts) of the M5 series are mutually compatible – unlike the M8 series. For example, it is possible to connect an M5 male connector with three contacts to an M5 female connector with four contacts.

### PRODUCTION

The production of the M5 circular connectors, which had been manufactured manually since their introduction in 2002,

was transferred to an automatic processing line in plant 3 in Neckarsulm at the end of 2014. Besides cost savings, this made it possible to react to customer requirements more flexibly. Attention is paid to 'Made in Germany' quality at all times.

### MINIATURISATION

The trend towards miniaturisation is also continuing in the sensor technology sector. Because installation space is precious and expensive, many customers are placing their bets on increasingly small dimensions and connection options in their products. This is exactly where the M5 connector comes into play, because its outside diameter of 6.5 millimetres and its threaded locking system make it very easy to handle. It is also waterproof to IP67.

### REDUCED WEIGHT

Due to the increasingly small connections used for the transmission of data and signals, it is an advantage for the service life of the sockets if the hardware connected is on the light side, which is also one of the benefits of the M5 connector. Due to the lower material input, a standard male cable con-



THREE AND FOUR CONTACTS

360-DEGREE SHIELDING

IP67

connector with two metres of cable, for example, weighs only 30 grams. And last but not least, this material saving is also reflected in the low price.

### FURTHER DEVELOPMENT

In the binder Engineering department in plant 1 in Neckarsulm, we constantly tinker with and improve the M5 connector. A shielded version is always crucial when the cable needs to be protected against electric and/or magnetic fields, or vice versa, when the environment needs to be protected against these fields. In order to achieve unhindered data transmission with the M5 connector, 360-degree shielding was developed for the straight version, which functions reliably by means of a pressing spring integrated into the connector. Thus, it should be possible to achieve shielding effectiveness values of 60 decibels in the 1-gigahertz range.

### INDUSTRIES AND APPLICATIONS

As small as the connector may be, its potential applications are vast and diverse. The M5 connector is not only ideal for use in typical sensor technology but also in automation technology, measuring instrument technology and the leisure industry. Examples of successful customer applications are ultrasonic sensors, conveyor and storage systems, miniature valves, weather stations, bicycles, sports watches and functional clothing.

# M5 CONNECTOR PROGRAMME

- Screw locking
- 3 and 4 contacts
- Degree of protection IP67
- Can be configured on customer's request
- Unshielded and shielded versions

More than standard!

## M5

## Automation Technology 707 series

- Screw locking acc. to DIN EN 61076-2-105
- 3 and 4 contacts
- Degree of protection IP67
- Moulded versions
- PUR cable



Description	Drawing	Contacts	Cable length, PUR	Unshielded	Shielded
Male cable connector, moulded, M5 x 0,5/moulded, shielded, M5 x 0,5		3 x 0,14	2 m	79 3101 52 03	79 3121 52 03
			5 m	79 3101 55 03	79 3121 52 03
		3 x 0,25	2 m	79 3101 32 03	–
			5 m	79 3101 35 03	–
		4 x 0,14	2 m	79 3107 52 04	79 3127 52 04
			5 m	79 3107 55 04	79 3127 52 04
		4 x 0,25	2 m	79 3107 32 04	–
			5 m	79 3107 35 04	–

Description	Drawing	Contacts	Cable length, PUR	Unshielded	Shielded
Male angled connector, moulded, M5 x 0,5		3 x 0,14	2 m	79 3103 52 03	–
			5 m	79 3103 55 03	–
		3 x 0,25	2 m	79 3103 32 03	–
			5 m	79 3103 35 03	–
		4 x 0,14	2 m	79 3109 52 04	79 3129 52 04
			5 m	79 3109 55 04	79 3129 52 04
		4 x 0,25	2 m	79 3109 32 04	–
			5 m	79 3109 35 04	–

Description	Drawing	Contacts	Cable length, PUR	Unshielded	Shielded
Female cable connector, moulded, M5 x 0,5/moulded, shielded, M5 x 0,5		3 x 0,14	2 m	79 3102 52 03	79 3122 52 03
			5 m	79 3102 55 03	79 3122 52 03
		3 x 0,25	2 m	79 3102 32 03	–
			5 m	79 3102 35 03	–
		4 x 0,14	2 m	79 3108 52 04	79 3128 52 04
			5 m	79 3108 55 04	79 3128 52 04
		4 x 0,25	2 m	79 3108 32 04	–
			5 m	79 3108 35 04	–

Description	Drawing	Contacts	Cable length, PUR	Unshielded	Shielded
Female angled connector, moulded, M5 x 0,5		3 x 0,14	2 m	79 3104 52 03	–
			5 m	79 3104 55 03	–
		3 x 0,25	2 m	79 3104 32 03	–
			5 m	79 3104 35 03	–
		4 x 0,14	2 m	79 3110 52 04	79 3130 52 04
			5 m	79 3110 55 04	79 3130 52 04
		4 x 0,25	2 m	79 3110 32 04	–
			5 m	79 3110 35 04	–

Specifications	3	4
Contacts	3	4
Wire gauge	0,14 mm <sup>2</sup> (AWG 26), 0,25 mm <sup>2</sup> (AWG 24)	
Mechanical operation	> 100 Mating cycles	
Temperature range	– 25 °C / + 80 °C	
Rated voltage	60 V	
Pollution degree	3	
Rated current (40°C)	1 A	
Contact plating	Au (Gold)	
Material of housing	PUR	

Description	Drawing	Contacts	Ordering-No.
Male panel mount connector, with single wires		3 x 0,14 3 x 0,25 4 x 0,14 4 x 0,25	09 3105 00 03 09 3105 01 03 09 3111 00 04 09 3111 01 04
Male panel mount connector, front fastened, with single wires		3 x 0,14 4 x 0,14	09 3105 86 03 09 3111 86 04
Male panel mount connector, dip-solder		3 4	09 3105 81 03 09 3111 81 04
Female panel mount connector, with single wires		3 x 0,14 3 x 0,25 4 x 0,14 4 x 0,25	09 3106 00 03 09 3106 01 03 09 3112 00 04 09 3112 01 04
Female panel mount connector, front fastened, with single wires		3 x 0,14 4 x 0,14	09 3106 86 03 09 3112 86 04
Female panel mount connector, dip-solder		3 4	09 3106 81 03 09 3112 81 04

Description	Drawing	Contacts	Black
Male receptacle for sensor tubes, tube- $\emptyset$ 3,75-H7		4	09 3111 71 04
<b>Contact arrangements male insert (mating side)</b>	<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p>3 contacts</p> </div> <div style="text-align: center;"> <p>4 contacts</p> </div> </div>		
<b>Contact arrangements female insert (mating side)</b>	<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> </div> <div style="text-align: center;"> </div> </div>		<p><b>Colour of wire, moulded cable and panel mount connectors</b></p> <ul style="list-style-type: none"> <li>1 brown</li> <li>2 white</li> <li>3 blue</li> <li>4 black</li> </ul>
<b>Panel cut out</b>			
<b>Description</b>	<b>Drawing</b>	<b>Ordering-No.</b>	
M5 Protection cap for female connector		08 2610 000 000	
Hexagonal nut M5 x 0,5		01 5118 001	

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