

# Pressure Sensor with IO-Link

## FX1Q001

Part Number

weFlux<sup>2</sup> 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

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 for the purpose of reading out measured values. Furthermore, weFlux<sup>2</sup> 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

Measuring Range	-1...1 bar
Measurement Type	relative
Maximum overload pressure	5 bar
Bursting pressure	7,5 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	< ± 0,2 %
Zero-Point Error	< ± 0,1 %
Repeat Accuracy	< ± 0,1 %
Temperature Coefficient Zero-Point	<± 0,05% /10K
Temperature Coefficient Range	<± 0,05% /10K

#### 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 (U <sub>b</sub> = 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
Interface	IO-Link V1.1
Short Circuit Protection	yes
Reverse Polarity Protection	yes
Protection Class	III

#### Mechanical Data

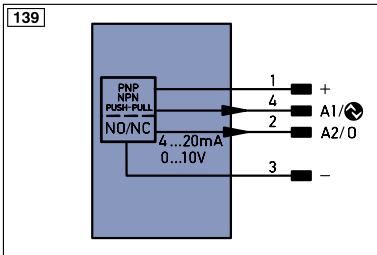
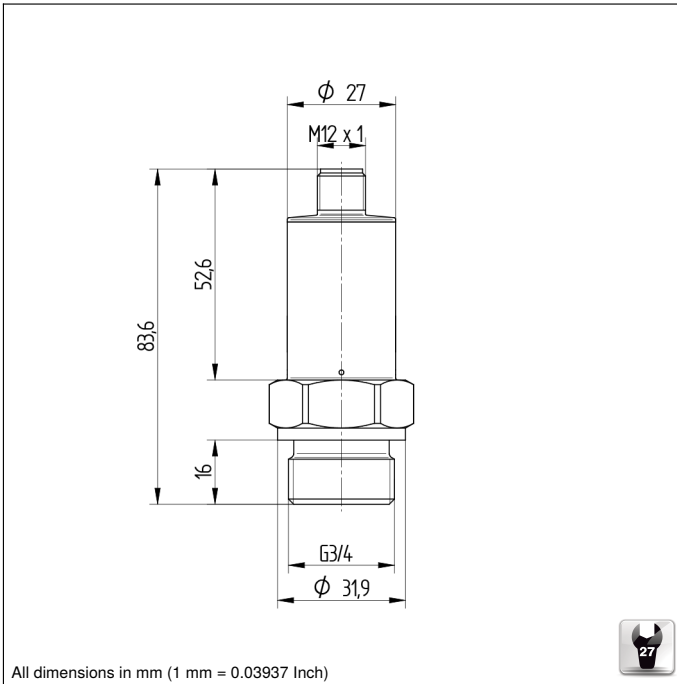
Setting Method	IO-Link
Sensor element	Ceramic diaphragm
Housing Material	1.4404
Material in contact with media	1.4404; FKM; Ceramic
Degree of Protection	IP65 *
Connection	M12 × 1; 4-pin
Process Connection	G 3/4"; front

#### Safety-relevant Data

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

\* 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	
+	Supply Voltage +
-	Supply Voltage 0 V
~	Supply Voltage (AC Voltage)
A	Switching Output (NO)
$\bar{A}$	Switching Output (NC)
V	Contamination/Error Output (NO)
$\bar{V}$	Contamination/Error Output (NC)
E	Input (analog or digital)
T	Teach Input
Z	Time Delay (activation)
S	Shielding
RxD	Interface Receive Path
TxD	Interface Send Path
RDY	Ready
GND	Ground
CL	Clock
E/A	Output/Input programmable
	IO-Link
PoE	Power over Ethernet
IN	Safety Input
OSSD	Safety Output
Signal	Signal Output
Bl..D +/-	Ethernet Gigabit bidirect. data line (A-D)
EN0..RS422	Encoder 0-pulse 0-0 (TTL)
PT	Platinum measuring resistor
nc	not connected
U	Test Input
$\bar{U}$	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
S+	Emitter-Line
$\pm$	Grounding
S <sub>n</sub> R	Switching Distance Reduction
Rx+/-	Ethernet Receive Path
Tx+/-	Ethernet Send Path
Bus	Interfaces-Bus A(+)/B(-)
L <sub>a</sub>	Emitted Light disengageable
Mag	Magnet activation
RES	Input confirmation
EDM	Contactur Monitoring
EN0..RS422	Encoder A/ $\bar{A}$ (TTL)
EN0..RS422	Encoder B/ $\bar{B}$ (TTL)
EN <sub>A</sub>	Encoder A
EN <sub>B</sub>	Encoder B
A <sub>MIN</sub>	Digital output MIN
A <sub>MAX</sub>	Digital output MAX
A <sub>OK</sub>	Digital output OK
SY <sub>IN</sub>	Synchronization In
SY <sub>OUT</sub>	Synchronization OUT
O <sub>LT</sub>	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

