

## Series DS1



**AVENTICS™**

**Series DS1 Pressure Dew Point  
Sensor**

  
**EMERSON™**

## Series DS1

With the DS1, you are making the right choice for maximum precision in dew point measurements. Our sensor offers a wide spectrum of measuring ranges that are perfectly matched to the needs of different compressed air dryers. With the DS1, you are also able to determine the dew point in your maintenance unit and identify if moisture is leaking into your application. Rely on our DS1 for accurate results in every situation.

- Ideal for all types of compressed air dryers with different measuring ranges such as -80...+20°Ctd or -20...+50°Ctd
- Condensation-resistant sensor element
- Long-term stability and drift-resistant
- Gas-independent measurement, also suitable for other, non-corrosive gases
- Fast adjustment time, especially in the event of moisture ingress
- Protection class IP 65
- Analog output 4...20 mA and Modbus RTU (RS 485) interface
- Modbus TCP PoE (Ethernet)
- Measured values available in various units, pressure dew point [°Ctd], temperature [°C], rel. humidity [%rh], abs. humidity [g/m<sup>3</sup>], degree of humidity [g/kg], moisture content V/V [ppmV/V], water vapor partial pressure [hPa], atmospheric dew point [°Ctd.atm]



## Product overview

### DS1 Dew Point Sensor

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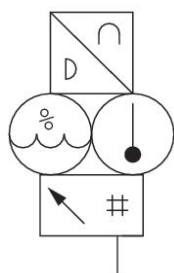
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Plug

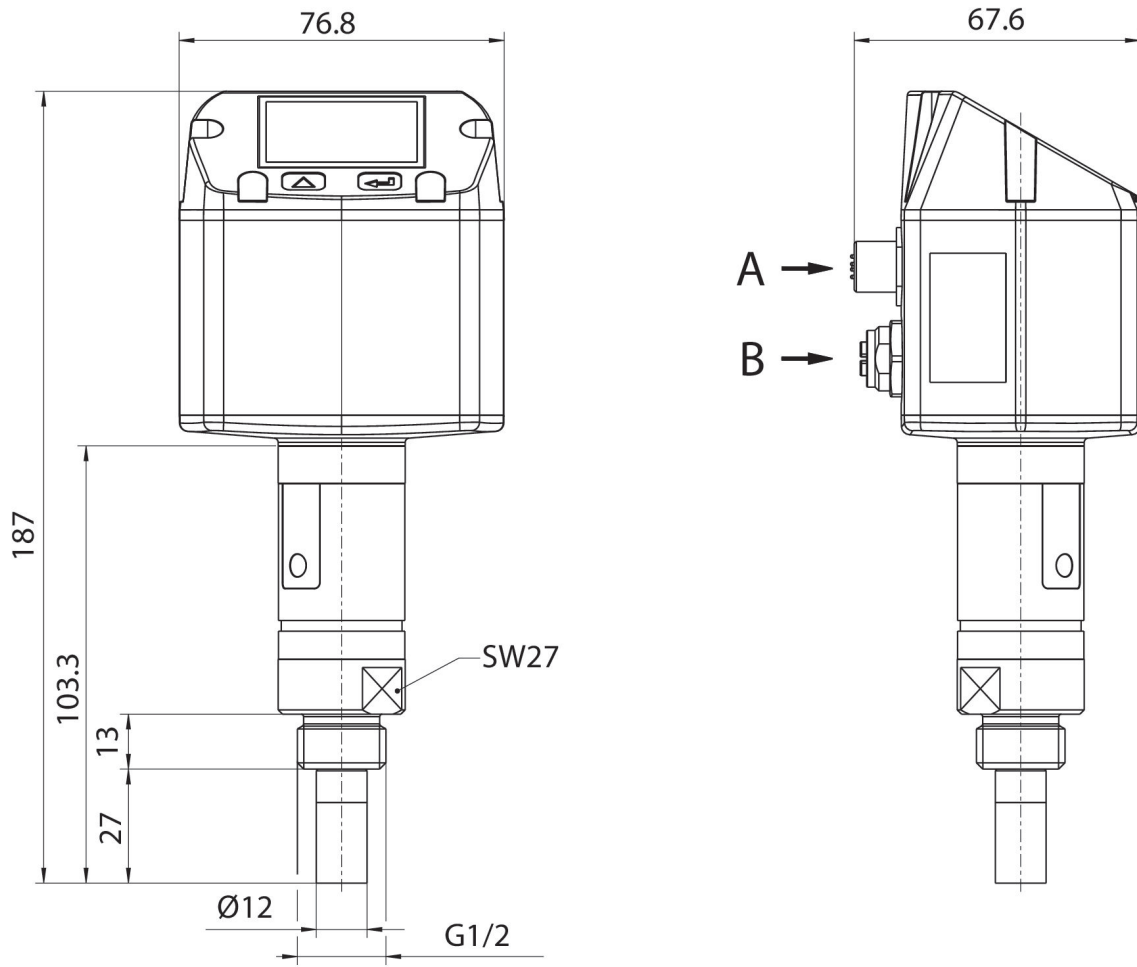
### Dew point sensor DS1

Electrical connection 2, thread size: M12  
 Certificates: EMV in according with DIN EN 61326-1  
 Electrical connection 2, number of poles: 5-pin  
 Min. ambient temperature: -40 °C  
 Max. ambient temperature: 80 °C  
 Min. working pressure: -1 bar  
 Max. working pressure: 50 bar



Measurement range	Part No.
-20 ... +50 °Ctd	R412029132

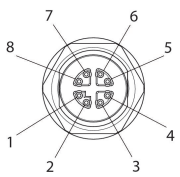
Dimensions



A) M12 socket 5-pin  
B) M12 socket, 8-pin

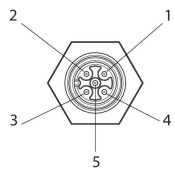
**R412029132**

M12 socket, 8-pin



**R412029132**

M12 socket 5-pin

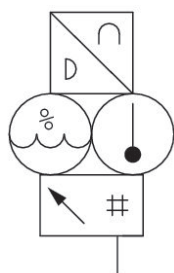


Pin	Allocation
1	OG-WH
2	OG
3	GN-WH
4	GN
5	BN-WH
6	BN
7	BU-WH
8	BU

Pin	Allocation
1	+VB
2	RS 485 (A)
3	-VB (GND)
4	RS 485 (B)
5	I+ (4 ... 20 mA)

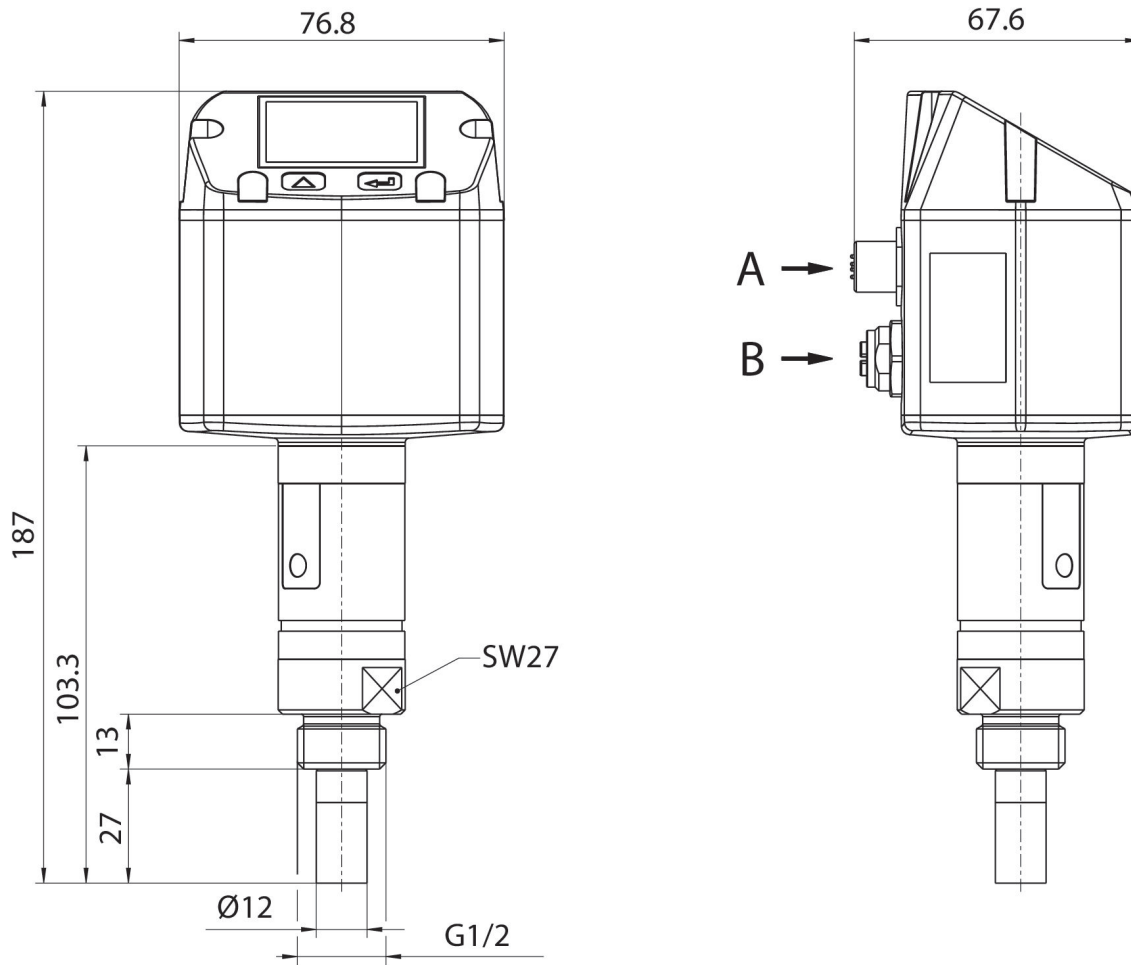
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Measurement range	Part No.
-80 ... +20 °Ctd	R412029133

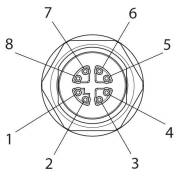
Dimensions



A) M12 socket 5-pin  
B) M12 socket, 8-pin

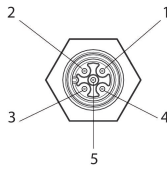
**R412029133**

M12 socket, 8-pin



**R412029133**

M12 socket 5-pin



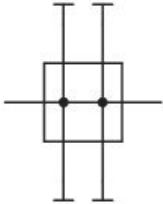


Pin	Allocation
1	OG-WH
2	OG
3	GN-WH
4	GN
5	BN-WH
6	BN
7	BU-WH
8	BU

Pin	Allocation
1	+VB
2	RS 485 (A)
3	-VB (GND)
4	RS 485 (B)
5	I+ (4 ... 20 mA)

**Distributor, Series AS3-DIS**

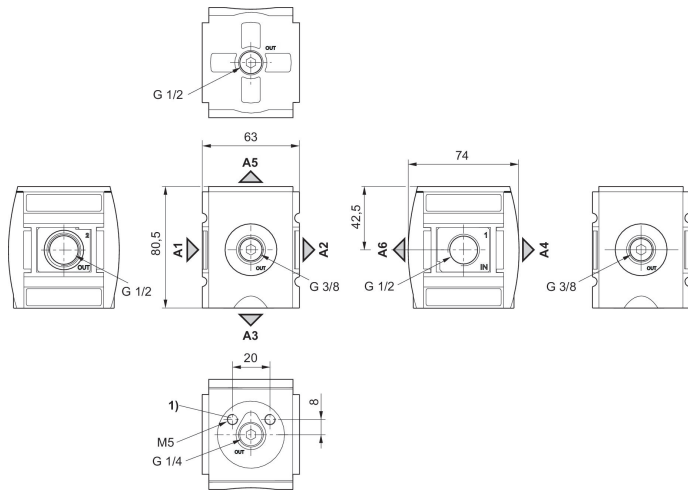
Parts: Distributor  
 Qn 1 > 2: 7250 l/min  
 Min. ambient temperature: -10 °C  
 Max. ambient temperature: 50 °C  
 Min. working pressure: 0 bar  
 Max. working pressure: 16 bar



Port	Nominal flow [l/min]	Part No.
G 1/2	7250	R412007251

**R412007251**

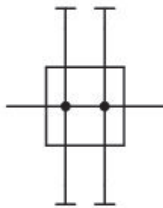
Dimensions in mm



- A1 = input
- A2 = output
- A3 = output
- A4 = output
- A5 = output
- A6 = output
- 1) Mounting thread for pressure sensor

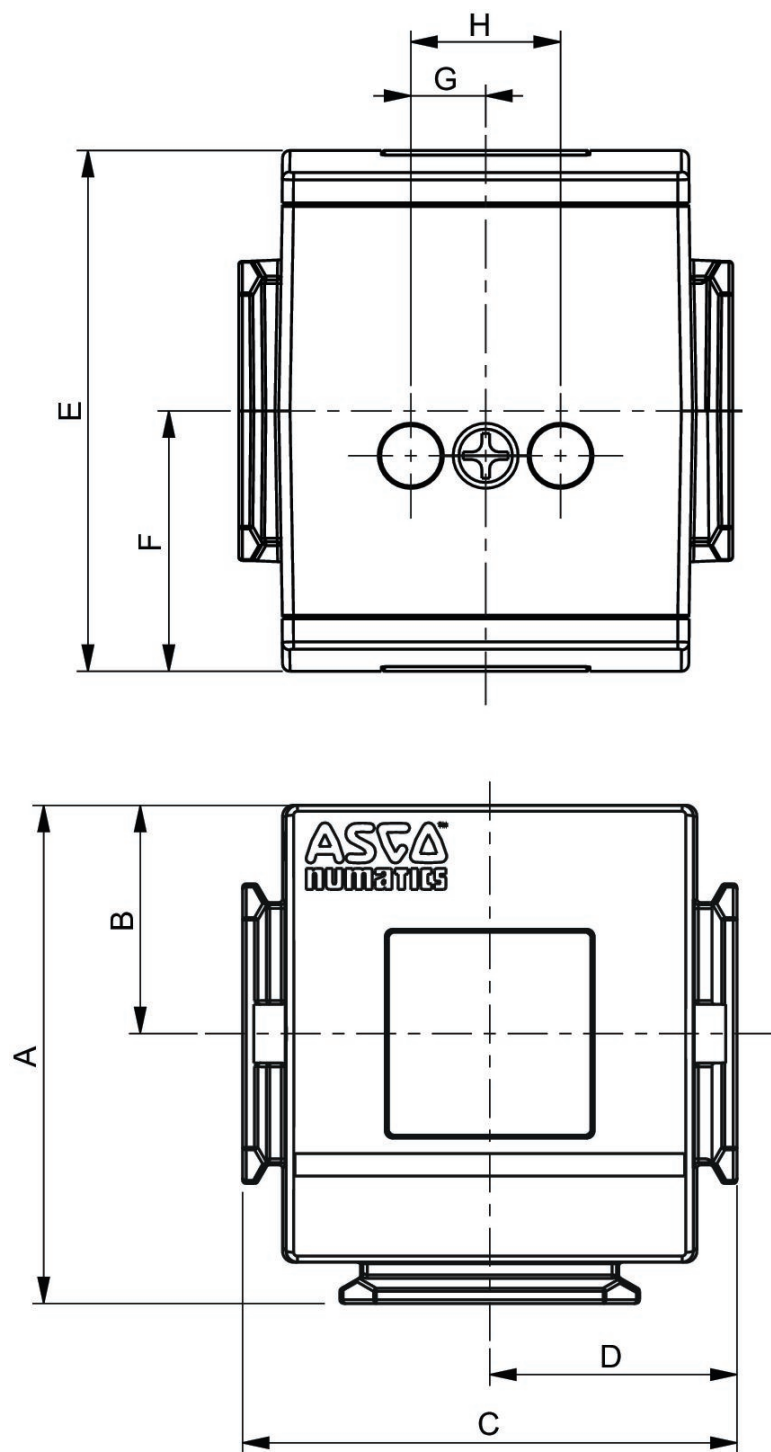
### Distributor, Series 652

Parts: Distributor



Port	Part No.
G 1/2	G652AD004CA0000

Dimensions

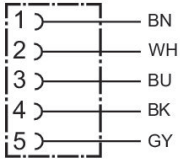


Series	652
A	66,5
B	30,5

Series	652
C	66
D	33
E	70
F	35
G	10
H	20

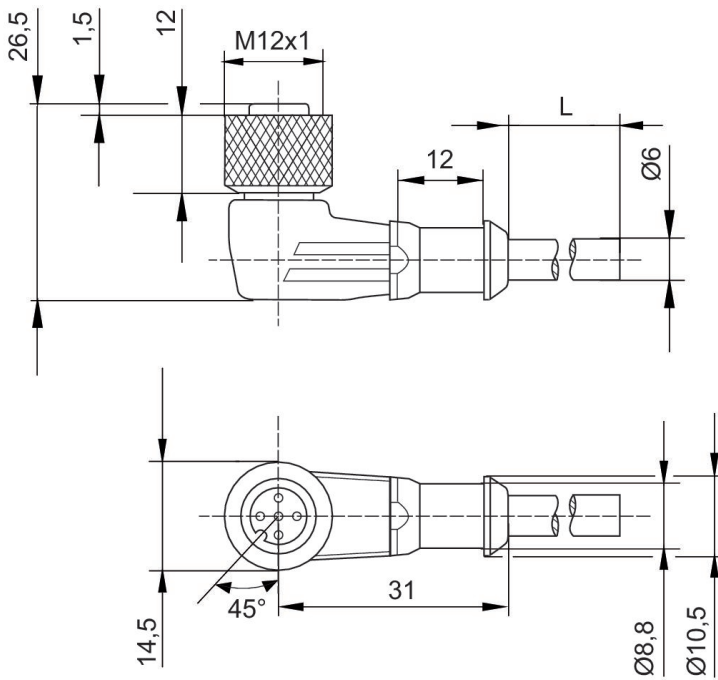
**Round plug connector, Series CON-RD, 5-pin, angled, shielded**

Electrical connection 1, type: Socket  
 Electrical connection 1, thread size: M12x1  
 Electrical connection 1, number of poles: 5-pin  
 Min. ambient temperature: -25 °C  
 Max. ambient temperature: 80 °C



Operational voltage	Current [A]	Shielding	Electrical connection 1, type	Electrical connection 1, thread size	Electrical connection 1, coding	Electrical connection 2, type	Cable length [m]	Cable-Ø [mm]	Wire cross-section [mm <sup>2</sup> ]	Min. ambient temperature [°C]	Max. ambient temperature [°C]	Part No.
48 V AC/DC	4	shielded	Socket	M12x1	A-coded	open cable ends	2.5	6	0.34	-25	80	R419800109

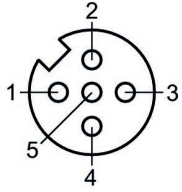
Dimensions



L = length

**R419800109**

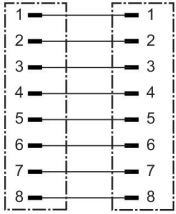
Pin assignment, socket



(1) BN=brown (2) WH=white (3) BU=blue (4) BK=black (5) GY=grey

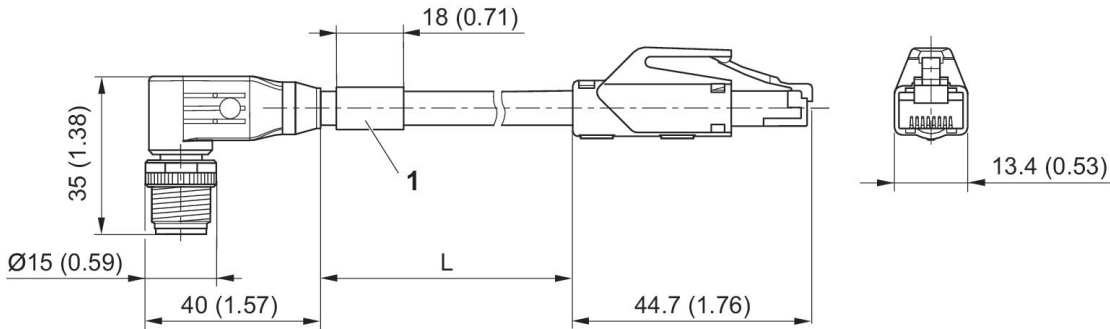
Round plug connectors with cable, Series CON-RD

Electrical connection 1, type: Plug  
 Electrical connection 1, thread size: M12x1  
 Electrical connection 2, thread size: RJ45  
 Electrical connection 1, number of poles: 8-pin  
 Electrical connection 2, number of poles: 8-pin  
 Min. ambient temperature: -25 °C  
 Max. ambient temperature: 85 °C



Operational voltage	Current [A]	Shielding	Electrical connection 1, type	Electrical connection 1, thread size	Electrical connection 1, coding	Electrical connection 2, type	Electrical connection 2, thread size	Electrical connection 2, coding	Cable length [m]	Wire cross-section [mm <sup>2</sup> ]	Min. ambient temperature [°C]	Max. ambient temperature [°C]	Part No.
60 V AC/DC	0.5	shielded	Plug	M12x1	X-coded	Plug	RJ45	X-coded	5	0.14	-25	85	R412027647

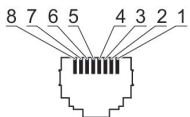
Dimensions



1) Name plate

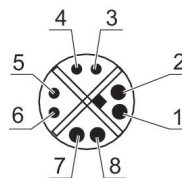
**R412027647**

Plug pin assignment



**R412027647**

Plug pin assignment









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