

Pressure Sensor P-01

Description

The fibre optic pressure sensor makes use of the intrinsic strain sensitivity of the FBG in order to measure pressures ranging from 1 up to 150 bar. The head of the sensor can be foreseen with a thread that allows connecting the sensor to pipelines, valves, vessels or to a porous stone so that the sensor can be used to measure ground water pressures. The sensor is equipped with a second FBG for temperature compensation purposes.



Features

- Pressure ranges from 1 up to 150 bar
- Temperature compensation by means of a second FBG
- The FBGs are Draw Tower Gratings (DTGs) which ensure good quality and durability of the sensor
- Watertight and ruggedized housing, applicable in harsh environments
- Optionally extendable with a porous stone to measure ground water pressures

Applications

- The pressure sensor can be applied for flow control and liquid level measurements in reservoirs and all sorts of pipelines.
- It can also be applied to measure ground water pressures using the porous stones as accessory tool

Standard specifications

Parameter	Unit	Value
Pressure range	bar	1/5/10/20/50/100/150
Pressure accuracy ¹	-	1% FS
Pressure sensitivity	nm/FS	> 1
Temperature range	°C	-10 to +60
FBG wavelength ²	nm	1510 to 1590
Sensing head thread	-	M 18 x 1.0
Housing material	-	SS316
Pigtail diameter	mm	3
Pigtail length ³	m	1.5
Pigtail material	-	LDPE
Connector type	-	FC/APC
Water tightness ⁴	-	IP68

¹ The sensor accuracy does not contain error sources originating from the read-out equipment.

² The FBG is in fact a Draw Tower Grating (DTG) i.e. written in the fibre while drawing it, see www.fbg-technologies.com for further information.

³ Extended on request.

⁴ Watertight at 10 bar for 12 hours

Optional Accessories

- **Thread coupling:** An adaptor piece can be mounted on the sensor head so that the sensor can be connected to BSPP 1/8" (British Standard Parallel Pipe thread).
- **Porous stone:** The sensor can be applied to measure underground water pressures (pore water pressure). In this case, a porous stone is mounted on the sensor head. The stone is transparent for water and makes sure that the water pressure is transferred to the sensor. At the same time, it prevents soil and dirt to enter the sensing head. It should be noted that the stone should be soaked in soap water prior to installation onto the pressure sensor.



Ordering information

Example:

P	0	1	-	0	1	0	-	5	-	0	-	0	0	-	F	A
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Product	
P01	Pressure Sensor

Pressure range	
Standard	
001	1bar
005	5 bar
010	10 bar
020	20 bar
050	50 bar
100	100 bar
150	150 bar
Custom: Contact sales department	

Wavelength range	
Standard	
1	1512 nm - 1517 nm
2	1522 nm - 1527 nm
3	1532 nm - 1537 nm
4	1542 nm - 1547 nm
5	1552 nm - 1557 nm
6	1562 nm - 1567 nm
7	1572 nm - 1577 nm
8	1582 nm - 1587 nm
Custom: Contact sales department	

Pigtail length	
Standard:	
00	1.5 m
Custom:	length in XX meters

Connector type	
Standard:	
FA	FC/APC
Custom: Contact sales department	

Accessory	
Standard	
0	None
1	Thread coupling to BSPP 1/8"
2	Porous Stone
Custom: Contact sales department	

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