

# Series PL directly operated solenoid valves

2/2-way - Normally Open (NO)

3/2-way - Normally Closed (NC) and Normally Open (NO)

3/2-way - Universal (UNI)



- » Application sectors:
  - Industrial Automation
  - Life Science
  - Transportation
- » Can be mounted on a single base (M5 connections) or on manifold (M5 connections or cartridge Ø3 and Ø4)

Please note that all Series PL solenoid valves are supplied with direct current (DC). To operate in alternating current (AC), it is necessary to use the connector with bridge rectifier Mod. 125-900.

Series PL directly operated mini-solenoid valves are available in the NO version and can be mounted on single bases or on manifolds.

## GENERAL DATA

### TECHNICAL FEATURES

Function	2/2 NO - 3/2 NC - 3/2 NO - 3/2 UNI
Operation	direct acting poppet type
Pneumatic connections	on subbase
Orifice diameter	0.8 ... 1.6 mm
Flow coefficient kv (l/min)	0.30 ... 0.62
Operating pressure	0 ÷ 3.5 ... 10 bar
Operating temperature	0 ÷ 50 °C (FKM) / -50 ÷ 50 °C (low temperature NBR on demand)
Media	filtered air, class 5.4.4 according to ISO 8573-1 (max oil viscosity 32 cSt), inert gas
Response time	ON <10 ms - OFF <15 ms
Manual override	mono/bistable - PBT 3/2 versions only
Installation	in any position

### MATERIALS IN CONTACT WITH THE MEDIUM

Body	brass - PBT - PPS
Seals	FKM - NBR - EPDM (on demand)
Internal parts	brass - stainless steel

### ELECTRICAL FEATURES

Voltage	6 ... 110 V DC - other voltages on demand
Voltage tolerance	±10%
Power consumption	1.2 ... 2.7 W
Duty cycle	ED 100%
Electrical connection	industrial standard connector (9.4 mm)
Protection class	IP65 with connector

Special versions available on demand

**CODING EXAMPLE**

<b>PL</b>	<b>0</b>	<b>00</b>	<b>-</b>	<b>3</b>	<b>0</b>	<b>3</b>	<b>-</b>	<b>PL</b>	<b>2</b>	<b>3</b>	
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<b>PL</b>	SERIES										
<b>0</b>	<b>BODY DESIGN</b> 0 = single sub-base (M5 only) or interface 1 = manifold - valves single side 2 = manifold - valves double side										
<b>00</b>	<b>NUMBER OF POSITIONS</b> 00 = ISO 15218 or Series PD interface 01 = single base (M5 only) 02 ÷ 99 = manifold number of positions										
<b>3</b>	<b>NUMBER OF WAYS - FUNCTIONS</b> 0 = manifolds or single base 9 = 2/2-way - NO A = 2/2-way - NO electric part revolved by 180° 3 = 3/2-way - NC 5 = 3/2-way - NC electric part revolved by 180° 4 = 3/2-way - NO 6 = 3/2-way - NO electric part revolved by 180° B = 3/2-way - NO IN-LINE* C = 3/2-way - NO IN-LINE* electric part revolved by 180° 7 = 3/2-way - UNI 8 = 3/2-way - UNI electric part revolved by 180°										
<b>0</b>	<b>VALVE PORTS</b> 0 = ISO 15218 interface - 3/2-way B = series PD interface - 2/2-way  <b>MANIFOLD PORTS for P - PL - PN - W Series</b> 2 = M5 thread - front outlets 3 = tube Ø 3 mm fittings - front outlets 4 = tube Ø 4 mm fittings - front outlets 6 = M5 thread - front outlets 7 = tube Ø 3 mm fittings - bottom outlets 8 = tube Ø 4 mm fittings - bottom outlets										
<b>3</b>	<b>ORIFICE DIAMETER</b> B = Ø 0.8 mm 1 = Ø 1.1 mm 3 = Ø 1.5 mm (NC version with pressure 4 ÷ 8 bar only) 5 = Ø 1.5 mm 6 = Ø 1.5 mm (NC version with pressure 0 ÷ 3.5 bar only) 7 = Ø 1.6 mm										
<b>PL</b>	<b>MATERIALS</b> PL = PBT body - FKM poppet seal - NBR other seals PF = PBT body - FKM seals SF = PPS body - FKM seals ST = PPS body - Low Temperature NBR seals (on demand) BF = nickel-planted brass body - FKM seals										
<b>2</b>	<b>ELECTRICAL CONNECTION</b> 2 = industrial standard connection (9.4 mm)										
<b>3</b>	<b>VOLTAGE - POWER CONSUMPTION - OVERMOULDING MATERIAL</b> 4 = 6 V DC - 1.2 W - PA 5 = 12 V DC - 1.2 W - PA 6 = 24 V DC - 1.2 W - PA 1 = 6 V DC - 2.7 W - PA 2 = 12 V DC - 2.7 W - PA 3 = 24 V DC - 2.7 W - PA  7 = 6 V DC - 1.2 W - PPS 8 = 12 V DC - 1.2 W - PPS 9 = 24 V DC - 1.2 W - PPS A = 6 V DC - 2.2 W - PPS B = 12 V DC - 2.2 W - PPS C = 24 V DC - 2.2 W - PPS H = 110 V DC - 3 W - PPS (3 pins)										
	<b>FIXING</b> = fixing screws for metal P = fixing screws for plastics										
	<b>MANUAL OVERRIDE</b> = not required or not applicable T = mono/bistable (push/turn type)										
	<b>OPTIONS</b> = standard OX1 = for use with oxygen (non volatile residual less than 550 mg/m <sup>2</sup> )										

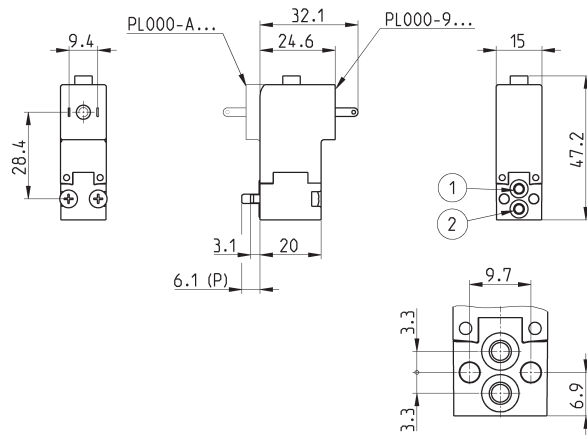
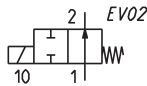
\* 3/2 NO IN LINE version: port position 1 - 2 - 3 are identical to port positions of 3/2 NC versions

## Series PL solenoid valve - 2/2-way NO - series PD interface



Supplied with:  
 2x O-Rings  
 2x M3x20 screws for mounting on metal  
 or  
 2x Ø3x23 screws for mounting on plastic  
 (opt. P)

\* add  
 - VOLTAGE  
 - FIXING  
 (see CODING EXAMPLE)



Mod.	Function	Orifice Ø (mm)	kv (l/min)	Min+max pressure (bar)	Body material	Seals material	Manual override	Power (W)
PL000-9B7-PF2*	2/2 NO	1.6	0.62	0 ÷ 6.5	PBT	FKM	no	2.7
PL000-9B7-BF2*	2/2 NO	1.6	0.62	0 ÷ 6.5	brass	FKM	no	2.7

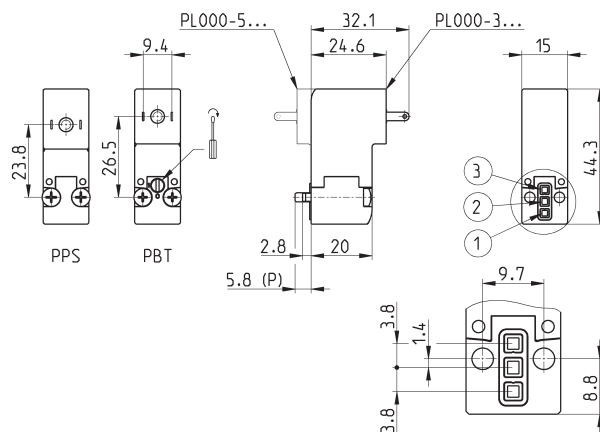
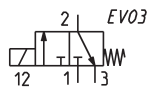
## Series PL solenoid valve - 3/2-way NC



Supplied with:  
 1x interface seal  
 2x M3x20 screws for mounting on metal  
 or  
 2x Ø3x23 screws for mounting on plastic  
 (opt. P)

Also available ST models for  
 T amb. -50 ÷ 50 °C with NBR seals.

\* add  
 - VOLTAGE  
 - FIXING  
 (see CODING EXAMPLE)



Mod.	Function	Orifice Ø (mm)	kv (l/min)	Min+max pressure (bar)	Body material	Seals material	Manual override	Power (W)
PL000-30B-PF2*	3/2 NC	0.8	0.30	0 ÷ 10	PBT	FKM	no	1.2
PL000-30B-PF2* <sup>T</sup>	3/2 NC	0.8	0.30	0 ÷ 10	PBT	FKM	mono/bistable	1.2
PL000-30B-SF2*	3/2 NC	0.8	0.30	0 ÷ 10	PPS	FKM	no	1.2
PL000-301-PF2*	3/2 NC	1.1	0.34	0 ÷ 7	PBT	FKM	no	2.7
PL000-301-PF2* <sup>T</sup>	3/2 NC	1.1	0.34	0 ÷ 7	PBT	FKM	mono/bistable	2.7
PL000-301-SF2*	3/2 NC	1.1	0.34	0 ÷ 8	PPS	FKM	no	2.2
PL000-303-PL2*	3/2 NC	1.5	0.47	4 ÷ 8	PBT	FKM+NBR	no	2.7
PL000-303-PF2* <sup>T</sup>	3/2 NC	1.5	0.47	4 ÷ 8	PBT	FKM	mono/bistable	2.7
PL000-306-PL2*	3/2 NC	1.5	0.47	0 ÷ 3.5	PBT	FKM+NBR	no	2.7
PL000-306-PF2* <sup>T</sup>	3/2 NC	1.5	0.47	0 ÷ 3.5	PBT	FKM	mono/bistable	2.7

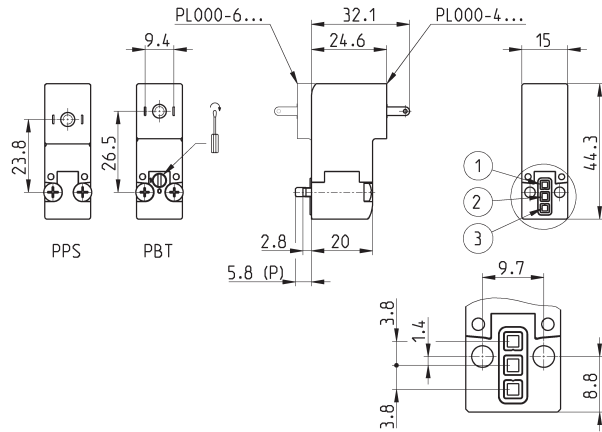
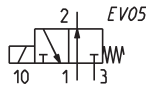
### Series PL solenoid valve - 3/2-way NO



Supplied with:  
1x interface seal  
2x M3x20 screws for mounting on metal  
or  
2x Ø3x23 screws for mounting on plastic  
(opt. P)

Also available ST models for  
T amb. -50 ÷ 50 °C with NBR seals.

\* add  
- VOLTAGE  
- FIXING  
(see CODING EXAMPLE)



Mod.	Function	Orifice Ø (mm)	kv (l/min)	Min+max pressure (bar)	Body material	Seals material	Manual override	Power (W)
PL000-40B-PF2*	3/2 NO	0.8	0.30	0 ÷ 10	PBT	FKM	no	2.7
PL000-40B-PF2*T	3/2 NO	0.8	0.30	0 ÷ 10	PBT	FKM	mono/bistable	2.7
PL000-40B-SF2*	3/2 NO	0.8	0.30	0 ÷ 10	PPS	FKM	no	2.2
PL000-401-PF2*	3/2 NO	1.1	0.34	0 ÷ 7	PBT	FKM	no	2.7
PL000-401-PF2*T	3/2 NO	1.1	0.34	0 ÷ 7	PBT	FKM	mono/bistable	2.7
PL000-401-SF2*	3/2 NO	1.1	0.34	0 ÷ 7	PPS	FKM	no	2.2
PL000-405-PF2*	3/2 NO	1.5	0.42	0 ÷ 6.5	PBT	FKM	no	2.7
PL000-405-PF2*T	3/2 NO	1.5	0.42	0 ÷ 6.5	PBT	FKM	mono/bistable	2.7
PL000-405-SF2*	3/2 NO	1.5	0.42	0 ÷ 6.5	PPS	FKM	no	2.2

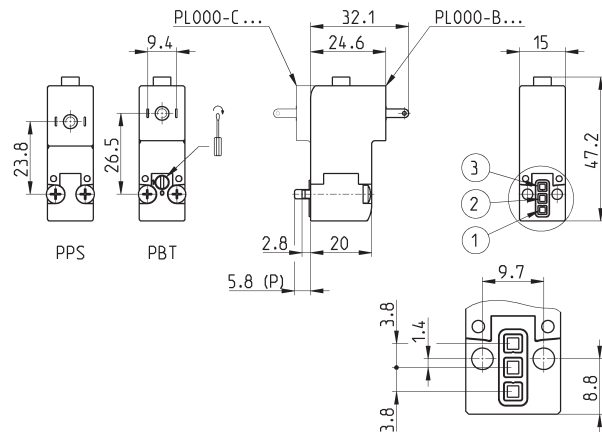
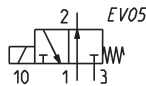
### Series PL solenoid valve - 3/2-way NO IN-LINE



Supplied with:  
1x interface seal  
2x M3x20 screws for mounting on metal  
or  
2x Ø3x23 screws for mounting on plastic  
(opt. P)

Also available ST models for  
T amb. -50 ÷ 50 °C with NBR seals.

\* add  
- VOLTAGE  
- FIXING  
(see CODING EXAMPLE)



Mod.	Function	Orifice Ø (mm)	kv (l/min)	Min+max pressure (bar)	Body material	Seals material	Manual override	Power (W)
PL000-B01-PF2*	3/2 NO IN-LINE	1.1	0.34	0 ÷ 7	PBT	FKM	no	2.7
PL000-B01-SF2*	3/2 NO IN-LINE	1.1	0.34	0 ÷ 7	PPS	FKM	no	2.2

## Series PL solenoid valve - 3/2-way UNI

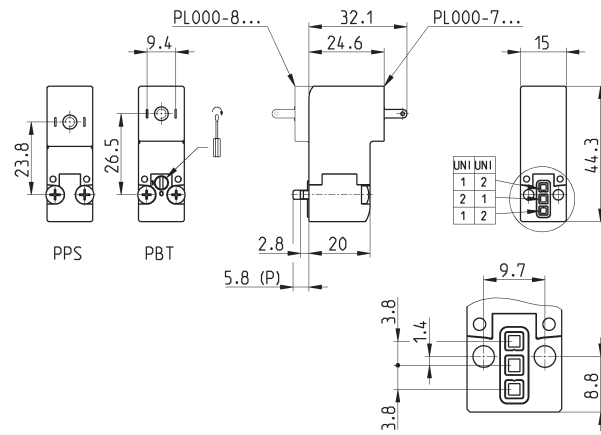
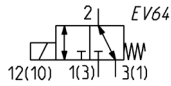


Supplied with:  
 1x interface seal  
 2x M3x20 screws for mounting on metal  
 or  
 2x Ø3x23 screws for mounting on plastic  
 (opt. P)

Also available models for T amb.  
 -50 ÷ 50 °C with NBR seals

Vacuum operation with max. pressure  
 reduction

\* add  
 - VOLTAGE  
 - FIXING  
 (see CODING EXAMPLE)



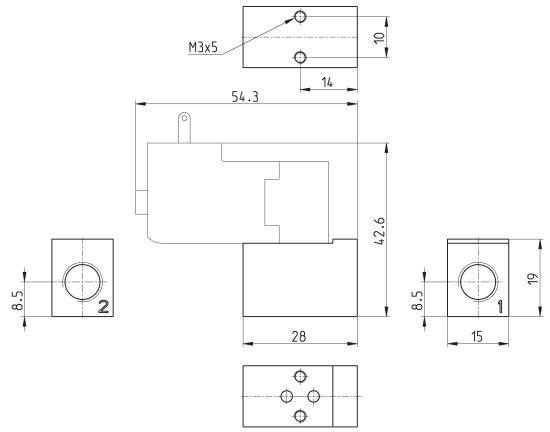
Mod.	Function	Orifice Ø (mm)	kv (l/min)	Min÷max pressure (bar)	Body material	Seals material	Manual override	Power (W)
PL000-705-PF2*	3/2 UNI	1.5	0.42	0 ÷ 3.5 [-1 ÷ 2.5]	PBT	FKM	no	2.7
PL000-705-PF2*T	3/2 UNI	1.5	0.42	0 ÷ 3.5 [-1 ÷ 2.5]	PBT	FKM	mono/bistable	2.7
PL000-705-SF2*	3/2 UNI	1.5	0.42	0 ÷ 3.5 [-1 ÷ 2.5]	PPS	FKM	no	2.2

### Single sub-base for 15mm size 2 way interface



Single sub-base suitable for 2-way solenoid valves Series PD and PL models PD000-2A..., PL000-9B...  
Use solenoid valves with fixing screws for metal (see codification page)

Material: anodized aluminium  
Connections: G1/8 threads



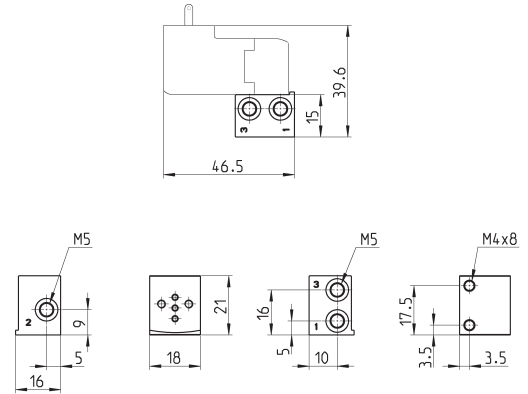
Mod.  
**PDA01-1/8**

### Single sub-base for 3-way solenoid valve size 15 mm



Single sub-base suitable for Series P - PL - PN - W 3-way solenoid valve  
Use solenoid valves with screws for mounting on metal (see coding)

Material: anodized aluminium  
Connections: M5 threads



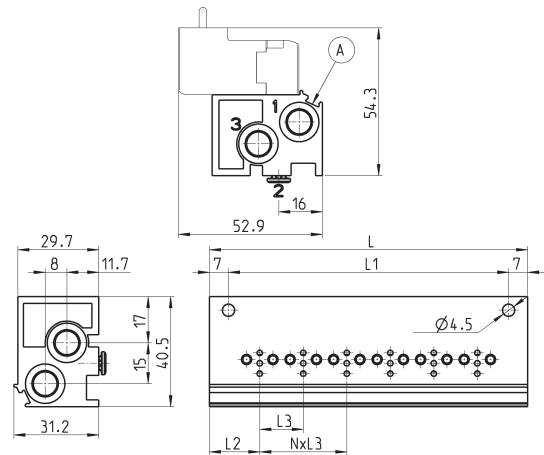
Mod.  
**P001-02**

### Single manifold with rear outlets



Manifold suitable for Series P - PL - PN - W 3-way solenoid valve  
Use solenoid valves with screws for mounting on metal (see coding)

Material: anodized aluminium



DIMENSIONS							
Mod.	Positions	L	L1	L2	L3	1 (P)	3 (R)
P102-0*	2	53	39	18,5	16	G1/8	G1/8
P103-0*	3	69	55	18,5	16	G1/8	G1/8
P104-0*	4	85	71	18,5	16	G1/8	G1/8
P105-0*	5	101	87	18,5	16	G1/8	G1/8
P106-0*	6	117	103	18,5	16	G1/8	G1/8

\* add  
- MANIFOLD PORTS  
(see CODING EXAMPLE)

A = groove for identification label

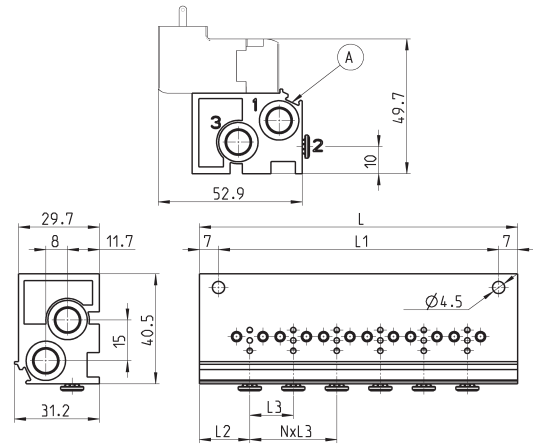
### Manifold - single side valve - frontal outlets



Manifold suitable for Series P - PL - PN - W  
3-way solenoid valve  
Use solenoid valves with screws for mounting on metal (see coding)

Can be fixed through DIN 46277/3 guide with the accessory PCF-E520.

Material: anodized aluminium



DIMENSIONS							
Mod.	Positions	L	L1	L2	L3	1 (P)	3 (R)
P102-0*	2	53	39	18,5	16	G1/8	G1/8
P103-0*	3	69	55	18,5	16	G1/8	G1/8
P104-0*	4	85	71	18,5	16	G1/8	G1/8
P105-0*	5	101	87	18,5	16	G1/8	G1/8
P106-0*	6	117	103	18,5	16	G1/8	G1/8

\* add  
- MANIFOLD PORTS  
(see CODING EXAMPLE)

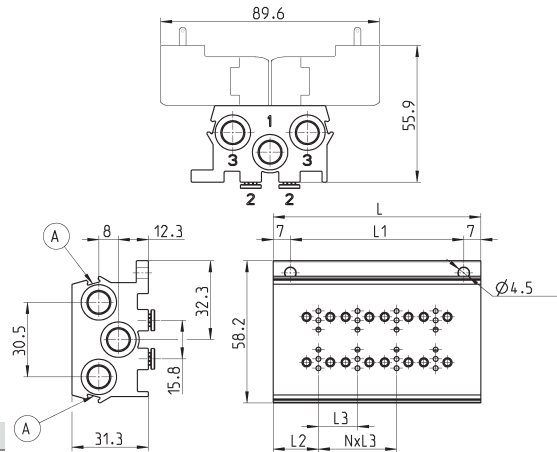
A = groove for identification label

### Manifold - double side valve - bottom outlets



Manifold suitable for Series P - PL - PN - W  
3-way solenoid valve  
Use solenoid valves with screws for mounting on metal (see coding)

Material: anodized aluminium



DIMENSIONS							
Mod.	Positions	L	L1	L2	L3	1 (P)	3 (R)
P204-0*	4	53	39	18,5	16	G1/8	G1/8
P206-0*	6	69	55	18,5	16	G1/8	G1/8
P208-0*	8	85	71	18,5	16	G1/8	G1/8
P210-0*	10	101	87	18,5	16	G1/8	G1/8
P212-0*	12	117	103	18,5	16	G1/8	G1/8

\* add  
- MANIFOLD PORTS  
(see CODING EXAMPLE)

A = groove for identification label

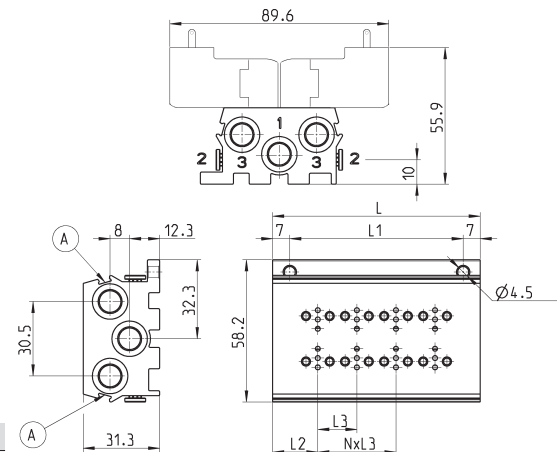
### Manifold - double side valve - frontal outlets



Manifold suitable for Series P - PL - PN - W  
3-way solenoid valve  
Use solenoid valves with screws for mounting on metal (see coding)

Can be fixed through DIN 46277/3 guide with the accessory PCF-E520.

Material: anodized aluminium



DIMENSIONS							
Mod.	Positions	L	L1	L2	L3	1 (P)	3 (R)
P204-0*	4	53	39	18,5	16	G1/8	G1/8
P206-0*	6	69	55	18,5	16	G1/8	G1/8
P208-0*	8	85	71	18,5	16	G1/8	G1/8
P210-0*	10	101	87	18,5	16	G1/8	G1/8
P212-0*	12	117	103	18,5	16	G1/8	G1/8

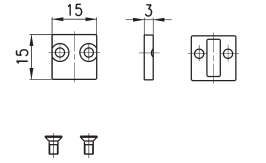
\* add  
- MANIFOLD PORTS  
(see CODING EXAMPLE)

A = groove for identification label

### Position valve cap

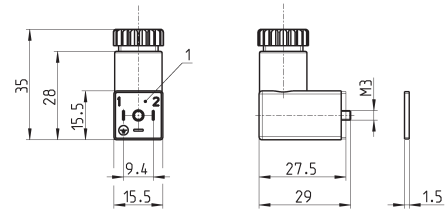


Supplied with:  
1x position valve cap  
1x interface seal  
2x screws



Mod.	P000-TP
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### Connector Mod. 125-... - industrial std. 9.4 mm



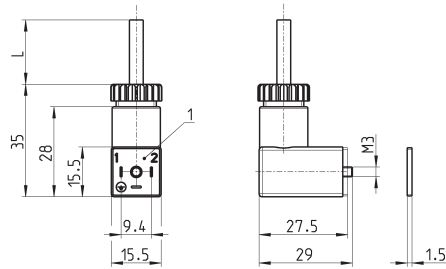
Mod.	description	colour	working voltage	cable gland	tightening torque
125-601	connector, diode + Led	transparent	10/50 V DC	PG7	0.3 Nm
125-701	connector, varistor + Led	transparent	24 V AC/DC	PG7	0.3 Nm
125-800	connector, without electronics	black	-	PG7	0.3 Nm

1 = 90° adjustable connector

### Connector Mod. 125-... - industrial std. 9.4 mm - 90° cable



The internal rectifier circuit of the connector Mod. 125-900 allows to use solenoid valves with different AC voltage, even if the voltage indicated on the solenoid valve is DC.

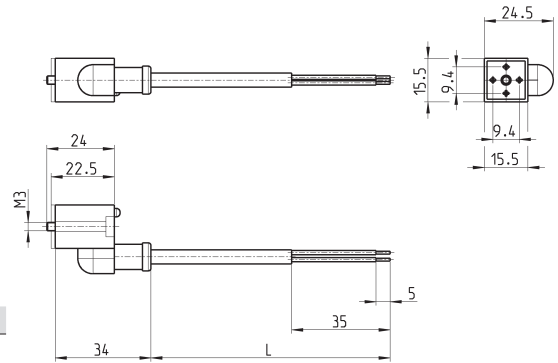


Mod.	description	colour	working voltage	cable length [L]	cable gland	tightening torque
125-501-2	moulded cable with diode + Led	black	10/50 V DC	2000 mm	-	0.3 Nm
125-550-1	moulded cable, without electronics	black	-	1000 mm	-	0.3 Nm
125-601-2	pre-wired cable, diode + Led	transparent	10/50 V DC	2000 mm	PG7	0.3 Nm
125-571-3	moulded cable, varistor + Led	black	24 V AC/DC	3000 mm	-	0.3 Nm
125-900	pre-wired cable with voltage rectifier	black	6 V - 110 V AC/DC	2000 mm	PG7	0.3 Nm

1 = 90° adjustable connector

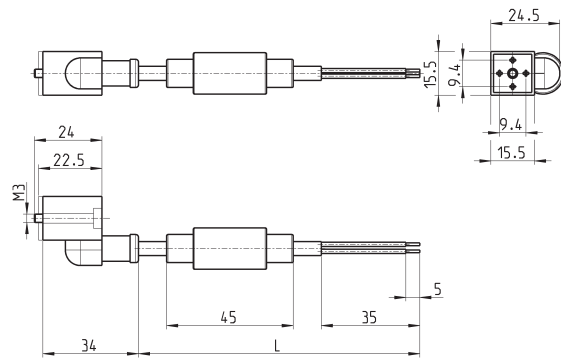


## Connector Mod. 125-... - industrial std. 9.4 mm - in-line cable



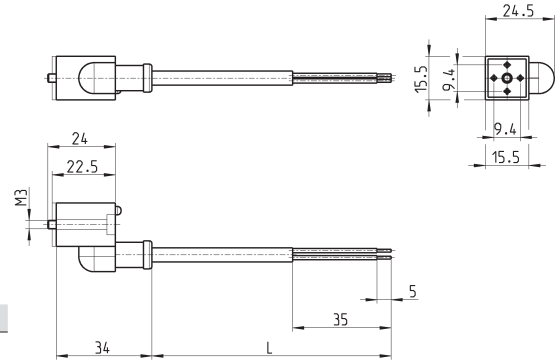
Mod.	description	colour	working voltage	cable length [ L ]	cable gland	tightening torque
125-503-2	in-line moulded cable, with diode + Led	black	24 V DC	2000 mm	-	0.3 Nm
125-503-5	in-line moulded cable, with diode + Led	black	24 V DC	5000 mm	-	0.3 Nm
125-553-2	in-line moulded cable, without electronics	black	-	2000 mm	-	0.3 Nm
125-553-5	in-line moulded cable, without electronics	black	-	5000 mm	-	0.3 Nm

## Conn. Mod. 125-... - ind. std. 9.4 mm - in-line cable+rectifier



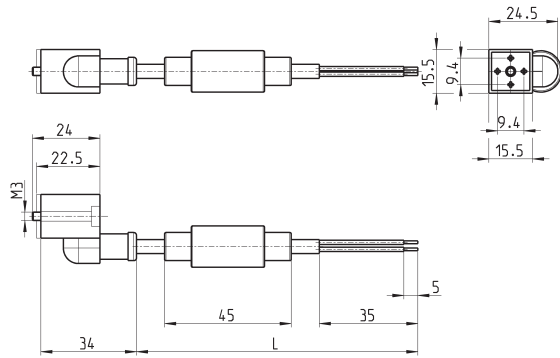
Mod.	description	colour	working voltage	cable length [ L ]	cable gland	tightening torque
125-903-2	in-line moulded cable with voltage rectifier	black	6 V - 230 V AC/DC	2000 mm	-	0.3 Nm
125-903-5	in-line moulded cable with voltage rectifier	black	6 V - 230 V AC/DC	5000 mm	-	0.3 Nm

**Connector Mod. 125-... - industrial std. 9.4 mm - in-line cable**



Mod.	description	colour	working voltage	cable length [ L ]	cable gland	tightening torque
125-503-2	in-line moulded cable, with diode + Led	black	24 V DC	2000 mm	-	0.3 Nm
125-503-5	in-line moulded cable, with diode + Led	black	24 V DC	5000 mm	-	0.3 Nm
125-553-2	in-line moulded cable, without electronics	black	-	2000 mm	-	0.3 Nm
125-553-5	in-line moulded cable, without electronics	black	-	5000 mm	-	0.3 Nm

**Conn. Mod. 125-... - ind. std. 9.4 mm - in-line cable+rectifier**



Mod.	description	colour	working voltage	cable length [ L ]	cable gland	tightening torque
125-903-2	in-line moulded cable with voltage rectifier	black	6 V - 230 V AC/DC	2000 mm	-	0.3 Nm
125-903-5	in-line moulded cable with voltage rectifier	black	6 V - 230 V AC/DC	5000 mm	-	0.3 Nm