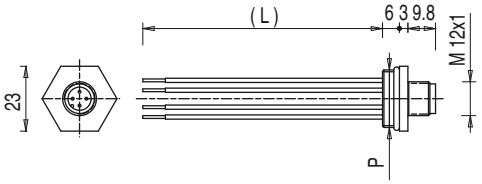
M12 male connectors

All values in the drawings are in mm

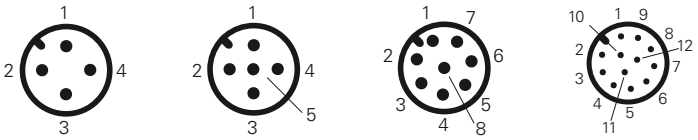
These standard M12 male connectors are ready for the installation on the switches.
Their wires have the right length for the connection to the contact blocks and are provided with wire-end sleeves. On request they can be delivered already wired to the switch. The connectors are used where a very short machine down time is required (e.g. in big plants). The connector-provided switch can be replaced very quickly with an identical one with no chance of incorrect wiring.

Technical data:

Max. operating voltage:	250 Vac / 300 Vdc (4/5-pole) 30 Vac / 36 Vdc (8/12-pole)
Max. operating current:	4 A (4/5-pole) 2 A (8-pole) 1.5 A (12-pole)
Protection degree:	IP67 acc. to EN 60529 IP69K acc. to ISO 20653
Ambient temperature:	-25°C … +80°C
Tightening torque:	1 … 1.5 Nm
Wire cross-section:	0.5 mm² (20 AWG) for 4/5-pole 0.25 mm² (23 AWG) for 8-pole 0.14 mm² (26 AWG) for 12-pole
Contact type:	gold-plated



Pin assignment



4 poles		5 poles		8 poles		12 poles	
Pin	Colour	Pin	Colour	Pin	Colour	Pin	Colour
1	Brown	1	Brown	1	White	1	Brown
2	White	2	White	2	Brown	2	Blue
3	Blue	3	Blue	3	Green	3	White
4	Black	4	Black	4	Yellow	4	Green
		5	Grey	5	Grey	5	Pink
				6	Pink	6	Yellow
				7	Blue	7	Black
				8	Red	8	Grey
						9	Red
						10	Purple
						11	Grey-Pink
						12	Red-Blue

Code structure

Attention! The feasibility of a code number does not mean the effective availability of a product. Please contact our sales office.

article: **VF CNM5MM** — options: **-L100**

Body material	
M	metal
P	plastic

No. of poles	
4	4 poles
5	5 poles
8	8 poles
12	12 poles

Cable length (L)	
	8.5 cm (standard)
L16	16 cm
L100	100 cm
L200	200 cm

Connection type	
M	M12x1

Connector thread (P)	
M	M20 x 1.5 (standard)
P	PG 13.5

Stock items

- VF CNP4MM
- VF CNP4PM
- VF CNM5MM
- VF CNM5PM
- VF CNP8MM
- VF CNP5PM
- VF CNP5MM
- VF CNM4PM
- VF CNM8MM
- VF CNM8PM
- VF CNM12MM-L16
- VF CNM4MM

ATTENTION: always disconnect the power supply before removing the connector. The connector is not suitable for separation of electrical loads.
Note: the 12-pole connector is only available in metal with M20x1.5 thread and 16 cm cables.

Items with code on **green** background are stock items

→ The 2D and 3D files are available at **www.pizzato.com**

M12 female connectors with cable

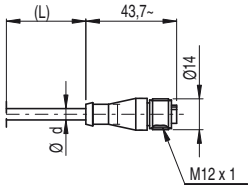
All values in the drawings are in mm

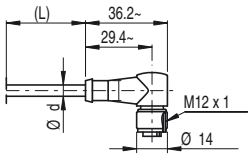
Technical data:

- Polyurethane connector body
- Class 6 copper conductors acc. to IEC 60228 - mobile installation
- Gold-plated contacts (resistance < 5 mΩ)
- Self-locking ring nut
- High flexibility cable with PVC sheath suitable to be used in drag chains, acc. to IEC 60332-3 and CEI 20-22II. With polyurethane sheath on request

Technical data:

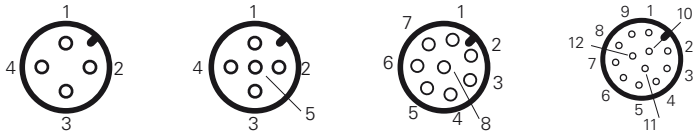
Max. operating voltage:	250 Vac / 300 Vdc (4/5-pole) 30 Vac / 36 Vdc (8/12-pole)
Max. operating current:	4 A (4-5-pole), 2 A (8-pole), 1.5 A (12-pole)
Protection degree:	IP67 acc. to EN 60529 IP69K acc. to ISO 20653 (Protect the cables from direct high-pressure and high-temperature jets)
Ambient temperature:	-25°C … +80°C for fixed installation -15°C … +80°C for mobile installation
Wire cross-section:	0.34 mm² (22 AWG) for 4-pole 0.25 mm² (23 AWG) for 5/8-pole 0.14 mm² (26 AWG) for 12-pole
Minimum bending radius:	> cable diameter x 15





ø d: 5 mm for 4 and 5-pole
6 mm for 8 and 12 poles

Pin assignment



4 poles		5 poles		8 poles		12 poles	
Pin	Colour	Pin	Colour	Pin	Colour	Pin	Colour
1	Brown	1	Brown	1	White	1	Brown
2	White	2	White	2	Brown	2	Blue
3	Blue	3	Blue	3	Green	3	White
4	Black	4	Black	4	Yellow	4	Green
		5	Grey	5	Grey	5	Pink
				6	Pink	6	Yellow
				7	Blue	7	Black
				8	Red	8	Grey
						9	Red
						10	Purple
						11	Grey-Pink
						12	Red-Blue

Code structure

Attention! The feasibility of a code number does not mean the effective availability of a product. Please contact our sales office.

VF CA4PD3M

No. of poles	
4	4 poles
5	5 poles
8	8 poles
12	12 poles

Cable sheath	
P	PVC (standard)
U	PUR

Connector type	
D	straight (standard)
G	angled

Connection type	
M	M12x1

Cable length (L)		No. of poles 4	5	8	12
1	1 metre				
2	2 metres				
3	3 metres (standard)	•	•		
4	4 metres				
5	5 metres (standard)	•	•	•	•
...					
0	10 metres (standard)	•	•	•	•

Other lengths on request

Stock items

VF CA4PD3M
VF CA4PD5M
VF CA4PD0M
VF CA5PD3M
VF CA5PD5M
VF CA5PD0M
VF CA8PD5M
VF CA8PD0M
VF CA12PD5M
VF CA12PD0M

Attention! No stock items, minimum order quantity 100 pcs.

ATTENTION: always disconnect the power supply before removing the connector. The connector is not suitable for separation of electrical loads.

Items with code on **green** background are stock items

➔ The 2D and 3D files are available at **www.pizzato.com**

M12 male connectors with cable

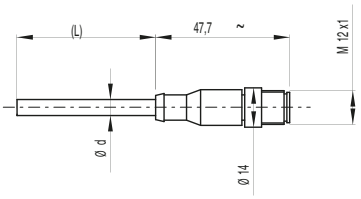
All values in the drawings are in mm

Technical data:

- Polyurethane connector body
- Class 6 copper conductors acc. to IEC 60228 - mobile installation
- Gold-plated contacts (resistance < 5 mΩ)
- Self-locking ring nut
- High flexibility cable with PVC sheath suitable to be used in drag chains, acc. to IEC 60332-3 and CEI 20-22II. With polyurethane sheath on request

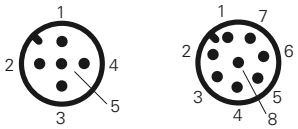
Technical data:

Max. operating voltage:	250 Vac / 300 Vdc (5-pole) 30 Vac / 36 Vdc (8-pole)
Max. operating current:	4 A (5-pole), 2 A (8-pole)
Protection degree:	IP67 acc. to EN 60529 IP69K acc. to ISO 20653 (Protect the cables from direct high-pressure and high-temperature jets)
Ambient temperature:	-25°C … +80°C for fixed installation -15°C … +80°C for mobile installation
Wire cross-section:	0.25 mm2 (23 AWG)
Minimum bending radius:	> cable diameter x 15



ø d: 5 mm for 5-pole
6 mm for 8-pole

Pin assignment



5 poles		8 poles	
Pin	Colour	Pin	Colour
1	Brown	1	White
2	White	2	Brown
3	Blue	3	Green
4	Black	4	Yellow
5	Grey	5	Grey
		6	Pink
		7	Blue
		8	Red

Code structure

Attention! The feasibility of a code number does not mean the effective availability of a product. Please contact our sales office.

VF CF5PD3M

No. of poles	
5	5 poles
8	8 poles

Connection type	
M	M12x1

Cable length (L)	
3	3 metres (standard)
5	5 metres
0	10 metres

Other lengths on request

Cable sheath	
P	PVC (standard)
U	PUR

Connector type	
D	straight

Articles

VF CF5PD3M
VF CF8PD3M

Attention! No stock items, minimum order quantity 100 pcs.

ATTENTION: always disconnect the power supply before removing the connector. The connector is not suitable for separation of electrical loads.

→ The 2D and 3D files are available at **www.pizzato.com**

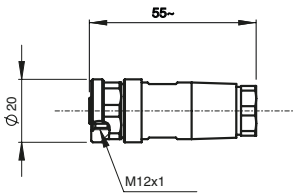
Field wireable M12 female connectors

All values in the drawings are in mm

General data

Technopolymer connector body
Gold-plated contacts
Screw terminals for cable screw fittings

Max. operating voltages	250 Vac/dc (4 and 5-pole)
	30 Vac/dc (8-pole)
Maximum current	4 A (4 and 5-pole)
	2 A (8-pole)
Protection degree	IP67 acc. to EN 60529
Ambient temperature	-25°C … +85°C
Wire cross-section	0.25 mm² (23 AWG) … 0.5 mm² (20 AWG)



Article	Description	no. of poles
VF CBMP4DM04	Field wireable M12 female connector, straight, for Ø 4 … Ø 6.5 mm multipolar cables	4
VF CBMP5DM04	Field wireable M12 female connector, straight, for Ø 4 … Ø 6.5 mm multipolar cables	5
VF CBMP8DM04	Field wireable M12 female connector, straight, for Ø 4 … Ø 7 mm multipolar cables	8

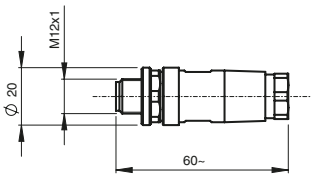
Field wireable M12 male connectors

All values in the drawings are in mm

General data

Technopolymer connector body
Gold-plated contacts
Screw terminals for cable screw fittings

Max. operating voltages	250 Vac/dc (5-pole)
	30 Vac/dc (8-pole)
Maximum current	4 A (5-pole)
	2 A (8-pole)
Protection degree	IP67 acc. to EN 60529
Ambient temperature	-25°C … +85°C
Wire cross-section	0.25 mm² (23 AWG) … 0.5 mm² (20 AWG)



Article	Description	no. of poles
VF CCMP5DM04	Field wireable M12 male connector, straight, for Ø 4 ... Ø 6.5 mm multipolar cables	5
VF CCMP8DM04	Field wireable M12 male connector, straight, for Ø 4 ... Ø 7 mm multipolar cables	8

ATTENTION: always disconnect the power supply before removing the connector. The connector is not suitable for separation of electrical loads.

Items with code on **green** background are stock items

➔ The 2D and 3D files are available at **www.pizzato.com**

Series connection with Y-shaped M12 connectors

To facilitate and simplify the series wiring of the safety devices, a variety of accessories designed specifically for this purpose are available. With the help of the proven M12 round connector and the connection of standard elements, safety equipment of Category 4, SIL3 and PL e with up to 32 elements connected in series is possible. All of which is possible without the risk of connection errors and with a high IP67 protection degree.
The safety circuits consist of a 24Vdc power supply unit, a number of extensions to the installed devices, Y connectors for branching out from the chain to each individual device and a terminating plug.
In addition to the power supply unit, a suitable safety module is used to assess the state of the safety outputs within the safety chain.

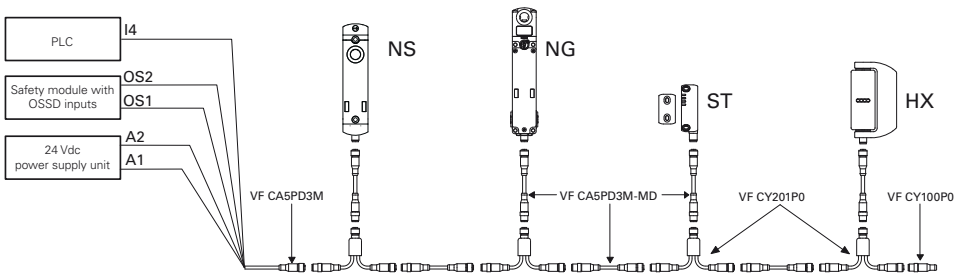
Devices suitable for series connection

The series may consist both of devices that are identical to one another (homogeneous series) or that belong to different series (mixed series).
Only the following Pizzato Elettrica devices may be connected in series using the Y connectors:
ST series safety sensors with RFID technology: ST D•31•M•, ST D•71•M•
NG series safety switches with solenoid and RFID technology: Any item with an M12 connector for series connection with a "Y" connector or with option: K950, K951, K952.
NS: Any item with an M12 connector for series connection with a "Y" connector or with the option "integrated cable or connector", letter "Q".
HX series safety hinge switches: HX BEE1-••M.

Electrical connection of the chain

Pin	Colour	Connection	
1	Brown	A1	Supply input +24 Vdc
2	White	OS1	Safety output
3	Blue	A2	Supply input 0 V
4	Black	OS2	Safety output
5	Grey	I4	Solenoid activation input

Note: By activating/deactivating input I4, all switches of the NG and NS series in the chain simultaneously block/open all guards. Activation and deactivation of input I4 has no effect on the ST sensors and HX hinges in the chain.



Attention! For proper operation of the devices connected in series via cables, Y connectors or junction boxes, it is necessary to pay particular attention to the voltage drop that occurs in the circuit. Pay particular attention to the flowing currents and cross-section/length of the used cables to ensure that the supply voltage of the components at the end of the series connection remains within the specified limit values during effective operation.

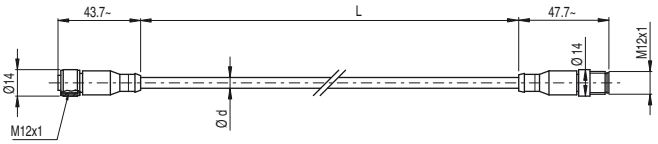
M12 extension cable

All values in the drawings are in mm

Technical data:
Polyurethane connector body
Class 6 copper conductors acc. to IEC 60228
Gold-plated contacts (resistance < 5 mΩ)
Self-locking ring nut
High flexibility cable with PVC sheath suitable to be used in drag chains, acc. to IEC 60332-3 and CEI 20-22II.

Technical data:

Max. operating voltage:	250 Vac / 300 Vdc (5-pole) 30 Vac / 36 Vdc (8-pole)
Max. operating current:	4 A (5-pole), 2 A (8-pole)
Protection degree:	IP67 acc. to EN 60529 IP69K acc. to ISO 2653 (Protect the cables from direct high-pressure and high-temperature jets)
Ambient temperature:	-25°C … +80°C for fixed installation -15°C … +80°C for mobile installation
Wire cross-section:	0.5 mm² (20 AWG) (5-pole) 0.25 mm² (23 AWG) (8-pole)
Minimum bending radius:	> cable diameter x 15



ø d: 6.4 mm for 5-pole
6 mm for 8-pole

Code structure

VF CA5PD3M-MD

No. of poles	
5	5 poles
8	8 poles

Cable sheath	
P	PVC

Connector type	
D	straight

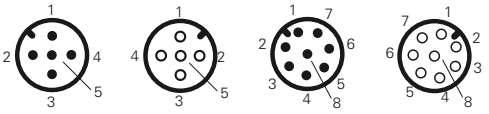
Connection type	
M	M12x1

Cable length (L)		No. of poles 5	8
3	3 metres (standard)	•	•
5	5 metres (standard)	•	•
0	10 metres (standard)	•	

Other lengths on request

Pin assignment

5 poles male	5 poles female	8 poles male	8 poles female



Stock items

VF CA5PD3M-MD
VF CA5PD5M-MD
VF CA5PD0M-MD
VF CA8PD3M-MD
VF CA8PD5M-MD

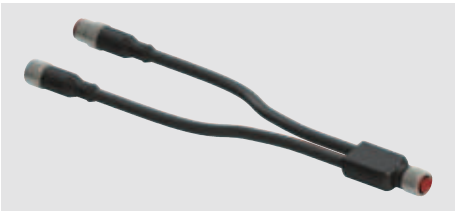
ATTENTION: always disconnect the power supply before removing the connector. The connector is not suitable for separation of electrical loads.

Items with code on **green** background are stock items

→ The 2D and 3D files are available at **www.pizzato.com**

M12 connectors, Y-shaped, for series connections

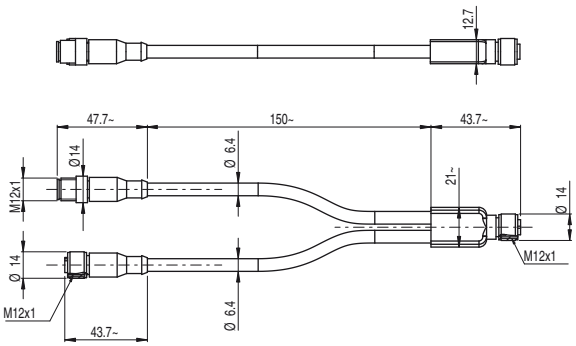
All values in the drawings are in mm



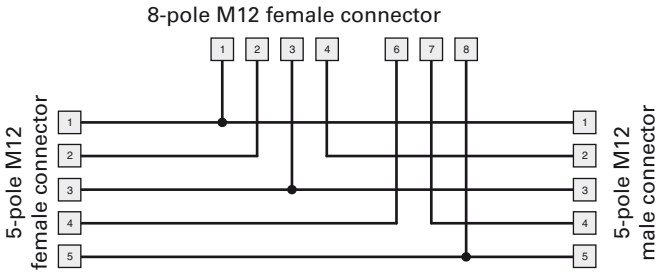
Technical data:
Polyurethane connector body
Class 6 copper conductors acc. to IEC 60228
Gold-plated contacts (resistance < 5 mΩ)
Self-locking ring nut
High flexibility cable with PVC sheath suitable to be used in drag chains, acc. to IEC 60332-3 and CEI 20-22II.

Technical data:

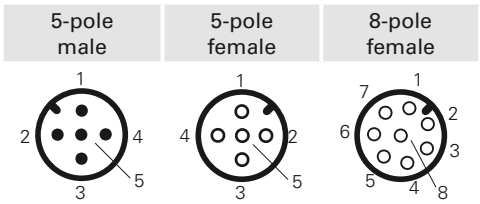
Max. operating voltage:	30 Vac / 36 Vdc
Max. operating current:	4 A (5-pole), 2 A (8-pole)
Protection degree:	IP67 acc. to EN 60529 IP69K acc. to ISO 2653 (Protect the cables from direct high-pressure and high-temperature jets)
Ambient temperature:	-25°C … +80°C for fixed installation -15°C … +80°C for mobile installation
Wire cross-section:	0.5 mm² (20 AWG)
Minimum bending radius:	> cable diameter x 15



Internal block diagram, Y-shaped connector



Pin assignment



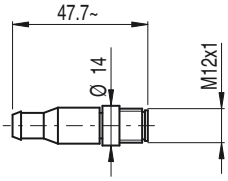
Article	Description
VF CY201P0	M12 connectors, Y-shaped, for series connections

M12 terminating plugs for series connections

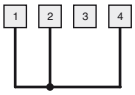
All values in the drawings are in mm

Technical data:
Polyurethane connector body
Gold-plated contacts (resistance < 5 mΩ)
Self-locking ring nut

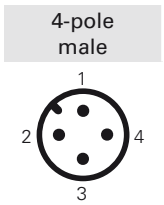
Protection degree:	IP67 acc. to EN 60529
Max. operating voltage:	250 Vac / 300 Vdc
Max. operating current:	4 A



Internal block diagram of the terminating plug



Pin assignment



Article	Description
VF CY100P0	M12 terminating plugs for series connections, 4-pole

ATTENTION: always disconnect the power supply before removing the connector. The connector is not suitable for separation of electrical loads.

Items with code on **green** background are stock items

➔ The 2D and 3D files are available at **www.pizzato.com**