

Electrically operated valves

Series MS-18, 3/2-way
G1/8 • 56 NI/min (0.057 Cv)



MS-18-310/n-HN
MSO-18-310/n-HN



MS-18-310-HN
MSO-18-310-HN

Order code

MS-18-310/n-HN-412

Series and function

Number of stations

blank = 1 station
2 = 2 stations
3 = 3 stations
4 = 4 stations
5 = 5 stations
6 = 6 stations

Coil options

Standard coil¹⁾

411 = 12 V DC, 4,2 W
412 = 24 V DC, 4,2 W
422 = 24 V AC, 7/4 VA
426 = 115 V AC, 7/4 VA
427 = 230 V AC, 7/4 VA
431 = 12 V DC, 2,2 W²⁾
432 = 24 V DC, 2,2 W²⁾

Without coil and plug socket

500 = Power consumption 4.2 W, 7/4 VA
530 = Power consumption 2.2 W²⁾

Coils with M12 connector and LED

O12 = 24 V DC, 4.8 W
O32 = 24 V DC, 2.5 W²⁾

¹⁾ Plug socket(s) not included in scope of delivery.
See below for more versions.

Design, function and technical data

Directly operated poppet valve with spring return. Actuated by a permanent electrical signal.

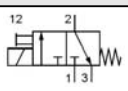
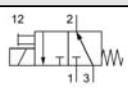
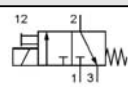
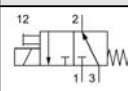
The valves can be changed to a 2/2-way function by closing the exhaust port 3.

For type MSO (Normally open) pressure supply at port 3 (M5 or 10/32 UNF at actuator 23-R-015).


On type MS-18-310/n-HN and MSO-18-310/n-HN, the letter "n" indicates the number of stations. Up to 6 stations are available.

The single valve MS-18-310 is available without a manual override. Please cancel the letters HN from the number when ordering.

Valves of this series are available in explosion proof design in accordance with 94/9/EG (ATEX). For further details see chapter 13 of this catalogue.

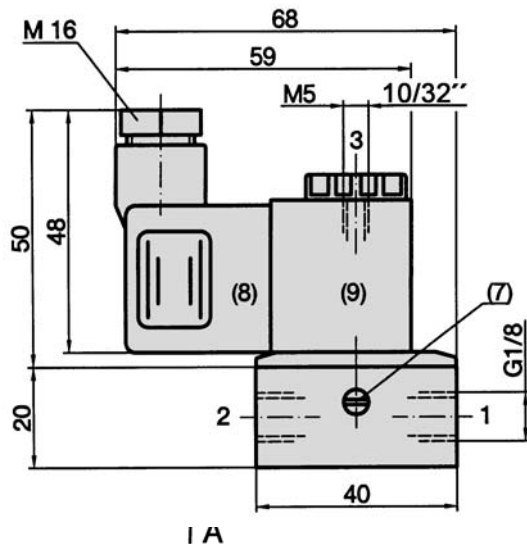
Order number Please complete according to order code.	MS-18-310-HN	MSO-18-310-HN	MS-18-310/n-HN	MSO-18-310/n-HN
Function	 3/2-way, normally closed	 3/2-way, normally open	 3/2-way, normally closed	 3/2-way, normally open
Connection	G1/8 at 1 and 2, M5 (10/32 UNF) at 3			
Nominal size	1.4 mm			
Flow rate	56 NI/min (0.057 Cv)			
Pressure range	- 0.95 ... 10 bar (8 bar at 2.2 W) / - 14 ... 145 psi (116 psi at 2.2 W)			
Response time at 6 bar	on 10 ms off 12 ms			
Temperature range	- 10 °C ... + 70 °C (+ 14 °F ... + 158 °F)			
Materials	Body: Al (anodized), plastic, Seals: NBR, Inner parts: stainless steel and brass			
Medium	Compressed air in accordance with ISO 8573-1:2001, Class 7 4 – and free of aggressive additives			
Degree of protection	IP 65 according to EN 60529			
Weight	0.150 kg (0.33 lb.)		0.150 + 0.140 • n kg (0.33 + 0.31 • n lb.)	

²⁾ max. 8 bar (max. 116 psi) at 2.2 W and 2.5 W.

Accessories Solenoid coils	23-SP-011-...	Standard coil	page 4.280
	23-SP-012-...	Coil with 2,2 W power consumption	page 4.280
	23-SP-011-5-O12	Coil with M12 plug connection, 4,8 W, LED and circuit protection	page 4.282
	23-SP-012-5-O32	Coil with M12 plug connection, 2,5 W, LED and circuit protection	page 4.282
	 Explosion proof	Valves with explosion proof actuator see chapter 13	
Actuators	23-R-013	Standard actuator	
	23-R-014	Low power actuator	
	23-R-015	Actuator for normally open	
Plug sockets	28-ST-01	Standard plug socket	page 4.283
	28-ST-04-...	Plug socket with LED	page 4.283
	28-ST-06-...	Plug socket with LED and circuit protection	page 4.283
	28-ST-06-K3-...	Plug socket with LED, circuit protection and cable	page 4.283

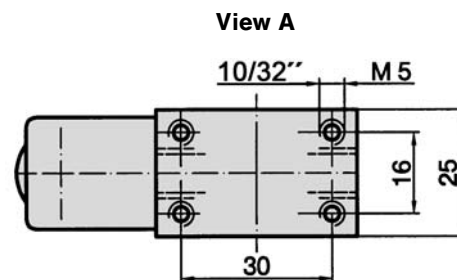
Dimensions

MS-18-310-HN, MSO-18-310-HN



Note:

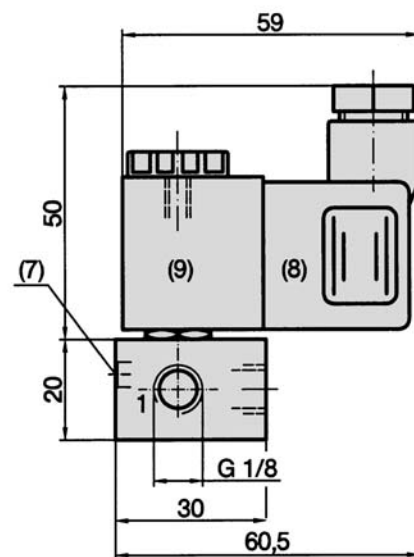
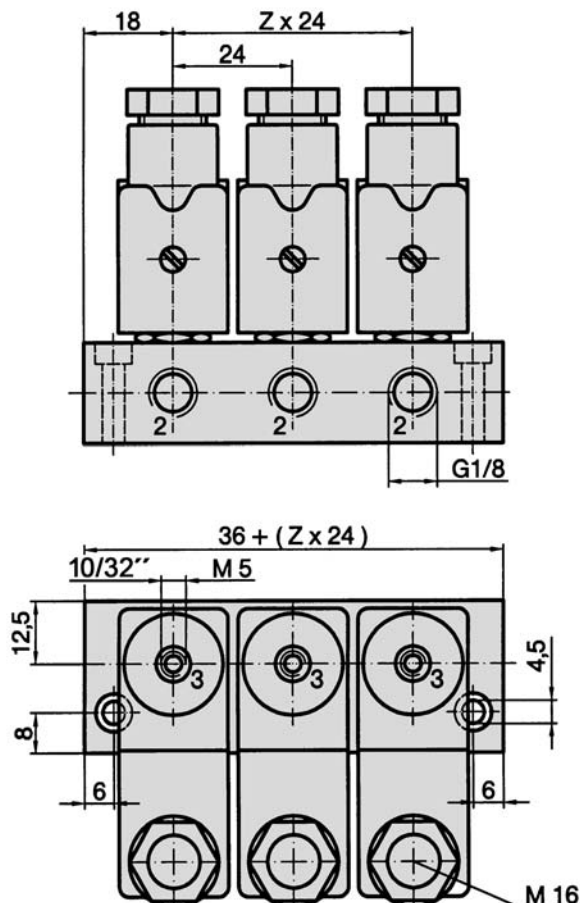
Plug socket(s) not included
in scope of delivery.



- 1 = pressure inlet (exhaust)
2 = outlet
3 = exhaust (pressure inlet)

- (7) = manual override (detent)
(8) = plug socket can be repositioned by 180°
(9) = solenoid coil can be repositioned by 4 x 90°

MS-18-310/n-HN, MSO-18-310/n-HN



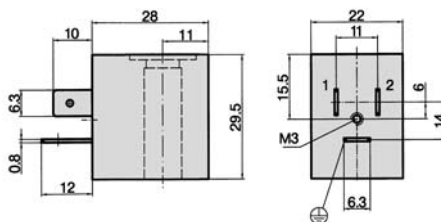
Note:

Plug socket(s) not included
in scope of delivery.

- 1 = pressure inlet (exhaust)
- 2 = outlet
- 3 = exhaust (pressure inlet)
- Z = n -1
- (7) = manual override (detent)
- (8) = plug socket can be repositioned by 180°
- (9) = solenoid coil can be repositioned by 180°

Accessories for electrically operated valves

Solenoid coils



Solenoid coils with connection pattern pursuant to DIN EN 175301-803 Shape B

Order number	23-SP-011-411	23-SP-011-412	23-SP-011-422	23-SP-011-426	23-SP-011-427	23-SP-012-431	23-SP-012-432
Standard voltage	12 V DC	24 V DC	24 V AC	115 V AC	230 V AC	12 V DC	24 V DC
Power consumption DC	4.2 W	4.2 W				2.2 W	2.2 W
Power consumption 50 Hz			4 VA	4 VA	4 VA		
Degree of protection	IP 65 according to EN 60529 with connected plug socket						
Duty cycle	100 %						
Temperature range	- 20 °C ... + 50 °C						
Voltage tolerance	± 10 %						
Standard for series	MS-18, M-04, M-05, M-07, M-22, KM-09, KM-10, MF-05, MF-07, MN-06, KN-05, MI-01, MI-02, MI-03						

Other voltages on request.

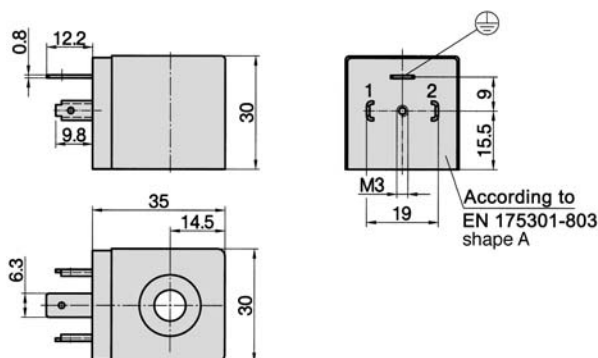
Solenoid coils with connection pattern pursuant to DIN EN 175301-803 Shape B

(with enhanced humidity resistance)

Order number	23-SP-011-1-711	23-SP-011-1-712	23-SP-011-1-712	23-SP-011-1-722	23-SP-011-1-725	23-SP-011-1-727	23-SP-012-1-732
Standard voltage	12 V DC	24 V DC	48 V AC	24 V AC	110 V AC	230 V AC	24 V DC
Power consumption DC	4.6 W	4.8 W					2.5 W
Power consumption 50 Hz			7.7 VA	8.9 VA	8.5 VA	7.9 VA	
Degree of protection	IP 65 according to EN 60529 with connected plug socket *1						
Duty cycle	100 %						
Temperature range	- 20 °C ... + 50 °C						
Voltage tolerance	± 10 %						
Standard for series	KMX-09, KMX-10, ICK-09, ICK-10, KN-55, KNX-55, ICKN-55						

*1: IP67 pursuant to EN 60529 with plug socket and sealing set 20-SP-011/012-02

Solenoid coils with connection pattern pursuant to DIN EN 175301-803 Shape A



Order number	23-SP-016-712	23-SP-016-726	23-SP-016-726	23-SP-016-727	23-SP-016-727
Standard voltage	24 V DC	110 V AC	115 V AC	230 V AC	110 V DC
Power consumption DC	4.5 W	-	-	-	5.3 W
Power consumption 50 Hz	-	7.6 VA	8.6 VA	7.9 VA	-
Degree of protection	IP 65 according to EN 60529 with connected plug socket				
Duty cycle	100 %				
Temperature range	- 20 °C ... + 50 °C				
Voltage tolerance	± 10 %				
Standard for series	MC-07				

Accessories for electrically operated valves

Solenoid coils



Solenoid coils with connection pattern pursuant to DIN EN 175301-803 Shape B (cranked contacts)



Order number	23-SP-011-G-412	23-SP-011-G-427
Standard voltage	24 V DC	230 V AC
Power consumption DC	4.2 W	
Power consumption 50 Hz		4 VA
Degree of protection	IP 65 according to EN 60529 with connected plug socket	
Duty cycle	100 %	
Temperature range	- 20 °C ... + 50 °C	
Voltage tolerance	± 10 %	

Solenoid coils with connection pattern pursuant to DIN EN 175301-803 Shape C

Degree of protection	IP 65 according to EN 60529 with connected plug socket
Duty cycle	100 %
Temperature range	- 20 °C ... + 50 °C
Voltage tolerance	± 10 %
Standard for series	BM-01, BM-02



Order number	23-M-09-19-461-T	23-M-09-19-462-T	23-M-09-19-452-T	23-M-09-19-456-T	23-M-09-19-457-T
Standard voltage	12 V DC	24 V DC	24 V AC	115 V AC	230 V AC
Power consumption	1 W	1 W	3 VA	3 VA	3 VA
Manual override	non detented				
Position of manual override	Side of the contacts				

Order number	23-M-09-19-461-R	23-M-09-19-462-R	23-M-09-19-452-R	23-M-09-19-456-R	23-M-09-19-457-R
Standard voltage	12 V DC	24 V DC	24 V AC	115 V AC	230 V AC
Power consumption	1 W	1 W	3 VA	3 VA	3 VA
Manual override	detented				
Position of manual override	Side of the contacts				



Order number	23-M-09-19-431-T	23-M-09-19-432-T	23-M-09-19-422-T	23-M-09-19-426-T	23-M-09-19-427-T
Standard voltage	12 V DC	24 V DC	24 V AC	115 V AC	230 V AC
Power consumption	1 W	1 W	3 VA	3 VA	3 VA
Manual override	non detented				
Position of manual override	Opposite the contacts				

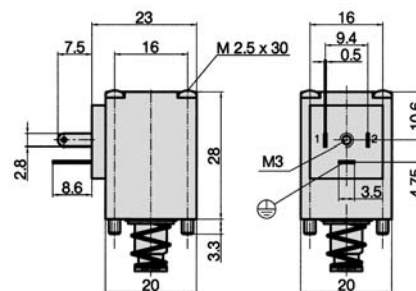
Order number	23-M-09-19-431-R	23-M-09-19-432-R	23-M-09-19-422-R	23-M-09-19-426-R	23-M-09-19-427-R
Standard voltage	12 V DC	24 V DC	24 V AC	115 V AC	230 V AC
Power consumption	1 W	1 W	3 VA	3 VA	3 VA
Manual override	detented				
Position of manual override	Opposite the contacts				

Accessories for electrically operated valves

Solenoid coils and plug sockets

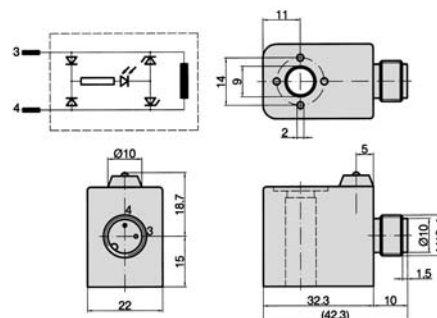


Solenoid coils with connection pattern pursuant to DIN EN 175301-803 Shape C



Order number	23-M-20-411	23-M-20-412
Standard voltage	12 V DC	24 V DC
Power consumption	2 W	2 W
Degree of protection	IP 65 according to EN 60529 with connected plug socket	
Duty cycle	100 %	
Temperature range	- 20 °C ... + 50 °C	
Voltage tolerance	± 10 %	
Standard for series	MS-20, MF-04	

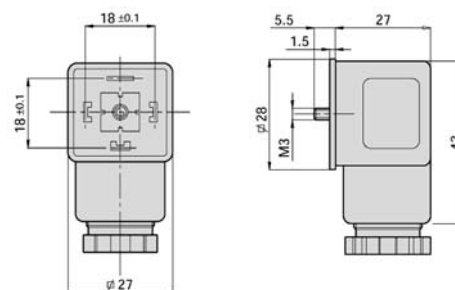
Solenoid coils with M12 connection, with LED and protective circuit.



Order number	23-SP-011-5-O12	23-SP-012-5-O32
Standard voltage	24 V DC	24 V DC
Power consumption	4.8 W	2.5 W
Degree of protection	IP 65 according to EN 60529 with connected cable	
Duty cycle	100 %	
Temperature range	- 20 °C ... + 50 °C	
Voltage tolerance	± 10 %	

Plug sockets pursuant to DIN EN 175301-803 Shape A

(2pol. + PE, 27 x 27 mm, Contact distance 18 mm)



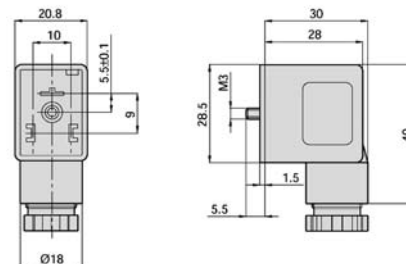
Order number	28-ST-03	28-ST-11-112
Standard voltage	all	24 V DC
Protective circuit	no	yes
Status indicator	without	yes
Degree of protection	IP 65 pursuant to EN 60529 requires a flat gasket	
Connecting cable	without	
Ø Connecting cable	6 – 8 mm	
Max. wire cross section	1,5 mm²	
for coil	23-SP-016	

Accessories for electrically operated valves

Plug socket for coil

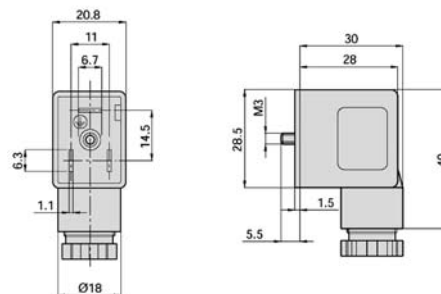


Plug sockets pursuant to DIN EN 175301-803 Shape B with cranked contacts (2pol. + PE, 21 x 28 mm, Contact distance 10 mm)



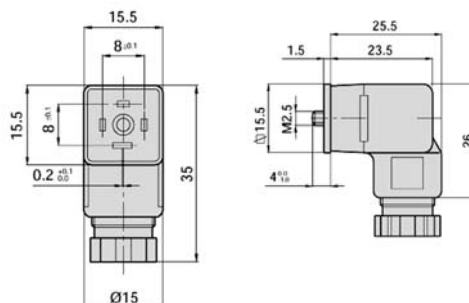
Order number	28-ST-01-G
Standard voltage	all
Protective circuit	no
Status indicator	without
Degree of protection	IP 65 pursuant to EN 60529 requires a flat gasket
Connecting cable	without
Ø Connecting cable	6 – 8 mm
Max. wire cross section	1,5 mm ²
for coil	23-SP-011-G

Plug sockets pursuant to DIN EN 175301-803 Shape B (2pol. + PE, 21 x 28 mm, Contact distance 11 mm)



Order number	28-ST-01	28-ST-04-112	28-ST-04-127	28-ST-06-112	28-ST-06-127	28-ST-06-K3-112	28-ST-06-K3-127
Standard voltage	all	24 V DC	230 V AC	24 V DC	230 V AC	24 V DC	230 V AC
Protective circuit	no	no	no	yes	yes	yes	yes
Status indicator	without	yes	yes	yes	yes	yes	yes
Degree of protection	IP 65 pursuant to EN 60529 requires a flat gasket						
Connecting cable	without					3 m	3m
Ø Connecting cable	6 – 8 mm					–	–
Max. wire cross section	1,5 mm ²					–	–
for coil	23-SP-011, 23-SP-011-1						

Plug sockets pursuant to DIN EN 175301-803 Shape C (2pol. + PE, 15,5 x 15,5 mm, Contact distance 8 mm)



Order number	28-ST-02-1	28-ST-09-1-112	28-ST-09-1-127	28-ST-10-1-112	28-ST-10-1-127	28-ST-10-1-K3-112
Standard voltage	all	24 V DC	230 V AC	24 V DC	230 V AC	24 V DC
Protective circuit	no	no	no	yes	yes	yes
Status indicator	without	yes	yes	yes	yes	yes
Degree of protection	IP 65 pursuant to EN 60529 requires a flat gasket					
Connecting cable	without					3 m
max. Ø Connecting cable	6,5 mm					–
Max. wire cross section	0,75 mm ²					–
for coil	23-M-09-19					

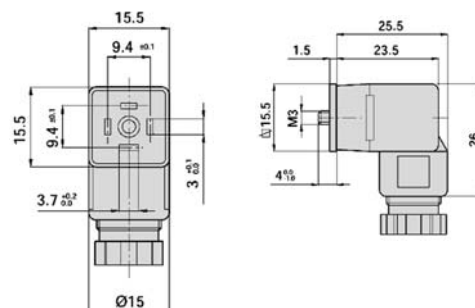
Accessories for electrically operated valves

Plug socket for coil



Plug sockets pursuant to DIN EN 175301-803 Shape C

(2pol. + PE, 15,5 x 15,5 mm, Contact distance 9,4 mm)

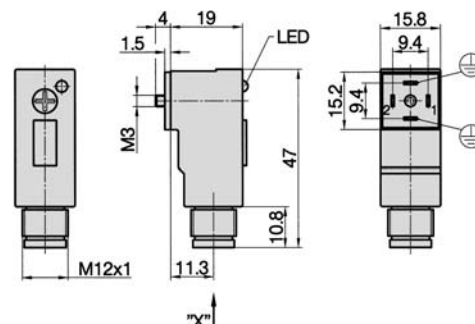
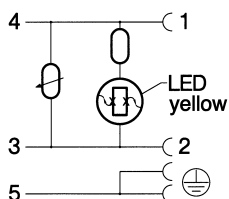


Order number	28-ST-02-01	28-ST-09-112	28-ST-09-127	28-ST-10-112	28-ST-10-127	28-ST-10-K3-112	28-ST-10-K3-127
Standard voltage	all	24 V DC	230 V AC	24 V DC	230 V AC	24 V DC	230 V AC
Protective circuit	no	no	no	yes	yes	yes	yes
Status indicator	without	yes	yes	yes	yes	yes	yes
Degree of protection	IP 65 pursuant to EN 60529 requires a flat gasket						
Connecting cable	without					3 m	3m
max. Ø Connecting cable	6,5 mm					—	—
Max. wire cross section	0,75 mm ²					—	—
for coil	23-M-20						

Plug sockets with integrated adaptor for M8/M12

(2pol. + PE, 15,2 x 15,8 mm, Contact distance 8 bzw. 9,4 mm)

Plug socket 28-ST-02-2-07

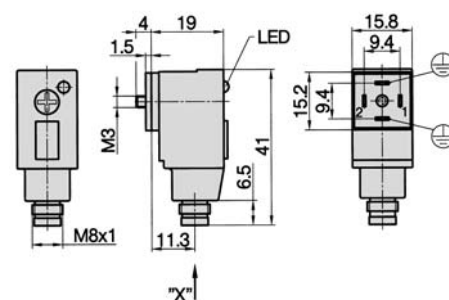
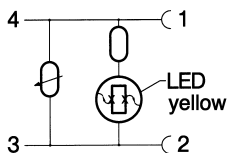


View „X“



1 = not connected
2 = not connected
3 = 0 Volt (-)
4 = +24 Volt (+)
5 = ⊕

Plug socket 28-ST-02-2-05



View „X“



1 = not connected
3 = 0 Volt (-)
4 = +24 Volt (+)

Order number	28-ST-02-1-05	28-ST-02-2-05	28-ST-02-2-07
Standard voltage	24 V DC		
Protective circuit	yes		
Status indicator	yes		
Degree of protection	IP 65 pursuant to EN 60529 requires a flat gasket		
Contact distance	8 mm	9,4 mm	9,4 mm
for plug sockets	M8	M8	M12
for coil	23-M-09-19	23-M-20	