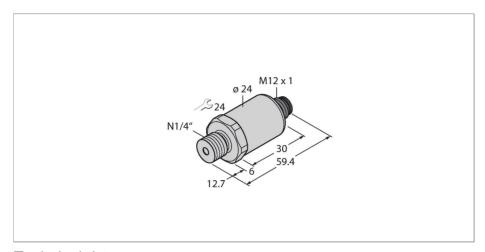


# PT10000PSIG-2003-IX-H1143 Pressure Transmitter – With Current Output (2-Wire)



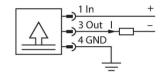
### Technical data

Туре	PT10000PSIG-2003-IX-H1143
ID	100002244
Medium temperature	-30+120 °C
Pressure type	Relative pressure
Pressure range	0689.48 bar
	010000 psi
	068.95 MPa
Admissible overpressure	≤ 1500 bar
Burst pressure	≥ 2500 bar
Response time	< 2 ms, typ. 1 ms
Long-term stability	± 0.25 % FS, according to IEC EN 60770-1
Power supply	
Operating voltage U <sub>B</sub>	1030 VDC
Current consumption	≤ 23 mA
Short-circuit/reverse polarity protection	yes / yes
Insulation class	III
Important note	For intrinsically safe applications, the values specified in the corresponding Ex certificates (ATEX, IECEX, UL etc.) apply.
Ignition protection category	Gas Ex ia IIC; dust Ex ia IIIC
Ex approval acc. to conformity certificate	SEV 16 ATEX 0145
Outputs	
Output 1	Analog output

## **Features**

- Fully welded metal measuring cell
- Pressure range 0...10000 psi rel.
- ■10...30 VDC
- ■Analog output 4...20 mA
- Process connection 1/4"-18 NPT male thread
- ■Plug-in device, M12 × 1
- ■ATEX, IECEx
- Category II 1/2 GD, Ex zone 0

## Wiring diagram





# Functional principle

The pressure sensors in the PT...-2000 product series operate with a fully welded metal measuring cell in various pressure ranges of up to -1...1000 bar in 2-, 3- or even 4-wire technology. Depending on the sensor variant, the processed signal is available as an analog output signal (4...20 mA, 0... 10 V, 0...5 V, 1...6 V, ratiometric) or as a digital IO-Link process parameter. The IO-Link sensor variants also have two independently configurable switching outputs. In addition to the standard variants, there are

In addition to the standard variants, there are special sensors for uses such as ATEX areas or for oxygen applications.

A wide range of process connections and electrical connections offer a high degree of flexibility in a wide range of applications.



# Technical data

Tests/approvals  UL registration number E302799  Reference conditions acc. to IEC 61298-1  Temperature 15+25 °C  Atmospheric pressure 8601060 hPa abs.  Humidity 4575 % rel.  Auxiliary power 24 VDC  Temperature behaviour	Output function	Analog output current
Load   S (supply voltage -10)/20 kΩ	Analog output	
Resolution	Current output	420 mA
Accuracy LHR ±0.3 % FS (typical; max. ±0.5 % FS)  Mechanical data  Housing material Stainless-steel/Plastic, 1.4404 (AISI 316L)/polyarylamide 50 % GF UL 94 V-0  Process connection 11/4" NPT-18 male thread  Pressure connection material Stainless steel 1.4404 (AISI 316L)  Material pressure transducer Stainless steel 1.4435 (AISI 316L)  Wrench size pressure connection / coupling nut  Max. tightening torque of housing nut 20 Nm  Electrical connection Connector, M12 × 1  Protection class IP67  Environmental conditions  Ambient temperature -25+85 °C  Storage temperature -50+100 °C  Shock resistance 100 g, 11 ms, half sinusoidal curve, all 6 directions, free fall from 1 m onto concrete (6x) acc. to IEC 68-2-27  Vibration resistance 20 g, 152000 Hz, 1525 Hz with amplitude ± 15 mm, 1 octave/minute in all 3 directions, 50 continuous loads  Tests/approvals  UL registration number E302799  Reference conditions acc. to IEC 61298-1  Temperature 15+25 °C  Atmospheric pressure 8601060 hPa abs.  Humidity 4575 % rel.  Auxiliary power 24 VDC  Temperature behaviour  MTTF 1189 years acc. to SN 29500 (Ed. 99) 40 °C  Technical data  Type PT10000PSIG-2003-IX-H1143	Load	≤ (supply voltage -10)/20 kΩ
Mechanical data Housing material Stainless-steel/Plastic, 1.4404 (AISI 316L)/polyarylamide 50 % GF UL 94 V-0 Process connection 1/4" NPT-18 male thread Pressure connection material Stainless steel 1.4404 (AISI 316L) Material pressure transducer Wrench size pressure connection / coupling nut Max. tightening torque of housing nut Electrical connection Connector, M12 × 1 Protection class IP67 Environmental conditions Ambient temperature -25+85 °C Storage temperature -50+100 °C Shock resistance 100 g, 11 ms, half sinusoidal curve, all 6 directions, free fall from 1 m onto concrete (6x) acc. to IEC 68-2-27 Vibration resistance 20 g, 152000 Hz, 1525 Hz with amplitude ± 15 mm, 1 octave/minute in all 3 directions, 50 continuous loads  Tests/approvals UL registration number E302799 Reference conditions acc. to IEC 61298-1 Temperature 15+25 °C Atmospheric pressure 8601060 hPa abs. Humidity 4575 % rel. Auxiliary power 24 VDC Temperature behaviour MTTF 1189 years acc. to SN 29500 (Ed. 99) 40 °C Technical data Type PT10000PSIG-2003-IX-H1143	Resolution	<± 0.1 % FS
Housing material  Stainless-steel/Plastic, 1.4404 (AISI 316L)/polyarylamide 50 % GF UL 94 V-0  Process connection  Pressure connection material  Material pressure transducer  Wrench size pressure connection / coupling nut  Max. tightening torque of housing nut  Electrical connection  Connector, M12 × 1  Protection class  IP67  Environmental conditions  Ambient temperature  -25+85 °C  Storage temperature  -50+100 °C  Shock resistance  100 g, 11 ms, half sinusoidal curve, all 6 directions, free fall from 1 m onto concrete (6x) acc. to IEC 68-2-27  Vibration resistance  20 g, 152000 Hz, 1525 Hz with amplitude ± 15 mm, 1 octave/minute in all 3 directions, 50 continuous loads  Tests/approvals  UL registration number  E302799  Reference conditions acc. to IEC 61298-1  Temperature  15+25 °C  Atmospheric pressure  8601060 hPa abs.  Humidity  4575 % rel.  Auxiliary power  24 VDC  Temperature behaviour  MTTF  1189 years acc. to SN 29500 (Ed. 99) 40 °C  Technical data  Type  PT10000PSIG-2003-IX-H1143	Accuracy LHR	±0.3 % FS (typical; max. ±0.5 % FS)
Stainless steel 1.4404 (AISI 316L)	Mechanical data	
Pressure connection material  Material pressure transducer  Wrench size pressure connection / coupling nut  Max. tightening torque of housing nut  Electrical connection  Protection class  Environmental conditions  Ambient temperature  Stainless steel 1.4404 (AISI 316L)  Protection class  Environmental conditions  Ambient temperature  -25+85 °C  Storage temperature  -50+100 °C  Shock resistance  100 g, 11 ms, half sinusoidal curve, all 6 directions, free fall from 1 m onto concrete (6x) acc. to IEC 68-2-27  Vibration resistance  20 g, 152000 Hz, 1525 Hz with amplitude ± 15 mm, 1 octave/minute in all 3 directions, 50 continuous loads  Tests/approvals  UL registration number  E302799  Reference conditions acc. to IEC 61298-1  Temperature  15+25 °C  Atmospheric pressure  8601060 hPa abs.  Humidity  4575 % rel.  Auxiliary power  24 VDC  Temperature behaviour  MTTF  1189 years acc. to SN 29500 (Ed. 99) 40 °C  Technical data  Type  PT10000PSIG-2003-IX-H1143	Housing material	
Material pressure transducer  Wrench size pressure connection / coupling nut  Max. tightening torque of housing nut  Electrical connection  Connector, M12 × 1  Protection class  IP67  Environmental conditions  Ambient temperature  -25+85 °C  Storage temperature  -50+100 °C  Shock resistance  100 g, 11 ms, half sinusoidal curve, all 6 directions, free fall from 1 m onto concrete (6x) acc. to IEC 68-2-27  Vibration resistance  20 g, 152000 Hz, 1525 Hz with amplitude ± 15 mm, 1 octave/minute in all 3 directions, 50 continuous loads  Tests/approvals  UL registration number  E302799  Reference conditions acc. to IEC 61298-1  Temperature  15+25 °C  Atmospheric pressure  8601060 hPa abs.  Humidity  4575 % rel.  Auxiliary power  24 VDC  Temperature behaviour  MTTF  1189 years acc. to SN 29500 (Ed. 99) 40 °C  Technical data  Type  PT10000PSIG-2003-IX-H1143	Process connection	1/4" NPT-18 male thread
Wrench size pressure connection / coupling nut  Max. tightening torque of housing nut  Electrical connection  Protection class  Environmental conditions  Ambient temperature  -25+85 °C  Storage temperature  -50+100 °C  Shock resistance  100 g, 11 ms, half sinusoidal curve, all 6 directions, free fall from 1 m onto concrete (6x) acc. to IEC 68-2-27  Vibration resistance  20 g, 152000 Hz, 1525 Hz with amplitude ± 15 mm, 1 octave/minute in all 3 directions, 50 continuous loads  Tests/approvals  UL registration number  E302799  Reference conditions acc. to IEC 61298-1  Temperature  15+25 °C  Atmospheric pressure  8601060 hPa abs.  Humidity  4575 % rel.  Auxiliary power  24 VDC  Temperature behaviour  MTTF  1189 years acc. to SN 29500 (Ed. 99) 40 °C  Technical data  Type  PT10000PSIG-2003-IX-H1143	Pressure connection material	Stainless steel 1.4404 (AISI 316L)
coupling nut  Max. tightening torque of housing nut  Electrical connection  Connector, M12 × 1  Protection class  IP67  Environmental conditions  Ambient temperature  -25+85 °C  Storage temperature  -50+100 °C  Shock resistance  100 g, 11 ms, half sinusoidal curve, all 6 directions, free fall from 1 m onto concrete (6x) acc. to IEC 68-2-27  Vibration resistance  20 g, 152000 Hz, 1525 Hz with amplitude ± 15 mm, 1 octave/minute in all 3 directions, 50 continuous loads  Tests/approvals  UL registration number  E302799  Reference conditions acc. to IEC 61298-1  Temperature  15+25 °C  Atmospheric pressure  8601060 hPa abs.  Humidity  4575 % rel.  Auxiliary power  24 VDC  Temperature behaviour  MTTF  1189 years acc. to SN 29500 (Ed. 99) 40 °C  Technical data  Type  PT10000PSIG-2003-IX-H1143	Material pressure transducer	Stainless steel 1.4435 (AISI 316L)
Electrical connection Connector, M12 × 1 Protection class IP67  Environmental conditions  Ambient temperature -25+85 °C  Storage temperature -50+100 °C  Shock resistance 100 g, 11 ms, half sinusoidal curve, all 6 directions, free fall from 1 m onto concrete (6x) acc. to IEC 68-2-27  Vibration resistance 20 g, 152000 Hz, 1525 Hz with amplitude ± 15 mm, 1 octave/minute in all 3 directions, 50 continuous loads  Tests/approvals  UL registration number E302799  Reference conditions acc. to IEC 61298-1  Temperature 15+25 °C  Atmospheric pressure 8601060 hPa abs.  Humidity 4575 % rel.  Auxiliary power 24 VDC  Temperature behaviour  MTTF 1189 years acc. to SN 29500 (Ed. 99) 40 °C  Technical data  Type PT10000PSIG-2003-IX-H1143		24
Protection class IP67  Environmental conditions  Ambient temperature -25+85 °C  Storage temperature -50+100 °C  Shock resistance 100 g, 11 ms, half sinusoidal curve, all 6 directions, free fall from 1 m onto concrete (6x) acc. to IEC 68-2-27  Vibration resistance 20 g, 152000 Hz, 1525 Hz with amplitude ± 15 mm, 1 octave/minute in all 3 directions, 50 continuous loads  Tests/approvals  UL registration number E302799  Reference conditions acc. to IEC 61298-1  Temperature 15+25 °C  Atmospheric pressure 8601060 hPa abs.  Humidity 4575 % rel.  Auxiliary power 24 VDC  Temperature behaviour  MTTF 1189 years acc. to SN 29500 (Ed. 99) 40 °C  Technical data  Type PT10000PSIG-2003-IX-H1143	Max. tightening torque of housing nut	20 Nm
Environmental conditions  Ambient temperature -25+85 °C  Storage temperature -50+100 °C  Shock resistance 100 g, 11 ms, half sinusoidal curve, all 6 directions, free fall from 1 m onto concrete (6x) acc. to IEC 68-2-27  Vibration resistance 20 g, 152000 Hz, 1525 Hz with amplitude ± 15 mm, 1 octave/minute in all 3 directions, 50 continuous loads  Tests/approvals  UL registration number E302799  Reference conditions acc. to IEC 61298-1  Temperature 15+25 °C  Atmospheric pressure 8601060 hPa abs.  Humidity 4575 % rel.  Auxiliary power 24 VDC  Temperature behaviour  MTTF 1189 years acc. to SN 29500 (Ed. 99) 40 °C  Technical data  Type PT10000PSIG-2003-IX-H1143	Electrical connection	Connector, M12 × 1
Ambient temperature  Storage temperature  -50+85 °C  Shock resistance  100 g, 11 ms, half sinusoidal curve, all 6 directions, free fall from 1 m onto concrete (6x) acc. to IEC 68-2-27  Vibration resistance  20 g, 152000 Hz, 1525 Hz with amplitude ± 15 mm, 1 octave/minute in all 3 directions, 50 continuous loads  Tests/approvals  UL registration number  E302799  Reference conditions acc. to IEC 61298-1  Temperature  15+25 °C  Atmospheric pressure  8601060 hPa abs.  Humidity  4575 % rel.  Auxiliary power  24 VDC  Temperature behaviour  MTTF  1189 years acc. to SN 29500 (Ed. 99) 40 °C  Technical data  Type  PT10000PSIG-2003-IX-H1143	Protection class	IP67
Storage temperature  -50+100 °C  Shock resistance  100 g, 11 ms, half sinusoidal curve, all 6 directions, free fall from 1 m onto concrete (6x) acc. to IEC 68-2-27  Vibration resistance  20 g, 152000 Hz, 1525 Hz with amplitude ± 15 mm, 1 octave/minute in all 3 directions, 50 continuous loads  Tests/approvals  UL registration number  E302799  Reference conditions acc. to IEC 61298-1  Temperature  15+25 °C  Atmospheric pressure  8601060 hPa abs.  Humidity  4575 % rel.  Auxiliary power  24 VDC  Temperature behaviour  MTTF  1189 years acc. to SN 29500 (Ed. 99) 40 °C  Technical data  Type  PT10000PSIG-2003-IX-H1143	Environmental conditions	
Shock resistance  100 g, 11 ms, half sinusoidal curve, all 6 directions, free fall from 1 m onto concrete (6x) acc. to IEC 68-2-27  Vibration resistance  20 g, 152000 Hz, 1525 Hz with amplitude ± 15 mm, 1 octave/minute in all 3 directions, 50 continuous loads  Tests/approvals  UL registration number  E302799  Reference conditions acc. to IEC 61298-1  Temperature  15+25 °C  Atmospheric pressure  8601060 hPa abs.  Humidity  4575 % rel.  Auxiliary power  24 VDC  Temperature behaviour  MTTF  1189 years acc. to SN 29500 (Ed. 99) 40 °C  Technical data  Type  PT10000PSIG-2003-IX-H1143	Ambient temperature	-25+85 °C
all 6 directions, free fall from 1 m onto concrete (6x) acc. to IEC 68-2-27  Vibration resistance  20 g, 152000 Hz, 1525 Hz with amplitude ± 15 mm, 1 octave/minute in all 3 directions, 50 continuous loads  Tests/approvals  UL registration number  E302799  Reference conditions acc. to IEC 61298-1  Temperature  15+25 °C  Atmospheric pressure  8601060 hPa abs.  Humidity  4575 % rel.  Auxiliary power  24 VDC  Temperature behaviour  MTTF  1189 years acc. to SN 29500 (Ed. 99) 40 °C  Technical data  Type  PT10000PSIG-2003-IX-H1143	Storage temperature	-50+100 °C
amplitude ± 15 mm, 1 octave/minute in all 3 directions, 50 continuous loads  Tests/approvals  UL registration number E302799  Reference conditions acc. to IEC 61298-1  Temperature 15+25 °C  Atmospheric pressure 8601060 hPa abs.  Humidity 4575 % rel.  Auxiliary power 24 VDC  Temperature behaviour  MTTF 1189 years acc. to SN 29500 (Ed. 99) 40 °C  Technical data  Type PT10000PSIG-2003-IX-H1143	Shock resistance	all 6 directions, free fall from 1 m onto
UL registration number E302799  Reference conditions acc. to IEC 61298-1  Temperature 15+25 °C  Atmospheric pressure 8601060 hPa abs.  Humidity 4575 % rel.  Auxiliary power 24 VDC  Temperature behaviour  MTTF 1189 years acc. to SN 29500 (Ed. 99) 40 °C  Technical data  Type PT10000PSIG-2003-IX-H1143	Vibration resistance	amplitude ± 15 mm, 1 octave/minute in all
Reference conditions acc. to IEC 61298-1  Temperature 15+25 °C  Atmospheric pressure 8601060 hPa abs.  Humidity 4575 % rel.  Auxiliary power 24 VDC  Temperature behaviour  MTTF 1189 years acc. to SN 29500 (Ed. 99) 40 °C  Technical data  Type PT10000PSIG-2003-IX-H1143	Tests/approvals	
Temperature 15+25 °C  Atmospheric pressure 8601060 hPa abs.  Humidity 4575 % rel.  Auxiliary power 24 VDC  Temperature behaviour  MTTF 1189 years acc. to SN 29500 (Ed. 99) 40 °C  Technical data  Type PT10000PSIG-2003-IX-H1143	UL registration number	E302799
Atmospheric pressure 8601060 hPa abs.  Humidity 4575 % rel.  Auxiliary power 24 VDC  Temperature behaviour  MTTF 1189 years acc. to SN 29500 (Ed. 99) 40 °C  Technical data  Type PT10000PSIG-2003-IX-H1143		
Humidity 4575 % rel.  Auxiliary power 24 VDC  Temperature behaviour  MTTF 1189 years acc. to SN 29500 (Ed. 99) 40 °C  Technical data  Type PT10000PSIG-2003-IX-H1143	Temperature	15+25 °C
Auxiliary power 24 VDC  Temperature behaviour  MTTF 1189 years acc. to SN 29500 (Ed. 99) 40 °C  Technical data  Type PT10000PSIG-2003-IX-H1143	Atmospheric pressure	8601060 hPa abs.
Temperature behaviour  MTTF  1189 years acc. to SN 29500 (Ed. 99) 40  °C  Technical data  Type  PT10000PSIG-2003-IX-H1143	Humidity	4575 % rel.
MTTF 1189 years acc. to SN 29500 (Ed. 99) 40 °C  Technical data  Type PT10000PSIG-2003-IX-H1143	Auxiliary power	24 VDC
Technical data  Type PT10000PSIG-2003-IX-H1143	Temperature behaviour	
Type PT10000PSIG-2003-IX-H1143	MTTF	1189 years acc. to SN 29500 (Ed. 99) 40 °C
	Technical data	
ID 100002244	Туре	PT10000PSIG-2003-IX-H1143
	ID	100002244



Pressure range	Pressure type	Relative pressure
O68.95 MPa	Pressure range	0689.48 bar
Admissible overpressure  Burst pressure  Response time  Cung-term stability  Deprating voltage U <sub>a</sub> Short-circuit/reverse polarity protection  Protection class  Ill  Insulation voltage  Outputs  Output 1  Analog output  Current output  Current output  Analog output  Current output  Current output  Current output  Current output  Analog output current  Analog output  Current output  Current output  Analog output  Current output  Current output  Current output  Analog output  Current output  Current output  Analog output  Current output  Current output  Analog output  Current output  Analog output  Current output  Analog output current  Analog output  Current output  Analog output  Current output  Analog output current  Analog output  Current output  A20 mA  E20 mA  E		010000 psi
Burst pressure ≥ 2500 bar  Response time < 2 ms, typ. 1 ms  Long-term stability 0.25 % FS, according to IEC EN 60770-1  Power supply  Operating voltage U₂ 1030 VDC  Current consumption ≤ 23 mA  Short-circuit/reverse polarity protection yes / yes  Protection class III  Insulation voltage 750 VDC  Outputs  Output 1 Analog output  Output function Analog output current  Analog output  Current output 420 mA  Load ≤ (supply voltage -10)/20 kΩ  Resolution < ± 0.1 % FS  Accuracy LHR ± 0.3 % FS (typical; max. ±0.5 % FS)  Temperature behaviour  Medium temperature -30+120 °C  Temperature coefficient ± 0.2 % of full scale/10 K  Environmental conditions  Ambient temperature -50+100 °C  Vibration resistance 20 g, 152000 Hz, 1525 Hz with amplitude ± 15 mm, 1 octave/minute in all 3 directions, 50 continuous loads, acc. to IEC 68-2-6  Shock resistance 100 g, 11 ms, half sinusoidal curve, all 6 directions, free fall from 1 m onto concrete (6x) acc. to IEC 68-2-27  Mechanical data  Housing material Stainless-steel/Plastic, 1.4404 (AISI 316L)/polyarylamide 50 % GF UL 94 V-0		068.95 MPa
Response time       < 2 ms, typ. 1 ms	Admissible overpressure	≤ 1500 bar
Long-term stability  Power supply  Operating voltage U₀  Current consumption  Short-circuit/reverse polarity protection  Protection class  III  Insulation class  III  Outputs  Output 1  Analog output  Current output  Analog output current  Analog output  Current output  420 mA  Load  ≤ (supply voltage -10)/20 kΩ  Resolution  <= ± 0.1 % FS  Accuracy LHR  ± 0.3 % FS (typical; max. ± 0.5 % FS)  Temperature behaviour  Medium temperature  -30+120 °C  Temperature coefficient  Environmental conditions  Ambient temperature  -25+85 °C  Storage temperature  -20 g, 152000 Hz, 1525 Hz with amplitude ± 16 mm, 1 octave/minute in all 3 directions, 50 continuous loads, acc. to IEC 68-2-6  Shock resistance  100 g, 11 ms, half sinusoidal curve, all 6 directions, free fall from 1 m onto concrete (6x) acc. to IEC 68-2-27  Mechanical data  Housing material  Stainless-steel/Plastic, 1.4404 (AISI 316L)/polyarylamide 50 % GF UL 94 V-0	Burst pressure	≥ 2500 bar
Power supply       1030 VDC         Current consumption       ≤ 23 mA         Short-circuit/reverse polarity protection       yes / yes         Protection class       IIP67         Insulation class       III         Insulation voltage       750 VDC         Outputs       Analog output         Output function       Analog output current         Analog output       420 mA         Load       ≤ (supply voltage -10)/20 kΩ         Resolution       <± 0.1 % FS	Response time	< 2 ms, typ. 1 ms
Operating voltage U₀       1030 VDC         Current consumption       ≤ 23 mA         Short-circuit/reverse polarity protection       yes / yes         Protection class       IIP67         Insulation class       III         Insulation voltage       750 VDC         Outputs       Output         Output function       Analog output current         Analog output       420 mA         Load       ≤ (supply voltage -10)/20 kΩ         Resolution       <± 0.1 % FS	Long-term stability	0.25 % FS, according to IEC EN 60770-1
Current consumption       ≤ 23 mA         Short-circuit/reverse polarity protection       yes / yes         Protection class       III         Insulation voltage       750 VDC         Outputs       750 VDC         Output function       Analog output current         Analog output       420 mA         Load       ≤ (supply voltage -10)/20 kΩ         Resolution       <± 0.1 % FS	Power supply	
Short-circuit/reverse polarity protection Protection class III Insulation voltage 750 VDC  Outputs Output 1 Analog output current  Analog output Current output Load S(supply voltage -10)/20 kΩ  Resolution Assistance Storage temperature -25+85 °C Storage temperature -50+100 °C  Vibration resistance Shock resistance  100 g, 11 ms, half sinusoidal curve, all 6 directions, free fall from 1 m onto concrete (6x) acc. to IEC 68-2-27  Mechanical data Housing material  Stainless-steel/Plastic, 1.4404 (AISI 316L)/polyarylamide 50 % GF UL 94 V-0	Operating voltage U <sub>в</sub>	1030 VDC
Protection class       IP67         Insulation class       III         Insulation voltage       750 VDC         Outputs       T50 VDC         Output 1       Analog output         Output function       Analog output current         Analog output       Analog output current         Current output       420 mA         Load       ≤ (supply voltage -10)/20 kΩ         Resolution       <± 0.1 % FS	Current consumption	≤ 23 mA
Insulation class       III         Insulation voltage       750 VDC         Outputs       750 VDC         Output 1       Analog output         Output function       Analog output current         Analog output       420 mA         Load       ≤ (supply voltage -10)/20 kΩ         Resolution       <± 0.1 % FS	Short-circuit/reverse polarity protection	yes / yes
Insulation voltage 750 VDC  Outputs  Output 1 Analog output  Output function Analog output current  Analog output  Current output 420 mA  Load ≤ (supply voltage -10)/20 kΩ  Resolution <± 0.1 % FS  Accuracy LHR ±0.3 % FS (typical; max. ±0.5 % FS)  Temperature behaviour  Medium temperature -30+120 °C  Temperature coefficient ± 0.2 % of full scale/10 K  Environmental conditions  Ambient temperature -25+85 °C  Storage temperature -50+100 °C  Vibration resistance 20 g, 152000 Hz, 1525 Hz with amplitude ± 15 mm, 1 octave/minute in all 3 directions, 50 continuous loads, acc. to IEC 68-2-6  Shock resistance 100 g, 11 ms, half sinusoidal curve, all 6 directions, free fall from 1 m onto concrete (6x) acc. to IEC 68-2-27  Mechanical data  Housing material Stainless-steel/Plastic, 1.4404 (AISI 316L)/polyarylamide 50 % GF UL 94 V-0	Protection class	IP67
Outputs       Analog output         Output function       Analog output current         Analog output       420 mA         Load       ≤ (supply voltage -10)/20 kΩ         Resolution       <± 0.1 % FS	Insulation class	III
Output 1       Analog output         Output function       Analog output current         Analog output       420 mA         Load       ≤ (supply voltage -10)/20 kΩ         Resolution       <± 0.1 % FS	Insulation voltage	750 VDC
Output function       Analog output current         Analog output       420 mA         Load       ≤ (supply voltage -10)/20 kΩ         Resolution       <± 0.1 % FS	Outputs	
Analog output  Current output  Load  ≤ (supply voltage -10)/20 kΩ  Resolution  <± 0.1 % FS  Accuracy LHR  ±0.3 % FS (typical; max. ±0.5 % FS)  Temperature behaviour  Medium temperature  -30+120 °C  Temperature coefficient  ± 0.2 % of full scale/10 K  Environmental conditions  Ambient temperature  -25+85 °C  Storage temperature  -25+85 °C  Storage temperature  20 g, 152000 Hz, 1525 Hz with amplitude ± 15 mm, 1 octave/minute in all 3 directions, 50 continuous loads, acc. to IEC 68-2-6  Shock resistance  100 g, 11 ms, half sinusoidal curve, all 6 directions, free fall from 1 m onto concrete (6x) acc. to IEC 68-2-27  Mechanical data  Housing material  Stainless-steel/Plastic, 1.4404 (AISI 316L)/polyarylamide 50 % GF UL 94 V-0	Output 1	Analog output
Current output       420 mA         Load       ≤ (supply voltage -10)/20 kΩ         Resolution       <± 0.1 % FS	Output function	Analog output current
Load       ≤ (supply voltage -10)/20 kΩ         Resolution       <± 0.1 % FS	Analog output	
Resolution <= ± 0.1 % FS  Accuracy LHR ± 0.3 % FS (typical; max. ±0.5 % FS)  Temperature behaviour  Medium temperature -30+120 °C  Temperature coefficient ± 0.2 % of full scale/10 K  Environmental conditions  Ambient temperature -25+85 °C  Storage temperature -50+100 °C  Vibration resistance 20 g, 152000 Hz, 1525 Hz with amplitude ± 15 mm, 1 octave/minute in all 3 directions, 50 continuous loads, acc. to IEC 68-2-6  Shock resistance 100 g, 11 ms, half sinusoidal curve, all 6 directions, free fall from 1 m onto concrete (6x) acc. to IEC 68-2-27  Mechanical data  Housing material Stainless-steel/Plastic, 1.4404 (AISI 316L)/polyarylamide 50 % GF UL 94 V-0	Current output	420 mA
Accuracy LHR ±0.3 % FS (typical; max. ±0.5 % FS)  Temperature behaviour  Medium temperature -30+120 °C  Temperature coefficient ± 0.2 % of full scale/10 K  Environmental conditions  Ambient temperature -25+85 °C  Storage temperature -50+100 °C  Vibration resistance 20 g, 152000 Hz, 1525 Hz with amplitude ± 15 mm, 1 octave/minute in all 3 directions, 50 continuous loads, acc. to IEC 68-2-6  Shock resistance 100 g, 11 ms, half sinusoidal curve, all 6 directions, free fall from 1 m onto concrete (6x) acc. to IEC 68-2-27  Mechanical data  Housing material Stainless-steel/Plastic, 1.4404 (AISI 316L)/polyarylamide 50 % GF UL 94 V-0	Load	≤ (supply voltage -10)/20 kΩ
Temperature behaviour  Medium temperature  -30+120 °C  Temperature coefficient  ± 0.2 % of full scale/10 K  Environmental conditions  Ambient temperature  -25+85 °C  Storage temperature  -50+100 °C  Vibration resistance  20 g, 152000 Hz, 1525 Hz with amplitude ± 15 mm, 1 octave/minute in all 3 directions, 50 continuous loads, acc. to IEC 68-2-6  Shock resistance  100 g, 11 ms, half sinusoidal curve, all 6 directions, free fall from 1 m onto concrete (6x) acc. to IEC 68-2-27  Mechanical data  Housing material  Stainless-steel/Plastic, 1.4404 (AISI 316L)/polyarylamide 50 % GF UL 94 V-0	Resolution	<± 0.1 % FS
Medium temperature  -30+120 °C  Temperature coefficient  ± 0.2 % of full scale/10 K  Environmental conditions  Ambient temperature  -25+85 °C  Storage temperature  -50+100 °C  Vibration resistance  20 g, 152000 Hz, 1525 Hz with amplitude ± 15 mm, 1 octave/minute in all 3 directions, 50 continuous loads, acc. to IEC 68-2-6  Shock resistance  100 g, 11 ms, half sinusoidal curve, all 6 directions, free fall from 1 m onto concrete (6x) acc. to IEC 68-2-27  Mechanical data  Housing material  Stainless-steel/Plastic, 1.4404 (AISI 316L)/polyarylamide 50 % GF UL 94 V-0	Accuracy LHR	±0.3 % FS (typical; max. ±0.5 % FS)
Temperature coefficient ± 0.2 % of full scale/10 K  Environmental conditions  Ambient temperature -25+85 °C  Storage temperature -50+100 °C  Vibration resistance 20 g, 152000 Hz, 1525 Hz with amplitude ± 15 mm, 1 octave/minute in all 3 directions, 50 continuous loads, acc. to IEC 68-2-6  Shock resistance 100 g, 11 ms, half sinusoidal curve, all 6 directions, free fall from 1 m onto concrete (6x) acc. to IEC 68-2-27  Mechanical data  Housing material Stainless-steel/Plastic, 1.4404 (AISI 316L)/polyarylamide 50 % GF UL 94 V-0	Temperature behaviour	
Environmental conditions  Ambient temperature -25+85 °C  Storage temperature -50+100 °C  Vibration resistance 20 g, 152000 Hz, 1525 Hz with amplitude ± 15 mm, 1 octave/minute in all 3 directions, 50 continuous loads, acc. to IEC 68-2-6  Shock resistance 100 g, 11 ms, half sinusoidal curve, all 6 directions, free fall from 1 m onto concrete (6x) acc. to IEC 68-2-27  Mechanical data  Housing material Stainless-steel/Plastic, 1.4404 (AISI 316L)/polyarylamide 50 % GF UL 94 V-0	Medium temperature	-30+120 °C
Ambient temperature  -25+85 °C  Storage temperature  -50+100 °C  Vibration resistance  20 g, 152000 Hz, 1525 Hz with amplitude ± 15 mm, 1 octave/minute in all 3 directions, 50 continuous loads, acc. to IEC 68-2-6  Shock resistance  100 g, 11 ms, half sinusoidal curve, all 6 directions, free fall from 1 m onto concrete (6x) acc. to IEC 68-2-27  Mechanical data  Housing material  Stainless-steel/Plastic, 1.4404 (AISI 316L)/polyarylamide 50 % GF UL 94 V-0	Temperature coefficient	± 0.2 % of full scale/10 K
Storage temperature  -50+100 °C  Vibration resistance  20 g, 152000 Hz, 1525 Hz with amplitude ± 15 mm, 1 octave/minute in all 3 directions, 50 continuous loads, acc. to IEC 68-2-6  Shock resistance  100 g, 11 ms, half sinusoidal curve, all 6 directions, free fall from 1 m onto concrete (6x) acc. to IEC 68-2-27  Mechanical data  Housing material  Stainless-steel/Plastic, 1.4404 (AISI 316L)/polyarylamide 50 % GF UL 94 V-0	Environmental conditions	
Vibration resistance  20 g, 152000 Hz, 1525 Hz with amplitude ± 15 mm, 1 octave/minute in all 3 directions, 50 continuous loads, acc. to IEC 68-2-6  Shock resistance  100 g, 11 ms, half sinusoidal curve, all 6 directions, free fall from 1 m onto concrete (6x) acc. to IEC 68-2-27  Mechanical data  Housing material  Stainless-steel/Plastic, 1.4404 (AISI 316L)/polyarylamide 50 % GF UL 94 V-0	Ambient temperature	-25+85 °C
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all 6 directions, free fall from 1 m onto concrete (6x) acc. to IEC 68-2-27  Mechanical data  Housing material  Stainless-steel/Plastic, 1.4404 (AISI 316L)/polyarylamide 50 % GF UL 94 V-0	Vibration resistance	amplitude ± 15 mm, 1 octave/minute in all 3 directions, 50 continuous loads, acc. to
Housing material Stainless-steel/Plastic, 1.4404 (AISI 316L)/polyarylamide 50 % GF UL 94 V-0	Shock resistance	all 6 directions, free fall from 1 m onto
316L)/polyarylamide 50 % GF UL 94 V-0	Mechanical data	
Pressure connection material Stainless steel 1.4404 (AISI 316L)	Housing material	
	Pressure connection material	Stainless steel 1.4404 (AISI 316L)



# Technical data

Material pressure transducer	Stainless steel 1.4435 (AISI 316L)
Process connection	1/4" NPT-18 male thread
Wrench size pressure connection / coupling nut	24
Electrical connection	Connector, M12 × 1
Max. tightening torque of housing nut	20 Nm
Reference conditions acc. to IEC 61298-1	
Temperature	15+25 °C
Atmospheric pressure	8601060 hPa abs.
Humidity	4575 % rel.
Auxiliary power	24 VDC
Tests/approvals	
Approvals	cULus
UL registration number	E302799
Important note	For intrinsically safe applications, the values specified in the corresponding Ex certificates (ATEX, IECEX, UL etc.) apply.
Ex approval acc. to conformity certificate	SEV 16 ATEX 0145
Application area	II 1/2 GD
Ignition protection category	Gas Ex ia IIC; dust Ex ia IIIC
MTTF	1189 years acc. to SN 29500 (Ed. 99) 40 °C



## Instructions for use

#### Intended use

This device fulfills Directive 2014/34/EU and is suited for use in areas exposed to explosion hazards according to EN 60079-0:2012 + A11:2013, EN 60079-11:2012 and EN 60079-26:2015.In order to ensure correct operation according to the intended purpose, the national regulations and directives must be observed.

#### For use in explosion hazardous areas conform to classification

The sensors may be used only in dust or gas areas

#### Marking (see device or technical data sheet)

II 1/2 GD Ex ia IIC T4 Ga/Gb and EX ia IIIC T125 °C Da/Db acc. to EN60079-0:12+A11:2013

#### Installation/Commissioning

These devices may only be installed, connected and operated by trained and qualified staff. Qualified staff must have knowledge of protection classes, directives and regulations concerning electrical equipment designed for use in explosion hazardous areas. Please verify that the classification and the marking on the device comply with the actual application conditions.

This device is only suited for connection to approved Exi circuits according to EN 60079-0 and EN 60079-11. Please observe the maximum admissible electrical values. After connection to other circuits the sensor may no longer be used in Exi installations. When interconnected to (associated) electrical equipment, it is required to perform the "Proof of intrinsic safety" (EN60079-14).

#### Installation and mounting instructions

Avoid static charging of cables and plastic devices. Please only clean the device with a damp cloth. Do not install the device in a dust flow and avoid build-up of dust deposits on the device. If the devices and the cable could be subject to mechanical damage, they must be protected accordingly. They must also be shielded against strong electro-magnetic fields. The pin configuration and the electrical specifications can be taken from the device marking or the technical data sheet. In order to avoid contamination of the device, please remove possible blanking plugs of the cable glands or connectors only shortly before inserting the cable or opening the cable socket.

#### Special conditions for safe operation

The device must be protected against any kind of mechanical damage.

#### Service/Maintenance

Repairs are not possible. The approval expires if the device is repaired or modified by a person other than the manufacturer. The most important data from the approval are listed.

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