Pressalis

Datasheet

Pressure data loggers

PR10

Multi-network wireless pressure logger



Field housing with LCD, NB-IoT, 4G Cat 1 or LoRaWAN, 8000 mAh battery or 9 to 30 V DC, vacuum up to 60 bar.

Network	Battery	Range	Accuracy
NB-IoT, 4G Cat 1 or LoRaWAN	**8000 mAh, or 9 to 30 V DC**	**-1 to 0 bar up to 0 to 60 bar**	**±0.5 % or ±1 % of span**

Overview

PR10 is a battery powered pressure logger in a field transmitter housing with a segment LCD. One build takes NB-IoT, 4G Cat 1 or LoRaWAN, chosen in the order code, so the same instrument fits a site with cellular coverage or one served by a LoRaWAN gateway. Where power is at hand it runs from an external 9 to 30 V DC supply instead of the battery.

It is made for water and pumping: distribution network pressure zones, booster and pump stations, constant pressure supply in buildings, fire water mains and wastewater plants. Ranges run from -1 to 0 bar and 0 to 20 kPa up to 0 to 60 bar. Wetted parts are stainless steel 304, accuracy is ±0.5 % or ±1 % of span, and the housing is IP65.

Reporting is set between 1 and 1440 minutes. With a reading every minute, the 8000 mAh battery lasts 50 days at 10-minute reporting, 260 days at hourly reporting and more than 3 years at one report every 12 hours. NB-IoT reports over CoAP, 4G over MQTT, and LoRaWAN follows specification 1.0.2, Class A.

Specifications

Measurement

Pressure type	Gauge
Ranges	-1 to 0 bar, and 0 to 20 kPa up to 0 to 60 bar
Accuracy	±0.5 % or ±1 % of span
Long-term stability	±0.2 % of span
Overload	2 x range
Burst pressure	3 x range
Compensated temperature	-10 to 80 °C

Local display	Segment LCD in bar, psi, kPa or MPa

Medium and environment

Medium	Liquids, gases and vapours compatible with stainless steel 304
Medium temperature	-10 to 60 °C
Operating temperature	-20 to 60 °C
Ambient humidity	0 to 80 % RH
Housing	Stainless steel 304 and die-cast aluminium
Protection	IP65

Wireless and power

Network	NB-IoT, 4G Cat 1 or LoRaWAN
Protocol	CoAP (NB-IoT), MQTT (4G), LoRaWAN 1.0.2 Class A with OTAA
LoRaWAN band	868 MHz
LoRaWAN reach	2000 m in open ground, 1000 m in urban areas
Reporting interval	1 to 1440 minutes
Sampling interval	1 to 1440 minutes (NB-IoT, 4G), 1 to 720 minutes (LoRaWAN)
Battery	3.6 V, 8000 mAh
Battery life, 1-minute sampling	50 days at 10-minute reporting, 260 days hourly, over 3 years at 12-hour reporting
External supply	9 to 30 V DC
Sleep current	25 µA or less (NB-IoT, 4G)
Transmit current, average	50 mA or less for 5 s (NB-IoT), 80 mA or less for 5 s (4G)

Mechanical

Process connection	M20 x 1.5, G1/2, G1/4 or 1/4 NPT male
Dimensions	138 mm high including the connection, 124 mm wide including the antenna

Common configurations

Any combination from the ordering code can be quoted. Other ranges and connections on request.

Range	Network	Power	Process connection	Accuracy	Display unit	Order code
0 to 16 bar	NB-IoT	Battery	M20 x 1.5	±0.5 % of span	bar	**PR10-016-M20-NB-B-A05-BAR**
0 to 16 bar	LoRaWAN	Battery	G1/2	±0.5 % of span	bar	**PR10-016-B4-LW-B-A05-BAR**
0 to 60 bar	4G Cat 1	9 to 30 V DC	G1/4	±0.5 % of span	bar	**PR10-060-B2-G4-E-A05-BAR**
-1 to 0 bar	NB-IoT	Battery	G1/4	±1 % of span	kPa	**PR10-V00-B2-NB-B-A1-KPA**
0 to 20 kPa	LoRaWAN	Battery	1/4 NPT	±1 % of span	kPa	**PR10-K20-N2-LW-B-A1-KPA**
0 to 16 bar	4G Cat 1	9 to 30 V DC	1/4 NPT	±0.5 % of span	psi	**PR10-016-N2-G4-E-A05-PSI**

Ordering code

One code from each group, in this order. Example: **PR10-V00-M20-NB-B-A05-BAR**. Send the code and the quantity to **contact@pressalis.com** for a quote.

PR10 Model - **V00** Range - **M20** Process connection - **NB** Network - **B** Power - **A05** Accuracy - **BAR** Display unit

Range

V00	-1 to 0 bar
K20	0 to 20 kPa
016	0 to 16 bar
060	0 to 60 bar
X	Other range, state in the request

Process connection

M20	M20 x 1.5 male
B4	G1/2 male
B2	G1/4 male
N2	1/4 NPT male

Network

NB	NB-IoT
G4	4G Cat 1
LW	LoRaWAN

Power

B	Battery, 3.6 V, 8000 mAh
E	External 9 to 30 V DC, cable outlet

Accuracy

A05	±0.5 % of span
A1	±1 % of span

Display unit

BAR	bar
PSI	psi
KPA	kPa
MPA	MPa