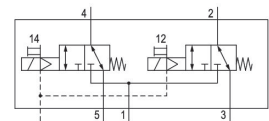


AVENTICS Series 501 Directional Control Valves

The AVENTICS Series 501 is a line of general purpose automation valves designed for directional control and piloting applications requiring compact size, high flow capability, and energy savings. Engineers can achieve the flow of a 15 mm to 20 mm valves in a more compact package, saving space, cost, and energy in their machine designs. In addition, no other valve in its class offers such a broad range of pressure regulator, pressure shut-off, and exhaust flow control accessories. The 501 Series valve's pressure shut —off option permits users to replace individual valves without stopping their production process — reducing line downtime and maintenance.

2x3/2, 5/2, 5/3 spool valves

- Modular design permits easy configuration and modification
- Sub-base mounted valve is well suited for in-panel valve piloting applications
- High flow rate, compact size, and optional mounting plate enable efficient use of cabinet space
- Dual three-way version enables placement of two, three-way valves in the space of a four-way valve
- Compatible with AVENTICS Series G3 and 580 electronic fieldbus platforms
- 580 CHARM node is compatible with DeltaV distributed control system with electronic marshalling



Technical data

Industry	Industrial
Activation	Electrically
Valve type	Spool valve, positive overlapping
Switching principle	2x 3/2 NC/NC, with spring return
Valve function	NC/NC
Actuating control	Single Solenoid
Sealing principle	Soft seal
Connection type	Plate connection
Manual override	without detent
Pilot control exhaust	with directional pilot air exhaust

2x3/2-directional valve, Series 501

R501A2BD0MA00F1

Series 501

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Nominal flow Qn	405 l/min
Min. working pressure	2 bar
Max. working pressure	8 bar
Min. control pressure	2 bar
Max. control pressure	8 bar
Protection class with connection	IP65
Protective circuit	Varistor
Reverse polarity protection	Protected against polarity reversal
Operational voltage	24 V DC
Voltage tolerance DC	-15 % / +10 %
Pilot	External
LED status display	Yellow
Power consumption DC	0.68 W
Duty cycle	100 %
Typ. switch-on time	18 ms
Typ. switch-off time	18 ms
Blocking principle	Single base plate principle, can be assembled into blocks
Can be assembled into blocks	Can be assembled into blocks
Min. ambient temperature	-10 °C
Max. ambient temperature	50 °C
Min. medium temperature	-10 °C
Max. medium temperature	50 °C
Medium	Compressed air
Min. oil content of compressed air	0 mg/m ³
Max. oil content of compressed air	5 mg/m ³
Max. particle size	50 µm
Mounting screws	with hexagon socket
Mounting screw tightening torque	0.45 Nm
Weight	0.93 kg

Material

Housing material	Die cast zinc
Seal material	Nitrile butadiene rubber Polyurethane
Material front plate	Polyamide
Material end plate	Polyamide

Part No.	R501A2BD0MA00F1
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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 less than 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 <https://www.emerson.com/en-us/support>).

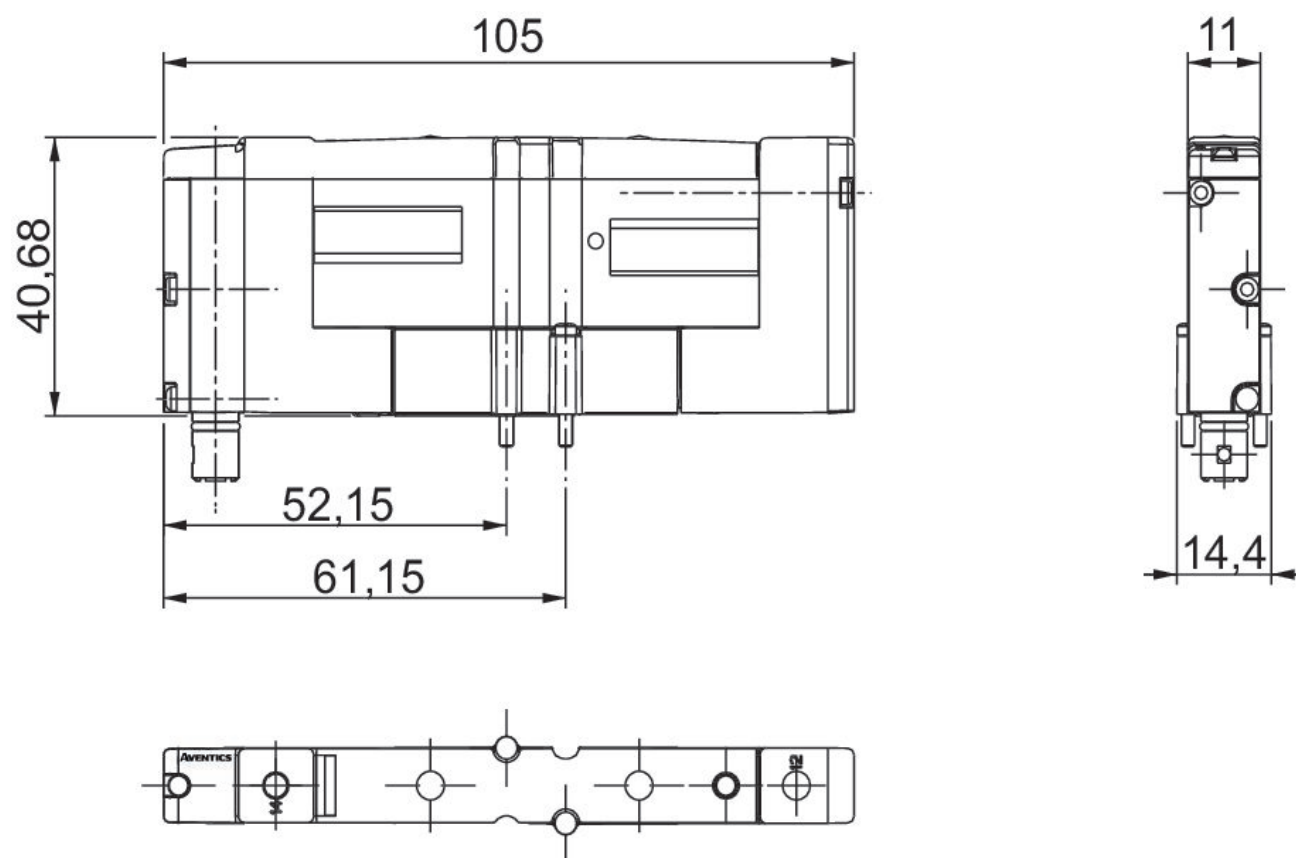
2x3/2-directional valve, Series 501

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Dimensions



2x3/2-directional valve, Series 501

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Accessories overview

