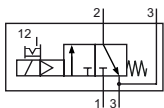


**Technical details**

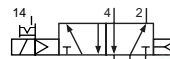
<b>Connection</b>	G1/2, Namur
<b>Nominal size</b>	14 mm
<b>Temperature range</b>	-10°C ... +70°C
<b>Medium</b>	Filtered, oil-free and dried compressed air according to ISO 8573-1:2010, Class 7:2:4, instrument air, free of aggressive additives. Differing the pressure dew point must be at least 10°C below lowest occurring ambient temperature.
<b>Materials</b>	Body: Al (anodized), plastic, seals: NBR and POM, inner parts: Al, steel rostfrei and brass
<b>Protection</b>	IP 65 according to EN 60529



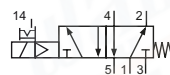
Electrically operated pool valve. The manual override is detent and is operated by screw driver. The location pin, screws and seals are included.

**3/2-Wege-Ventile**


MN-22-311-HN-xxx  
 3/2-way, single solenoid, mechanical spring return, NC

**5/2- way-valves**


MN-22-510-HN-xxx  
 5/2-way, single solenoid, air spring return



MN-22-511-HN-xxx  
 5/2-way, single solenoid, mechanical spring return

Please complete: xxx = electrical option

**Electrical options**

Nominal voltage	Power consumption	Specifics	Plug connection*1	-xxx
12 V DC	4.2 W		Form B industrial norm	-411
12 V DC	2.2 W	max. 8 bar	Form B industrial norm	-431
24 V DC	4.2 W		Form B industrial norm	-412
24 V DC	4.2 W		M 12	-012
24 V DC	2.2 W	max. 8 bar	Form B industrial norm	-432
24 V DC	2.5 W	max. 8 bar	M 12	-032
24 V AC	7/4 VA		Form B industrial norm	-422
115 V AC	7/4 VA		Form B industrial norm	-426
230 V AC	7/4 VA		Form B industrial norm	-427

\*1 Plug socket not included, suitable plug sockets see page 3.

## Series MN-22

### NAMUR

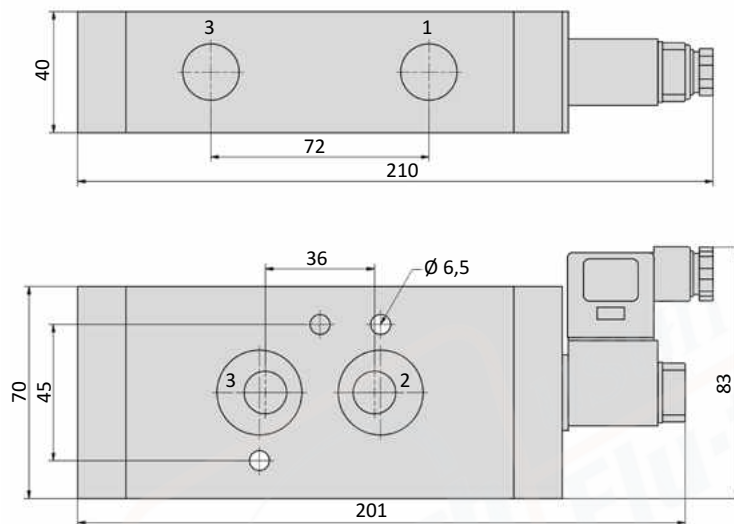
#### Technical data

Model-no.:	MN-22-311	MN-22-510	MN-22-511
Operating pressure* (bar)	3 ... 10	1 ... 10	3 ... 10
Pilot pressure* (bar)	3 ... 10	1 ... 10	3 ... 10
Flow rate (NI/min)	3300	3300	3300
Response time (ms) at 6 bar	on: 28 off: 68	on: 30 off: 59	on: 20 off: 80
Weight (kg)	1.10	1.10	1.10

\* max. 8 bar at 2.2 W and 2.5 W

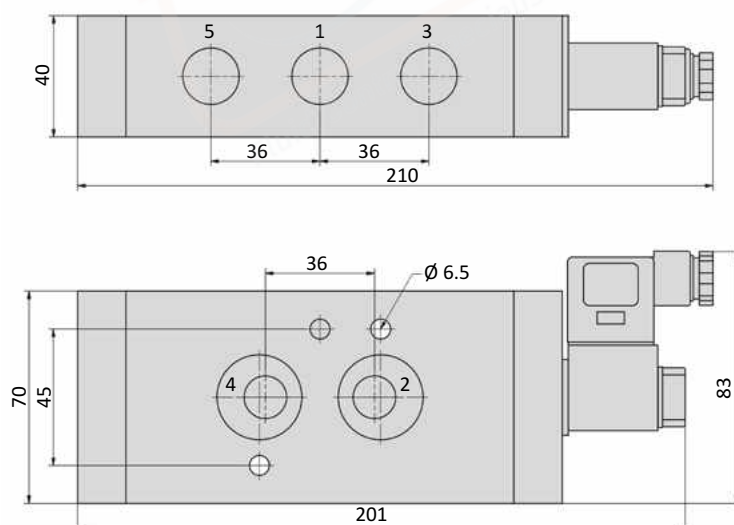
#### Dimensions

##### MN-22-31x-HN



- 1 = pressure inlet  
2 = outlet  
3 = exhaust
- Plug socket (not included in scope of delivery) can be repositioned by 180°.  
Solenoid coil can be repositioned by 4 x 90°.

##### MN-22-51x-HN



- 1 = pressure inlet  
2,4 = outlets  
3,5 = exhausts
- Plug socket (not included in scope of delivery) can be repositioned by 180°.  
Solenoid coil can be repositioned by 4 x 90°.

**Form B according to DIN EN 175301-803**

Overall width	22 mm
Contact distance	10 mm
Contacts	2P + E
Protection	IP 65 according to EN 60529 requires a flat gasket
For use with series	



Model-no.:	28-ST-01-G
Voltage (AC/DC)	0 - 250 V
Status indicator	no
Protective circuit	no
Connecting cable	without
Wire cross section	max. 1.5 mm <sup>2</sup>
Ø Connecting cable	6 - 8 mm

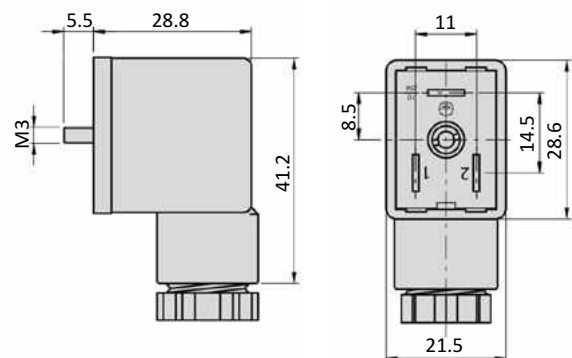
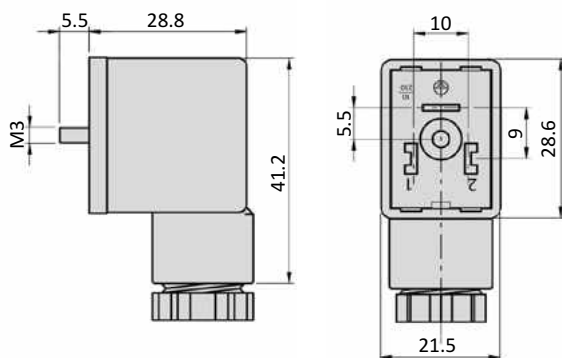
**Form B industrial norm**

Overall width	22 mm
Contact distance	11 mm
Contacts	2P + E
Protection	IP 65 according to EN 60529 requires a flat gasket
For use with series	M-04, M-05, M-07, M-22, KM-09, KM-10, MS-18, KN-05, MN-06, MI-01, MI-02, MI-03



Model-no.:	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*
Voltage (AC/DC)	0 - 250 V	10 - 50 V	70 - 250 V	24 V	230 V	24 V	230 V
Status indicator	no	yes	yes	yes	yes	yes	yes
Protective circuit	no	no	no	yes (varistor)	yes (varistor)	yes (varistor)	yes (varistor)
Connecting cable	without	without	without	without	without	3 m	3 m
Wire cross section	max. 1.5 mm <sup>2</sup>	max. 1.5 mm <sup>2</sup>	max. 1.5 mm <sup>2</sup>	max. 1.5 mm <sup>2</sup>	max. 1.5 mm <sup>2</sup>	3 x 0.75 mm <sup>2</sup>	3 x 0.75 mm <sup>2</sup>
Ø Connecting cable	6 - 8 mm	6 - 8 mm	6 - 8 mm	6 - 8 mm	6 - 8 mm		

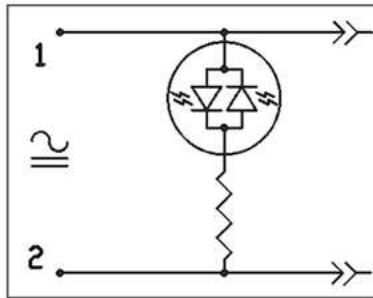
\* These plug sockets are fitted with integrated flat gaskets.

**Dimensions**
**Form B according to DIN EN 175301-803**
**Form B industrial norm**


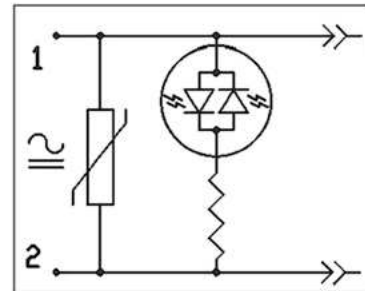
## Plug sockets

### Electrically circuits

#### Status indicator (LED)



#### Status indicator (LED) and protective circuit (varistor)



## Form B according to DIN EN 175301-803

Overall width	22 mm
Contact distance	10 mm
Contacts	2P + E
Protection	IP 65 according to EN 60529 with connected plug socket
Duty cycle	100 %
Temperature range*	-40°C ... +50°C
Voltage tolerance	± 10 %
For use with series	no standard



\* The max. applicable operating temperature depends on the temperature specification of the used valve.

Model-no.:	23-SP-011-G-412	23-SP-011-G-427
Voltage	24 V DC	230 V AC
Power consumption DC	4.2 W	-
Power consumption AC	-	5 VA

## Form B industrial norm

Overall width	22 mm
Contact distance	11 mm
Contacts	2P + E
Protection	IP 65 according to EN 60529 with connected plug socket
Duty cycle	100 %
Voltage tolerance	± 10 %
For use with series	M-04, M-05, M-07, M-22, KM-09, KM-10, MS-18, KN-05, MN-06, MI-01, MI-02, MI-03



Model-no.:	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
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 AC	-	-	5 VA	5 VA	5 VA	-	-
Temperature range*	-40°C...+50°C	-40°C...+50°C	-40°C...+50°C	-40°C...+50°C	-40°C...+50°C	-40°C...+50°C	-40°C...+50°C

Model-no.:	23-SP-011-1-711	23-SP-011-1-712	23-SP-011-1-725	23-SP-011-1-727	23-SP-012-1-732
Voltage	12 V DC	24 V DC	110/115 V AC	230 V AC	24 V DC
Power consumption DC	4.2 W	4.2 W	-	-	3 W
Power consumption AC	-	-	6.0 VA/ 7.6 VA	7.9 VA	-
Temperature range*	-50°C...+80°C	-50°C...+80°C	-20°C...+50°C	-20°C...+50°C	-50°C...+80°C
Specifics	enhanced humidity resistance				

\* The max. applicable operating temperature depends on the temperature specification of the used valve.

# Solenoid coils

## M12 connection

Overall width	22 mm
Contact distance	-
Contacts	2P
Protection	IP 65 according to EN 60529 with connected plug socket
Duty cycle	100 %
Temperature range*	-20°C ... +50°C
Voltage tolerance	± 10 %
For use with series	

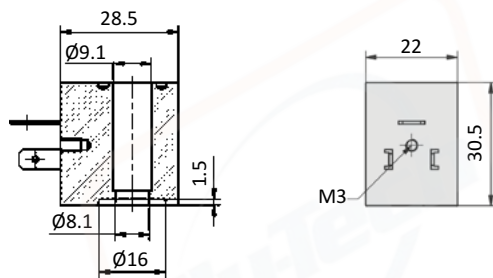


\* The max. applicable operating temperature, depends on the temperature specification of the used valve.

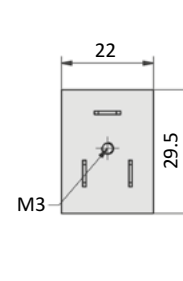
Model-no.:	23-SP-011-5-012	23-SP-012-5-032
Voltage	24 V DC	24 V DC
Power consumption DC	4.8 W	2.5 W
Power consumption AC	-	-
Specifics	Mounting on manifold not allowed. With integrated LED and protective circuit.	Min. mounting distance for manifold mounting is 20 mm. With integrated LED and protective circuit.

## Dimensions

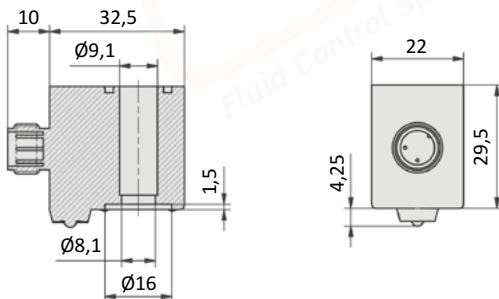
### Form B according to DIN EN 175301-803



### Form B industrial norm



### M12 connection



- HN \* - \* \* \*

Manual override	Coil and plug options	Coil type	Manual override position on side of	Voltage
HN detent	0 ATEX 2GD, encapsulated with casting compound width 30 mm	23-SP-037	0 without indication ports 1/3/(5)	0 without indication
HNR detent	1 with coil and plug	according to valve	1 DC ports 1/3/(5)	1 12 V
HNT non-detent	2		2 AC ports 1/3/(5)	2 24 V
	3 with coil, power consumption different from standard, without plug	shape according valve series	3 DC, low power consumption ports 1/3/(5)	3 42 V
	4 with coil, without plug	according to valve	4 DC, low power consumption ports 1/3/(5)	4 48 V
	5 without coil	no	5 DC ports 2/(4)	5 110 V
	6 without pilot valve	no	6 DC ports 2/(4)	6 115 V
	7 with coil, with enhanced humidity resistance, without plug	according to valve	7 AC ports 2/(4)	7 230 V
	8 with coil, with enhanced humidity resistance, with plug	according to valve	8 DC, low power consumption ports 2/(4)	8 240 V
	9 ATEX 2GD, intrinsically safe, with plug width 30 mm	23-SP-038	9 without indication ports 2/(4)	9
	A ATEX 3GD, without plug, width 30 mm	23-SP-040		A 4 V
	B ATEX 3GD, with plug, width 30 mm	23-SP-040		B 6 V
	C ATEX 3GD, without plug, width 22 mm	23-SP-041		C 8 V
	D			D 61 V
	E			E 36 V
	F with coil, with enhanced humidity resistance, without plug, low temperature version	23-SP-011-1-711 23-SP-011-1-712		F 9 V
	G			
	H with coil shape B according to DIN EN 175301-803, with plug	23-SP-011-G		
	I with coil shape B according to DIN EN 175301-803, without plug	23-SP-011-G		
	J with coil shape A according to DIN EN 175301-803, without plug (if not standard)	23-SP-016		
	K with coil shape A according to DIN EN 175301-803, with plug (if not standard)	23-SP-016		
	L with coil, with plug with LED and protective circuit	according to valve		
	M with coil, with plug with LED, without protective circuit	according to valve		
	N with coil with M12 connection	according to valve		
	O with coil with M12 connection with LED and protective circuit	according to valve		
	P without connector bridge, without plug			
	Q with coil with with cable	according to valve		
	R with cable up to 1 m length	according to valve		
	S with connector bridge, without plug			
	T			
	U ATEX 2GD, without coil (for coil 23-SP-036)	no		
	V ATEX 2GD, Flame proof enclosures and encapsulated with casting compound	23-SP-045		
	W ATEX 2GD / 3GD, without coil (for coil 23-SP-041 and 23-SP-045)	no		
	X ATEX 3GD, without coil (for coil 23-SP-040 in 230V AC and 115V AC)	no		
	Y ATEX 2GD, without coil (for coil 23-SP-038)	no		
	Z ATEX 2GD / 3GD, without coil (for coil 23-SP-040 in 24V DC and 23-SP-037)	no		

*Not all options are suitable for all valve series*