Pressure Sensor with IO-Link

FX5Q001

Part Number

weFlux² InoxSens



- Compact, laser-welded V4A stainless steel housing
- Individual parameters configuration via IO-Link 1.1
- Pressure and temperature measurement with a single sensor
- Quick sensor replacement thanks to data storage

weFlux² pressure sensors are equipped with an innovative measuring cell which includes an integrated temperature element. This makes it possible for the sensors to measure relative pressure as well as the temperature of any desired medium. Depending on application requirements, either two switching outputs or one switching output and one analog output can be selected for the purpose of reading out measured values. Furthermore, weFlux² pressure sensors offer new dimensions in individual parameters configurability. Sensor parameters, filter and output functions, as well as the unit of measure of the measured values (bar, PSI or Pascal), can be flexibly adjusted.



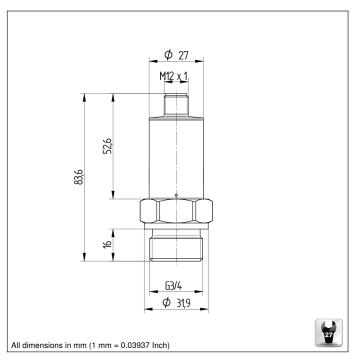
Technical Data

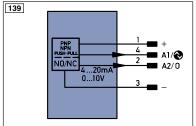
Sensor-specific data
Measurement Type relative Maximum overload pressure 20 bar Bursting pressure 30 bar Medium Liquids, gases Temperature Measurement Range -40125 °C Response time (t90) Temp <1 s Pressure Response Time (t90) <10 ms Temperature Measurement Accuracy <±1 °C Measuring error (total) 0,5 % Hysteresis <±0,1 % Linearity Deviation <±0,2 % Zero-Point Error <±0,1 % Repeat Accuracy <±0,1 % Temperature Coefficient Zero-Point <±0,05% /10K Temperature Coefficient Range <±0,05% /10K Long-term stability <±0,1 % Environmental conditions Temperature of medium -25125 °C* Ambient temperature -2580 °C Storage temperature -2580 °C EMC DIN EN 61326-2-3 Shock resistance per DIN IEC 68-2-27 50 g /11 ms Vibration resistance per DIN IEC 60068-2-6 10 g (102000 Hz) Electrical Data 1232 V DC
Maximum overload pressure 20 bar Bursting pressure 30 bar Medium Liquids, gases Temperature Measurement Range -40125 °C Response time (t90) Temp < 1 s
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Response time (t90) Temp < 1 s
Pressure Response Time (190) < 10 ms
Temperature Measurement Accuracy <±1 °C
Measuring error (total) 0,5 % Hysteresis <± 0,1 %
Hysteresis
Linearity Deviation < ± 0,2 %
Zero-Point Error <± 0,1 %
Repeat Accuracy
Temperature Coefficient Zero-Point <± 0,05% /10K
Temperature Coefficient Range <± 0,05% /10K
Long-term stability < ± 0,1 %
Environmental conditions Temperature of medium Ambient temperature Storage temperature -2580 °C EMC DIN EN 61326-2-3 Shock resistance per DIN IEC 68-2-27 50 g / 11 ms Vibration resistance per DIN IEC 60068-2-6 Electrical Data Supply Voltage 1232 V DC Current Consumption (Ub = 24 V) Number of Switching Outputs 2 Switching Output/Switching Current 100 mA Switching Output Voltage Drop Analog Output Voltage Drop Analog Output Resolution Current Output Load Resistance Interface
Temperature of medium Ambient temperature Storage temperature -2580 °C Storage temperature -2580 °C EMC DIN EN 61326-2-3 Shock resistance per DIN IEC 68-2-27 50 g / 11 ms Vibration resistance per DIN IEC 60068-2-6 Electrical Data Supply Voltage 1232 V DC Current Consumption (Ub = 24 V) Number of Switching Outputs 2 Switching Output/Switching Current 100 mA Switching Output Voltage Drop Analog Output Analog Output Analog Output Resolution 1 Current Output Load Resistance Interface Interfa
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Electrical Data Supply Voltage Current Consumption (Ub = 24 V) Number of Switching Outputs Switching Output/Switching Current 100 mA Switching Output Voltage Drop Analog Output Voltage Drop Analog Output Analog Output Analog Output Analog Output Current Output Load Resistance Interface Io-Link V1.1 Short Circuit Protection Protection Class III Mechanical Data Setting Method Sensor element Housing Material Io-Link Ceramic diaphragm Housing Material 1.4404 Material in contact with media Degree of Protection Interface Io-Link Ceramic diaphragm Io-Link I
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Switching Output/Switching Current Switching Output Voltage Drop Analog Outputs Analog Output Analog Output Resolution Current Output Load Resistance Interface Interfac
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Analog Output Resolution Current Output Load Resistance Interface Io-Link V1.1 Short Circuit Protection Reverse Polarity Protection Protection Class III Mechanical Data Setting Method Sensor element Housing Material Material in contact with media Degree of Protection I Short Circuit Protection yes III Mechanical Data Ceramic diaphragm 1.4404 Material in contact with media Degree of Protection IP65 *
Resolution > 11 bit Current Output Load Resistance
Current Output Load Resistance < 500 Ohm Interface IO-Link V1.1 Short Circuit Protection yes Reverse Polarity Protection yes Protection Class III Mechanical Data Setting Method IO-Link Sensor element Ceramic diaphragm Housing Material 1.4404 Material in contact with media 1.4404; FKM; Ceramic Degree of Protection IP65 *
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Housing Material 1.4404 Material in contact with media 1.4404; FKM; Ceramic Degree of Protection IP65 *
Material in contact with media 1.4404; FKM; Ceramic Degree of Protection IP65 *
Degree of Protection IP65 *
3
Connection M12 × 1; 4-pin
Process Connection G 3/4"; front
Safety-relevant Data
MTTFd (EN ISO 13849-1) 1157,11 a
Analog Output
IO-Link
Connection Diagram No. 139
Connection Diagram No. 139 Suitable Connection Equipment No. 2

^{*} Tested by wenglor

^{**} Sensors suitable up to 125 °C media temperature. During installation, please ensure that the sensor housing is adequately cooled by the surroundings.







Legend			Platinum measuring resistor	ENARS422	Encoder A/Ā (TTL)	
+	Supply Voltage +	nc	not connected	ENBRS422	Encoder B/B (TTL)	
-	Supply Voltage 0 V	U	Test Input	ENA	Encoder A	
~	Supply Voltage (AC Voltage)	Ū	Test Input inverted	ENB	Encoder B	
Α	Switching Output (NO)	W	Trigger Input	Amin	Digital output MIN	
Ā	Switching Output (NC)	W -	Ground for the Trigger Input	Амах	Digital output MAX	
V	Contamination/Error Output (NO)	0	Analog Output	Аок	Digital output OK	
V	Contamination/Error Output (NC)	0-	Ground for the Analog Output	SY In	Synchronization In	
E	Input (analog or digital)	BZ	Block Discharge	SY OUT	Synchronization OUT	
Т	Teach Input	Awv	Valve Output	OLT	Brightness output	
Z	Time Delay (activation)	а	Valve Control Output +	М	Maintenance	
S	Shielding	b	Valve Control Output 0 V	rsv	reserved	
RxD	Interface Receive Path	SY	Synchronization	Wire Co	Wire Colors according to IEC 60757	
TxD	Interface Send Path	SY-	Ground for the Synchronization	BK	Black	
RDY	Ready	E+	Receiver-Line	BN	Brown	
GND	Ground	S+	Emitter-Line		Red	
CL	Clock	±	Grounding	OG	Orange	
E/A	Output/Input programmable	SnR	Switching Distance Reduction	YE	Yellow	
•	IO-Link	Rx+/-	Ethernet Receive Path	GN	Green	
PoE	Power over Ethernet	Tx+/-	Ethernet Send Path	BU	Blue	
IN	Safety Input	Bus	Interfaces-Bus A(+)/B(-)	VT	Violet	
OSSD	Safety Output	La	Emitted Light disengageable	GY	Grey	
Signal	Signal Output	Mag	Magnet activation	WH	White	
	Ethernet Gigabit bidirect. data line (A-D)	RES	Input confirmation	PK	Pink	
	Encoder 0-pulse 0-0 (TTL)	EDM	Contactor Monitoring	GNYE	Green/Yellow	







