5/2-directional valve, Series IS12-PD, size 2

- ISO 5599-1
- ISO 2
- 5/2
- With differential piston
- single solenoid
- Qn = 2500 l/min
- Compressed air connection output Base plate DIN ISO 5599 size 2
- Electrical connection Plug, EN 175301-803, form A Plug, M12
- Manual override without detent without



Type	Spool valve, positive overlapping
Sealing principle	Soft sealing
Blocking principle	Single base plate principle
Connection type	Plate connection
Standards	ISO 5599-1, ISO 2
Working pressure min./max.	See table below
Control pressure min./max.	3 ... 10 bar
Ambient temperature min./max.	0 ... 50 °C
Medium temperature min./max.	0 ... 60 °C
Medium	Compressed air
Max. particle size	5 µm
Oil content of compressed air	0 ... 0,01 mg/m³
Nominal flow Qn	2500 l/min
Protection class with connection	IP65
Compatibility index	15
Duty cycle	100 %
Switch-on time max.	20 ms
Switch-off time max.	50 ms
Type sensor	electronic PNP, with LED
Sensor connection	Plug, M8, 3-pin, with knurled screw
Operating voltage sensor DC min./max.	10 ... 30 V DC
Voltage drop sensor U at Imax	≤ 2,5 V
Vibration resistance sensor	10 - 55 Hz, 1 mm
Shock resistance sensor	30 g / 11 ms
Cable length sensor	0,3 m
Protection class sensor acc. to DIN EN 61140	Class III
Mounting screw	M6 with hexagon socket
Weight	See table below

Technical data

Part No.		MO	Operational voltage DC	Voltage tolerance DC
R422003650			-	-
R422003649			24 V	-10% / +10%
R422003655			24 V	-10% / +10%
R422003657			24 V	-10% / +10%
R422003653		—	-	-
R422003652			-	-
R422003651			24 V	-10% / +10%
R422003656			24 V	-10% / +10%
R422003658			24 V	-10% / +10%
R422003654		—	-	-

Part No.	Power consumption DC	Pilot	Working pressure min./max.	Compatibility index
R422003650	-	Internal	3 ... 10 bar	15
R422003649	4,4 W	Internal	3 ... 10 bar	15
R422003655	4,5 W	Internal	3 ... 10 bar	15
R422003657	4,4 W	Internal	3 ... 10 bar	15
R422003653	-	Internal	3 ... 10 bar	15
R422003652	-	External	-0,9 ... 10 bar	15
R422003651	4,4 W	External	-0,9 ... 10 bar	15
R422003656	4,5 W	External	-0,9 ... 10 bar	15
R422003658	4,4 W	External	-0,9 ... 10 bar	15
R422003654	-	External	-0,9 ... 10 bar	15

Part No.	Electrical connection Pilot valve	basic valve with electrical connector	Weight	Fig.
R422003650	-	Basic valve without coil	0,52 kg	Fig. 1
R422003649	Plug EN 175301-803, form A	-	0,61 kg	Fig. 1
R422003655	Plug M12	-	0,61 kg	Fig. 2
R422003657	Plug EN 175301-803, form A	-	0,61 kg	Fig. 1
R422003653	-	Basic valve without coil	0,52 kg	Fig. 1
R422003652	-	Basic valve without coil	0,52 kg	Fig. 1
R422003651	Plug EN 175301-803, form A	-	0,61 kg	Fig. 1
R422003656	Plug M12	-	0,61 kg	Fig. 2
R422003658	Plug EN 175301-803, form A	-	0,61 kg	Fig. 1
R422003654	-	Basic valve without coil	0,52 kg	Fig. 1

Part No.	
R422003650	-
R422003649	-
R422003655	-
R422003657	1)
R422003653	-

Part No.	
R422003652	-
R422003651	-
R422003656	-
R422003658	1)
R422003654	-

The UL certification only applies to the coil, not to the valve., Nominal flow Qn at 6 bar and Δp = 1 bar

1) With UL coil

Technical information

The min. control pressure must be adhered to, since otherwise faulty switching and valve failure may result!
The pressure dew point must be at least 15 °C under ambient and medium temperature and may not exceed 3 °C .
The oil content of compressed air must remain constant during the life cycle.
Use only the approved oils from AVENTICS. Further information can be found in the “Technical information” document (available in the MediaCentre).

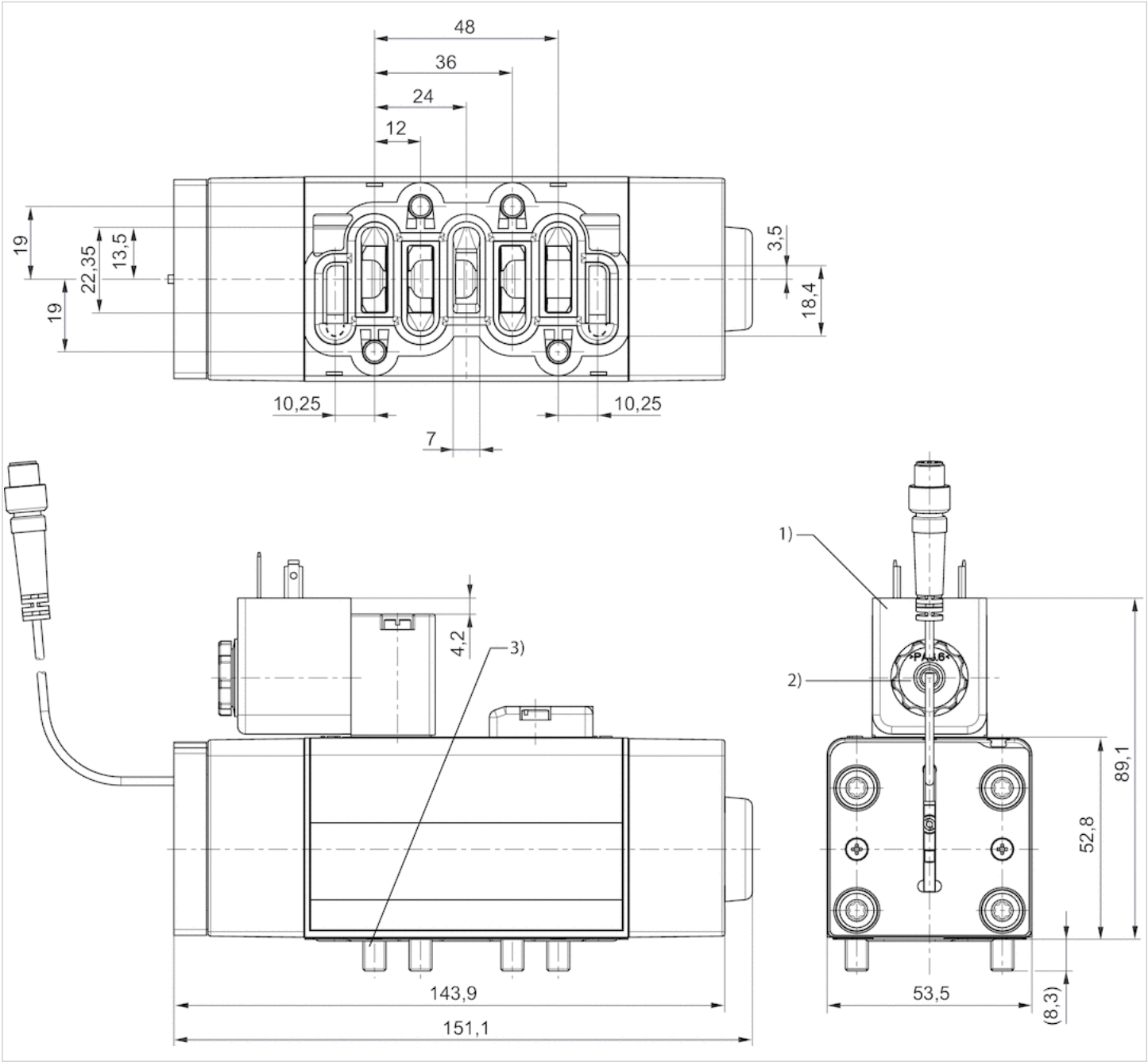
When the valve is not actuated, the sensor sends a signal through pin 4 of the sensor connection.
When the valve is actuated, the sensor does not send a signal through pin 4 of the sensor connection.
The valve with position detection is possible to be used in categories 3 and 4 according to ISO 13849 in order to reach a Performance Level (PL) of the control system up to PL = e.
On its own, the valve with position detection is not a safety component and is not a complete safety solution. It is designed to increase the diagnostic coverage (DC) of the control system.
For use in categories 3 to 4, additional requirements of DIN EN ISO 13849-1:2008-12 (e.g. CCF, DC, PLr, software, systematic errors) are taken into consideration by the user.

Technical information

Housing	Polyamide Aluminum
Seals	Acrylonitrile butadiene rubber

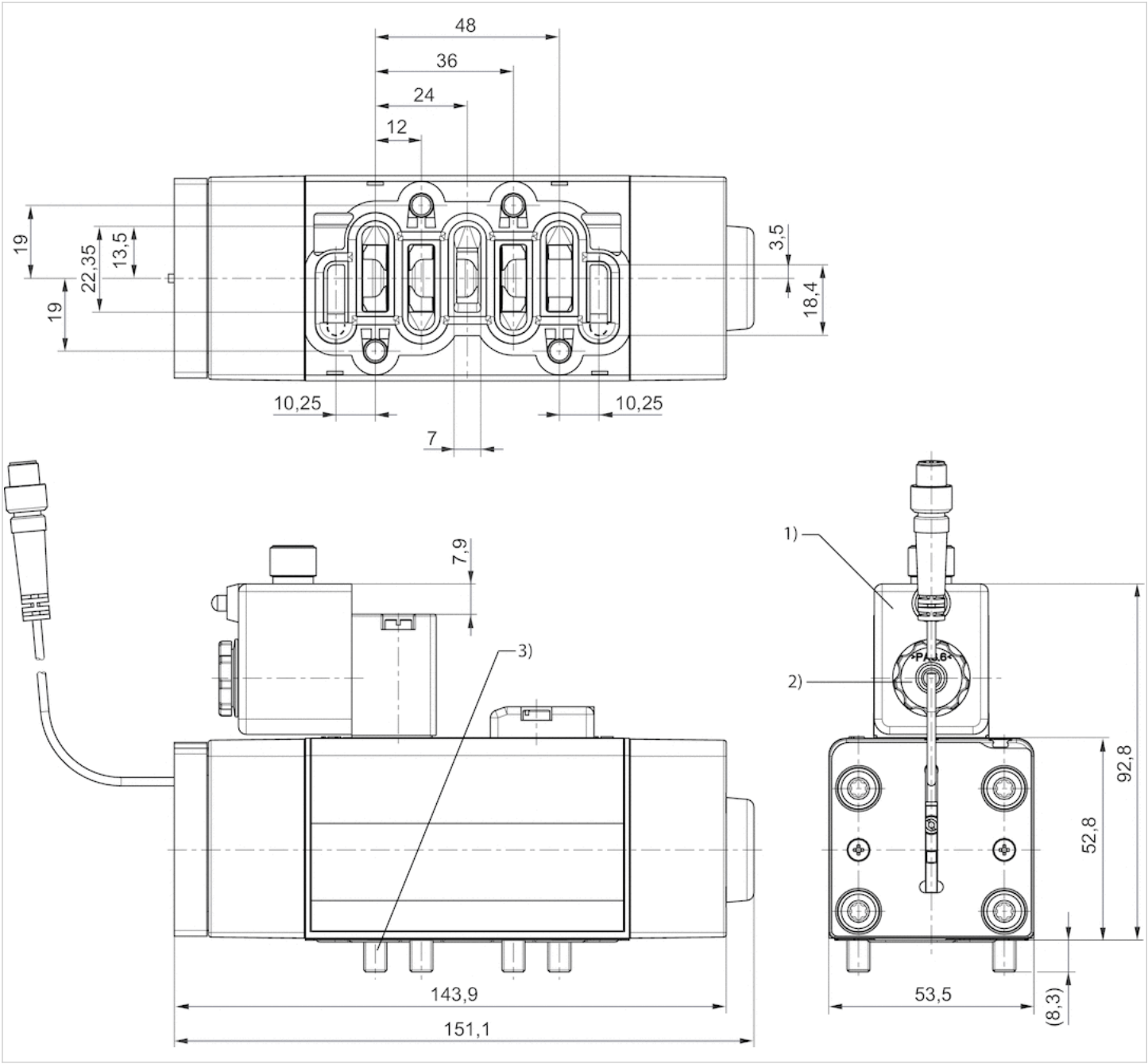
Dimensions

Dimensions, Fig. 1



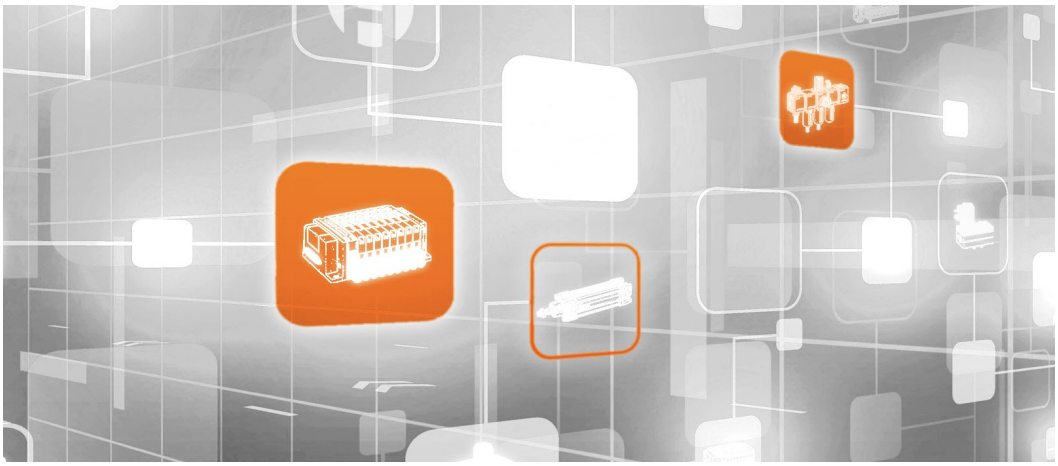
1) Adjustable coil 3x90°
2) Tightening torque for lock nut: 0.6 + 0.2 Nm
3) Tightening torque for mounting screws: 4,0 ± 0,5 Nm

Dimensions, Fig. 2



1) Adjustable coil 3x90°
2) Tightening torque for lock nut: 0.6 + 0.2 Nm
3) Tightening torque for mounting screws: 4,0 ± 0,5 Nm

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