

Connectors, Cordsets, Splitters



Accessories

10.1 Connectors, Cordsets, Splitters

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Product Diversity – Always the Right Connection

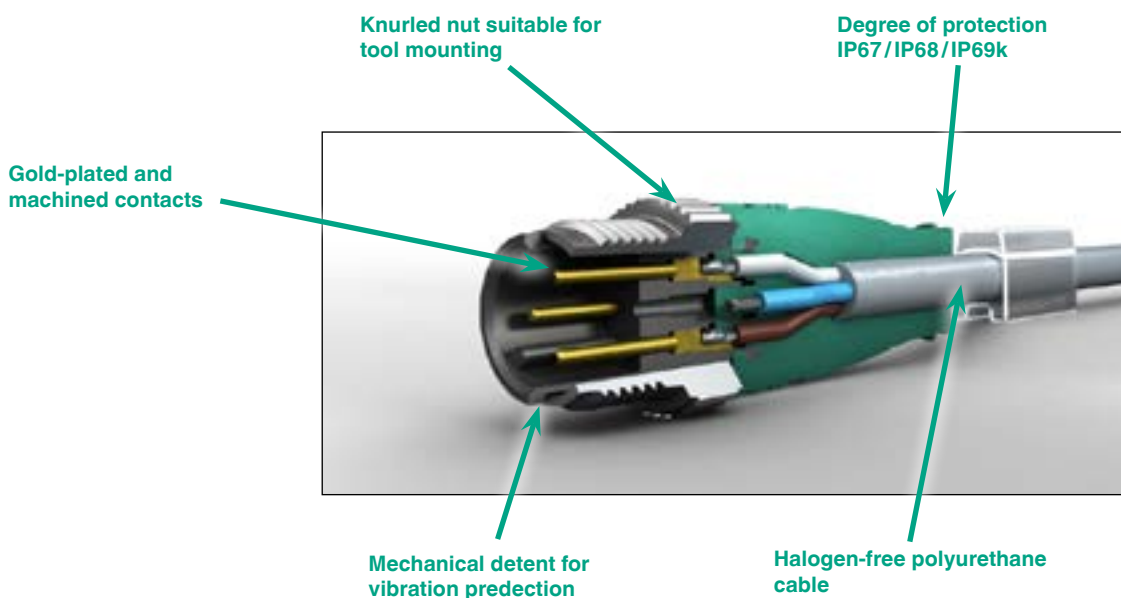
Pepperl+Fuchs offers a comprehensive range of sensor-actuator cables for machine and plant installations. In addition to the common M8, M12, and valve connector designs, ready-made 1/2" and 7/8" connectors are also available in stock as standard. Our recently introduced "LEAN Production" philosophy will enable us to manufacture and deliver customized versions with short delivery times.

Our range includes:

- Shielded versions
- Versions with stainless-steel coupling nut
- Versions with indicators for operation and function.

In conjunction with our wide range of cable types, these options mean that we can provide the optimum solution for virtually any application.

The New Generation – Connectors with Impressive Properties



- Optimized size and a rounded body designed for a secure grip enable the connector to be used in the tightest of spaces
- Gold-plated, machined contacts ensure contact resistances < 5 mΩ
- Halogen-free PUR cables prevent toxic vapors being released in the event of a fire
- The knurled nut enables a torque wrench to be used to securely tighten our connectors
- Highly effective integrated vibration prediction

Your Benefits at a Glance

- Flexibility – we are happy to customize our products to your specifications
- Shortest delivery times – even for customized products
- Quality – exhaustive functional testing of all connectors
- Products are approved for the American market – 
- Reliably sealed to IP67 or higher

The Correct Cable for Every Application

Choosing the right cable is crucial in terms of the service life you can expect from a sensor-actuator cable. This is why it pays to familiarize yourself with our extensive range of cables. It will save you time as well as money!



PVC – for straightforward applications

Application areas:

For use in areas subject to moderate mechanical strain, e.g., packaging machines, assembly and production lines.

- Affordable cable quality
- Effective resistance to chemicals
- Suitable for the food industry

Features:

- Easily strippable
- Excellent flame retardance
- Suitable for flexible installation to some extent
- Limited resistance to oil and lubricant

Temperature range

fixed installed	–25 °C ... 70 °C
	–25 °C ... 105 °C for indicated cable types
flexible installed	–5 °C ... 70 °C
Minimum bending radius	10 x D

PVC			
Cable type	Structure	Diameter	Use
PVC, gray, 70 °C	3/4/5 x 0.34 mm ² (19 x 0.15 mm)	Ø = 4.8 mm	M12
PVC, gray, 70 °C	3/4 x 0.25 mm ² (14 x 0.15 mm)	Ø = 4.3 mm	M8
PVC, black, 80 °C	2+1 x 0.5 mm ² (16 x 0.2 mm)	Ø = 4.8 mm	Valve connectors
PVC, black, 80 °C	3+1/4+1 x 0.5 mm ² (28 x 0.15 mm)	Ø = 4.9 mm / 5.3 mm	Valve connectors
PVC-U, black, 70 °C	 3/4 x 0.34 mm ² (19 x 0.15 mm)	Ø = 4.3 mm	M8 / M12
PVC-U, yellow, 70 °C	 3/4 x 0.34 mm ² (19 x 0.15 mm)	Ø = 4.3 mm	M8 / M12
PVC, blue (NAMUR), 70 °C	2/4 x 0.34 mm ² (19 x 0.15 mm)	Ø = 4.8 mm	M8 / M12
PVC-U, yellow, 105 °C	 3/4/5 x 0.34 mm ² (42 x 0.1 mm)	Ø = 5.2 mm / 5.5 mm / 5.9 mm	1/2"

For available Raw cable rings, see page 1064.



PUR – for complex applications

Application areas:

Suitable for long-term flexible use in the most challenging of environments such as with machine tools, redary tables and swivel tables. Shielded versions available to meet additional EMC requirements.

- Halogen-free
- Capable of withstanding a high level of mechanical stress
- Effective resistance to chemicals
- Effective resistance to oil
- UL cable types are extremely flame-retardant

Features:

- Free from silicone and substances that inhibit lacquer adhesion
- Resistant to microbes and hydrolysis
- UV-resistant

Temperature range

fixed installed	–40 °C ... 80 °C
flexible installed	–20 °C ... 80 °C
Minimum bending radius	10 x D

Additional data for UL-approved cable types (unshielded):

Min. no. of bending cycles	5 million
Distance	5 m
Acceleration	5 m/s ²
Speed	3.33 m/s
Torsion	±180°/m tested at 20 °C ... 25 °C

PUR

Cable type	Structure	Diameter	Use
PUR, gray, 80 °C	3/4/5 x 0.34 mm ² (19 x 0.15 mm)	Ø = 4.8 mm	M12
PUR, gray, 80 °C	3/4 x 0.25 mm ² (14 x 0.15 mm)	Ø = 4.3 mm	M8
PUR-U, black, 80 °C	 8 x 0.25 mm ² (14 x 0.15 mm)	Ø = 6.0 mm	M12
PUR-U, black, 80 °C	 3/4 x 0.34 mm ² (42 x 0.1 mm)	Ø = 4.3 mm	M8 / M12
PUR-U, yellow, 80 °C	 4 x 0.34 mm ² (42 x 0.1 mm)	Ø = 4.3 mm	M8 / M12
PUR, blue (NAMUR), 80 °C	2/4 x 0.34 mm ² (19 x 0.15 mm)	Ø = 4.8 mm	M8 / M12
PUR-ABG, gray, shielded, 80 °C	4/5 x 0.34 mm ² (19 x 0.15 mm)	Ø = 4.8 mm	M8 / M12
PUR-U/ABG, black, shielded, 80 °C	 8 x 0.25 mm ² (14 x 0.15 mm)	Ø = 6.0 mm	M12
PUR-U/0.75, black, 80 °C	 5 x 0.75 mm ² (42 x 0.15 mm)	Ø = 6.0 mm	M12
PUR, black, 80 °C	 2+1/3+1/4+1 x 0.5 mm ² (28 x 0.15 mm)	Ø = 4.5 mm / 4.9 mm / 5.3 mm	Valve connectors

For available Raw cable rings, see page 1064.



Irradiated PUR – for extreme applications

Application areas:

This cable boasts properties that are better than those of conventional PUR cables, making this highly-flexible control cable also suitable for use in robot applications and particularly with welding robots.

- Welding bead resistant
- Resistant to high temperatures
- Capable of withstanding mechanical stress
- Robot-compatible
- Halogen-free
- Excellent flame retardance

Features:

- Effective resistance to oil
- Effective resistance to chemicals
- UV-resistant
- Free from silicone and substances that inhibit lacquer adhesion
- Resistant to microbes and hydrolysis

Temperature range

fixed installed	–50 °C ... 105 °C	
	–50 °C ... 80 °C	for UL cable types
flexible installed	–40 °C ... 105 °C	
	–40 °C ... 80 °C	for UL cable types
Minimum bending radius	10 x D	
Min. no. of bend cycles	5 million	
Distance	10 m	
Acceleration	10 m/s ²	
Speed	3 m/s	
Torsion	±360°/m tested at 20 °C ... 25 °C	

Irradiated PUR

Cable type	Structure	Diameter	Use
PUR-H/S, orange, irradiated, 80 °C	4 x 0.34 mm ² (19 x 0.15 mm)	Ø = 4.8 mm	M8 / M12
PUR-H/S, yellow, irradiated, 80 °C	 3/4/5 x 0.75 mm ² (42 x 0.15 mm)	Ø = 5.8 mm	1/2"

For available Raw cable rings, see page 1064.



POC welding bead resistant – for the most challenging scenarios

Application areas:

This special cable comes into its own for applications in the welding sector that cannot be solved with irradiated PUR cables.

- Welding bead resistant
- Resistant to high temperatures
- Capable of withstanding mechanical stress
- Robot-compatible
- Excellent flame retardance

Features:

- Effective resistance to oil
- Effective resistance to chemicals
- UV-resistant
- Free from silicone and substances that inhibit lacquer adhesion
- Resistant to microbes and hydrolysis

Temperature range

fixed installed	–40 °C ... 150 °C
flexible installed	–15 °C ... 150 °C
Minimum bending radius	10 x D
Torsion	± 360°/m tested at 20 ... 25 °C

POC

Cable type	Structure	Diameter	Use
POC, orange, 105 °C	4 x 0.34 mm ² (19 x 0.15 mm)	Ø = 4.8 mm	M8 / M12

For available Raw cable rings, see page 1064.



STOOW – THE cable for the American market

Application areas:

This type of cable uses an extremely resilient PVC mixture that is used predominantly in the American market.

- Extremely resilient PVC mixture acc. to STOOW-A
- Tried and tested for outdoor use
- Approved up to 600 V
- Excellent flame retardance

Features:

- Effective resistance to oil
- Effective resistance to chemicals

Temperature range

fixed installed	–25 °C ... 105 °C
flexible installed	–5 °C ... 105 °C
Minimum bending radius	10 x D

STOOW

Cable type	Structure	Diameter	Use
STOOW, yellow, 105 °C	3/4/5 x AWG16 (~1.25 mm ² , 19 x 0.29 mm)	Ø = 9.9 mm / 10.7 mm / 12.9 mm	7/8"

Instructions on Connecting and Routing Cables

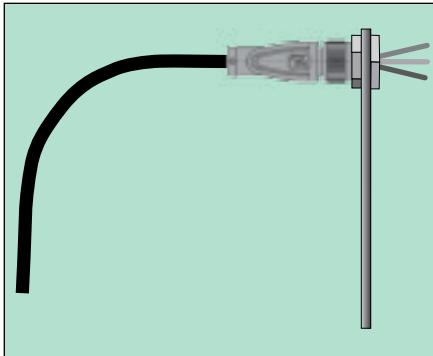
Avoid common mistakes when connecting and routing cables

Properly connecting, routing, and maintaining cable systems is the best way to ensure their reliability and long service life.

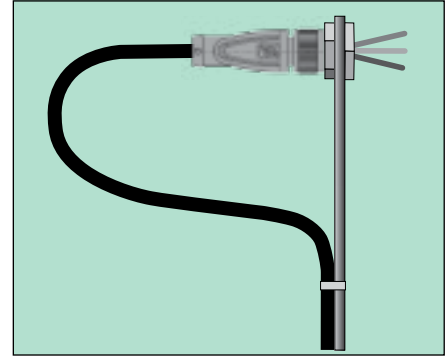
Bending radius

By using an appropriate bending radius you can reduce the tensions that arise from bending, and extend the cable's service life.

Recommended
flexible
installation



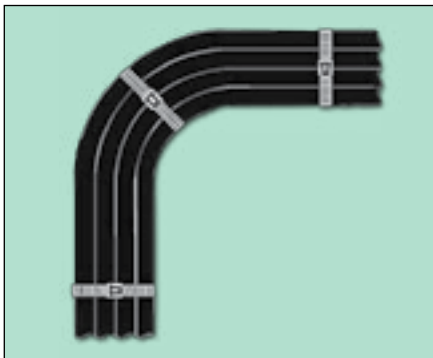
Recommended
fixed installation



Bundling

When individual cables are connected to a device and when securing cables together, take care to avoid deforming the cables with the cable ties. When cables are secured correctly it should be possible to move them easily and without using much force; this will extend their service life.

Correct
bundling



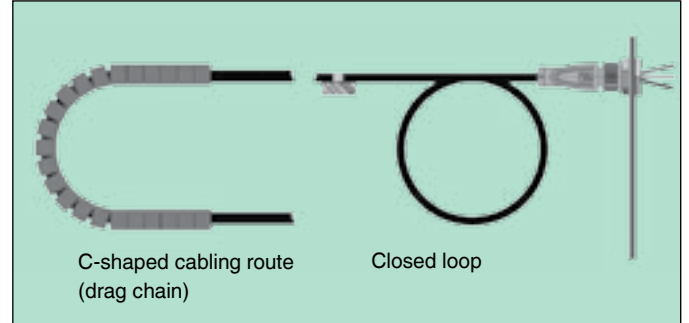
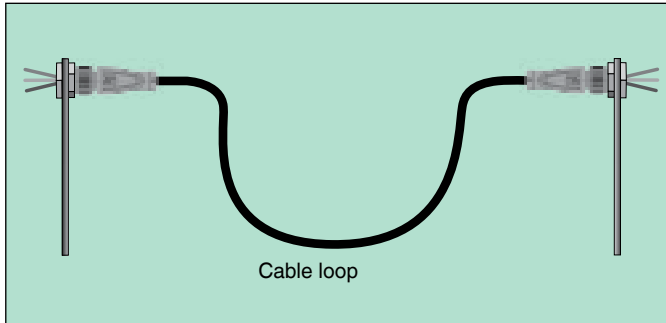
Incorrect bundling

Cable ties that are too tight should be loosened, and those that are too slack should be tightened



Connecting cables to portable devices

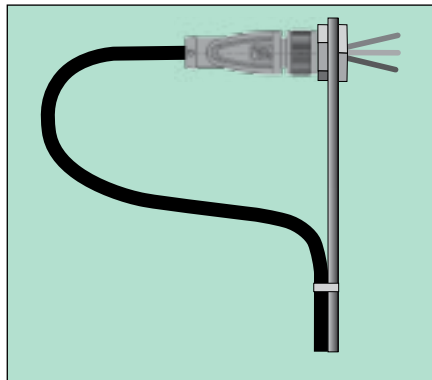
Connecting cables that are subject to movement between two points must be long enough to avoid excessive strain on the cables and connectors. In this situation it is advisable to form loops in the cable and route sections in the shape of the letter C.



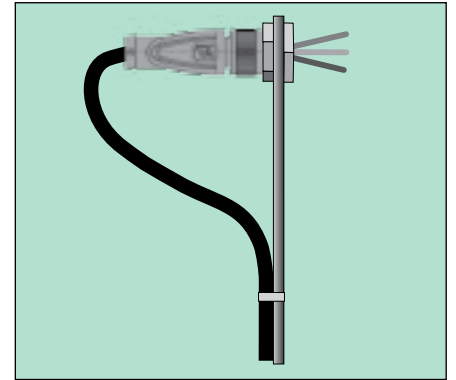
Strains

If a sufficiently large loop is formed at connection points, then excessive wear and common problems due to the strains illustrated below can be avoided. Pepperl+Fuchs connecting cables feature rugged, pre-fitted easy-grip body. If these are combined with correctly formed loops, the result is that both connector and cable are relieved very effectively of strain.

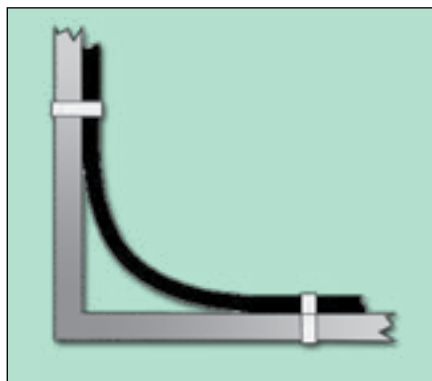
Correct strain relief loop



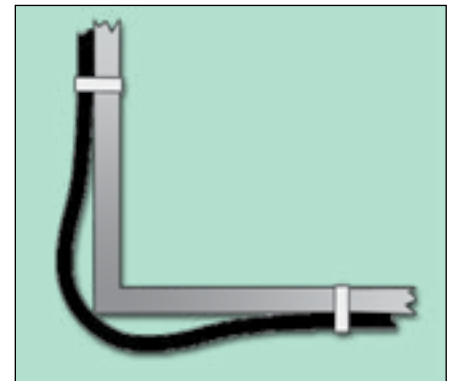
Incorrect strain relief loop



Recommended:
Routing inside corner



Routing the cable round the outside of a corner is not recommended





Properties

- M12 x 1 Single-ended Cordset
- Female straight and angled versions
- A-coded

Your Benefit

- Knurled nut suitable for tool mounting
- Mechanical detent for vibration predection
- Gold-plated contacts

Technical data

For detailed data and product description refer to the data sheets at www.pepperl-fuchs.com

General Data

Ambient conditions

Ambient temperature -40 ... 90 °C for body, Information on cable quality can be found beginning on page 974

Mechanical data

Contact elements Spring-loaded contact sockets

Degree of protection IP67 / IP68 / IP69K (IP67 only shielded version)

Material

Contacts CuSn / Au

Contact surface Au

Body TPU, green

Coupling nut Die-cast zinc

Order codes

Number of pins	3
	4
	5
	7 + Shield
	8

Electrical data

Max. operating voltage	30 V
	60 V
	250 V
Max. operating current	2 A
	4 A

V11-...

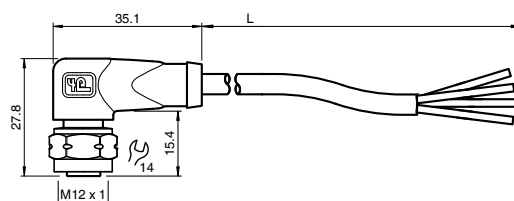
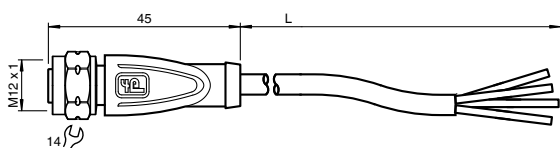
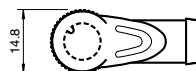
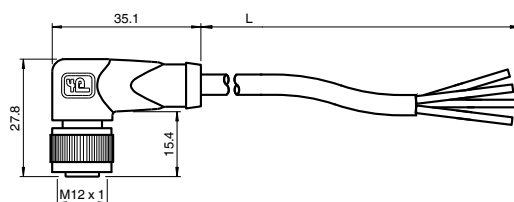
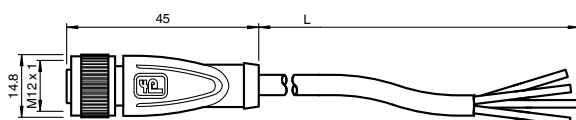
V1-...

V15-...

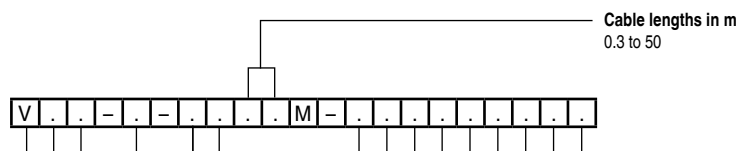
V17-...

V19-...

Dimensions



Order codes



Cable lengths in m
0.3 to 50

	Cable quality
- PVC	PVC, gray (0.34 mm ²)
BK PVC-U	PVC, UL-approved, black (0.34 mm ²)
YE PVC-U	PVC, UL-approved, yellow (0.34 mm ²)
- PUR	PUR, halogen-free, gray (0.34 mm ²)
BK PUR-U	PUR, halogen-free, UL-approved, black (0.34 mm ²)
YE PUR-U	PUR, halogen-free, UL-approved, yellow (0.34 mm ²)
BK PUR-U	PUR, halogen-free, UL-approved, black (0.25 mm ²)
BK PUR-U/0.75	PUR, halogen-free, UL-approved, black (0.75 mm ²)
- PUR H/S	PUR, halogen-free, irradiated, orange (0.34 mm ²)
OR POC	POC, welding bead resistant, orange (0.34 mm ²)
	Shielded cable quality
- PUR-ABG	PUR, halogen-free, shielded, gray (0.34 mm ²)
BK PUR-U/ABG	PUR, halogen-free, shielded, UL-approved, black (0.25mm ²)

Availability

V11	V1	V15	V17	V19
◇	◇	◇	—	—
◇	◇	—	—	—
◇	◇	—	—	—
◆	◆	◆	—	—
◇	◇	—	—	—
◇	◇	—	—	—
—	—	◇	—	◆
—	◇	—	—	—
—	◇	—	—	—
—	◆	◆	—	—
—	—	—	◆	◆

- ◆ Standard, cable lengths of 2 m, 5 m and 10 m available in stock
- ◇ Available, minimum order quantity applies in some cases
- Not available

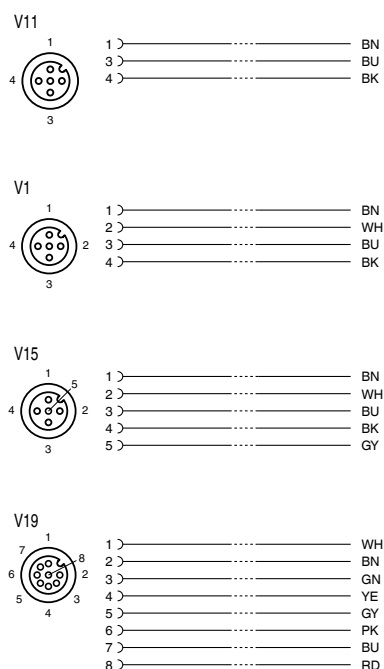
	Design
G	straight
W	angled

For stainless steel coupling nut add V4A, e.g. **WV4A, GV4A**

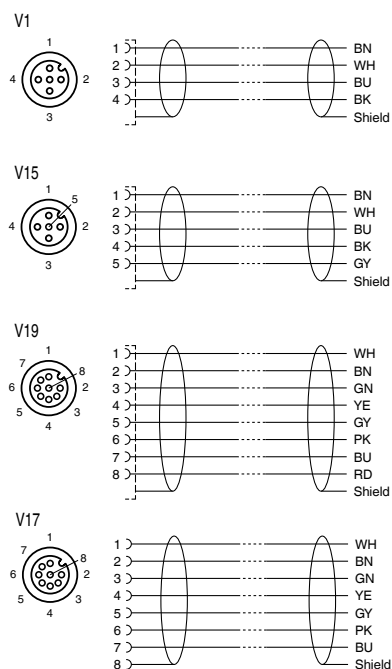
Number of pins

V11	3-pin
V1	4-pin
V15	5-pin
V17	7-pin + shield
V19	8-pin

Electrical connection



Shielded





Properties

- M12 x 1 Single-ended Cordset
- Male straight and angled versions
- A-coded

Your Benefit

- Knurled nut suitable for tool mounting
- Mechanical detent for vibration predection
- Gold-plated contacts

Technical data

For detailed data and product description refer to the data sheets at www.pepperl-fuchs.com

General Data

Ambient conditions

Ambient temperature -40 ... 90 °C for body, Information on cable quality can be found beginning on page 974

Mechanical data

Pin diameter 1 mm
Degree of protection IP67 / IP68 / IP69K

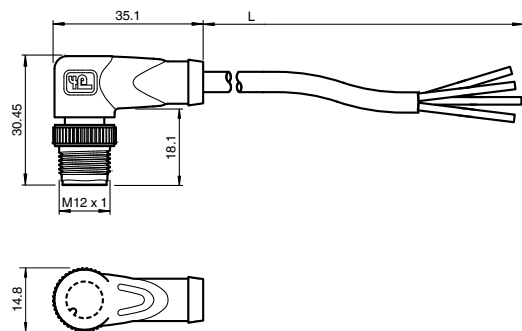
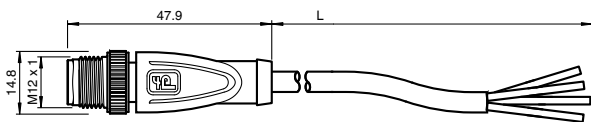
Material

Contacts CuSn / Au
Contact surface Au
Body TPU, green
Coupling nut Die-cast zinc

Order codes

		V11S-...	V15S-...	V19S-...
Number of pins	3	●		
	4		●	
	5			●
	8			●
Electrical data				
Max. operating voltage	30 V			●
	60 V			
	250 V	●	●	
Max. operating current	2 A			●
	4 A	●	●	

Dimensions



Order codes

Cable lengths in m
0.3 to 50

V . . S - M -

Cable quality

- PVC	PVC, gray (0.34 mm ²)
BK PVC-U	PVC, UL-approved, black (0.34 mm ²)
YE PVC-U	PVC, UL-approved, yellow (0.34 mm ²)
- PUR	PUR, halogen-free, gray (0.34 mm ²)
BK PUR-U	PUR, halogen-free, UL-approved, black (0.34 mm ²)
YE PUR-U	PUR, halogen-free, UL-approved, yellow (0.34 mm ²)
BK PUR-U	PUR, halogen-free, UL-approved, black (0.25 mm ²)
BK PUR-U/0.75	PUR, halogen-free, UL-approved, black (0.75 mm ²)
- PUR H/S	PUR, halogen-free, irradiated, orange (0.34 mm ²)
OR POC	POC, welding bead resistant, orange (0.34 mm ²)

Shielded cable quality

- PUR-ABG	PUR, halogen-free, shielded, gray (0.34 mm ²)
BK PUR-U/ABG	PUR, halogen-free, shielded, UL-approved, black (0.25mm ²)

Availability

V11S	V1S	V15S	V19S
◇	◇	◇	-
◇	◇	-	-
◇	◇	-	-
◆	◆	◆	-
◇	◇	-	-
◇	◇	-	-
-	-	◇	◆
-	◇	-	-
-	◇	-	-
-	◇	◇	-
-	-	-	◇

Design

G straight
W angled

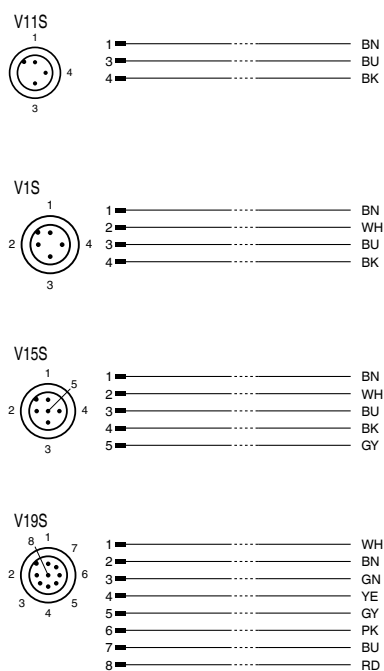
For stainless steel coupling nut add V4A, e.g. **WV4A, GV4A**

Number of pins

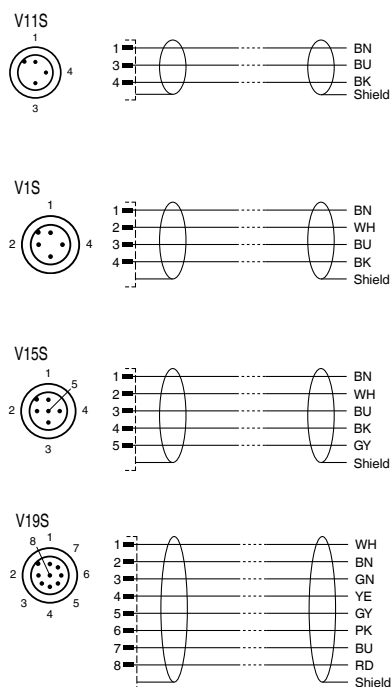
V11S 3-pin
V1S 4-pin
V15S 5-pin
V19S 8-pin

◆ Standard, cable lengths of 2 m, 5 m and 10 m available in stock
◇ Available, minimum order quantity applies in some cases
- Not available

Electrical connection



Shielded





Properties

- M12 x 1 Single-ended Cordset
- Female straight and angled versions
- A-coded
- LED

Your Benefit

- Built-in LED, as operating and function indicator
- Knurled nut suitable for tool mounting
- Mechanical detent for vibration predection
- Gold-plated contacts

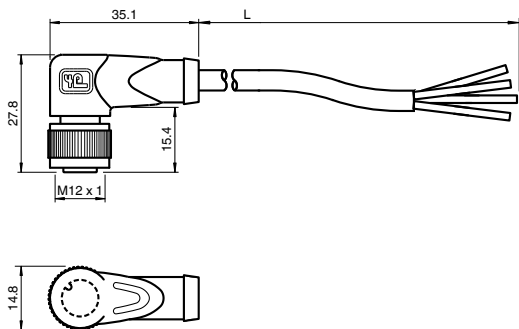
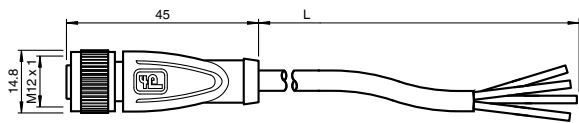
Technical data

For detailed data and product description refer to the data sheets at www.pepperl-fuchs.com

General Data		
Display/controls	LED green Operating display	
Electrical data		
Max. operating voltage	24 V DC ± 15%	
Max. operating current	4 A	
Ambient conditions		
Ambient temperature	-40 ... 90 °C for body, Information on cable quality can be found beginning on page 974	
Mechanical data		
Contact elements	Spring-loaded contact sockets	
Degree of protection	IP67 / IP68 / IP69K	
Material		
Contacts	CuSn / Au	
Contact surface	Au	
Body	TPU, transparent	
Coupling nut	Die-cast zinc	

Order codes			V1...-E2...	V1...-E0...	V1...-E2/E3...	V1...-A2...	V1...-E8...	V1...-E8W...
Number of pins	3 (E2)		●					
	3 (E0) NPN			●				
	4 (E2, E3)				●			
	4 (A2)					●		
	4 (E8)						●	
	4 (E8W)							●
Display/controls								
LED yellow	NO contact function display	Pin 4	●	●		●	●	●
	NO/NC contact function display				●			
LED red	NO contact function display	Pin 2					●	
LED white	NO contact function display	Pin 2						●

Dimensions



Order codes

Cable lengths in m
0.3 to 50

Order code structure: V 1 - M -

Cable quality

- PVC PVC, gray (0.34 mm²)
- BK PVC-U PVC, UL-approved, black (0.34 mm²)
- YE PVC-U PVC, UL-approved, yellow (0.34 mm²)
- PUR PUR, halogen-free, gray (0.34 mm²)
- BK PUR-U PUR, halogen-free, UL-approved, black (0.34 mm²)
- YE PUR-U PUR, halogen-free, UL-approved, yellow (0.34 mm²)
- PUR H/S PUR, halogen-free, irradiated, orange (0.34 mm²)
- OR POC POC, welding bead resistant, orange (0.34 mm²)

Number of pins

- E2 3-pin
- E2/E3 4-pin (2+4 bridged)
- A2 4-pin
- E0 3-pin (NPN)
- E8 4-pin
- E8W 4-pin

Design

- G straight
- W angled

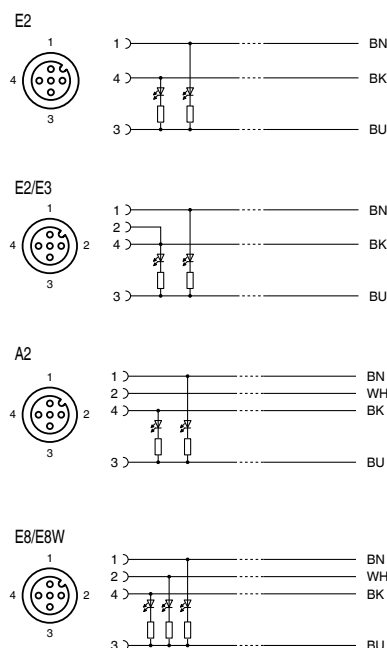
Availability

E2	E2/E3	A2	E0	E8	E8W
◇	◇	◇	◇	◇	◇
◇	◇	◇	◇	◇	◇
◇	◇	◇	◇	◇	◇
◆	◆	◆	◇	◆	◆
◇	◇	◇	◇	◇	◇
◇	◇	◇	◇	◇	◇
-	◇	◇	◇	◇	◇
-	◇	◇	◇	◇	◇

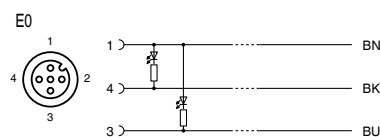
◆ Standard, cable lengths of 2 m, 5 m and 10 m available in stock
◇ Available, minimum order quantity applies in some cases
- Not available

Electrical connection

PNP



NPN





Properties

- M12 x 1 Single-ended Cordset
- Male straight and angled versions
- A-coded
- LED

Your Benefit

- Built-in LED, as operating and function indicator
- Knurled nut suitable for tool mounting
- Mechanical detent for vibration predection
- Gold-plated contacts

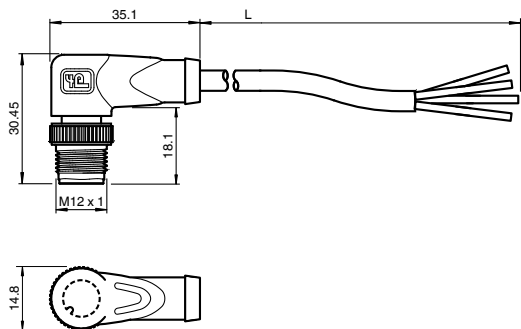
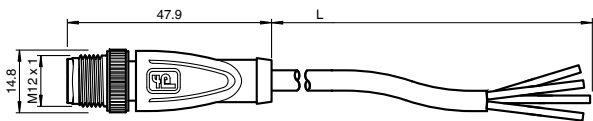
Technical data

For detailed data and product description refer to the data sheets at www.pepperl-fuchs.com

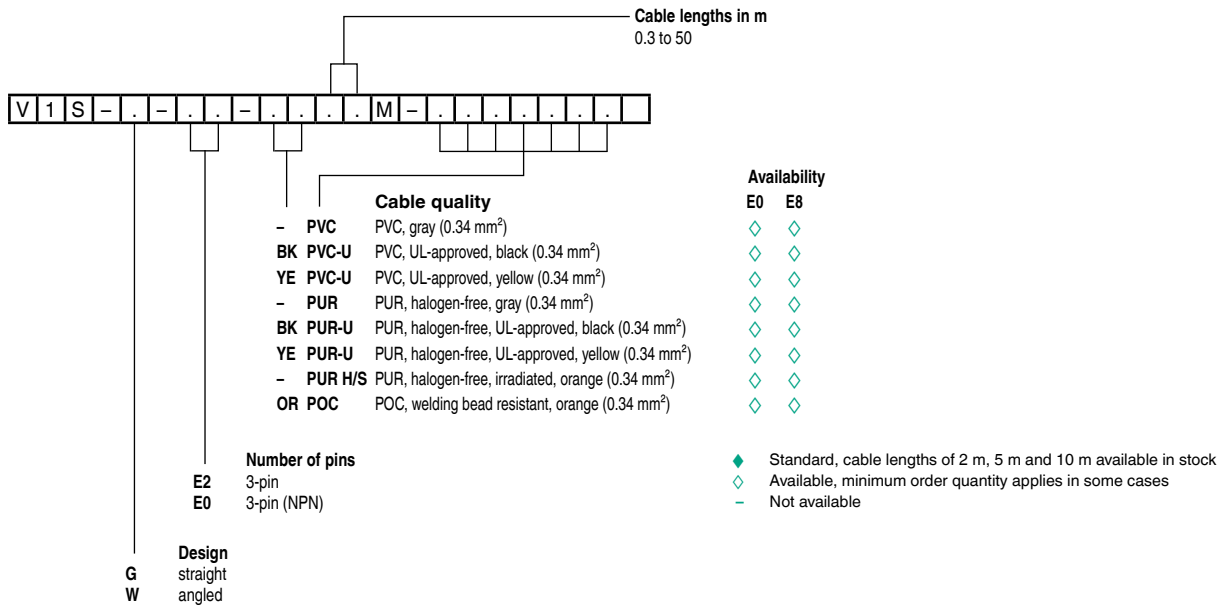
General Data	
Display/controls	
LED green	Operating display
Electrical data	
Max. operating voltage	24 V DC ± 15%
Max. operating current	4 A
Ambient conditions	
Ambient temperature	-40 ... 90 °C for body, Information on cable quality can be found beginning on page 974
Mechanical data	
Pin diameter	1 mm
Degree of protection	IP67 / IP68 / IP69K
Material	
Contacts	CuSn / Au
Contact surface	Au
Body	TPU, transparent
Coupling nut	Die-cast zinc

Order codes		V1S...-E2-...	V1S...-E0-...
Number of pins	3 (E2) 3 (E0) NPN	●	●
Display/controls			
LED yellow	NO contact function display NO/NC contact function display	●	●

Dimensions

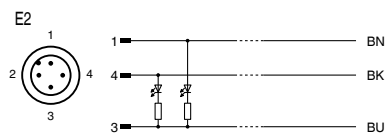


Order codes

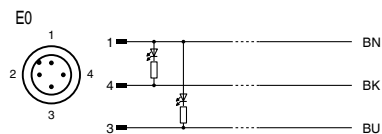


Electrical connection

PNP



NPN





Technical data

For detailed data and product description refer to the data sheets at www.pepperl-fuchs.com

General Data

Electrical data

Max. operating voltage 250 V

Max. operating current 4 A

Ambient conditions

Ambient temperature -40 ... 90 °C for body, Information on cable quality can be found beginning on page 974

Mechanical data

Contact elements Spring-loaded contact sockets

Degree of protection IP67 / IP68 / IP69K

Material

Contacts CuSn / Au

Contact surface Au

Body TPU

Coupling nut Die-cast zinc

Properties

- M12 x 1 Single-ended Cordset
- Female straight and angled versions
- A-coded
- NAMUR

Order codes

Number of pins 2
4

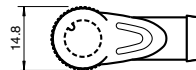
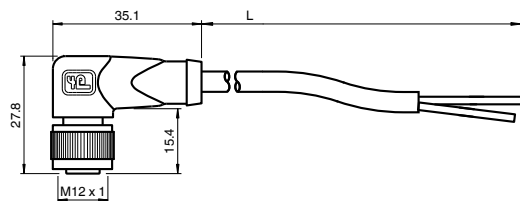
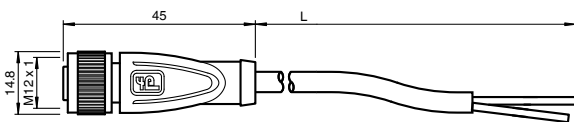
V1-...-N-...

V1-...-N4-...

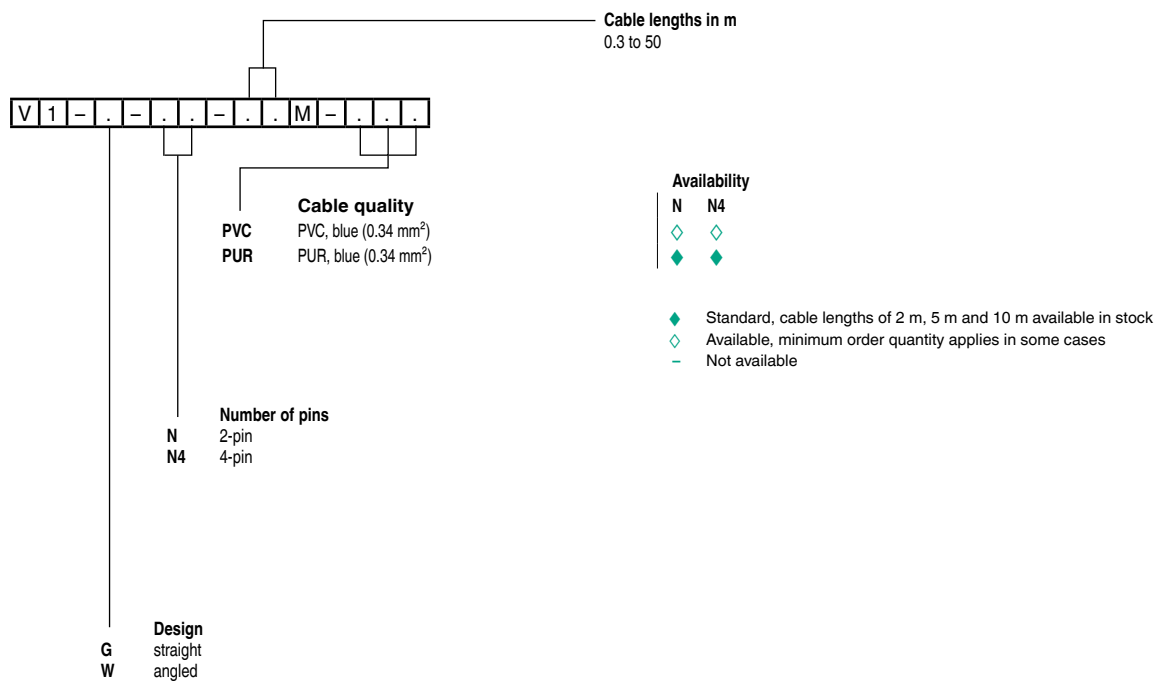
Your Benefit

- Suitable for NAMUR technology
- Blue cable jacket
- Knurled nut suitable for tool mounting
- Mechanical detent for vibration prediction
- Gold-plated contacts

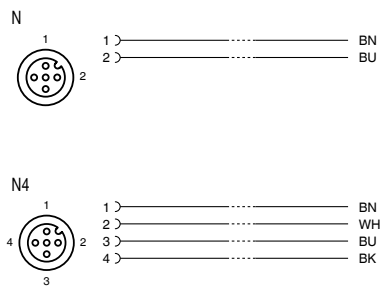
Dimensions



Order codes



Electrical connection





Properties

- M12 x 1 Double-ended Cordset
- Straight and angled versions
- A-coded

Your Benefit

- Knurled nut suitable for tool mounting
- Mechanical detent for vibration predection
- Gold-plated contacts

Technical data

For detailed data and product description refer to the data sheets at www.pepperl-fuchs.com

General Data

Ambient conditions

Ambient temperature -40 ... 90 °C for body, Information on cable quality can be found beginning on page 974

Mechanical data

Contact elements Spring-loaded contact sockets

Degree of protection IP67 / IP68 / IP69K (IP67 only shielded version)

Material

Contacts CuSn / Au

Contact surface Au

Body TPU, green

Coupling nut Die-cast zinc

Order codes

Number of pins

3

4

5

8

Electrical data

Max. operating voltage 30 V

60 V

250 V

Max. operating current 2 A

4 A

V11...V11...

V1...V1...

V15...V15...

V19...V19...

●

●

●

●

●

●

●

●

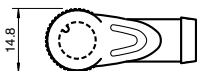
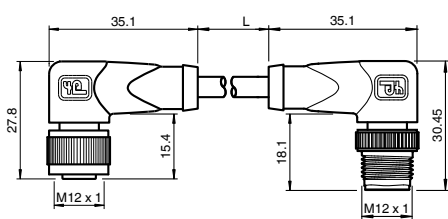
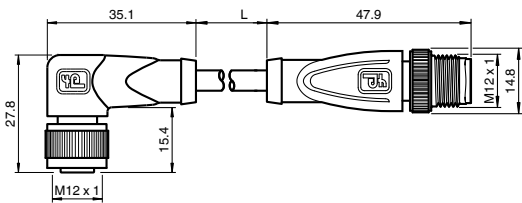
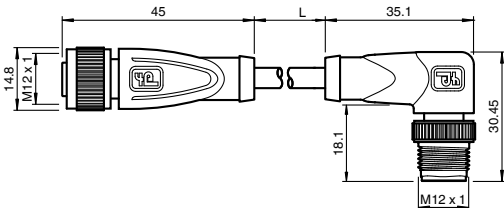
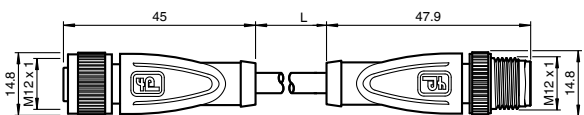
●

●

●

●

Dimensions



Order codes

Cable lengths in m
0.3 to 50

Cable quality

	Cable quality	V11	V1	V15	V19
- PVC	PVC, gray (0.34 mm ²)	◆	◆	◆	-
BK PVC-U	PVC, UL-approved, black (0.34 mm ²)	◆	◆	-	-
YE PVC-U	PVC, UL-approved, yellow (0.34 mm ²)	◆	◆	-	-
- PUR	PUR, halogen-free, gray (0.34 mm ²)	◆	◆	◆	-
BK PUR-U	PUR, halogen-free, UL-approved, black (0.34 mm ²)	◆	◆	-	-
YE PUR-U	PUR, halogen-free, UL-approved, yellow (0.34 mm ²)	◆	◆	-	-
BK PUR-U	PUR, halogen-free, UL-approved, black (0.25 mm ²)	-	-	-	◆
BK PUR-U/0.75	PUR, halogen-free, UL-approved, black (0.75 mm ²)	-	-	◆	-
- PUR H/S	PUR, halogen-free, irradiated, orange (0.34 mm ²)	-	◆	-	-
OR POC	POC, welding bead resistant, orange (0.34 mm ²)	-	◆	-	-
Shielded cable quality					
BK PUR-U/ABG	PUR, halogen-free, shielded, UL-approved, black (0.25 mm ²)	-	-	-	◆
- PUR-ABG	PUR, halogen-free, shielded, gray (0.34 mm ²)	-	◆	◆	-

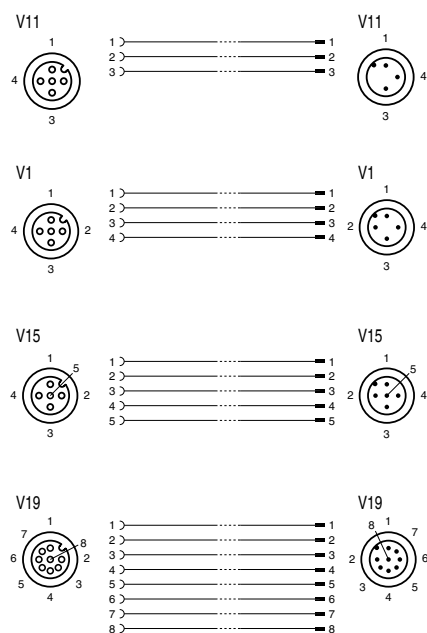
Availability

◆ Standard, cable lengths of 0.6 m, 1 m and 2 m available in stock
 ◇ Available, minimum order quantity applies in some cases
 - Not available

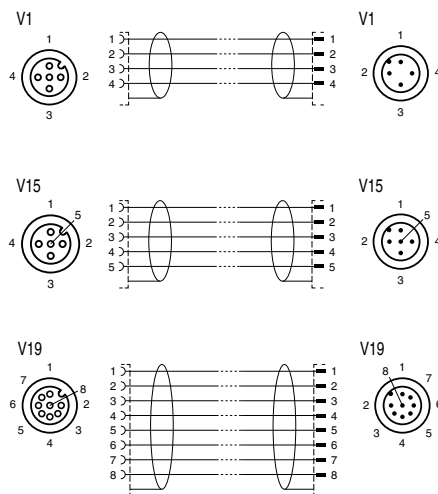
Design
 G straight
 W angled
 For stainless steel coupling nut add V4A, e.g. **WV4A, GV4A**

Number of pins
 V11 3-pin
 V1 4-pin
 V15 5-pin
 V19 8-pin

Electrical connection



Shielded





Technical data

For detailed data and product description refer to the data sheets at www.pepperl-fuchs.com

General Data

Display/controls	LED green
Operating display	

Electrical data

Max. operating voltage	24 V DC $\pm$ 15%
Max. operating current	4 A

Ambient conditions

Ambient temperature	-40 ... 90 °C for body, Information on cable quality can be found beginning on page 974
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Mechanical data

Contact elements	Spring-loaded contact sockets
Degree of protection	IP67 / IP68 / IP69K

Material

Contacts	CuSn / Au
Contact surface	Au
Body	TPU, transparent/green
Coupling nut	Die-cast zinc

Properties

- M12 x 1 Double-ended Cordset
- Straight and angled versions
- A-coded
- LED

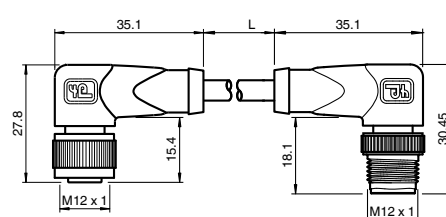
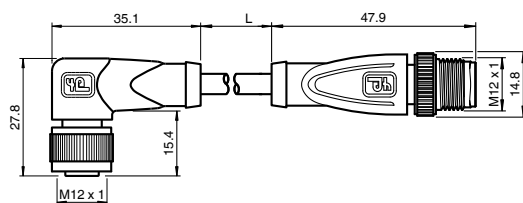
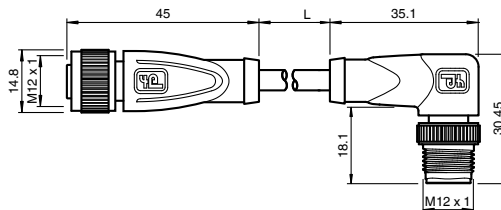
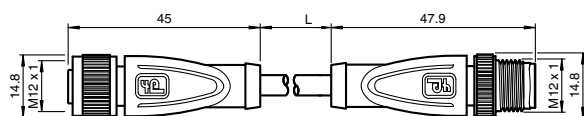
Your Benefit

- Built-in LED, as operating and function indicator
- Knurled nut suitable for tool mounting
- Mechanical detent for vibration predection
- Gold-plated contacts

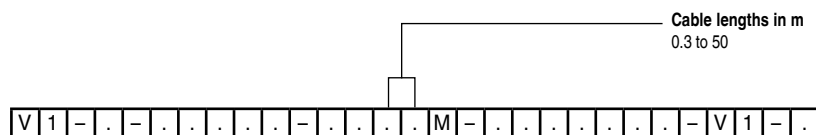
Order codes

Number of pins	3 (E2)						V1...E2...-V1...
	3 (E0) NPN						V1...E0...-V1...
	4 (E2, E3)						V1...E2/E3...-V1...
	4 (A2)						V1...A2...-V1...
	4 (E8)						V1...E8...-V1...
	4 (E8W)						V1...E8W...-V1...
Display/controls	LED yellow	NO contact function display	Pin 4				
		NO/NC contact function display					
	LED red	NO contact function display	Pin 2				
	LED white	NO contact function display	Pin 2				

Dimensions



Order codes



Cable lengths in m
0.3 to 50

	Cable quality
– PVC	PVC, gray (0.34 mm ²)
BK PVC-U	PVC, UL-approved, black (0.34 mm ²)
YE PVC-U	PVC, UL-approved, yellow (0.34 mm ²)
– PUR	PUR, halogen-free, gray (0.34 mm ²)
BK PUR-U	PUR, halogen-free, UL-approved, black (0.34 mm ²)
YE PUR-U	PUR, halogen-free, UL-approved, yellow (0.34 mm ²)
– PUR H/S	PUR, halogen-free, irradiated, orange (0.34 mm ²)
OR POC	POC, welding bead resistant, orange (0.34 mm ²)

Number of pins

E2	3-pin
E2/E3	4-pin (2+4 bridged)
A2	4-pin
E0	3-pin (NPN)
E8	4-pin
E8W	4-pin

	Design
G	straight
W	angled

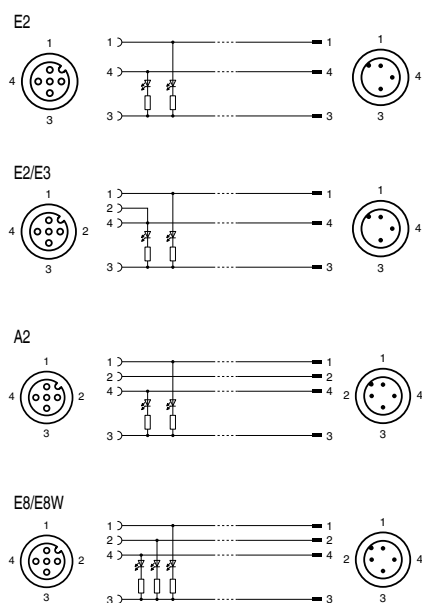
Availability

[illegible]

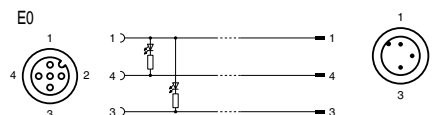
- ◆ Standard, cable lengths of 0.6 m, 1 m and 2 m available in stock
- ◇ Available, minimum order quantity applies in some cases
- Not available

Electrical connection

PNP



NPN





Technical data

For detailed data and product description refer to the data sheets at www.pepperl-fuchs.com

General Data

Electrical data	
Max. operating current	3 A
Ambient conditions	
Ambient temperature	-40 ... 90 °C for body, Information on cable quality can be found beginning on page 974
Mechanical data	
Contact elements	Spring-loaded contact sockets
Pin diameter	1 mm
Degree of protection	IP67
Material	
Contacts	CuSn / Au
Contact surface	Au
Body	TPU, green
Coupling nut	Die-cast zinc

Properties

- M12-M8 Adapter Cordset
- M12 x 1 Female straight and angled versions
- M8 x 1 Male straight
- A-coded

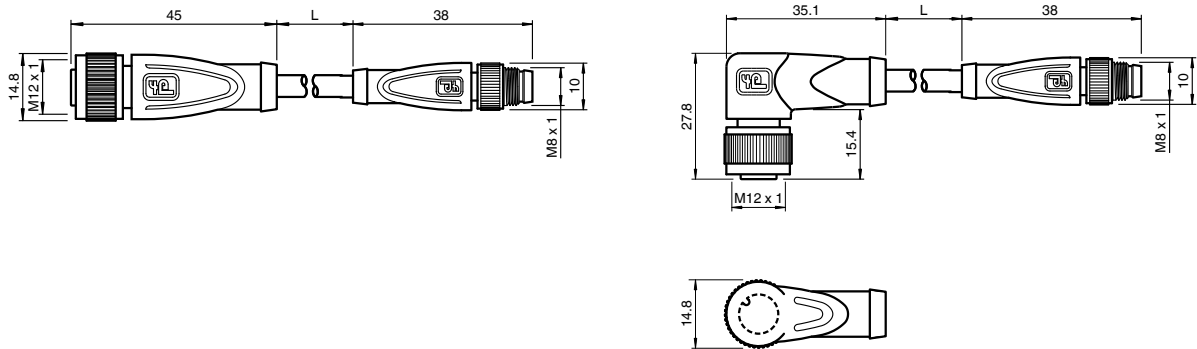
Your Benefit

- Knurled nut suitable for tool mounting
- Mechanical detent for vibration predection
- Gold-plated contacts

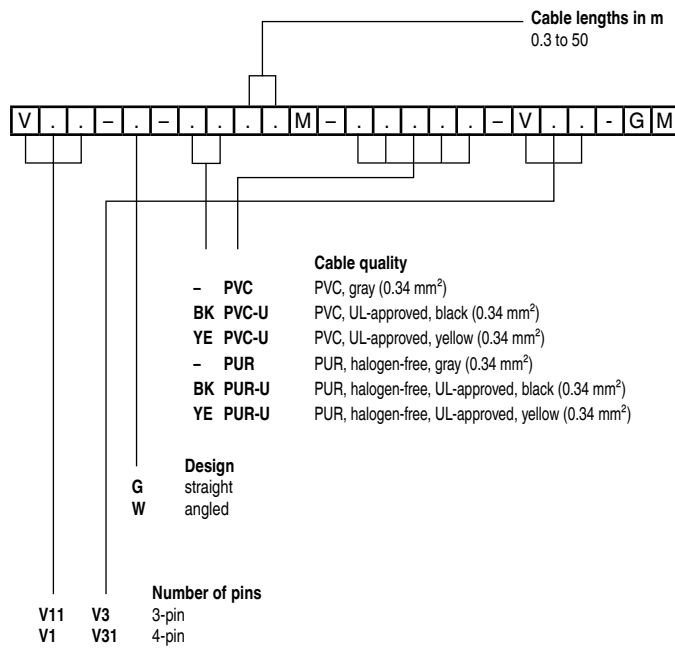
Order codes

Number of pins	3	V11-...-V3-GM	V1-...-V31-GM
	4		
Electrical data			
Max. operating voltage	30 V		
	60 V		

Dimensions



Order codes



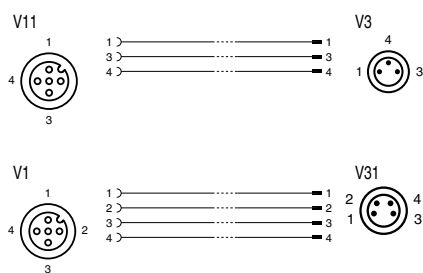
Availability

V11-V3 V1-V31

◆	◆
◆	◆
◆	◆
◆	◆
◆	◆
◆	◆
◆	◆

- ◆ Standard, cable lengths of 0.6 m, 1 m and 2 m available in stock
 ◆ Available, minimum order quantity applies in some cases
 - Not available

Electrical connection





Technical data

For detailed data and product description refer to the data sheets at www.pepperl-fuchs.com

General Data	
Electrical data	
Max. operating current	3 A
Ambient conditions	
Ambient temperature	-40 ... 90 °C for body, Information on cable quality can be found beginning on page 974
Mechanical data	
Contact elements	Spring-loaded contact sockets
Pin diameter	1 mm
Degree of protection	IP67
Material	
Contacts	CuSn / Au
Contact surface	Au
Body	TPU, green
Coupling nut	Die-cast zinc

Properties

- M8-M12 Adapter Cordset
- M8 x 1 Female straight and angled versions
- M12 x 1 Male straight
- A-coded

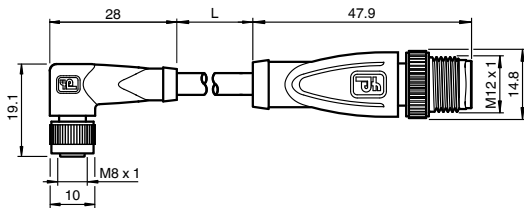
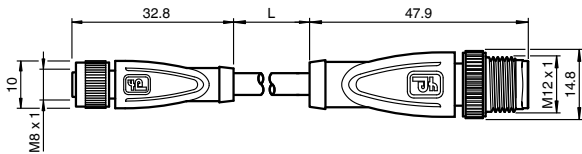
Your Benefit

- Knurled nut suitable for tool mounting
- Mechanical detent for vibration predection
- Gold-plated contacts

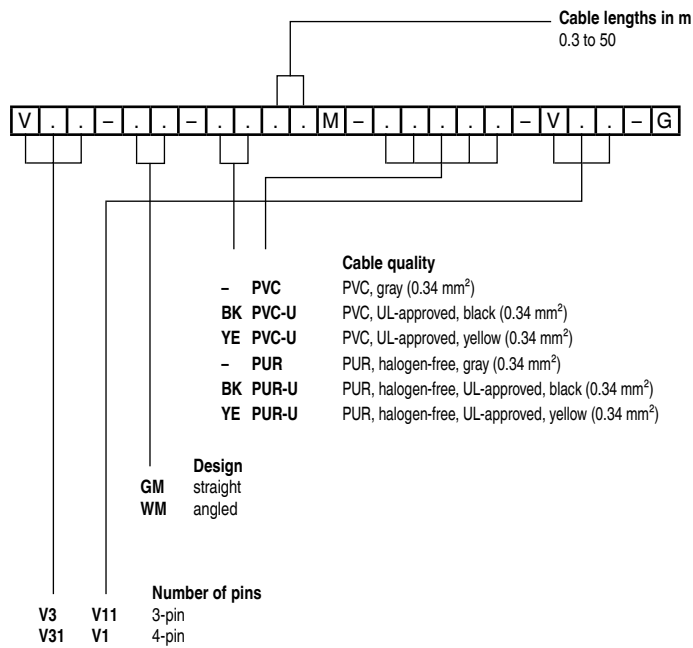
Order codes

Number of pins	3	V3-...-V11-G	V31-...-V1-G
	4		
Electrical data			
Max. operating voltage	30 V		
	60 V		

Dimensions



Order codes



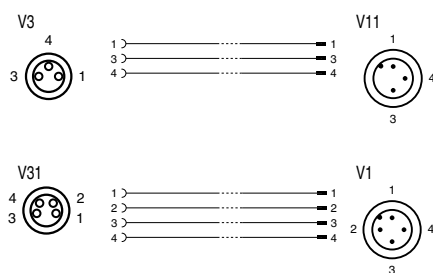
Availability

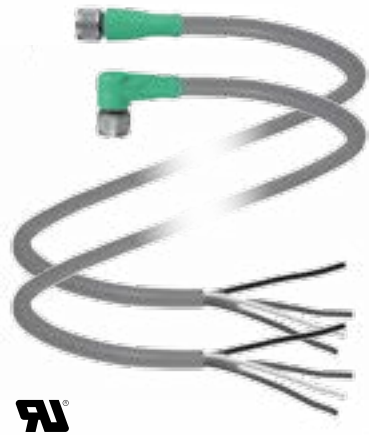
V3-V11 V31-V1

◆	◆
◆	◆
◆	◆
◆	◆
◆	◆
◆	◆
◆	◆

- ◆ Standard, cable lengths of 0.6 m, 1 m and 2 m available in stock
 ◆ Available, minimum order quantity applies in some cases
 - Not available

Electrical connection





Technical data

For detailed data and product description refer to the data sheets at www.pepperl-fuchs.com

General Data

Electrical data

Max. operating current 3 A

Ambient conditions

Ambient temperature -40 ... 90 °C for body, Information on cable quality can be found beginning on page 974

Mechanical data

Contact elements Spring-loaded contact sockets

Degree of protection IP67

Material

Contacts CuSn / Au

Contact surface Au

Body TPU, green

Coupling nut Die-cast zinc

Properties

- M8 x 1 Single-ended Cordset
- Female straight and angled versions

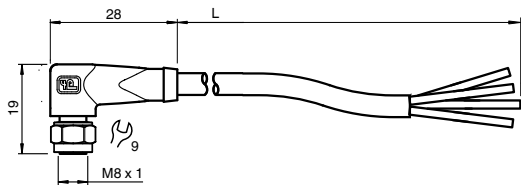
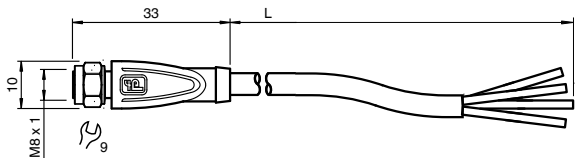
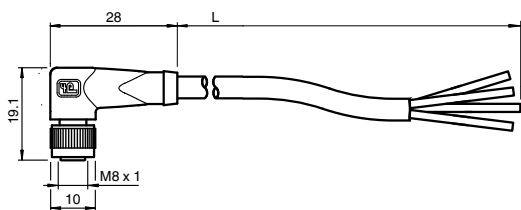
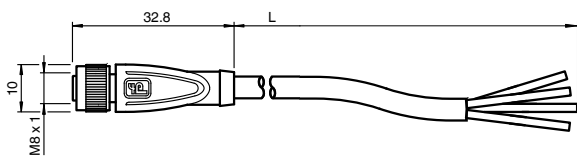
Your Benefit

- Knurled nut suitable for tool mounting
- Mechanical detent for vibration prediction
- Gold-plated contacts

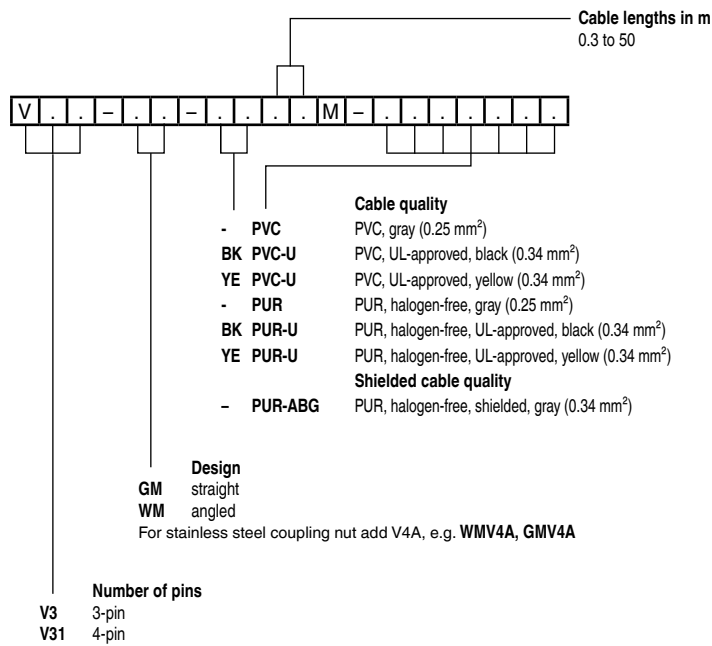
Order codes

Number of pins	3	V3-...	V31-...
	4	●	●
Electrical data			
Max. operating voltage	30 V		●
	60 V	●	

Dimensions



Order codes

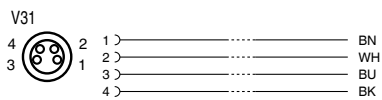
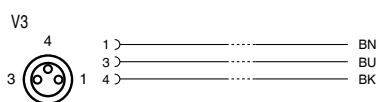
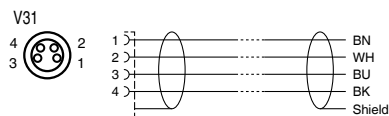
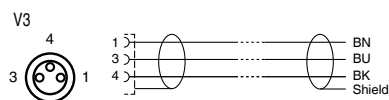


Availability

V3	V31
	
	
	
	
	
	
	

- ◆ Standard, cable lengths of 2 m, 5 m and 10 m available in stock
- ◇ Available, minimum order quantity applies in some cases
- Not available

Electrical connection

**Shielded**



Technical data

For detailed data and product description refer to the data sheets at www.pepperl-fuchs.com

General Data

Electrical data

Max. operating current 3 A

Ambient conditions

Ambient temperature -40 ... 90 °C for body, Information on cable quality can be found beginning on page 974

Mechanical data

Pin diameter 1 mm

Degree of protection IP67

Material

Contacts CuSn / Au

Contact surface Au

Body TPU, green

Coupling nut Die-cast zinc

Properties

- M8 x 1 Single-ended Cordset
- Male straight and angled versions

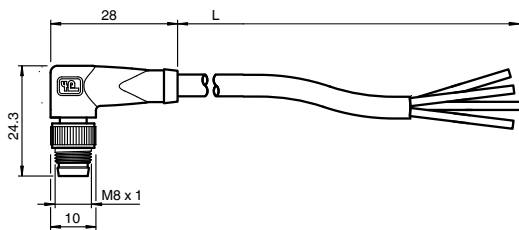
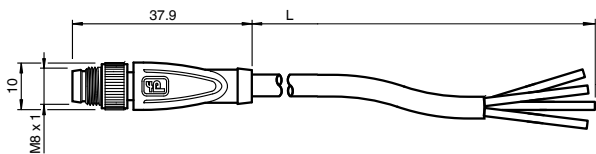
Your Benefit

- Knurled nut suitable for tool mounting
- Mechanical detent for vibration predition
- Gold-plated contacts

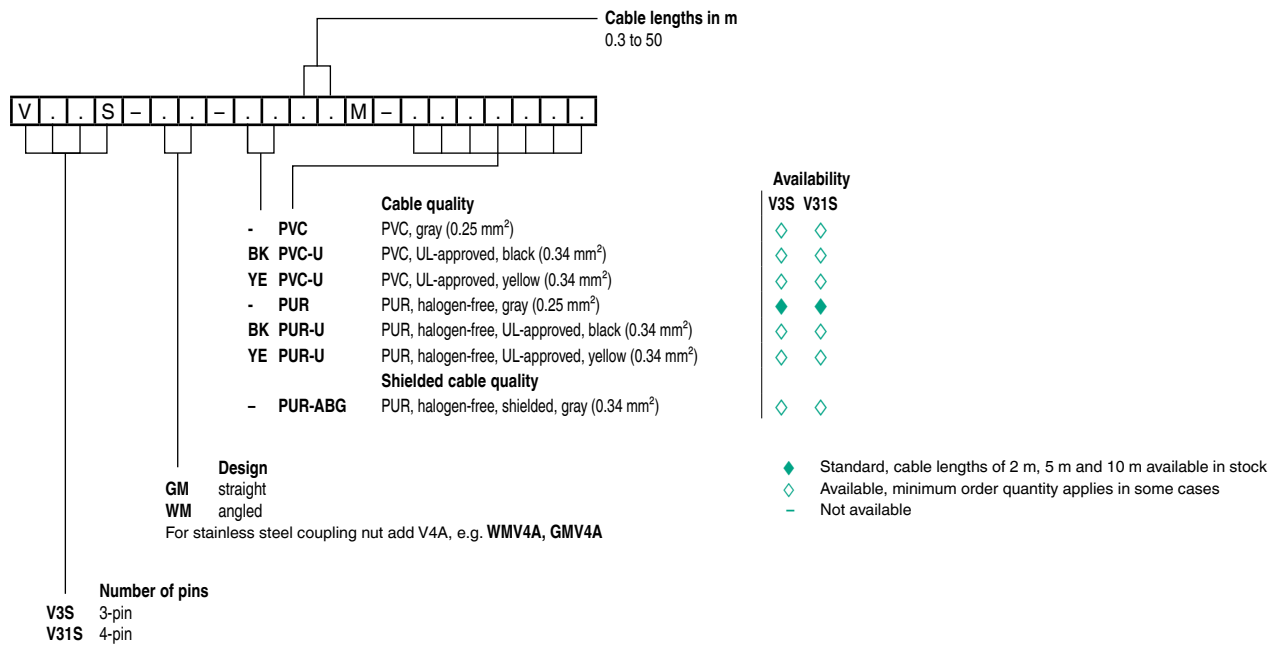
Order codes

			V3S-...	V31S-...
Number of pins	3		●	
	4			●
Electrical data				
	Max. operating voltage	30 V		●
		60 V	●	

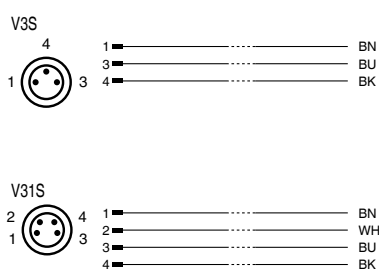
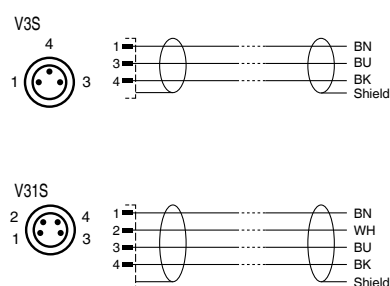
Dimensions



Order codes



Electrical connection

**Shielded**



Properties

- M8 x 1 Single-ended Cordset
- Female straight and angled versions
- LED

Your Benefit

- Built-in LED, as operating and function indicator
- Knurled nut suitable for tool mounting
- Mechanical detent for vibration predection
- Gold-plated contacts

Technical data

For detailed data and product description refer to the data sheets at www.pepperl-fuchs.com

General Data

Display/controls

LED green	Operating display
LED yellow	NO contact function display

Electrical data

Max. operating voltage	24 V DC $\pm$ 15%
Max. operating current	3 A

Ambient conditions

Ambient temperature	-40 ... 90 °C for body, Information on cable quality can be found beginning on page 974
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Mechanical data

Contact elements	Spring-loaded contact sockets
Degree of protection	IP67

Material

Contacts	CuSn / Au
Contact surface	Au
Body	TPU, transparent
Coupling nut	Die-cast zinc

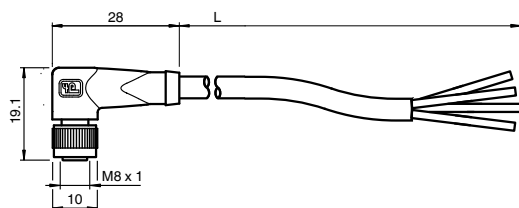
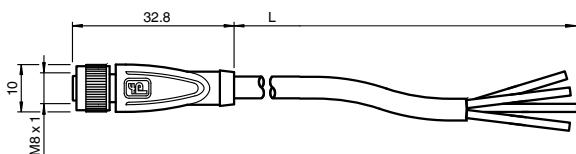
Order codes

Number of pins	3 (E2)
	4 (A2)

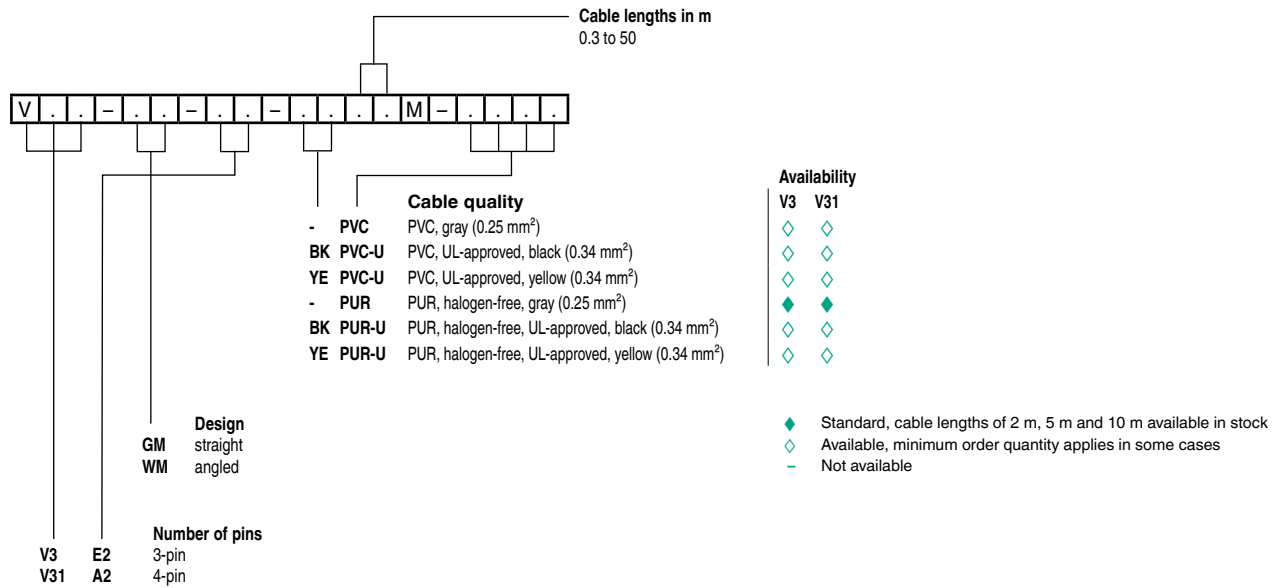
V3-E2-...

V31-A2-...

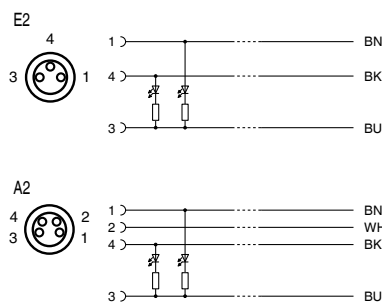
Dimensions



Order codes



Electrical connection





Properties

- M8 x 1 Single-ended Cordset
- Male straight and angled versions
- LED

Your Benefit

- Built-in LED, as operating and function indicator
- Knurled nut suitable for tool mounting
- Mechanical detent for vibration predection
- Gold-plated contacts

Technical data

For detailed data and product description refer to the data sheets at www.pepperl-fuchs.com

General Data

Number of pins	3 (E2)
Display/controls	
LED green	Operating display
LED yellow	NO contact function display

Electrical data

Max. operating voltage	24 V DC $\pm$ 15%
Max. operating current	3 A

Ambient conditions

Ambient temperature	-40 ... 90 °C for body, Information on cable quality can be found beginning on page 974
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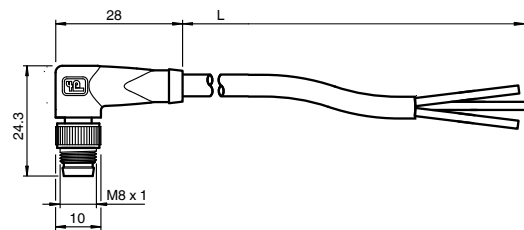
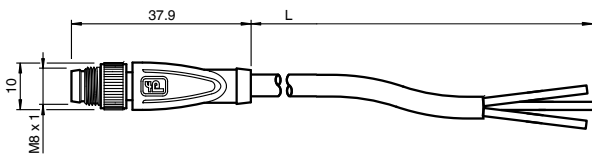
Mechanical data

Pin diameter	1 mm
Degree of protection	IP67

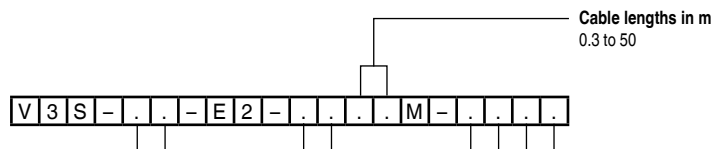
Material

Contacts	CuSn / Au
Contact surface	Au
Body	TPU, transparent
Coupling nut	Die-cast zinc

Dimensions



Order codes



Cable quality

-	PVC	PVC, gray (0.25 mm ²)
BK	PVC-U	PVC, UL-approved, black (0.34 mm ²)
YE	PVC-U	PVC, UL-approved, yellow (0.34 mm ²)
-	PUR	PUR, halogen-free, gray (0.25 mm ²)
BK	PUR-U	PUR, halogen-free, UL-approved, black (0.34 mm ²)
YE	PUR-U	PUR, halogen-free, UL-approved, yellow (0.34 mm ²)

Availability

V3S

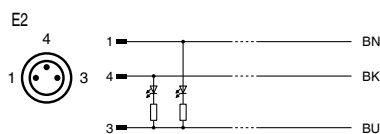


GM
WM

Design
straight
angled

- ◆ Standard, cable lengths of 2 m, 5 m and 10 m available in stock
- ◇ Available, minimum order quantity applies in some cases
- Not available

Electrical connection





Technical data

For detailed data and product description refer to the data sheets at www.pepperl-fuchs.com

General Data

Electrical data	
Max. operating current	3 A
Ambient conditions	
Ambient temperature	-25 ... 70 °C for body, Information on cable quality can be found on the data sheet.
Mechanical data	
Contact elements	Spring-loaded contact sockets
Degree of protection	IP65
Material	
Contacts	CuSn / Au
Contact surface	Au
Body	PUR, black

Properties

- M8 x 1 Single-ended Cordset
- Male straight and angled versions
- Snap-on

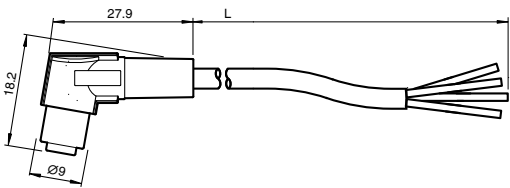
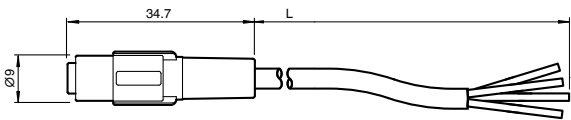
Your Benefit

- Snap locking

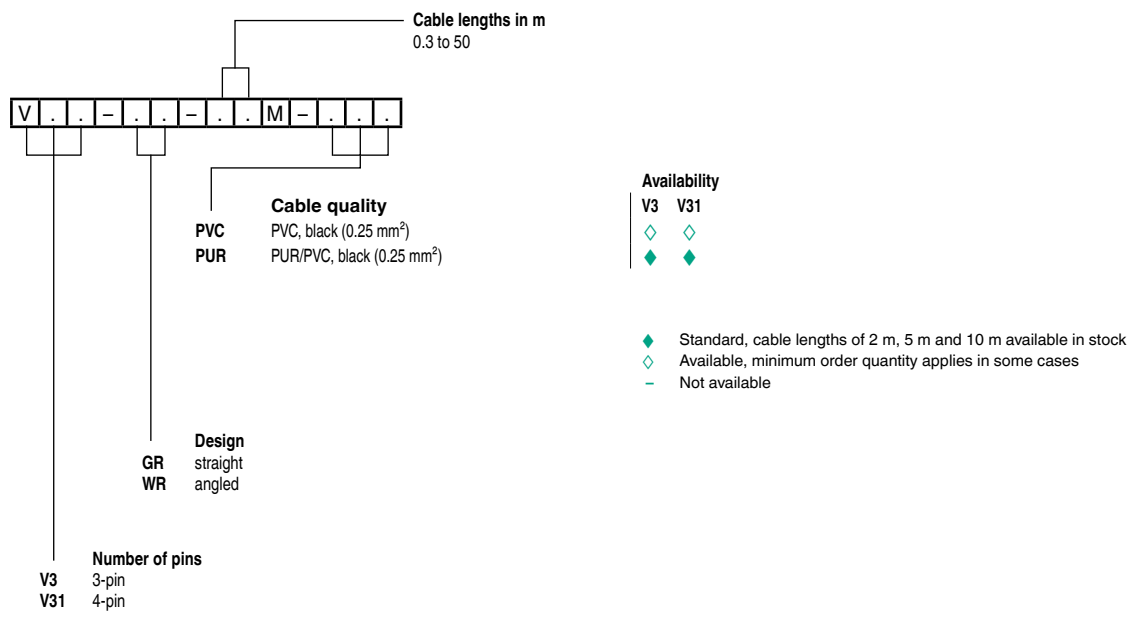
Order codes

Number of pins	3		V3-...R-...	
	4			V31-...R-...
Electrical data				
Max. operating voltage	30 V			
	60 V			

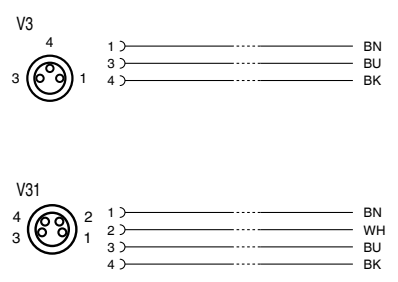
Dimensions



Order codes



Electrical connection





Technical data

For detailed data and product description refer to the data sheets at www.pepperl-fuchs.com

General Data

Electrical data

Max. operating current 3 A

Ambient conditions

Ambient temperature -40 ... 90 °C for body, Information on cable quality can be found beginning on page 974

Mechanical data

Contact elements Spring-loaded contact sockets

Degree of protection IP67

Material

Contacts CuSn / Au

Contact surface Au

Body TPU, green

Coupling nut Die-cast zinc

Properties

- M8 x 1 Double-ended Cordset
- Straight and angled versions

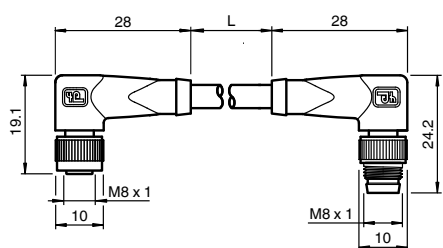
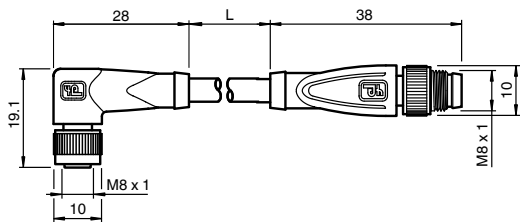
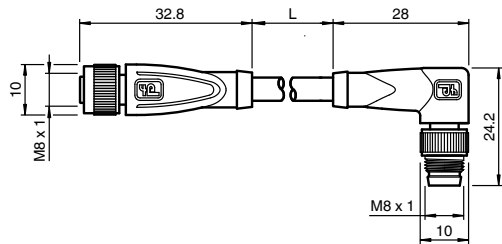
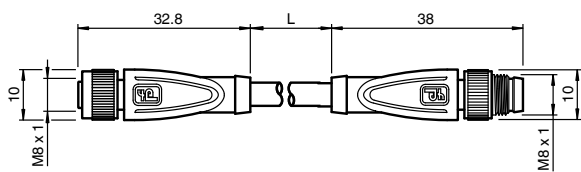
Your Benefit

- Knurled nut suitable for tool mounting
- Mechanical detent for vibration prediction
- Gold-plated contacts

Order codes

Number of pins	3	V3-...-V3-...	V31-...-V31-...
	4	●	●
Electrical data			
Max. operating voltage	30 V		●
	60 V	●	

Dimensions



Order codes

Cable lengths in m
0.3 to 50

Order code structure: V . . - . . - . . M - - V . . - . .

Cable quality

- PVC	PVC, gray (0.25 mm ²)
BK PVC-U	PVC, UL-approved, black (0.34 mm ²)
YE PVC-U	PVC, UL-approved, yellow (0.34 mm ²)
- PUR	PUR, halogen-free, gray (0.25 mm ²)
BK PUR-U	PUR, halogen-free, UL-approved, black (0.34 mm ²)
YE PUR-U	PUR, halogen-free, UL-approved, yellow (0.34 mm ²)

Shielded cable quality

- PUR-ABG	PUR, halogen-free, shielded, gray (0.34 mm ²)
------------------	---

Availability

V3	V31
◇	◇
◇	◇
◇	◇
◆	◆
◇	◇
◇	◇
◇	◇

◆ Standard, cable lengths of 0.6 m, 1 m and 2 m available in stock
◇ Available, minimum order quantity applies in some cases
- Not available

Design

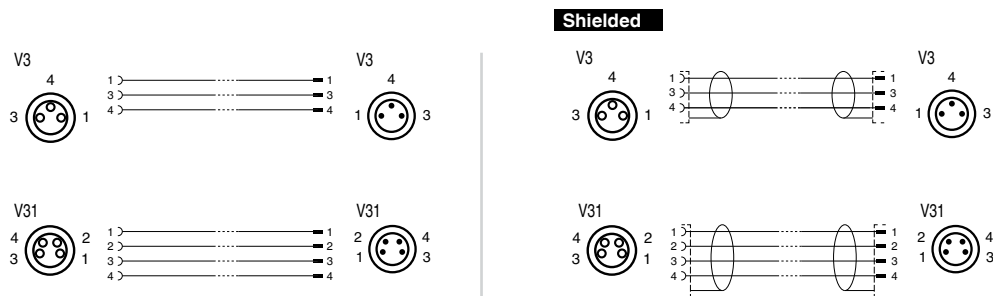
GM straight
WM angled

For stainless steel coupling nut add V4A, e.g. **WMV4A**, **GMV4A**

Number of pins

V3 3-pin
V31 4-pin

Electrical connection





Properties

- M8 x 1 Double-ended Cordset
- Straight and angled versions
- LED

Your Benefit

- Built-in LED, as operating and function indicator
- Knurled nut suitable for tool mounting
- Mechanical detent for vibration predection
- Gold-plated contacts

Technical data

For detailed data and product description refer to the data sheets at www.pepperl-fuchs.com

Gemeinsame Daten

Display/controls

LED green	Operating display
LED yellow	NO contact function display

Electrical data

Max. operating voltage	24 V DC $\pm$ 15%
Max. operating current	3 A

Ambient conditions

Ambient temperature	-40 ... 90 °C for body, Information on cable quality can be found beginning on page 974
---------------------	---

Mechanical data

Contact elements	Spring-loaded contact sockets
Degree of protection	IP67

Material

Contacts	CuSn / Au
Contact surface	Au
Body	TPU, transparent/green
Coupling nut	Die-cast zinc

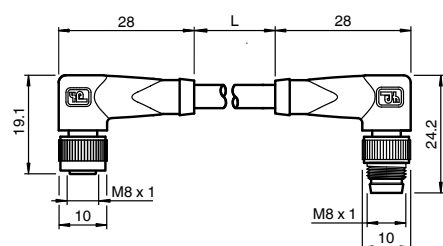
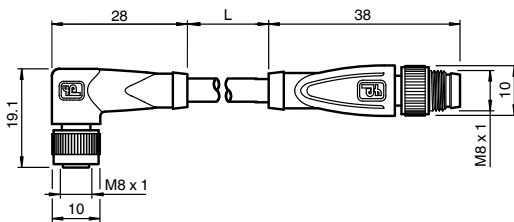
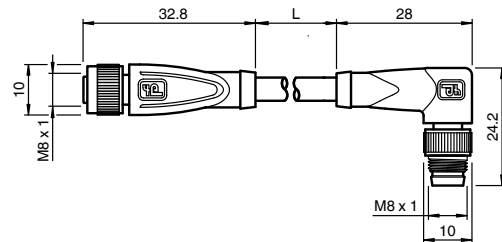
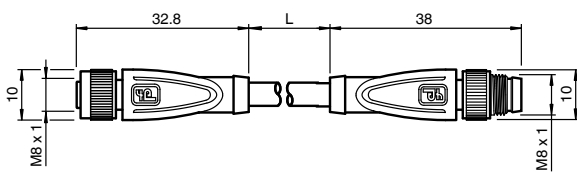
Order codes

Number of pins	3 (E2)
	4 (A2)

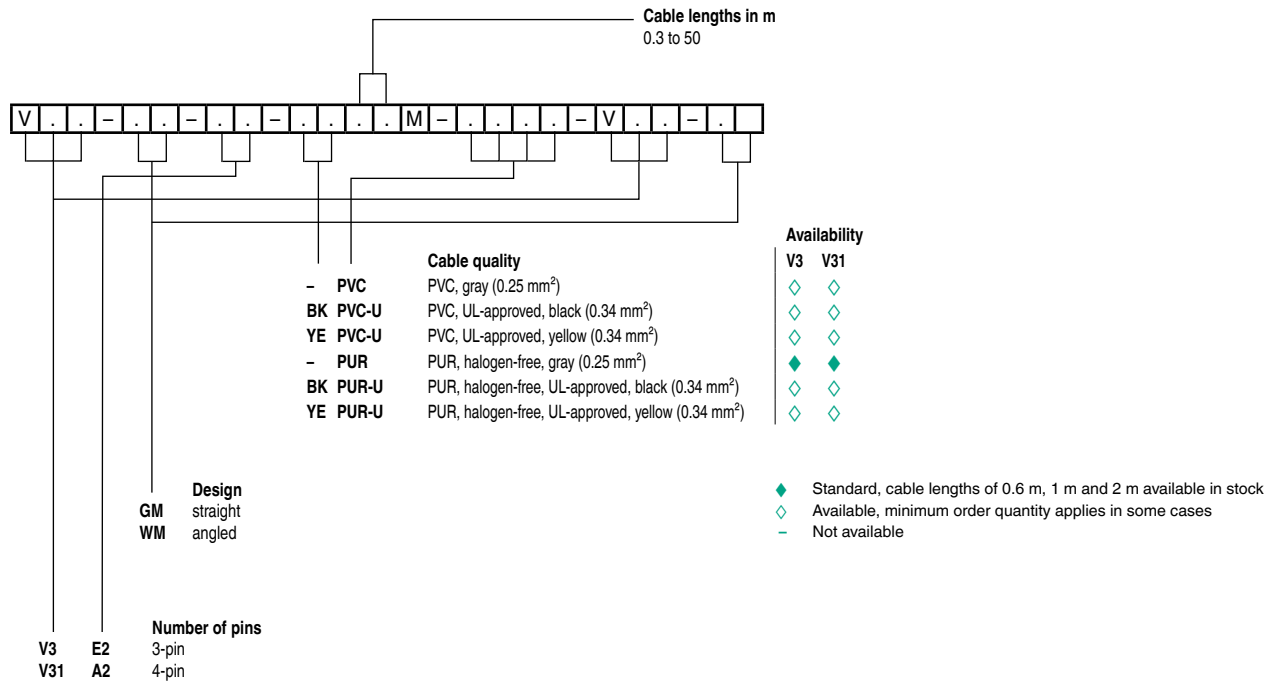
V3-E2...-V3...

V31-A2...-V31...

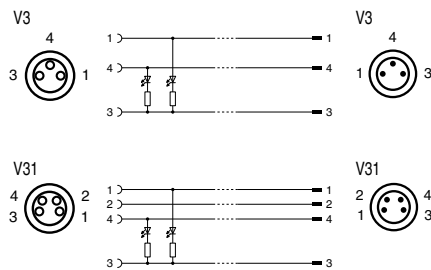
Dimensions



Order codes



Electrical connection





Properties

- 1/2" Single-ended and Double-ended Cordset versions
- Straight and angled versions

Your Benefit

- Knurled nut suitable for tool mounting
- Micro AC dual key
- Yellow body and cable jacket
- Gold-plated contacts

Technical data

For detailed data and product description refer to the data sheets at www.pepperl-fuchs.com

General Data

Electrical data

Max. operating current 4 A

Ambient conditions

Ambient temperature -25 ... 90 °C for body, Information on cable quality can be found beginning on page 974

Mechanical data

Contact elements Spring-loaded contact sockets

Degree of protection IP67/IP69K

Material

Contacts CuSn / Au

Contact surface Au

Body TPU, yellow

Coupling nut Brass, nickel-plated

Order codes

Number of pins

3

4

5

Electrical data

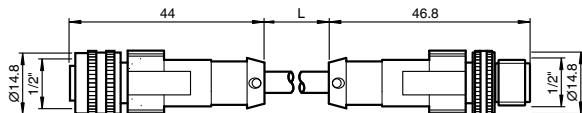
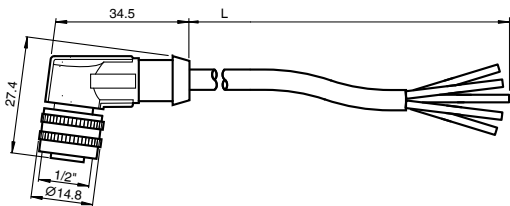
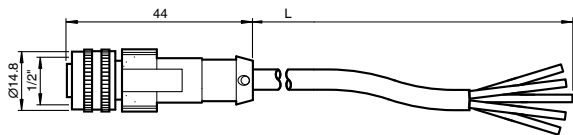
Max. operating voltage 60 V AC/DC
250 V AC/DC

V12...

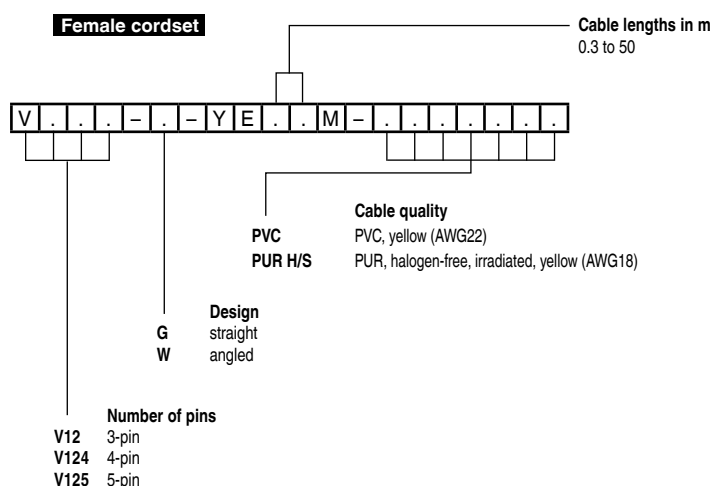
V124...

V125...

Dimensions



Order codes

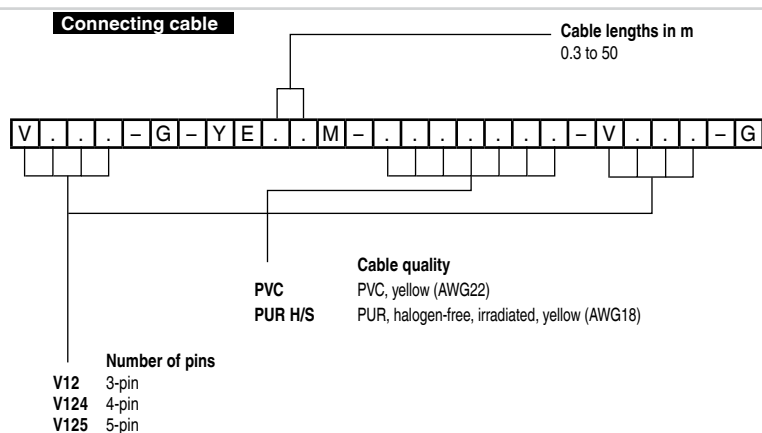


Availability

V12 V124 V125



- ◆ Standard, cable lengths of 2 m, 5 m and 10 m available in stock
- ◇ Available, minimum order quantity applies in some cases
- Not available



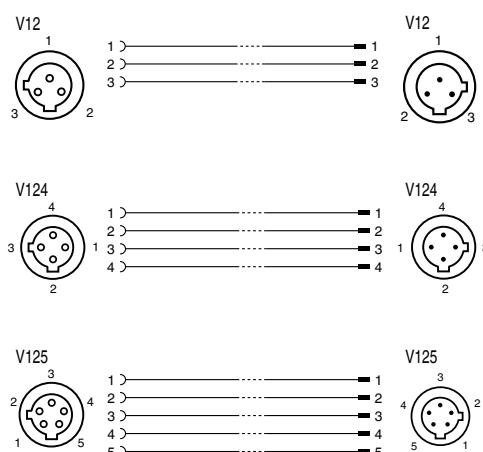
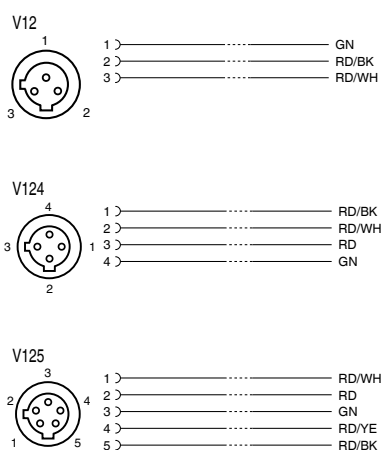
Availability

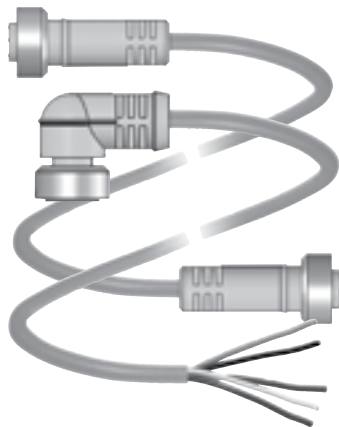
V12 V124 V125



- ◆ Standard, cable lengths of 0.6 m, 1 m and 2 m available in stock
- ◇ Available, minimum order quantity applies in some cases
- Not available

Electrical connection





Properties

- 7/8" Single-ended and Double-ended Cordset versions
- Straight and angled versions

Your Benefit

- Mini connector
- Immunity to vibration
- Gold-plated contacts
- Heavy-gauge wire

Technical data

For detailed data and product description refer to the data sheets at www.pepperl-fuchs.com

General Data

Electrical data

Max. operating voltage 600 V AC/DC

Ambient conditions

Ambient temperature -40 ... 105 °C for body, Information on cable quality can be found beginning on page 974

Mechanical data

Contact elements Spring-loaded contact sockets

Degree of protection IP67

Material

Contacts CuZn

Contact surface Au

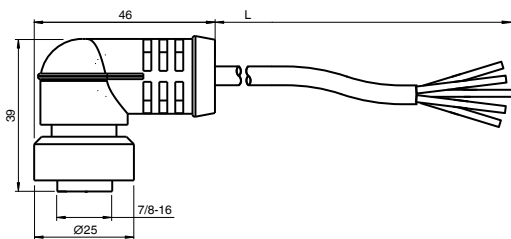
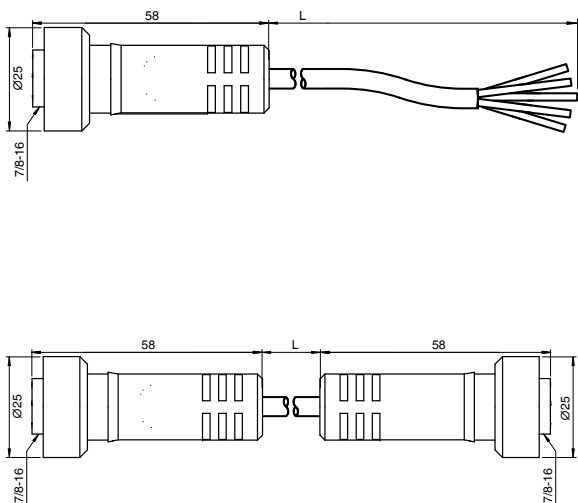
Body PVC, yellow

Coupling nut Aluminum, anodized

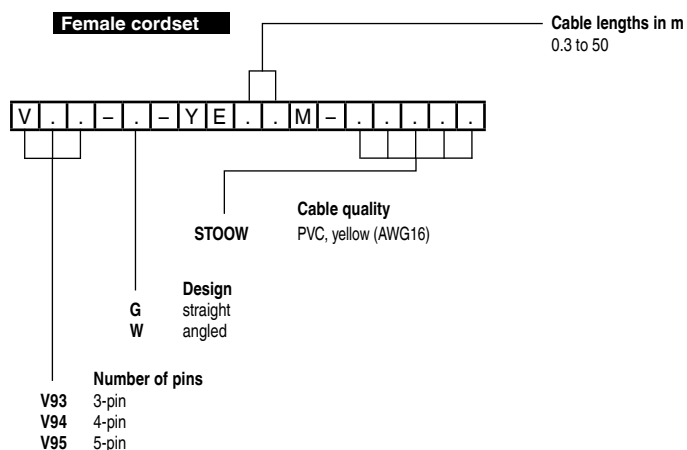
Order codes

		V93-...	V94-...	V95-...
Number of pins	3	●		
	4		●	
	5			●
Electrical data				
Max. operating current	8 A			●
	10 A		●	
	13 A	●		

Dimensions



Order codes

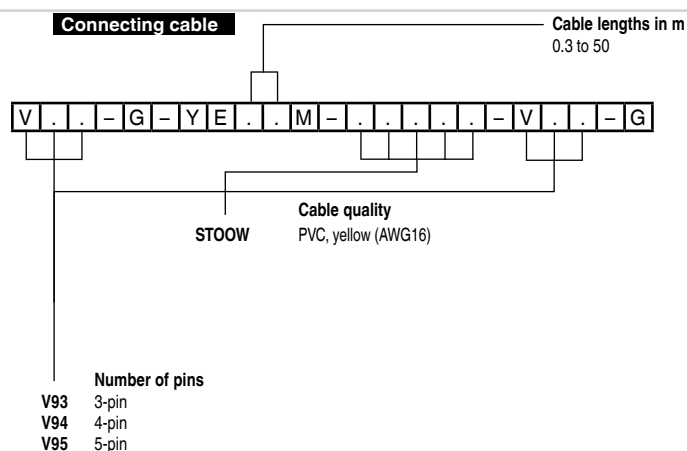


Availability

V93 V94 V95

◆ ◆ ◆

- ◆ Standard, cable lengths of 2 m, 5 m and 10 m available in stock
- ◇ Available, minimum order quantity applies in some cases
- Not available



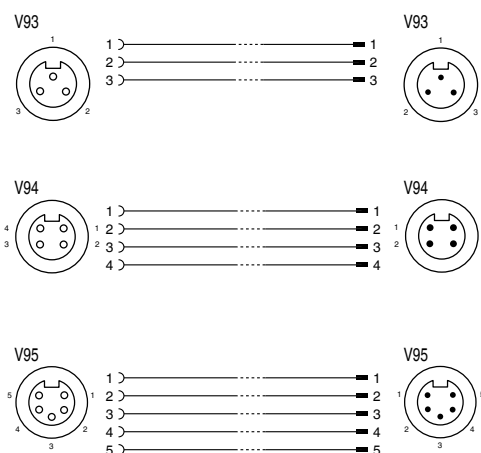
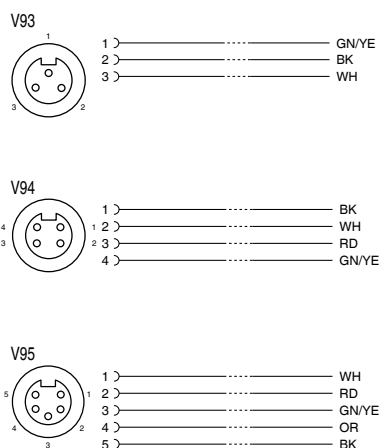
Availability

V93 V94 V95

◆ ◆ ◆

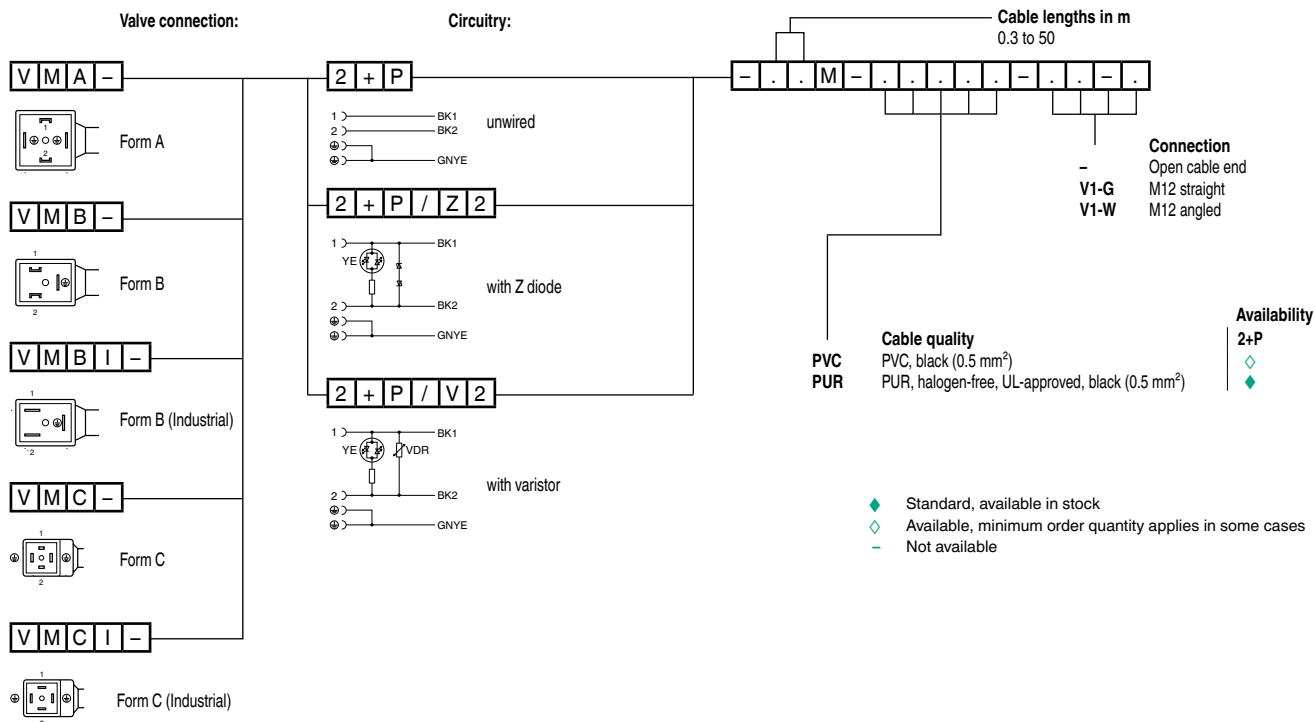
- ◆ Standard, cable lengths of 2 m, 5 m and 10 m available in stock
- ◇ Available, minimum order quantity applies in some cases
- Not available

Electrical connection

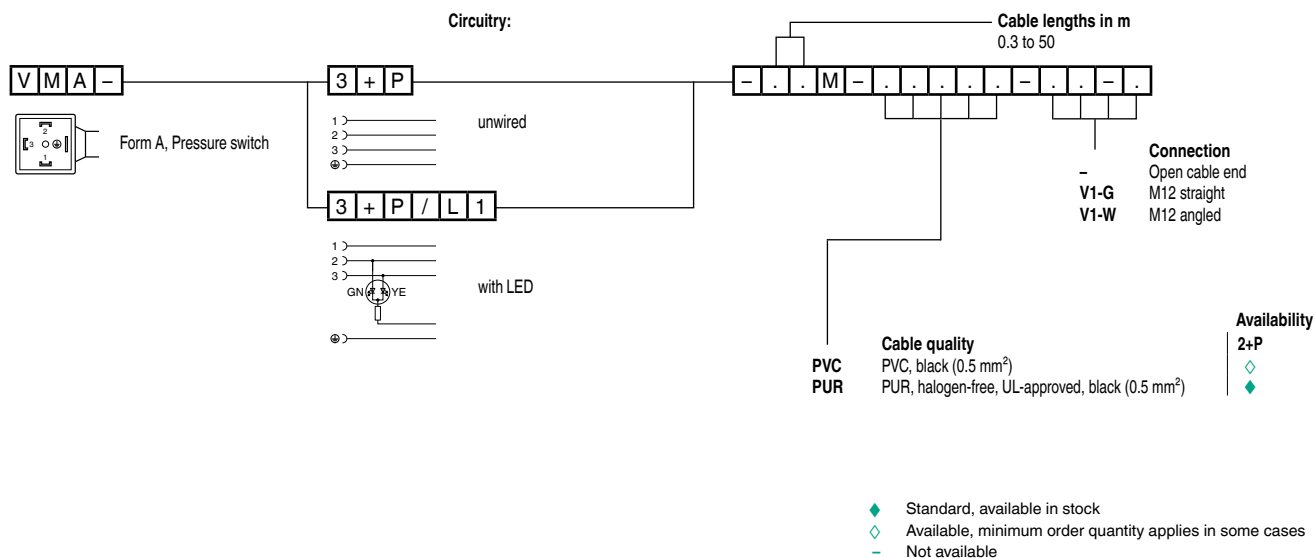


Order codes

Valve connector



Pressure switch connector





Technical data

For detailed data and product description refer to the data sheets at www.pepperl-fuchs.com

General Data	
Ambient conditions	
Ambient temperature	-25 ... 85 °C
Mechanical data	
Degree of protection	IP67
Material	
Contacts	CuZn
Contact surface	Au
Body	PA
Coupling nut	CuZn, nickel-plated

Properties

- M12 x 1 Field Connector
- Female and male, straight and angled versions
- A-coded

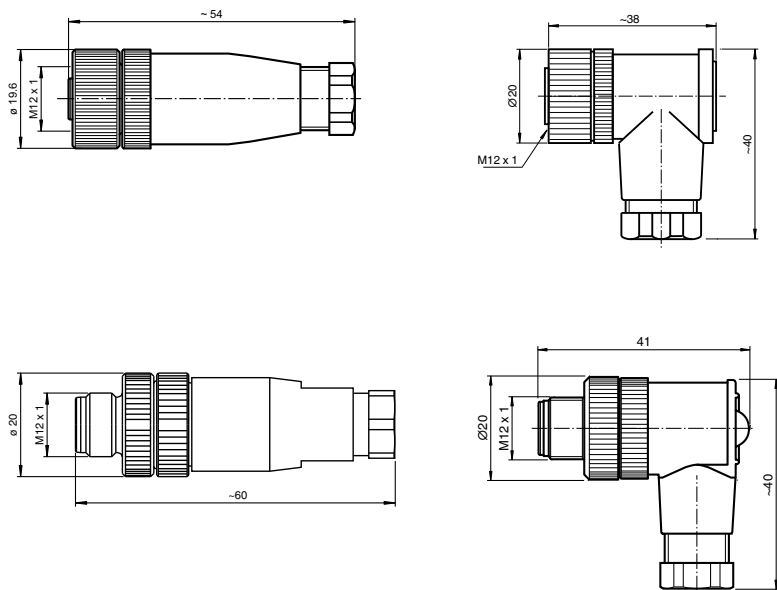
Your Benefit

- Screw terminal connection
- Gold-plated contacts

Order codes

		V1-...	V15-...	V17-...	V1S-...	V15S-...	V17S-...
Number of pins	4	●			●		
	5		●			●	
	8			●			●
Electrical data							
Max. operating voltage	30 V AC/DC			●			●
	60 V AC/DC		●			●	
	250 V AC/DC	●			●		
Max. operating current	2 A			●			●
	4 A	●	●		●	●	
Mechanical data							
Connection	Screw terminals for max. 0.5 mm ²			●			●
	Screw terminals for max. 0.75 mm ²	●	●		●	●	
	1 x M12 socket	●	●	●			
	1 x M12 plug				●	●	●

Dimensions



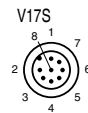
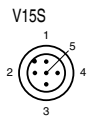
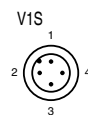
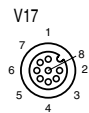
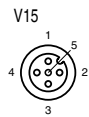
V	.	.	.	-	.	-	.	.	.

Cable diameter
4 ... 6 mm
6 ... 8 mm

- ◆ Standard, available in stock
- ◇ Available, minimum order quantity applies in some cases
- Not available

V1	V15	V17	V1S	V15S	V17S
		—			—

V1	4-pin socket
V15	5-pin socket
V17	8-pin socket
V1S	4-pin plug
V15S	5-pin plug
V17S	8-pin plug





Technical data

For detailed data and product description refer to the data sheets at www.pepperl-fuchs.com

General Data

Ambient conditions	
Ambient temperature	-25 ... 85 °C
Mechanical data	
Degree of protection	IP67
Material	
Contacts	CuZn
Contact surface	Au
Body	Die-cast zinc, nickel-plated
Coupling nut	CuZn, nickel-plated
Cable	
Cable diameter	5 ... 8 mm

Properties

- M12 x 1 Field Connector
- Shielded
- Female and male, straight and angled versions
- A-coded

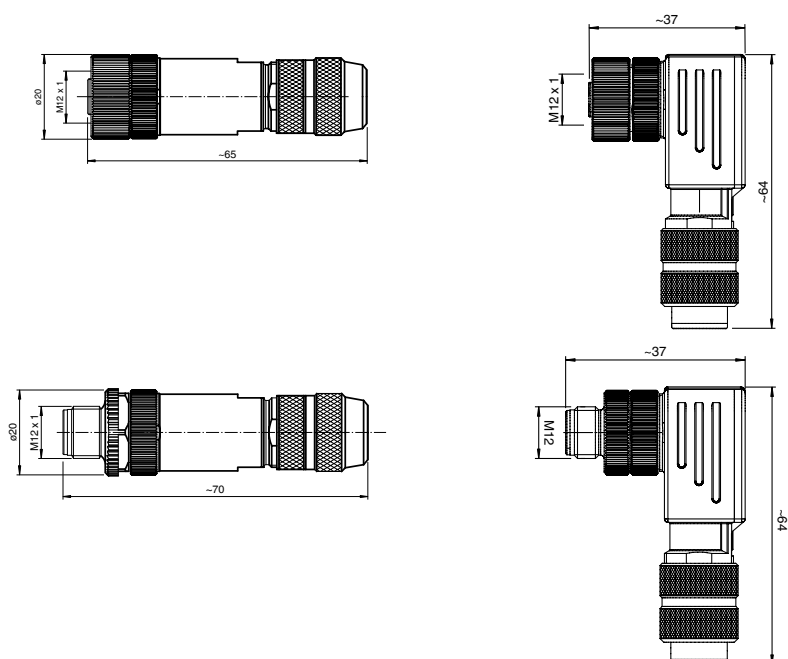
Your Benefit

- Screw terminal connection
- Iris spring provides easy shield bonding
- Gold-plated contacts

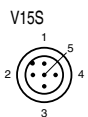
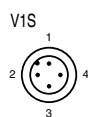
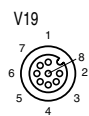
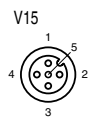
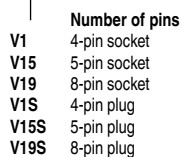
Order codes

		V1...	V15...	V19...	V1S...	V15S...	V19S...
Number of pins	4	●			●		
	5		●			●	
	8			●			●
Electrical data							
Max. operating voltage	30 V AC/DC			●			●
	60 V AC/DC		●			●	
	250 V AC/DC	●			●		
Max. operating current	2 A			●			●
	4 A	●	●		●	●	
Mechanical data							
Connection	Screw terminals for max. 0.5 mm ²			●			●
	Screw terminals for max. 0.75 mm ²	●	●		●	●	
	1 x M12 socket	●	●	●			
	1 x M12 plug				●	●	●

Dimensions



V	.	.	.	-	.	-	A	B	G	-	P	G	9
---	---	---	---	---	---	---	---	---	---	---	---	---	---





Technical data

For detailed data and product description refer to the data sheets at www.pepperl-fuchs.com

General Data

Number of pins	4
Electrical data	
Max. operating current	4 A
Ambient conditions	
Ambient temperature	-25 ... 85 °C
Mechanical data	
Degree of protection	IP65 / IP67
Material	
Contacts	CuSn
Contact surface	Ni/Au
Body	PA66, black
Coupling nut	Die-cast zinc

Properties

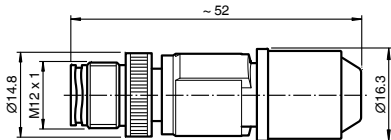
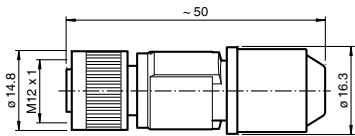
- M12 x 1 Field Connector
- QuickOn
- Female and male, straight and angled versions
- A-coded

Your Benefit

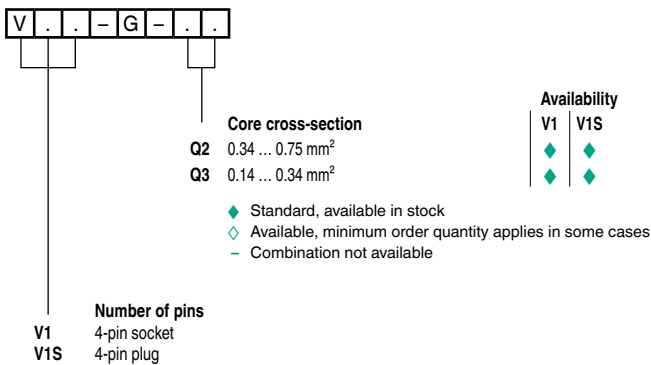
- Time-saving insulation displacement connection technology
- No screwdriver required
- Gold-plated contacts

Order codes		V1-G-Q2	V1S-G-Q2	V1-G-Q3	V1S-G-Q3
Electrical data					
Max. operating voltage	125 V AC/DC				
	250 V AC/DC				
Mechanical data					
Connection	Insulation displacement for 0.14 ... 0.34 mm ²				
	Insulation displacement for 0.34 ... 0.75 mm ²				
	1 x M12 socket				
	1 x M12 plug				
Cable					
Cable diameter	3.5 ... 6 mm				
	4 ... 8 mm				

Dimensions



Order codes



Electrical connection





Technical data

For detailed data and product description refer to the data sheets at www.pepperl-fuchs.com

General Data	
Electrical data	
Max. operating current	4 A
Ambient conditions	
Ambient temperature	-25 ... 85 °C
Mechanical data	
Connection	Straight design: screw terminals < 0.5 mm ² Angled design: solder connection 0.25 mm ²
Degree of protection	IP67
Material	
Contacts	CuZn
Contact surface	Au
Body	PA
Coupling nut	CuZn, nickel-plated
Cable	
Cable diameter	3.5 ... 5 mm

Properties

- M8 x 1 Field Connector
- Female and male, straight and angled versions
- Screw terminal and solder connection versions

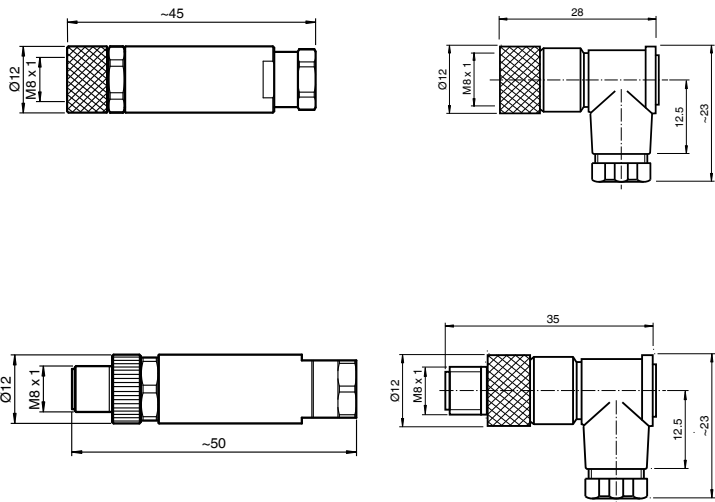
Your Benefit

- Gold-plated contacts

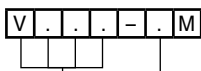
Order codes

		V3-...	V31-...	V3S-...	V31S-...
Number of pins	3	●		●	
	4		●		●
Electrical data					
Max. operating voltage	30 V AC/DC		●		●
	60 V AC/DC	●		●	
Mechanical data					
Connection	1 x M8 plug			●	●
	1 x M8 socket	●	●		

Dimensions



Order codes



Design
straight
angled

G
W

Connectiontype
Screw terminals
Solder connection

Availability			
V3	V31	V3S	V31S
◆	◆	◆	◆
◆	◆	◆	◆

- ◆ Standard, available in stock
- ◇ Available, minimum order quantity applies in some cases
- Combination not available

Number of pins
V3 3-pin socket
V31 4-pin socket
V3S 3-pin plug
V31S 4-pin plug

Electrical connection



Technical data

For detailed data and product description refer to the data sheets at www.pepperl-fuchs.com

General Data

Electrical data

Max. operating current 4 A

Ambient conditions

Ambient temperature -25 ... 85 °C

Mechanical data

Connection Straight design: screw terminals < 0.5 mm²
Angled design: solder connection 0.25 mm²

Degree of protection IP67

Material

Contacts CuZn

Contact surface Au

Body PA

Coupling nut CuZn, nickel-plated

Cable

Cable diameter 3.5 ... 5 mm



Properties

- M8 x 1 Field Connector
- Shielded
- Female and male, straight and angled versions
- Screw terminal and solder connection versions

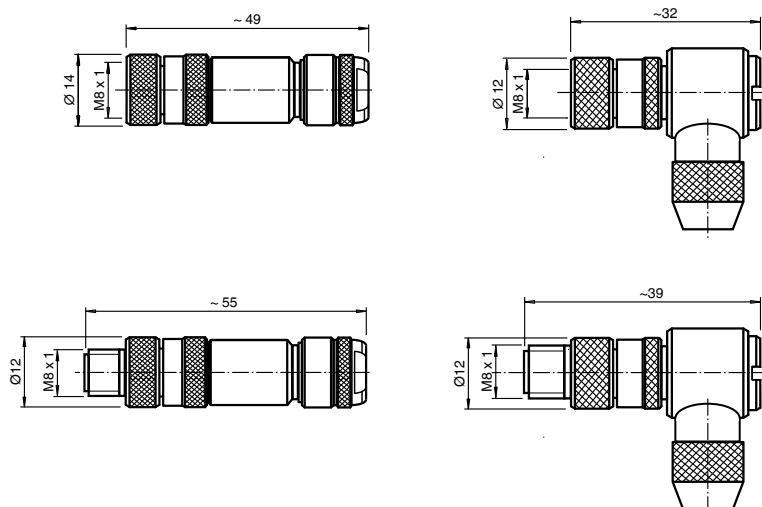
Your Benefit

- Gold-plated contacts

Order codes

		V3-...	V31-...	V3S-...	V31S-...
Number of pins	3	●		●	
	4		●		●
Electrical data					
Max. operating voltage	30 V AC/DC		●		●
	60 V AC/DC	●		●	
Mechanical data					
Connection	1 x M8 plug			●	●
	1 x M8 socket	●	●		

Dimensions



Order codes

V . . . - . M - A B G



Design
G straight
W angled

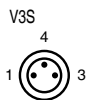
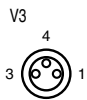
Connectiontype
Screw terminals
Solder connection

Availability			
V3	V31	V3S	V31S
◆	◆	◆	◆
◆	◆	◆	◆

- ◆ Standard, available in stock
- ◆ Available, minimum order quantity applies in some cases
- Combination not available

Number of pins
V3 3-pin socket
V31 4-pin socket
V3S 3-pin plug
V31S 4-pin plug

Electrical connection





Technical data

For detailed data and product description refer to the data sheets at www.pepperl-fuchs.com

General Data

Electrical data

Max. operating current 4 A

Ambient conditions

Ambient temperature -25 ... 85 °C

Mechanical data

Contact elements Insulation piercing technology 0.14 ... 0.34 mm²

Degree of protection IP67

Material

Contacts CuZn

Contact surface Au

Body PA

Coupling nut ZnAl / Ni

Cable

Cable diameter 4 ... 5 mm

Properties

- M8 x 1 Field Connector
- Female and male, straight and angled versions
- MiniQuick technology

Your Benefit

- Time-saving axial wire contact technology
- Gold-plated contacts

Order codes

Number of pins 3
4

Electrical data

Max. operating voltage 30 V AC/DC

60 V AC/DC

Mechanical data

Connection 1 x M8 plug

1 x M8 socket

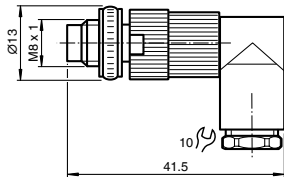
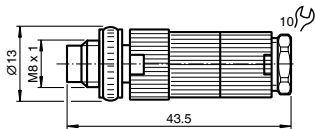
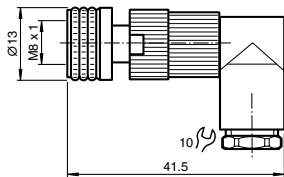
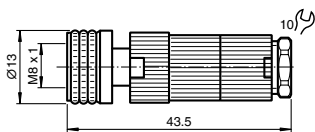
V3-...

V31-...

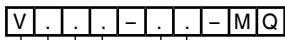
V3S-...

V31S-...

Dimensions



Order codes



Design
GM straight
WM angled

Availability			
V3	V31	V3S	V31S
◆	◆	◆	◆
◆	◆	◆	◆

- ◆ Standard, available in stock
- ◆ Available, minimum order quantity applies in some cases
- Combination not available

Number of pins
V3 3-pin socket
V31 4-pin socket
V3S 3-pin plug
V31S 4-pin plug

Electrical connection





Technical data

For detailed data and product description refer to the data sheets at www.pepperl-fuchs.com

General Data	
Number of pins	3
Electrical data	
Max. operating voltage	250 V AC/DC
Max. operating current	4 A
Ambient conditions	
Ambient temperature	-40 ... 85 °C
Mechanical data	
Connection	Screw terminals for max. 0.75 mm ² PG7 cable gland
Degree of protection	IP67
Material	
Contacts	CuSn
Contact surface	Au
Body	PA
Coupling nut	CuSn, nickel-plated
Cable	
Cable diameter	4 ... 6 mm

Properties

- 1/2" Field Connector
- Female and male, straight and angled versions

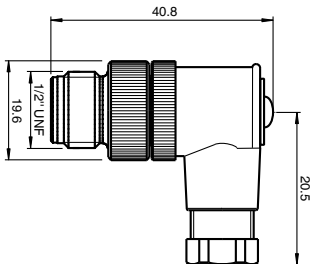
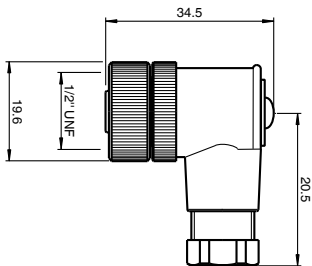
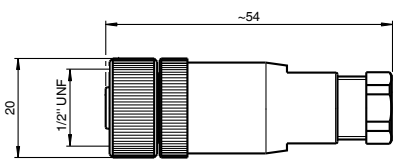
Your Benefit

- Gold-plated contacts

Order codes

Mechanical data		V12-...	V12S-...
Connection	1 x M12 socket 1 x M12 plug	●	●

Dimensions





Technical data

For detailed data and product description refer to the data sheets at www.pepperl-fuchs.com

General Data

Electrical data	
Max. operating voltage	600 V AC/DC
Ambient conditions	
Ambient temperature	-40 ... 90 °C
Mechanical data	
Connection	1 x 7/8" socket, screw terminals < 2.0 mm ² 1 x 7/8" plug, internal or external thread, screw terminals < 2.0 mm ² , PG9 cable gland
Degree of protection	IP67
Material	
Contacts	CuZn
Contact surface	Au
Body	PA
Coupling nut	Al, anodized
Cable	
Cable diameter	5 ... 13 mm

Properties

- 7/8" Field Connector
- Female and male, straight and angled versions

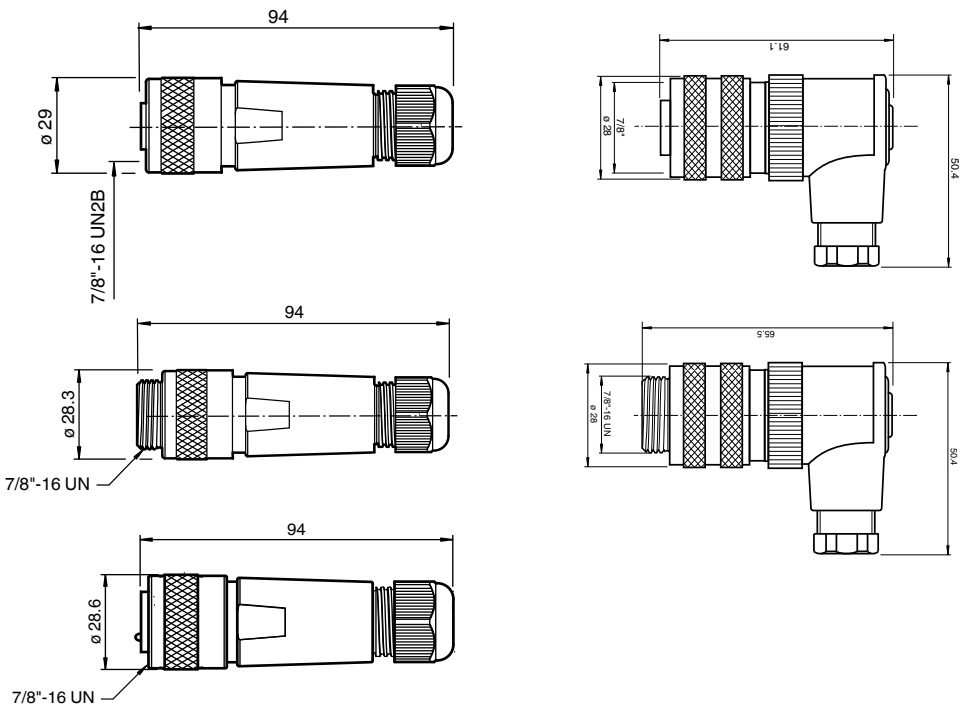
Your Benefit

- Gold-plated contacts
- Suitable for heavy-gauge wires

Order codes

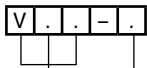
		V93-...	V94-...	V95-...
Number of pins	3	●		
	4		●	
	5			●
Electrical data				
Max. operating voltage	12 A			●
	15 A		●	
	18 A	●		

Dimensions



Order codes

Socket



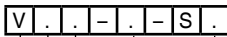
Design
G straight
W angled

Number of pins
V93 3-pin
V94 4-pin
V95 5-pin

Availability		
V93	V94	V95
◆	◆	◆
◇	◇	◇
— Combination not available		

◆ Standard, available in stock
◇ Available, minimum order quantity applies in some cases
— Combination not available

Plug



Design
G straight
W angled

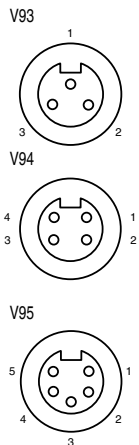
Number of pins
V93 3-pin
V94 4-pin
V95 5-pin

Availability		
V93	V94	V95
◆	◆	◆
◇	◇	◇
— Combination not available		

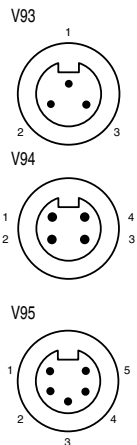
◆ Standard, available in stock
◇ Available, minimum order quantity applies in some cases
— Combination not available

Electrical connection

Socket



Plug





Properties

- M18 x 1 Field Connector
- Female, straight and angled versions

Your Benefit

- Gold-plated contacts

Technical data

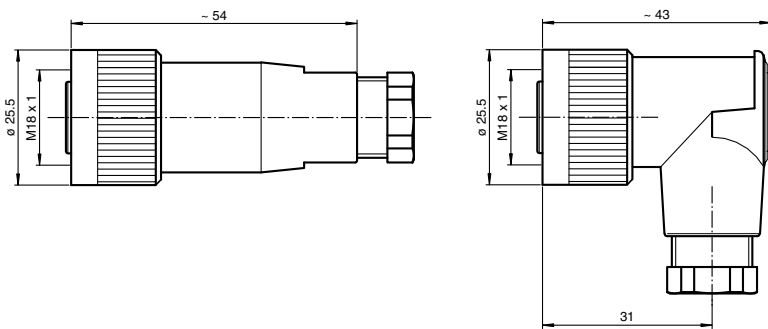
For detailed data and product description refer to the data sheets at www.pepperl-fuchs.com

General Data	
Number of pins	4
Electrical data	
Max. operating voltage	250 V AC/DC
Max. operating current	16 A
Ambient conditions	
Ambient temperature	-25 ... 85 °C
Mechanical data	
Connection	1 x M18-socket Screw terminals for max. 1.5 mm ² PG9 cable gland
Degree of protection	IP67
Material	
Contacts	CuZn
Contact surface	CuSnZn
Body	PA
Coupling nut	PA
Cable	
Cable diameter	6 ... 8 mm

Order codes

		V18-G	V18-W
Design	straight	●	
	angled		●

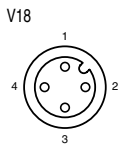
Dimensions



Order codes



Electrical connection





Technical data

For detailed data and product description refer to the data sheets at www.pepperl-fuchs.com

General Data

Number of pins 6 + PE

Electrical data

Max. operating voltage 250 V AC/DC

Max. operating current 10 A

Ambient conditions

Ambient temperature -40 ... 100 °C

Mechanical data

Connection Screw terminals < 1.5 mm²

PG9 cable gland

Degree of protection IP65 / IP67

Material

Contacts CuZn

Contact surface Ag

Body PBT

Cable

Cable diameter 6 ... 8 mm

Properties

- Rd24 Field Connector
- Female and male, straight and angled versions

Your Benefit

- Silver-plated contacts

Order codes

Mechanical data

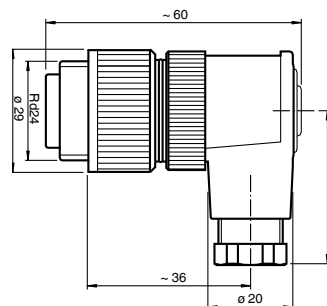
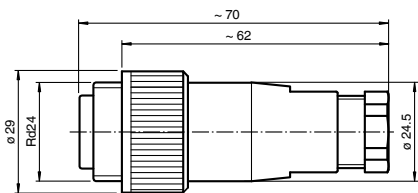
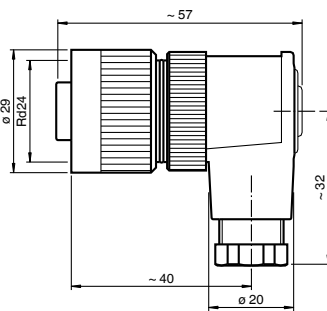
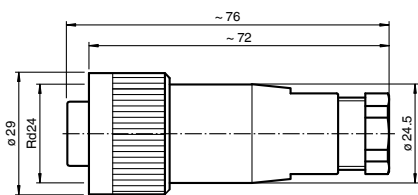
Connection 1 x Socket, Rd24 x 1/8"

1 x Plug, Rd24 x 1/8"

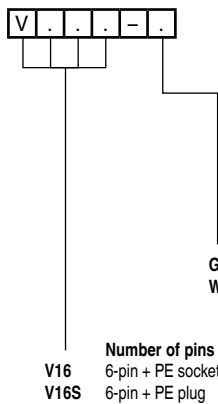
V16-...

V16S-...

Dimensions



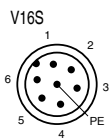
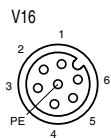
Order codes



Design
G straight
W angled

Availability	
V16	V16S
◆	◆
◆	◆
—	—
◆ Standard, available in stock	
◇ Available, minimum order quantity applies in some cases	
— Combination not available	

Electrical connection





Properties

- Valve Field Connector acc. EN 175301-803
- Form A, B and C versions, DIN and Industrial versions
- Unwired, and Varistor versions

Your Benefit

- Selectable PE position (Form A and Form B)
- Integrated seal

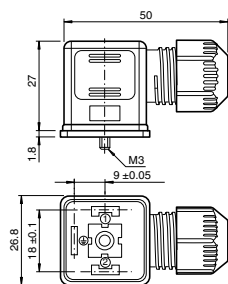
Technical data

For detailed data and product description refer to the data sheets at www.pepperl-fuchs.com

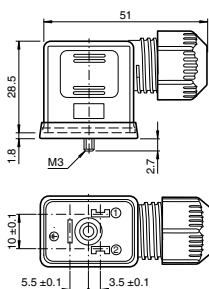
Application	Valve	Varistor	Pressure switch
Circuitry	unwired		unwired
Number of pins	2+P	2+P/V2	3+P
Display/controls			
LED	-	Function display	-
Electrical data			
Max. operating voltage	250 V AC/300 V DC	24 V AC/DC	250 V AC/300 V DC
Max. operating current			
Form A	16 A		
Form B	16 A		
Form C	10 A		
Ambient conditions			
Ambient temperature	-25 ... 90 °C		
Storage temperature	-40 ... 125 °C		
Mechanical data			
Degree of protection	IP67		
Material			
Contact surface	Ag		
Seal	NBR		
Body	PA6, black	PA6, transparent	PA6, black
Cable diameter			
Form A+B	4 ... 9 mm		
Form C	3 ... 5.5 mm		

Dimensions

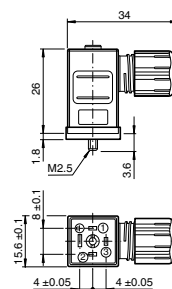
Form A



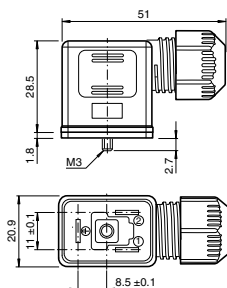
Form B



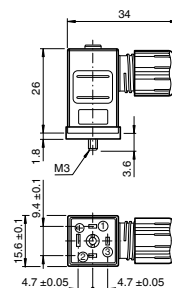
Form C



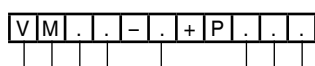
Form B (Industrial)



Form C (Industrial)



Order codes



Circuitry
 - none
 /V2 Varistor

Availability

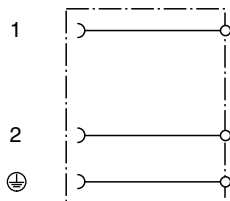
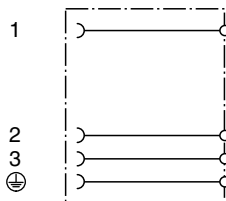
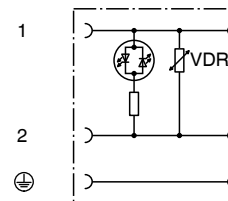
VMA	VMB	VMBI	VMC	VMCI
◆	◆	◆	◆	◆
-	-	-	◆	-

Number of poles
 2 2 + PE
 3 3 + PE (Form A and Form C only)

Valve connection
VMA Form A
VMB Form B
VMBI Form B (Industrial)
VMC Form C
VMCI Form C (Industrial)

- ◆ Standard, cable lengths of 2 m, 5 m and 10 m available in stock
- ◇ Available, minimum order quantity applies in some cases
- Not available

Electrical connection

2+P**3+P****2+P/V2**



Technical data

For detailed data and product description refer to the data sheets at www.pepperl-fuchs.com

General Data

Ambient conditions

Ambient temperature -25 ... 80 °C

Mechanical data

Connection Single strand leads

Degree of protection IP67

Material

Contacts CuZn

Contact surface Au

Housing Brass, nickel-plated

Cable

Insulation type TPE stranded wire

Length L 500 mm

Properties

- M12 x 1 Receptacles, A-coded
- Female and male versions
- Front and Rear panel mounting
- Thread M16 or PG9 mounting

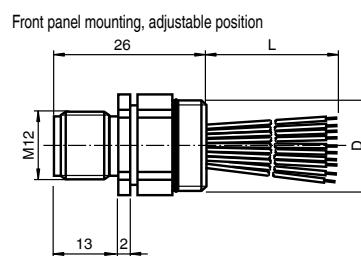
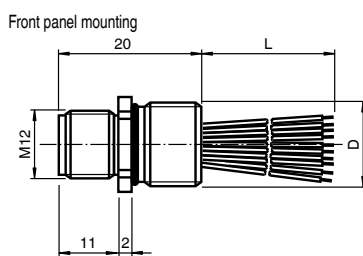
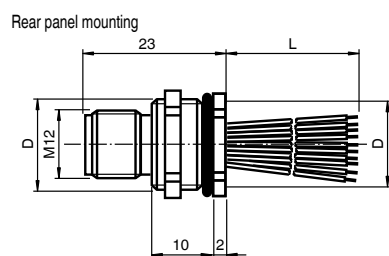
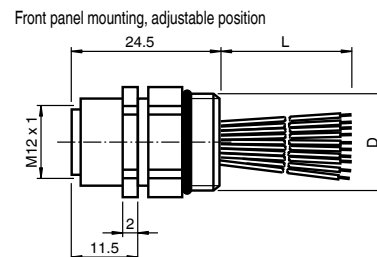
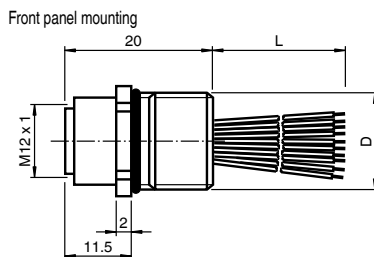
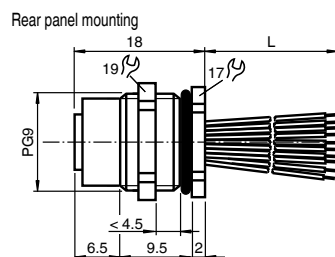
Your Benefit

- Halogen-free
- Degree of protection IP67

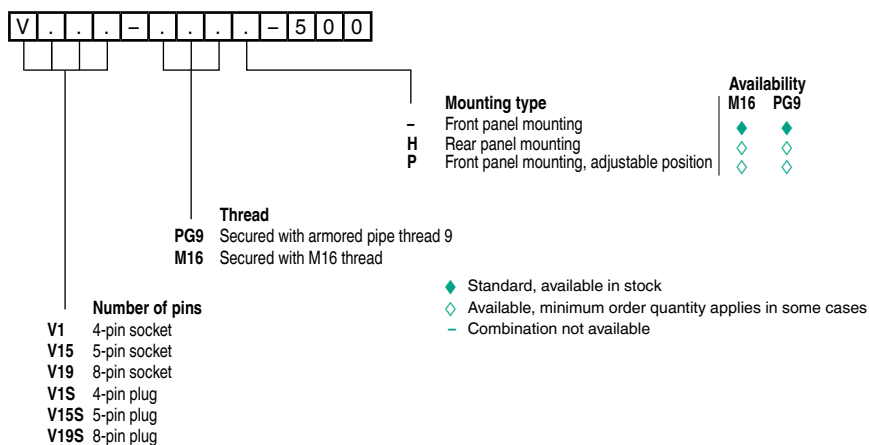
Order codes

		V1-...	V15-...	V19-...	V1S-...	V15S-...	V19S-...
Number of pins	4	●			●		
	5		●			●	
	8			●			●
Electrical data	Max. operating voltage			●			●
	30 V AC/DC			●			●
	60 V AC/DC		●			●	
Max. operating current	250 V AC/DC	●			●		
	2 A			●			●
	4 A	●	●		●	●	
Mechanical data	Connection	●	●	●			
	1 x M12 socket	●	●	●			
Cable	1 x M12 plug				●	●	●
	Leads	●			●		
	4 x 0.34 mm ²		●			●	
	5 x 0.34 mm ²						●
	8 x 0.25 mm ²			●			●

Dimensions

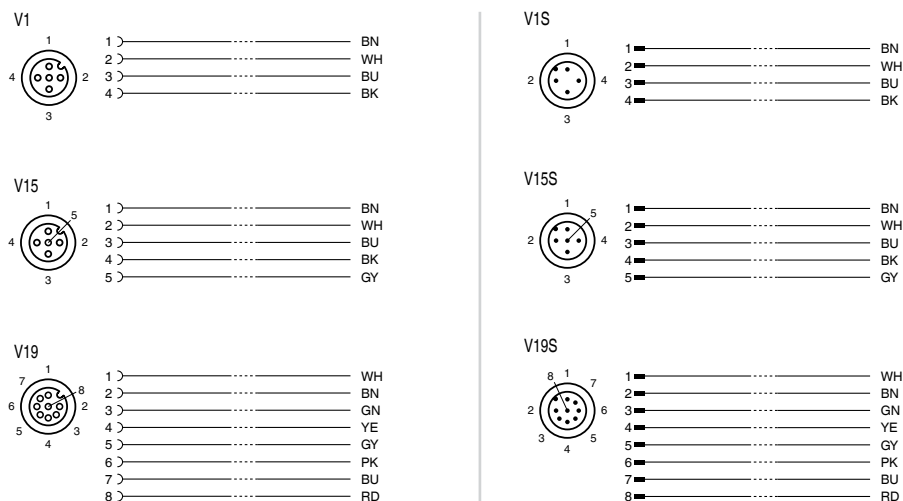


Order codes



See also 1/2" NPT series on page 1046

Electrical connection





Technical data

For detailed data and product description refer to the data sheets at www.pepperl-fuchs.com

General Data

Electrical data	
Max. operating current	4 A
Ambient conditions	
Ambient temperature	-25 ... 80 °C
Mechanical data	
Connection	M8 x 0.5 mounting thread, single strand leads
Degree of protection	IP67
Material	
Contacts	CuZn
Contact surface	Au
Housing	Brass, nickel-plated
Cable	
Insulation type	TPE stranded wire
Length L	500 mm

Properties

- M8 x 0.5 Receptacles
- Female and male versions
- Front panel mounting
- Thread M8 mounting

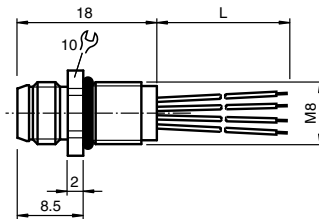
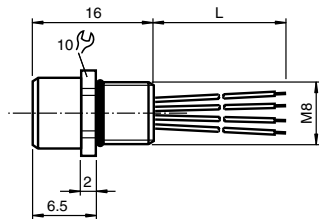
Your Benefit

- Halogen-free
- Degree of protection IP67

Order codes

		V3-...	V31-...	V3S-...	V31S-...
Number of pins	3	●		●	
	4		●		●
Electrical data					
Max. operating voltage	30 V AC/DC		●		●
	60 V AC/DC	●		●	
Mechanical data					
Connection	1 x M8 socket	●	●		
	1 x M8 plug			●	●
Cable					
Leads	3 x 0.25 mm ²	●		●	
	4 x 0.25 mm ²		●		●

Dimensions



Order codes

V . . - M 8 - 5 0 0

Number of pins

V3

V31

V3S

V31S

3-pin socket

4-pin socket

3-pin plug

4-pin plug

Availability

◆

◆

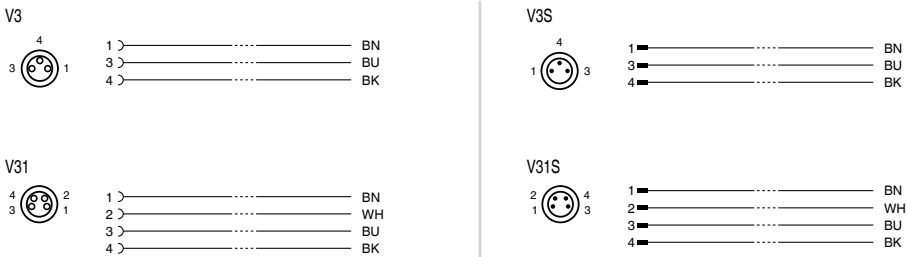
◆

◆ Standard, available in stock

◇ Available, minimum order quantity applies in some cases

- Combination not available

Electrical connection





Technical data

For detailed data and product description refer to the data sheets at www.pepperl-fuchs.com

General Data

Electrical data	
Max. operating voltage	600 V AC/DC
Ambient conditions	
Ambient temperature	-40 ... 105 °C
Mechanical data	
Degree of protection	IP67
Material	
Contacts	CuZn
Contact surface	Au
Housing	Al, anodized
Cable	
Length L	300 mm

Properties

- 7/8"-16 UN Receptacles
- Female and male versions
- Front panel mounting
- Thread 1/2" NPT mounting

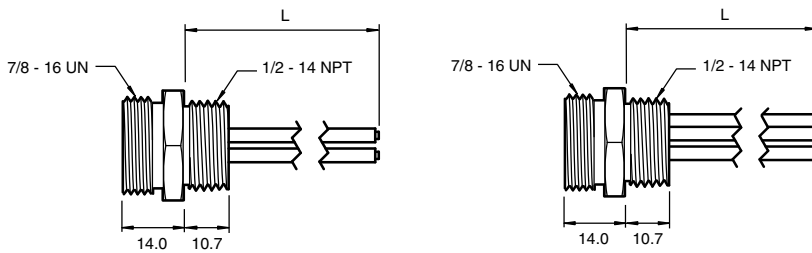
Your Benefit

- Gold-plated contacts

Order codes

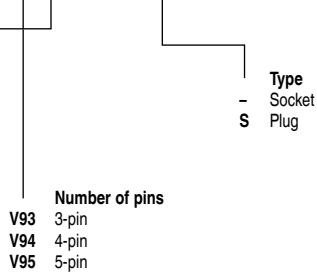
Number of pins	3	1/2" NPT-V93-G-3M				
	4		1/2" NPT-V94-G-3M			
	5			1/2" NPT-V95-G-3M		
Electrical data						
Max. operating current	8 A					
	10 A					
	13 A					
Mechanical data						
Connection	7/8"-16 UN socket					
	7/8"-16 UN plug					
Cable						
Leads	3 x 1.5 mm ²					
	4 x 1.5 mm ²					
	5 x 1.5 mm ²					

Dimensions



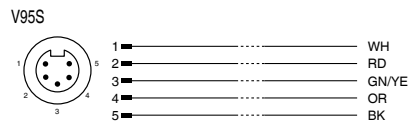
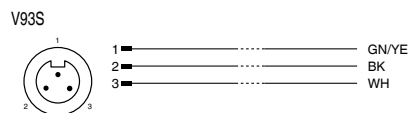
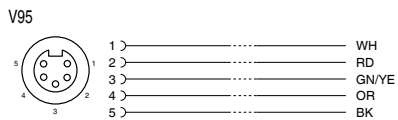
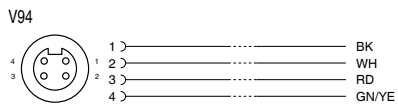
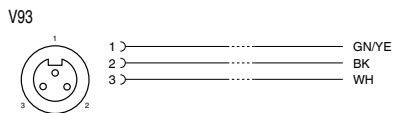
Order codes

1 / 2 " N P T - V . . - G - . . 3 M



Availability		
V93	V94	V95
◆	◆	◆
◆	◆	◆
◆ Standard, available in stock		
◇ Available, minimum order quantity applies in some cases		
— Combination not available		

Electrical connection





Technical data

For detailed data and product description refer to the data sheets at www.pepperl-fuchs.com

General Data

Electrical data

Max. operating voltage 300 V AC/DC

Max. operating current 4 A

Ambient conditions

Ambient temperature -40 ... 105 °C (-40 ... 221 °F)

Mechanical data

Degree of protection IP67

Material

Contacts CuZn

Contact surface Au

Housing Al, anodized

Cable

Core cross-section 0.34 mm² (22 AWG)

Length L 300 mm

Properties

- M12 x 1 and 1/2" - 20 UNF Receptacles
- Female and male versions
- Front panel mounting
- Thread 1/2" NPT mounting

Your Benefit

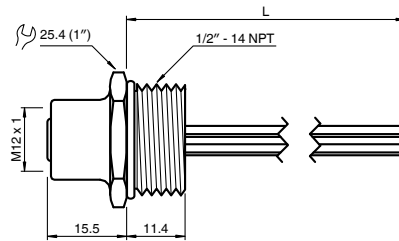
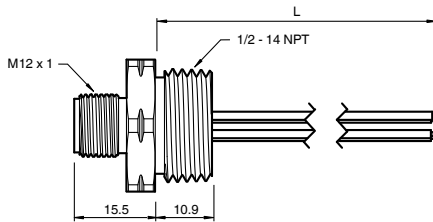
- Gold-plated contacts

Order codes

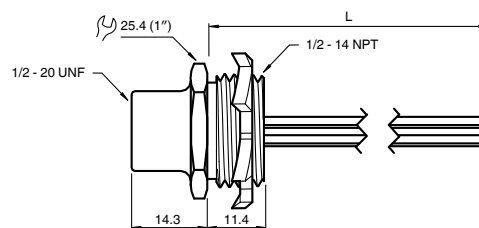
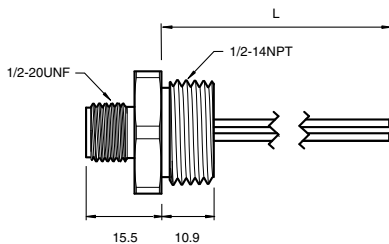
		1/2" NPT-V1-G-.3M	1/2" NPT-V15-G-.3M	1/2" NPT-V12-G-.3M	1/2" NPT-V1-G-S-.3M	1/2" NPT-V15-G-S-.3M	1/2" NPT-V12-G-S-.3M
Number of pins	4	●			●		
	5		●			●	
	3			●			●
Mechanical data							
Connection	M12 x 1 socket	●	●				
	M12 x 1 plug				●	●	
	1/2" - 20 UNF socket			●			
	1/2" - 20 UNF plug						●

Dimensions

M12 x 1



1/2" - 20 UNF



Order codes

1 / 2 " N P T - V . . - G - . - . 3 M

Type
- Socket
S Plug

Number of pins/thread

V1 4-pin M12
V15 5-pin M12
V12 3-pin 1/2"

Availability

V1 V15 V12

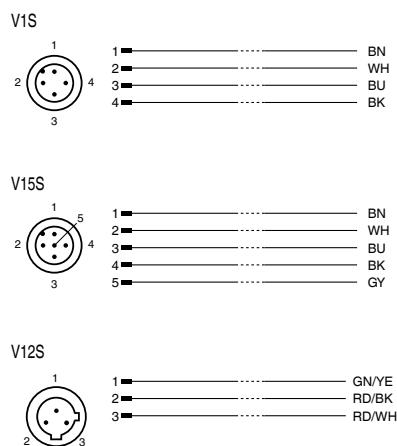
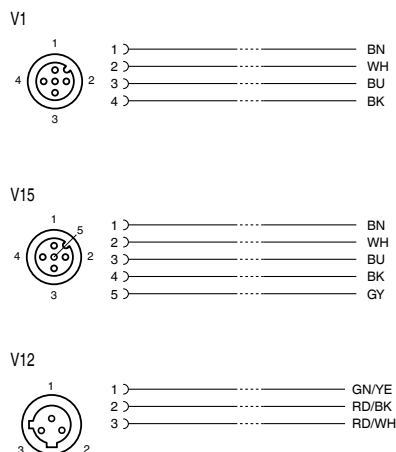
◆ ◆ ◆
◆ ◆ ◆
- - -

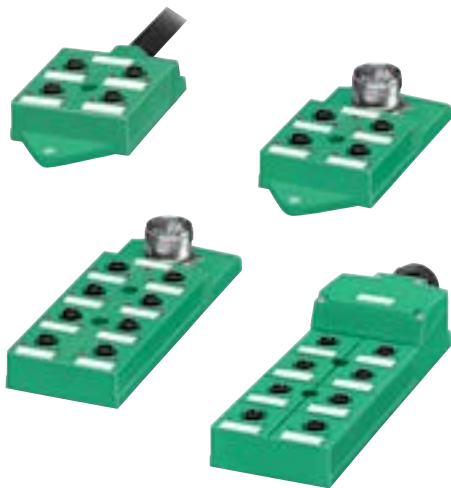
◆ Standard, available in stock

◆ Available, minimum order quantity applies in some cases

- Combination not available

Electrical connection





Properties

- M12 Junction Blocks
- 4, 6 and 8 port versions, single and dual PNP input
- Master cable, M23 connector and Cage terminal versions

Your Benefit

- Flat design
- LED indication for module supply and I/O status

Technical data

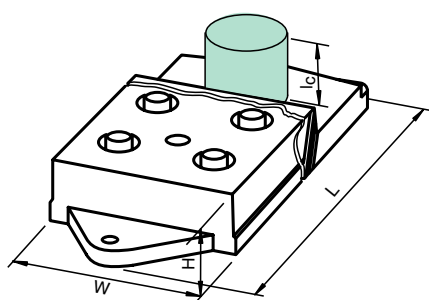
For detailed data and product description refer to the data sheets at www.pepperl-fuchs.com

General Data

Number of pins	4, 5
Display/controls	
LED green	Supply voltage per module
LED yellow	I/O status indication
Electrical data	
Operating voltage	24 V DC, max. 30 V DC
Max. operating current	5 mA per channel display element
Max. current loading	2 A per channel, 4 A per port, 12 A total current per block
Ambient conditions	
Ambient temperature	-25 ... 75 °C
Mechanical data	
Sockets	M12 x 1
Degree of protection	IP65 / IP67
Material	
Contacts	CuSn
Contact surface	Ni/Au
Housing	PA, green

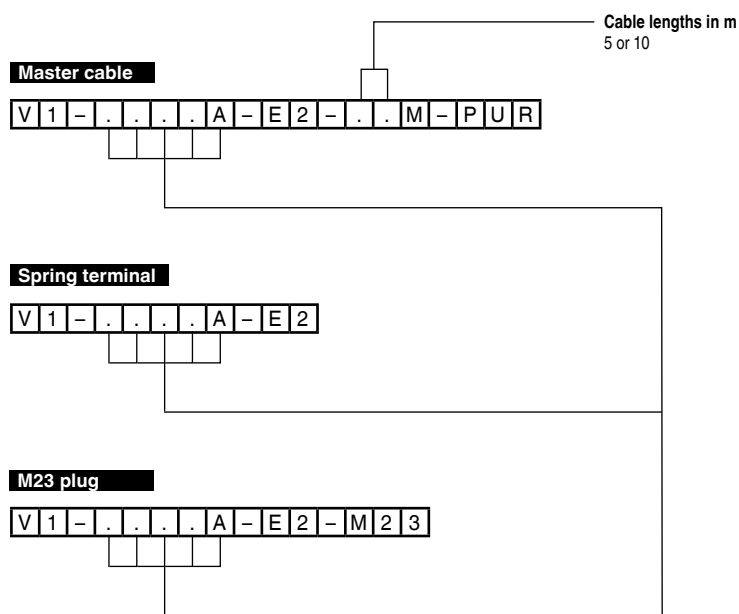
Order codes

		V1...A-E2...M-PUR	V1...A-E2	V1...A-E2-M23
Connection	Master cable	●		
	Cage terminal		●	
	M23 plug			●
Mechanical data	Connection	●		
	Cable: stranded wire	●		
	Cage terminal		●	
Cable	M23 plug			●
	Material	●		
	Leads	●		



Dimensions	Master cable						Spring terminal			M23 plug			
	Slots	4	6	8	4/8	6/12	8/16	4	6	8	4	6	8
Length L [mm]		82	100	126.5	116.5	128.5	155	116.5	128.5	155	116.5	128.5	155
Width W [mm]		54	54	54	54	54	54	54	54	54	54	54	54
Height H [mm]		18.5	18.5	18.5	18.5	18.5	18.5	32	32	32	18.5	18.5	18.5
Connection area l _c [mm]		-	-	-	-	-	-	-	-	-	7.5	7.5	7.5

Order codes



Ports/Signal inputs
4 4 ports/4 signal inputs
6 6 ports/6 signal inputs
8 8 ports/8 signal inputs
4/8 4 ports/8 signal inputs (dual inputs)
6/12 6 ports/12 signal inputs (dual inputs)
8/16 8 ports/16 signal inputs (dual inputs)

Availability

V1



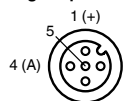
◆ Standard, available in stock

◇ Available, minimum order quantity applies in some cases

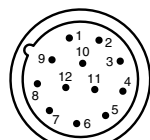
- Not available

Electrical connection

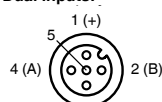
Single input:



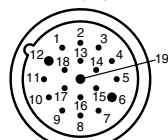
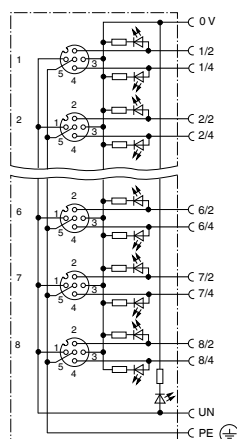
M12-socket

M23-connector
12-pin

Dual inputs:



M12-socket

M23 connector
19-pin

Master cable

Slot/ Signal input	color
1/4 (A)	WH
1/2 (B)	GY/PK
2/4 (A)	GN
2/2 (B)	RD/BU
3/4 (A)	YE
3/2 (B)	WH/GN
4/4 (A)	GY
4/2 (B)	BN/GN
5/4 (A)	PK
5/2 (B)	WH/YE
6/4 (A)	RD
6/2 (B)	YE/BN
7/4 (A)	BK
7/2 (B)	WH/GY
8/4 (A)	VT
8/2 (B)	GY/BN
1-8/1 (UN)	BN
1-8/3 (0 V)	BU
1-8/5 (PE)	GN/YE

(B) with
double layout ports

Spring terminal

Slot/ Signal input	Terminal
1/4 (A)	1/4
1/2 (B)	1/2
2/4 (A)	2/4
2/2 (B)	2/2
3/4 (A)	3/4
3/2 (B)	3/2
4/4 (A)	4/4
4/2 (B)	4/2
5/4 (A)	5/4
5/2 (B)	5/2
6/4 (A)	6/4
6/2 (B)	6/2
7/4 (A)	7/4
7/2 (B)	7/2
8/4 (A)	8/4
8/2 (B)	8/2
1-8/1 (UN)	UN
1-8/3 (0 V)	0 V
1-8/5 (PE)	PE

(B) with
double layout ports

M23 plug

Slot/ Signal input	Pin 12-pin	Pin 19-pin
1/4 (A)	1	15
1/2 (B)		7
2/4 (A)	2	5
2/2 (B)		4
3/4 (A)	3	16
3/2 (B)		8
4/4 (A)	4	3
4/2 (B)		14
5/4 (A)	5	17
5/2 (B)		9
6/4 (A)	6	2
6/2 (B)		13
7/4 (A)	7	11
7/2 (B)		10
8/4 (A)	8	1
8/2 (B)		18
1-n/1 (UN)	11	19
1-n/3 (0 V)	9+10	6
1-n/5 (PE)	12	12

12-pin with single layout ports,
19-pin with dual input ports



Properties

- M8 Junction Blocks
- 4, 6 and 8 port versions, single PNP input
- Master cable and M12 connector versions

Your Benefit

- LED indication for module supply and I/O status

Technical data

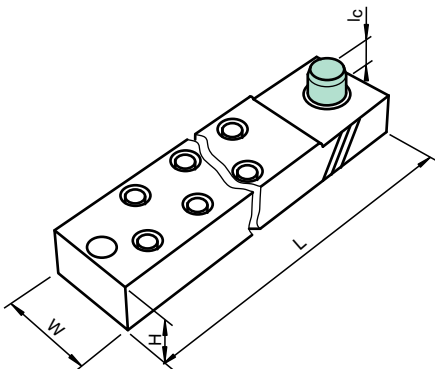
For detailed data and product description refer to the data sheets at www.pepperl-fuchs.com

General Data

Number of pins	3
Display/controls	
LED green	Supply voltage per module
LED yellow	I/O status indication
Electrical data	
Operating voltage	24 V DC, max. 30 V DC
Max. operating current	5 mA per channel display element
Ambient conditions	
Ambient temperature	-30 ... 80 °C
Mechanical data	
Sockets	M8, 3-pin
Degree of protection	IP65 / IP67
Material	
Contacts	CuSn
Contact surface	Ni/Au
Housing	PBT

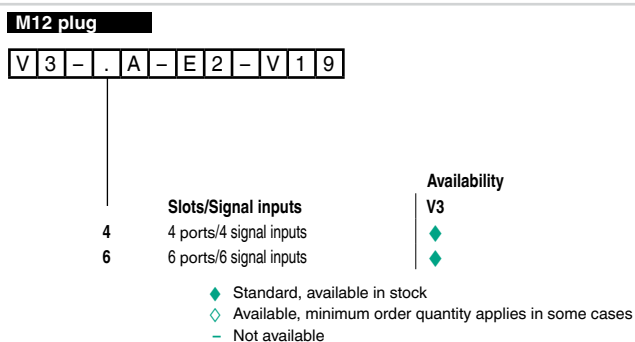
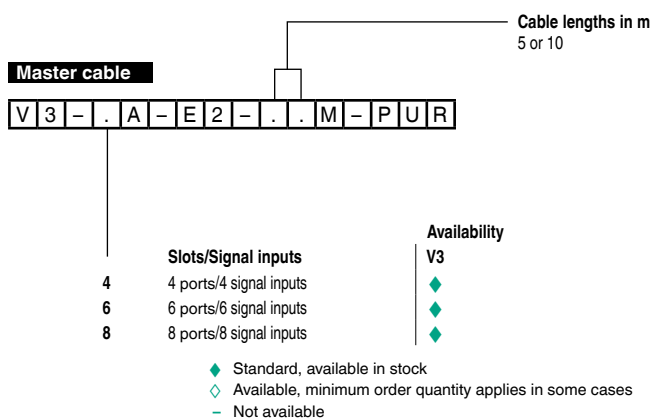
Order codes

Connection	Master cable	V3-...A-E2-...M-PUR	V3-...A-E2-V19
	M12 plug		
Electrical data			
Max. current loading	2 A per channel, 2 A per port, 4 A total current per block		
	2 A per channel, 2 A per port, 6 A total current per block		
Mechanical data			
Connection	Cable: stranded wire Plug M12 x 1, 8-pin		
Cable			
Material	PUR black		
Leads	Signal line: 0.34 mm ² Supply line: 0.75 mm ²		



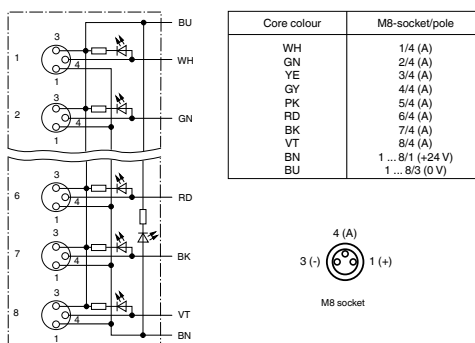
Dimensions	Master cable			M12 plug	
	Slots	4	6	8	
Length L [mm]		102	122	141	
Width W [mm]		30	30	30	
Height H [mm]		22	22	22	
Connection area I _c [mm]		-	-	-	

Order codes

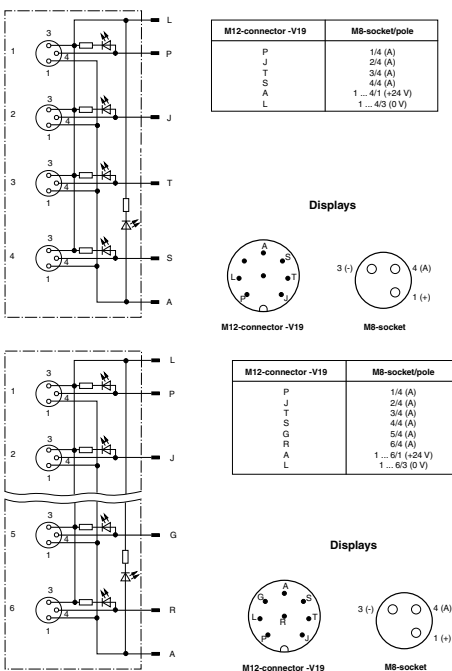


Electrical connection

Master cable



M12 plug





Technical data

For detailed data and product description refer to the data sheets at www.pepperl-fuchs.com

General Data

Electrical data

Max. operating voltage 60 V AC/DC
Max. operating current 4 A

Ambient conditions

Ambient temperature -25 ... 85 °C

Mechanical data

Degree of protection IP67

Properties

- Parallel splitter
- M12, 4-pin and 5-pin versions

Your Benefit

- Immunity to vibration
- 5-pin: compatible with DeviceNet and CANopen

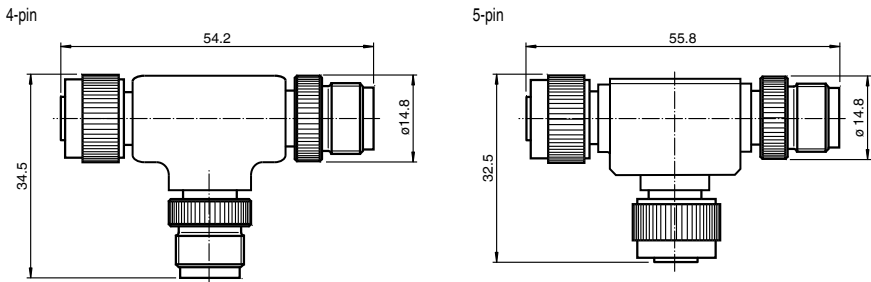
Order codes

Number of pins	4
	5
Mechanical data	
Connection	1 x M12 plug
	1 x M12 plug / 1 x M12 socket
	1 x M12 socket
	1 x M12 plug / 1 x M12 socket

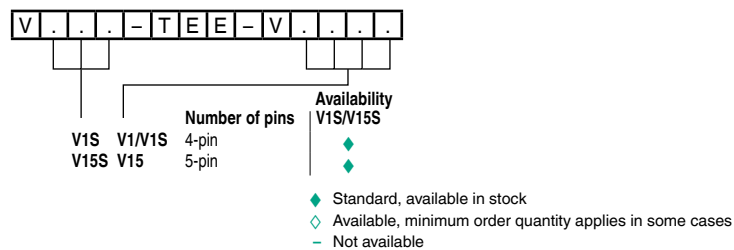
V1S-TEE-V...

V15S-TEE-V...

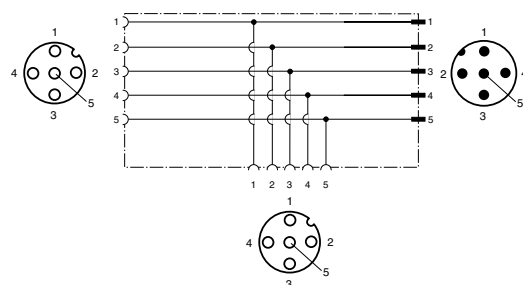
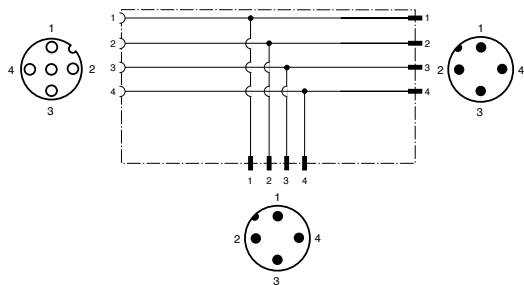
Dimensions



Order codes



Electrical connection





Properties

- Parallel splitter
- M12 to M12 and M8 to M8 versions
- 3-pin, 4-pin and 5-pin versions

Your Benefit

- Efficiently combines two signals onto one slot
- Immunity to vibration

Technical data

For detailed data and product description refer to the data sheets at www.pepperl-fuchs.com

General Data

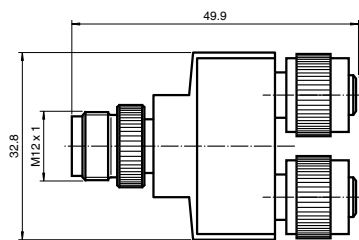
Ambient conditions	
Ambient temperature	-25 ... 90 °C
Mechanical data	
Degree of protection	IP65/IP67

Order codes

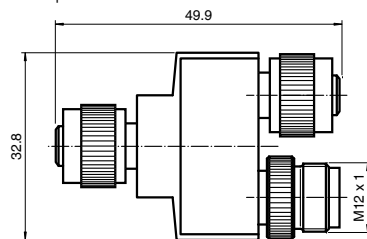
		V1S-TV1	V11S-TV11	V15S-TV15	V15S-YEE-V15	V31S-TV3	V3S-YEE-V3	V31S-YEE-V31
Connections	M8							
	M12	●	●	●	●	●	●	●
Number of pins	3		●			●		
	3 + PE	●						
	4 + PE			●				
	3 (parallel)						●	
	4 (parallel)							●
	5 (parallel)				●			
Electrical data								
Max. operating voltage	30 V AC/DC					●	●	●
	60 V AC/DC	●	●	●	●			
Max. operating current	3 A					●	●	●
	4 A	●	●	●	●			
Mechanical data								
Connection	1 x M12 plug	●	●	●				
	1 x M12 socket / 1 x M12 socket							
	1 x M12 socket							
	1 x M12 plug / 1 x M12 socket				●			
	1 x M8 plug							
	2 x M8 socket					●	●	●

Dimensions

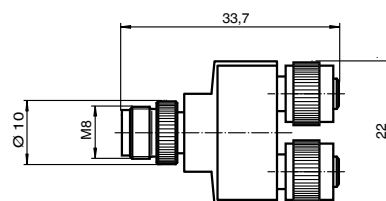
M12



Parallel splitter

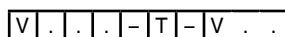


M8



Order codes

M12



Number of pins
 V11S V11 3-pin
 V1S V1 3-pin + PE
 V15S V15 4-pin + PE (Pins 2+4 bridged)

Availability

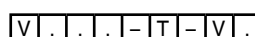


Number of pins
 V15S V15 5-pin

Availability



M8



Number of pins
 V31S V3 3-pin

Availability



Number of pins
 V3S V3 3-pin
 V31S V31 4-pin

Availability

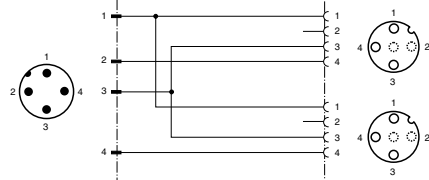


- ◆ Standard, available in stock
- ◇ Available, minimum order quantity applies in some cases
- Not available

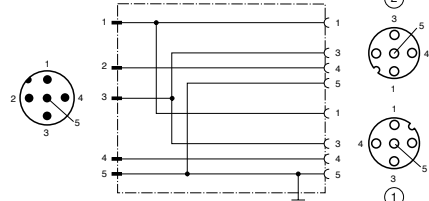
Electrical connection

M12

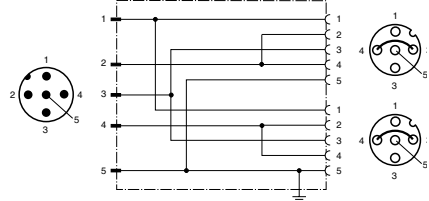
3-pin



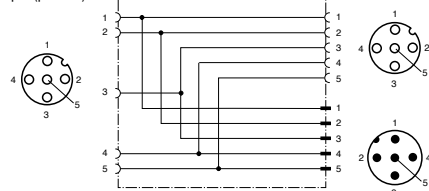
3 + PE



4 + PE

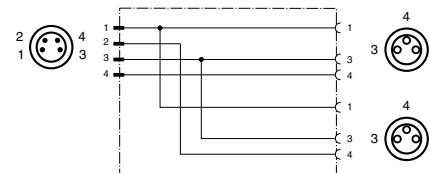


5-pin (parallel)

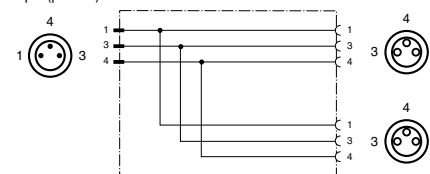


M8

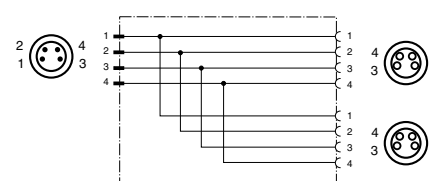
3-pin



3-pin (parallel)



4-pin (parallel)





Properties

- Y-Splitter
- M12 and M12 to M8 versions
- 3-pin, 4-pin and 5-pin versions

Your Benefit

- Efficiently combines two signals onto one M12 slot
- Immunity to vibration

Technical data

For detailed data and product description refer to the data sheets at www.pepperl-fuchs.com

Ambient conditions

Ambient temperature	-40 ... 80 °C fixed
	-5 ... 80 °C non-fixed

Mechanical data

Degree of protection	IP67/IP68/IP69K
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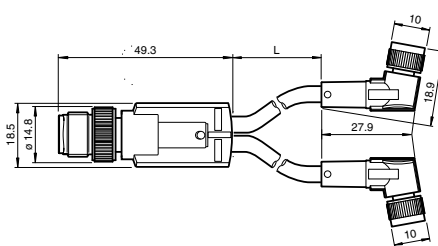
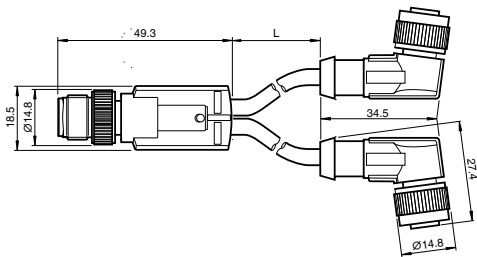
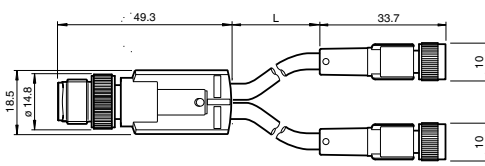
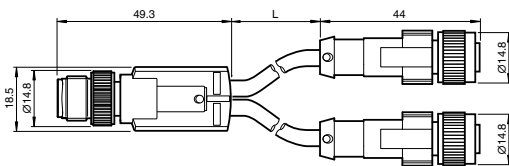
Order codes

Type	M12-M12	M12-M8
Number of pins	3	4 (2+4 bridged)
Electrical data		
Max. operating voltage	60 V AC/DC	250 V AC/DC
Max. operating current	3 A	4 A
Mechanical data		
Connection	1 x M12 plug 2 x M12 socket	1 x M12 plug 2 x M8 socket

V1-...-M-PUR-TV1-G

V3-...-M-PUR-TV1-G

Dimensions



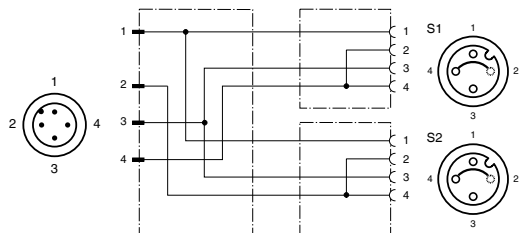
Order codes

					Cable length L in m 0.3 to 10
V M - P U R - T - V 1 - G					
	Number of pins		Design	Availability	
V1	M12. 4-pin (2+4 bridged)	G	straight	V1	V3
		W	angled	◆	-
		GM	straight	◆	-
V3	M12-M8. 3-pin	WM	angled	-	◆

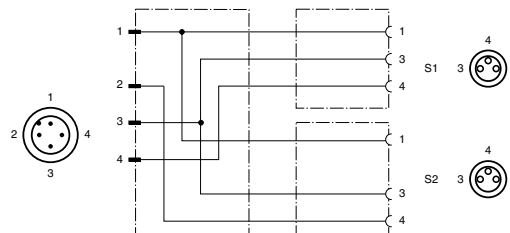
- ◆ Standard, In den Cable lengthn 0.3 m, 0.6 m, 1 m ab Lager verfügbar
- ◇ Available, minimum order quantity applies in some cases
- Not available

Electrical connection

M12



M12-M8



Ethernet

For detailed data and product description refer to the data sheets at www.pepperl-fuchs.com

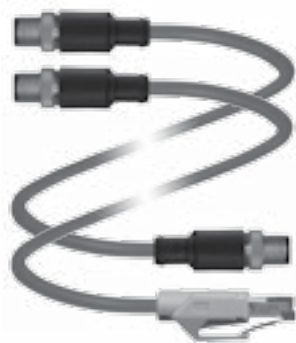
Double-ended Cordsets

Type	Order codes	Cable length available
Ethernet cable, M12-M12	V1SD-G-..M-PUR-ABG-V1SD-G	0.5 ... 60 m ¹⁾
Ethernet cable, M12-RJ45	V1SD-G-..M-PUR-ABG-V45-G, V1SD-G-..M-PUR-ABG-V45X G (crossed)	0.5 ... 60 m ¹⁾
Ethernet cable, RJ45-RJ45	V45-G-..M-V45-G	0.5 ... 30 m ¹⁾

¹⁾ = cable lengths of 2m, 5m and 10m available in stock

Field Connectors

Type	Order codes
RJ45 Field connector - male	V45-G V45-GP (Push-Pull)
M12 x 1 Field connector - male, D-coded	V1SD-G-ABG-PG9. V1SD-W-ABG-PG9



INDUSTRIAL
ETHERNET

PROFIBUS

For detailed data and product description refer to the data sheets at www.pepperl-fuchs.com

Double-ended Cordsets

Type	Order codes	Cable length available
PROFIBUS bus cable, M12-M12	V15B-G-..M-PUR-ABG-V15B-G	0.2 ... 40 m ¹⁾

¹⁾ = cable lengths of 2m, 5m and 10m available in stock

Field Connectors

Type	Order codes
M12 Field connector - male/female, B-coded	V15B-G-ABG-PG9. V15SB-G-ABG-PG9. V15B-W-ABG-PG9. V15SB-W-ABG-PG9
Sub-D Field connector - male, D-coded switchable terminal resistor	VAZ-PB-DB9-W

Splitter

Type	Order codes
Y-Splitter cordset	ICZ-3T-0.2M-PUR ABG-V15B-G
Y-Splitter	ICZ-3T-V15B

Terminal resistor

Type	Order codes	Cable length available
Terminal resistor	ICZ-TR-V15B	-
Terminal resistor cordset	ICZ-2T/TR-0.2M-PUR ABG-V15B-G	0.2 m



PROFI
BUS

DeviceNet / CANopen

For detailed data and product description refer to the data sheets at www.pepperl-fuchs.com



Double-ended Cordsets

Type	Order codes	Cable length available
DeviceNet/CANopen bus cable, M12-M12	V15-G-...M-PUR-CAN-V15-G	0.2 ... 40 m ¹⁾

¹⁾ = cable lengths of 2m, 5m and 10m available in stock



Field Connectors

Type	Order codes
M12 Field connector male/female, A-coded	V15-G-ABG-PG9. V15S-G-ABG-PG9. V15-W-ABG-PG9. V15S-W-ABG-PG9



Splitter

Type	Order codes
T-Splitter	V15S-T-CAN/DN-V15



Terminal resistor

Type	Order codes
Terminal resistor	ICZ-TR-CAN/DN-V15

DeviceNet_™
CANopen

Mounting tools

For detailed data and product description refer to the data sheets at www.pepperl-fuchs.com

General Data

Length	Blade: 100 mm
Drive	4 mm hexagonal



Properties

- Tightening tool for round plug connectors with knurled coupling nuts
- Acoustic signal on reaching the preset torque

Order codes

Preset torque	0.2 Nm		
	0.4 Nm	●	
Weight	approx. 93 g	●	
	approx. 95 g		●
Matching nut	MH V1-BIT M12	●	
	MH V3-BIT M8		●

Blind plug

For detailed data and product description refer to the data sheets at www.pepperl-fuchs.com



Order codes

		V1-B	V1S-B	V3-B	V3S-B
Thread					
Size	M8 x 1			●	●
	M12 x 1	●	●		
Type	Internal thread		●		●
	External thread	●		●	



Suitable for M8 and M12 connectors and splitter boxes

Identification

For detailed data and product description refer to the data sheets at www.pepperl-fuchs.com



Order codes

		V1/V3-LABELHOLDER	V1/V3-LABEL	V1-BOX LABEL	V3-BOX LABEL
Color	Transparent	●			
	White		●	●	●
Cable diameter	4.0 - 6.0 mm	●			
Length	23 mm	●			
Material	TPE	●			
	PC		●	●	●
Suitable for	M8/M12 connectors	●	●		
	Splitter boxes M8				●
	Splitter boxes M12			●	

Lock nut

For detailed data and product description refer to the data sheets at www.pepperl-fuchs.com



General Data

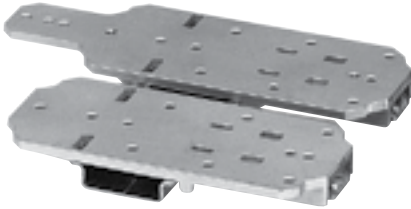
Material	Brass, nickel-plated
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Order codes

		LOCKNUT M8 NICKEL BRASS	LOCKNUT PG9 NICKEL BRASS	LOCKNUT M16 NICKEL BRASS
Thread	M8 x 0.5	●		
	PG9		●	
Width across the flats	M16 x 1.5			●
	10	●		
	18		●	
Thickness	19			●
	2.2 mm	●		
	2.8 mm		●	●

Mounting base

For detailed data and product description refer to the data sheets at www.pepperl-fuchs.com



General Data

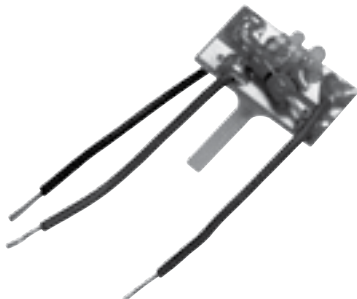
Material	Die-cast zinc
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Order codes

		MH 05-SACB-4	MH 05-SACB-8
Weight	approx. 130 g	●	
	approx. 150 g		●
Dimensions	107 x 52 x 3 mm	●	
	136 x 52 x 3 mm		●
Suitable for splitter boxes	V1-4A-...	●	
	V1-8A-...		●

Indication element

For detailed data and product description refer to the data sheets at www.pepperl-fuchs.com



Order codes	V1-E/E2-LED
LED green	Operating display
LED yellow	NO contact function display
Max. operating voltage	24 V DC ± 15%
Max. operating current	4 A



Fits in M12 connectors with screw terminal connections



Order codes

C	B	L	-	.	.	.	-	.	.	-	.	.	X	.	.	-	1	0	0	M
---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Cable lengths

Core cross-section	
025	0.25 mm ²
034	0.34 mm ²
050	0.5 mm ²
075	0.75 mm ²

Number of leads	
03	3
04	4
05	5
08	8

Cable quality and color	
PVC	-
PVC-U	BK
PVC-U	YE
PUR	-
PUR-U	BK
PUR-U	YE
PUR-U/0.75	BK
PUR H/S	-
POC	OR
PUR-ABG	-
PUR-U/ABG	BK
Shielded cable quality	
PUR, halogen-free, shielded, gray	
PUR, halogen-free, shielded, UL-approved, black	

i All combinations of lengths, number of leads and cable qualities available only on request

Availability

Number of leads → Core cross-section

3	4	5	8
0.25 mm ² / 0.34 mm ²	0.25 mm ² / 0.34 mm ²	0.34 mm ²	-
0.34 mm ²	0.34 mm ²	-	-
0.34 mm ²	0.34 mm ²	-	-
0.25 mm ² / 0.34 mm ²	0.25 mm ² / 0.34 mm ²	0.34 mm ²	-
0.34 mm ²	0.34 mm ²	-	0.25 mm ²
-	0.34 mm ²	-	-
-	-	0.75 mm ²	-
-	0.34 mm ²	-	-
-	0.34 mm ²	-	-
-	0.34 mm ²	-	-
-	0.34 mm ²	0.34 mm ²	0.25 mm ²
-	-	-	0.25 mm ²

Examples for order codes

CBL-PVC-GY-04x025-100M	PVC cable coil, 100 m, 4 x 0.25 mm ²
CBL-PVC-GY-04x034-100M	PVC cable coil, 100 m, 4 x 0.34 mm ²
CBL-PVC-U-BK-04x034-100M	PVC cable coil with UL, 100 m, 4 x 0.34 mm ²
CBL-PUR-GY-04x025-100M	PUR cable coil, 100 m, 4 x 0.25 mm ²
CBL-PUR-GY-04x034-100M	PUR cable coil, 100 m, 4 x 0.34 mm ²
CBL-PUR-U-BK-04x034-100M	PUR cable coil with UL, 100 m, 4 x 0.34 mm ²
CBL-PUR-OR-04x034-100M	PUR cable coil welding bead resistant, 100 m, 4 x 0.34 mm ²
CBL-PUR-ABG-GY-04x034-100M	PUR cable coil shielded, 100 m, 4 x 0.34 mm ²

For detailed data and product description refer to the data sheets at www.pepperl-fuchs.com

Technical Information

The user must follow the appropriate equipment instructions when using connectors. We reserve the right to alter designs for quality improvement, product enhancement and technology improvements. The technical information listed in the catalog is based on connectors that are not allowed to be connected in energized condition.

The distance to conductive parts should not be minimized by stripping the insulation. Take care when soldering cables to ensure that no individual strands are loose or exposed, making possible the risk of short-circuits. Listed below are the key standards and regulations to which our products are produced and tested.

Product-Specific Standards

DIN IEC 61076-2-101 / DIN EC 61076-2-104

Connectors for electronic equipment

Part 2-101: Circular connectors – design specification for screw-locking M12 connectors for low-voltage applications

Part 2-104: Circular connectors – design specification for screw or snap-locking M8 connectors for low-voltage applications

These standards specify the design guidelines for M12 and M8 connectors. They also serve as the basis for the test specifications.

DIN EN 175301-803

Design specification:

Rectangular connectors – 0.8 mm-thick flat contacts, captive-locking screws

This standard specifies the design guidelines for valve connectors. It also serves as the basis for the test specification.

DIN EN 60664-1

Coordination of the insulation of electronic equipment in low-voltage systems – Part 1:

Principles, requirements and tests

This standard replaces DIN VDE 0110-1, which was valid until the end of the transitional period in May 2006. These standards define the air and creepage distances depending on area of application, material and degree of pollution.

DIN EN 61984

Connectors – Safety requirements and tests

This standard replaces DIN VDE 0627, which was valid until the end of the transitional period in October 2004.

In addition to the product-specific standards for connectors, this standard specifies further design requirements and calls for individual testing.

DIN EN 60512

Connectors for electronic equipment – Tests and measurements

This standard specifies the test requirements for connectors. The test program includes: climate/mechanical tests, test description of the mechanical characteristics of connectors such as max. current and insulation resistance.

DIN EN 60068

Environmental tests

In this series of tests the possible influences on the environment are defined. Among other things, this includes climatic influences such as dry heat, coldness, moist heat and temperature cycles as well as mechanical influences such as vibration and shock. With these tests, the influences from the location to be used are checked in the laboratory.

DIN EN 60529

Degree of protection due to housing (IP code)

In this standard the IP code is defined. The test setup and the test conditions necessary to comply with the IP coding are prescribed.

Calculating American Wire Gauge (AWG) in mm²

Certain branches of industry also use the American Wire Gauge (AWG) for lines and wires.

The table below demonstrates how to convert AWG to mm².

AWG	Cable Structure [mm]	Cable diameter [mm]	Conductor Cross-Section [mm ²]
30	1 x 0.25	0.25	0.05
	7 x 0.10	0.36	0.06
28	1 x 0.32	0.32	0.08
	7 x 0.13	0.38	0.09
26	1 x 0.4	0.40	0.13
	7 x 0.16	0.48	0.14
24	1 x 0.51	0.51	0.21
	17 x 0.20	0.61	0.22
	19 x 0.13	0.64	0.25
22	1 x 0.64	0.64	0.33
	7 x 0.25	0.76	0.34
	19 x 0.16	0.81	0.38
20	1 x 0.81	0.81	0.52
	7 x 0.32	0.97	0.56
	19 x 0.20	1.02	0.60
18	1 x 1.02	1.02	0.82
	19 x 0.25	1.27	0.93
16	19 x 0.29	1.44	1.25
14	19 x 0.36	1.80	1.93
12	19 x 0.46	2.29	3.16
10	37 x 0.40	3.10	4.65

Please note that cables with the same AWG number may have different cross-sections due to their differing structures.

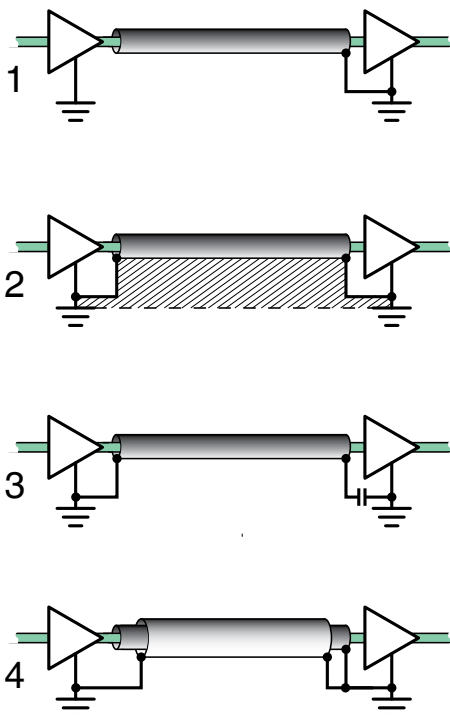
Cable Structure Data

VDE standard 0295 specifies that only the maximum single wire diameter and the corresponding highest-permissible electrical resistance have to be determined for each cable cross-section.

Cables made of Uninsulated or Tin-Plated Copper Wires Number of Wires x Wire Diameter [mm] VDE 0295							
Conductor Cross- Section [mm ²]	Single wire Class 1	Stranded Class 2	Finely- Stranded* Class 5	Extra Finely-Stranded* Class 6			
0.10			14 x 0.10		26 x 0.07	50 x 0.05	
0.14			18 x 0.10		36 x 0.07	72 x 0.05	
0.25			14 x 0.15		32 x 0.10	65 x 0.07	128 x 0.05
0.34		7 x 0.25	19 x 0.15		43 x 0.10	88 x 0.07	180 x 0.05
0.50	1 x 0.80	7 x 0.30	16 x 0.20	28 x 0.15	63 x 0.10	129 x 0.07	258 x 0.05
0.75	1 x 1.00	7 x 0.37	24 x 0.20	42 x 0.15	95 x 0.10	196 x 0.07	384 x 0.05
1.00	1 x 1.13	7 x 0.43	32 x 0.20	56 x 0.15	127 x 0.10	258 x 0.07	512 x 0.05
1.50	1 x 1.38	7 x 0.52	30 x 0.25	84 x 0.15	191 x 0.10	385 x 0.07	768 x 0.05
2.50	1 x 1.78	7 x 0.67	50 x 0.25	140 x 0.15	320 x 0.10	651 x 0.07	1281 x 0.05
4.00	1 x 2.26	7 x 0.85	56 x 0.30	224 x 0.15	512 x 0.10	1036 x 0.07	
6.00	1 x 2.77	7 x 1.05	84 x 0.30	192 x 0.20	765 x 0.10	1561 x 0.07	
10.00	1 x 3.57	7 x 1.35	80 x 0.40	320 x 0.20	1275 x 0.10		

* The number of wires in finely and extra finely-stranded cable structures are preferred values.

Shield Connection



The type of shield connection is primarily decided by the nature of the expected interference.

To suppress electrical fields, the shield must be grounded (1) at one end. However, interference caused by a magnetic alternating field can only be suppressed if the shield is connected at both ends (2).

A ground loop, including all its known disadvantages, is created when a shield is connected at both ends. The useful signal is particularly susceptible to noise on the reference voltage. Triaxial cables (4) combat this effect. The internal shield is connected at one end, whereas the external shield is connected at both ends.

Interference of this nature when a cable shield is connected at both ends is often reduced by also connecting one end of the shield to the reference potential via a capacitor (3). This breaks the ground loop, at least for direct currents and low-frequency currents.

Chemical resistance

The chemical resistance of the plastics, elastomers and outer sheath are shown in the table below:

Outer Sheath	PVC	PUR	TPU	Polyamide	NBR	Fluorinated rubber (FPM)
Chemical						
10% acetic acid	♦	♦	♦♦	◇	♦♦	♦♦
10% potassium hydroxide	♦♦	♦♦				
ATE brake fluid	♦	—				
Cleaning agents			♦♦	♦♦	♦♦	
Citric acid		♦♦	♦♦	♦♦	♦♦	
Detergent			♦♦	♦♦	♦♦	
Diesel oil/heating oil	—	♦	♦♦	♦♦	♦♦	♦♦
Ethanol	—	♦	—	◇	♦♦	♦♦
Gasoline, normal		♦♦	♦♦	♦♦	♦♦	
Hydraulic oils		♦♦	♦♦			
Isopropanol	—	◇	◇	◇	♦♦	♦♦
Mineral oils		♦♦	♦♦	♦♦	◇	
Ozone	♦♦	♦♦				
Seawater		♦♦	♦♦	♦♦	♦♦	

♦♦ = resistant ♦ = largely resistant ◇ = offers limited resistance — = not resistant

The research was carried out, unless otherwise indicated, at room temperature. Resistances may change when different mediums converge, hence we can assume no liability with regard to this information

Coding M12 Connectors

Coding M12 connectors with a pin or groove on the contact body prevents similar M12-style connectors from being mixed up and erroneously connected. Distinctions are made between “A” standard coding, “B” coding (Reverse Key) for fieldbus applications such as Profibus, “C” coding (Double Key; also known as “U” coding) and “D” coding for Ethernet applications.

