

# Pressure Sensor with IO-Link

## FX5Q001

Part Number



- Compact, laser-welded stainless steel 316L housing
- Individual parameter configuration via IO-Link 1.1
- Pressure and temperature measurement with a single sensor
- Temperature-compensated pressure measurement

weFlux<sup>2</sup> 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 to output measured values. Furthermore, weFlux<sup>2</sup> pressure sensors offer new dimensions in individual parameter configurability. Sensor parameters, filter and output functions as well as the unit of measurement of the measured values (bar, PSI or Pascal) can be adjusted as needed.



### Technical Data

#### Sensor-specific data

Measuring Range	-1...10 bar
Measurement Type	relative
Maximum overload pressure	20 bar
Bursting pressure	30 bar
Medium	Liquids, gases
Temperature Measurement Range	-40...125 °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	< ± 0,5 %
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	-25...125 °C**
Ambient temperature	-25...80 °C
Storage temperature	-25...80 °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 (10...2000 Hz)

#### Electrical Data

Supply Voltage	12...32 V DC
Current Consumption (Ub = 24 V)	< 15 mA
Number of Switching Outputs	2
Switching Output/Switching Current	100 mA
Switching Output Voltage Drop	< 1,5 V
Analog Outputs	1
Analog Output	4...20 mA /0...10V Press / Temp
Resolution	> 11 bit
Current Output Load Resistance	< 500 Ohm
Voltage output load resistance	> 1 kOhm
Interface	IO-Link V1.1
Short Circuit Protection	yes
Reverse Polarity Protection	yes
Protection Class	III

#### Mechanical Data

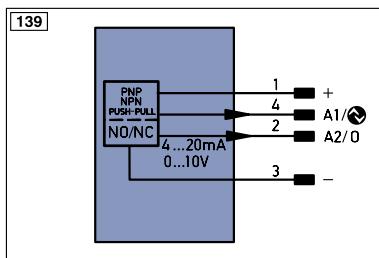
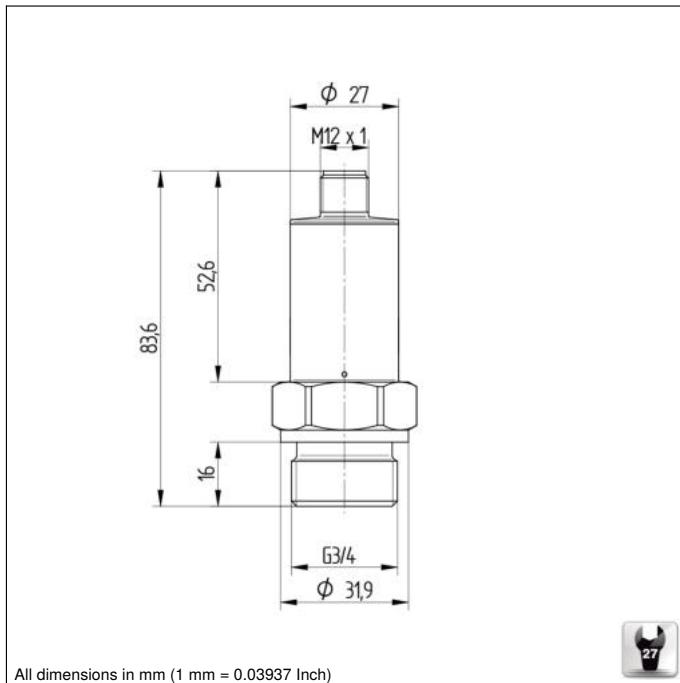
Setting Method	IO-Link
Sensor element	Ceramic membrane
Housing Material	1.4404
Material in contact with media	1.4404; FKM; ceramic
Degree of Protection	IP65 *
Connection	M12 x 1; 4-pin
Process Connection	G3/4"; front
Seal material	FKM

#### Safety-relevant Data

MTTFd (EN ISO 13849-1)	1157,11 a
Analog Output	●
IO-Link	●
Connection Diagram No.	139
Suitable Connection Equipment No.	2
Suitable Mounting Technology No.	920

\* Not UL certified

\*\* Sensors up to 125 °C medium temperature suitable. During installation, please ensure that the sensor housing is sufficiently cooled by the surroundings.


**Legend**

PT	Platinum measuring resistor
nc	not connected
U	Test Input
Ü	Test Input inverted
W	Trigger Input
W -	Ground for the Trigger Input
O	Analog Output
O -	Ground for the Analog Output
BZ	Block Discharge
Awv	Valve Output
a	Valve Control Output +
b	Valve Control Output 0 V
SY	Synchronization
SY -	Ground for the Synchronization
E+	Receiver-Line
E-	Emitter-Line
±	Grounding
SnR	Switching Distance Reduction
RxD	Interface Receive Path
TxD	Interface Send Path
RDY	Ready
GND	Ground
CL	Clock
E/A	Output/Input programmable
IO-Link	IO-Link
PoE	Power over Ethernet
IN	Safety Input
SSD	Safety Output
Signal	Signal Output
BL-D	Ethernet Gigabit bidirect. data line (A-D)
EN0RS42	Encoder 0-pulse 0-0 (TTL)
ENARS42	Encoder A/Ā (TTL)
ENBRS42	Encoder B/Ā (TTL)
ENA	Encoder A
ENB	Encoder B
AMIN	Digital output MIN
AMAX	Digital output MAX
AOK	Digital output OK
SY IN	Synchronization IN
SY OUT	Synchronization OUT
OLT	Brightness output
M	Maintenance
rsv	reserved
Wire Colors according to IEC 60757	
BK	Black
BN	Brown
RD	Red
OG	Orange
YE	Yellow
GN	Green
BU	Blue
VT	Violet
GY	Grey
WH	White
PK	Pink
GNYE	Green/Yellow

