

Pressure Datasheet

Model PRGEN-PRES

SMARTREK Datasheet Pressure

Why use the Pressure A-Link?

A sudden change in pressure can have dramatic impact on your equipment and operations. The Smartrek monitoring system provides live data insight on the operation of your system and will proactively notify you when these changes occur.

Applications

- Industrial process control
- Factory automation & Industrial equipment
- Pump & Compressor systems
- Agriculture irrigation systems
- Water & Wastewater applications
- Power & Utilities
- Dewatering, Remediation and Construction Processes



Figure 1: Pressure node

Features

- 0.25% pressure accuracy
- Temperature compensated
- Offset calibration
- High quality stainless steel
- Up to 10 km range (*LOS)
- Single connector installation
- Up to 6 years battery life expectancy
- Adapted pressure range selection :
- [-14.7,100],[0,300] and [0,1000] PSI*

*We support other pressure ranges.

For details contact us at: service@smartrek.io

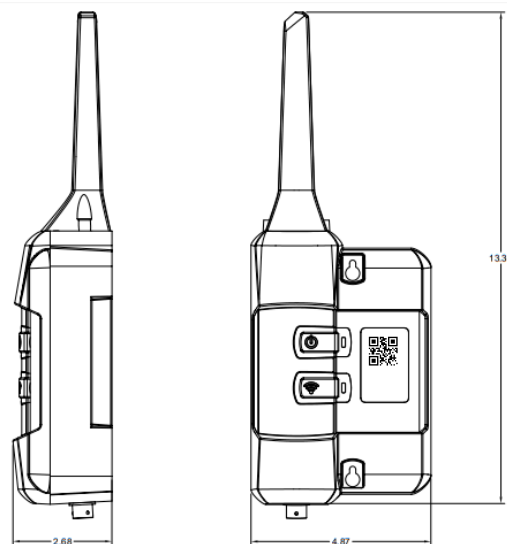
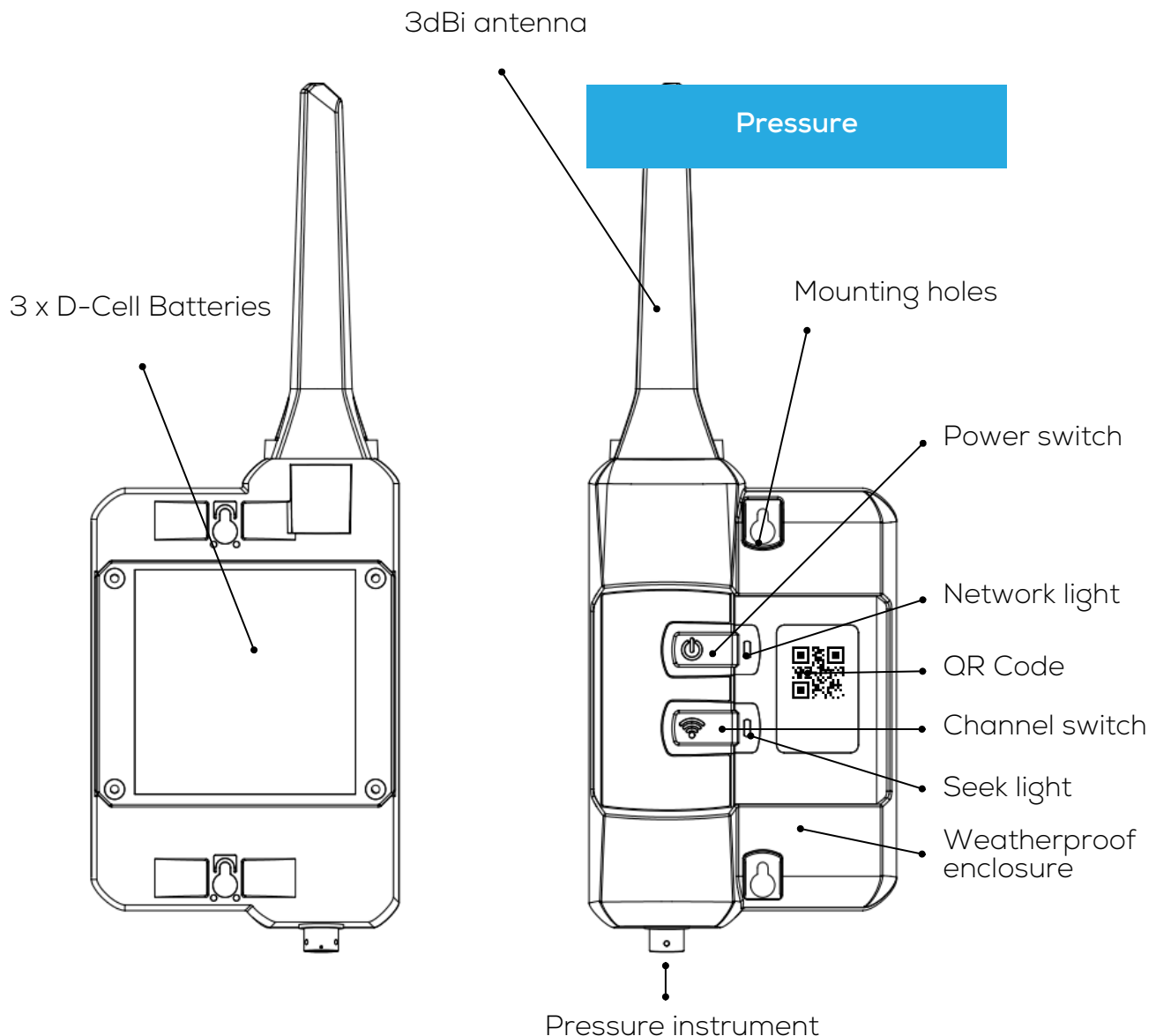


Figure 2: Technical drawing

The Pressure A-link is a high precision, temperature compensated sensor with long-term stability. It can measure pressure in liquid, gas and vapor lines. The A-Link uses an I2C transducer to measure and transmit the pressure and temperature through the SpiderMesh network and to Smartrek's applications. The transducer is built from a flush diaphragm and works following the piezoresistive principle. The body is made from a 316 stainless steel housing high shock, vibration and EMI/RFI protection. It will survive the most extreme conditions. It is suitable for nearly all aggressive media. The transducer connects to the A-link with an M12 connector and a robust PUR cable with molded connectors.



General specifications

Specifications	Performance
Frequency Band	North America: 902-928MHz Europe, Australia/ NZ: 860MHz Japan: 925MHz
Wireless technology	SpiderMesh
Encryption	AES-128
Range	Up to 10km/7Miles (LOS*) 500m average (NOLS**) 300m (decidious forest)
Max hop count	30 (total range is 30x node-to-node range)
Max number of A-Link on network	Unlimited

*LOS: line of sight **NLOS: near line of sight

Technical specifications

Specifications	Unit	Description
Sensor type	-	Absolute (A) Gauge (R) Sealed gauge (S)
Operating temperature of the measured medium	C°	-25 to 125
Operating temperature of the A-Link	°C	-18 to 55 3 x D cell alkaline batteries
Pressure resolution	psi	0.1
Temperature resolution	°C	0.1
Cable length	m	2

Technical specifications

Specifications	Performance (Holykell)	Performance (Anfield)
Safe Overload Burst Pressure	200% F.S. 300% F.S.	140% to 200% F.S. 180% to 400% F.S.
Pressure Accuracy Temperature Accuracy	±0.5% F.S. ±0.5 C°	±0.5% F.S. ±1 C°
Long Term Stability Zero Temp. Drift	0.2% F.S. ±0.05% 0.05%F.S./°C (≤100kPa) 0.02%F.S./°C (>100kPa)	<0.3% F.S. @ 77F/25°C NA
Material of diaphragm Body materials	316L Stainless steel 316 Stainless steel	Ceramic Al2O3 304 Stainless steel
Mechanical vibration	±20g	±10.20g
Pressure connect port	Standard: 1/4"NPT male Optional: • 1/8"NPT male • 1/2"NPT male	Standard: 1/4"NPT male
Water proof	IP65 > 100 million cycles, 0 to 100%F.S. at 25°C	IP67

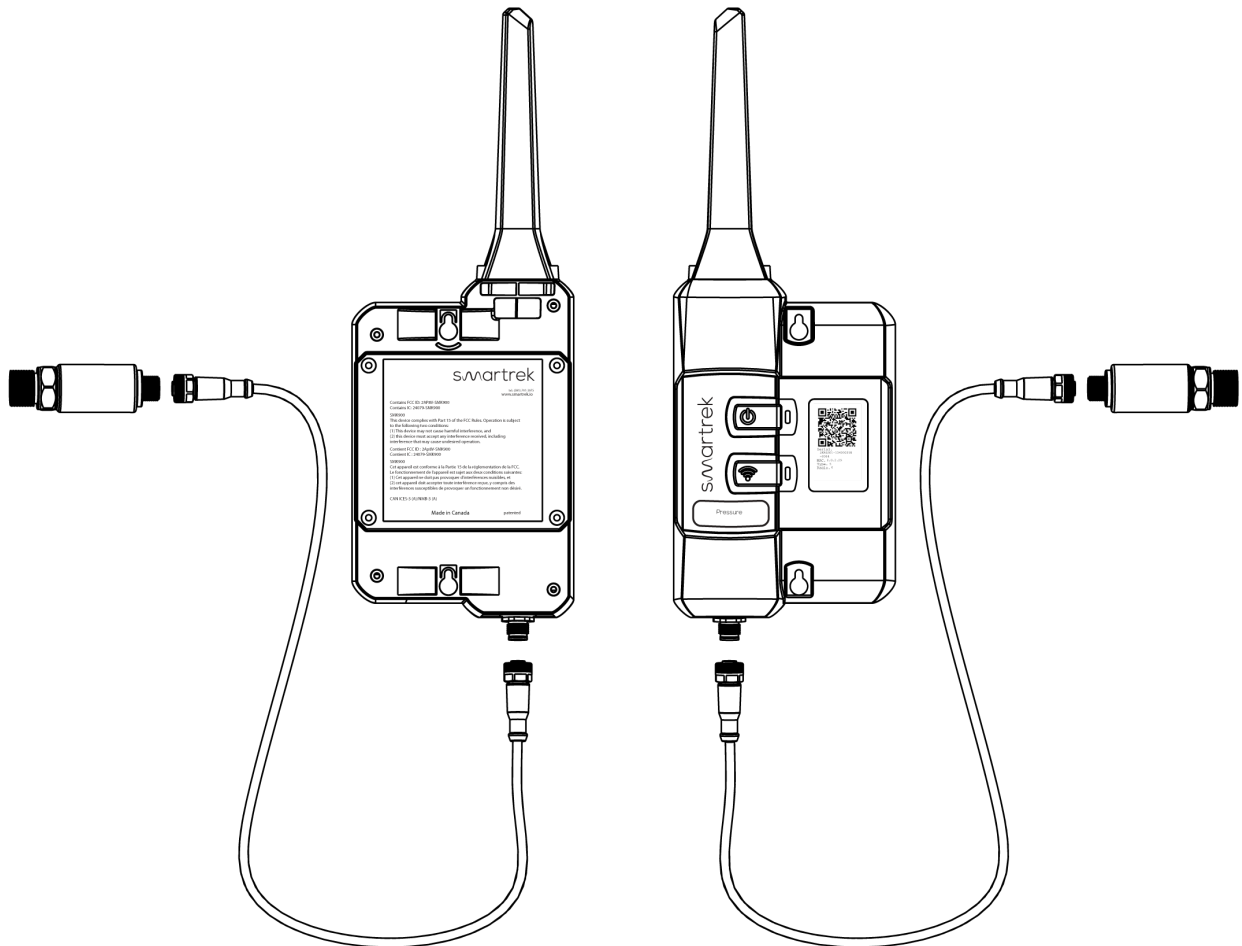


Figure 3: Holykell Transducer



Figure 4 : AnfieldTransducer

Pressure A-Link connected to transducer



Power consumption

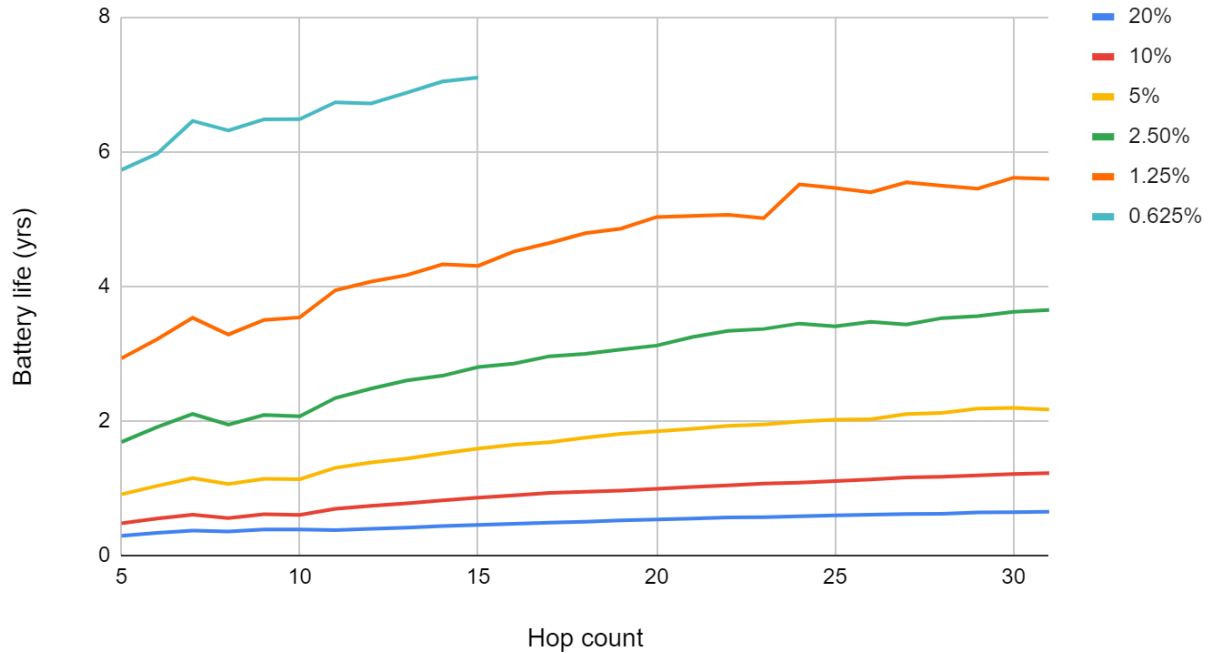
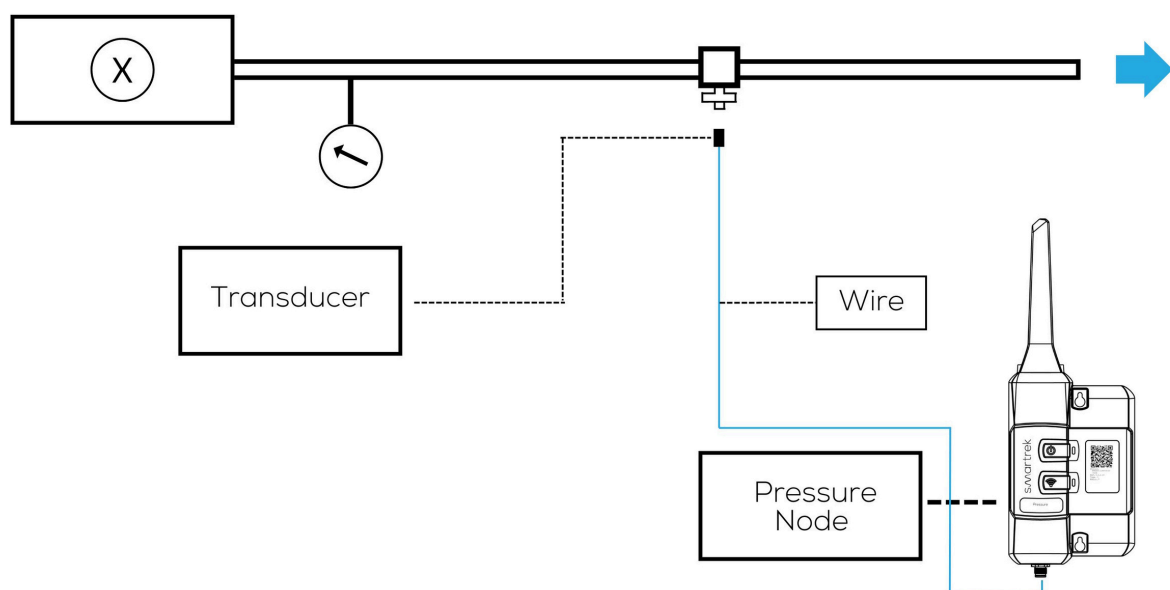


Figure 5: Battery life vs. hop count

Connecting Pressure A-Link



Ordering information

