Dual Flowmeter
PRGEN-FLO-1-N-DUAL-000

SMARTREK Datasheet DUAL FLOWMETER

Why use the Dual Flowmeter A-Link?

The Dual Flowmeter A-Link is a two-channel, long-range wireless pulse receiver and pulse counter. When used with a flowmeter that can provide bidirectional measurement, it uses one channel for the forward flow and the second one for the reverse flow. The positive and negative pulse count is stored directly on the A-Link, enabling it to remember the total number of pulses it has counted in its lifetime. Additionally, it is equipped with a 0-300 PSI pressure transducer to measure the pressure in the conduit. This combination node is an ideal solution for monitoring water leaks in any aqueduct system, as it simultaneously monitors flow and pressure.

Figure 1: Dual Flowmeter

Applications

- Industrial process control
- Agriculture & irrigation systems
- Water & Wastewater applications
- Power & Utilities
- Dewatering, Remediation & Construction Processes
- Gas & steam flow measurement
- Environmental monitoring

Features

- Dual channel dry contact inputs
- Compatible with 5V pulse output
- Up to 10km range
- Continuous bidirectional flow monitoring
- Resettable totalizer
- 0-300 PSI Holykel Pressure transducer
- Temperature monitoring
- Reads a signal up to 2.8kHz
- Robust design for outdoor environments
- Compatible with most flowmeters on the market

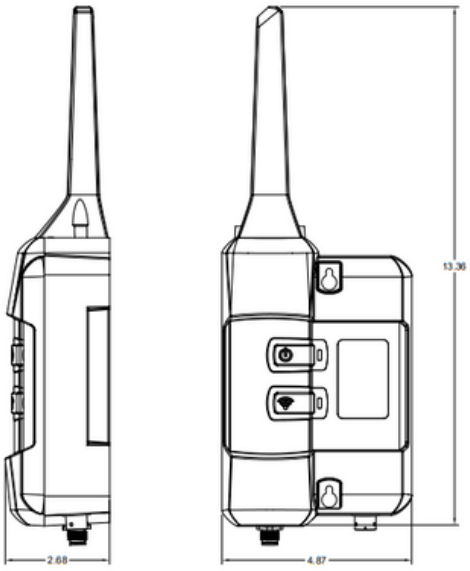
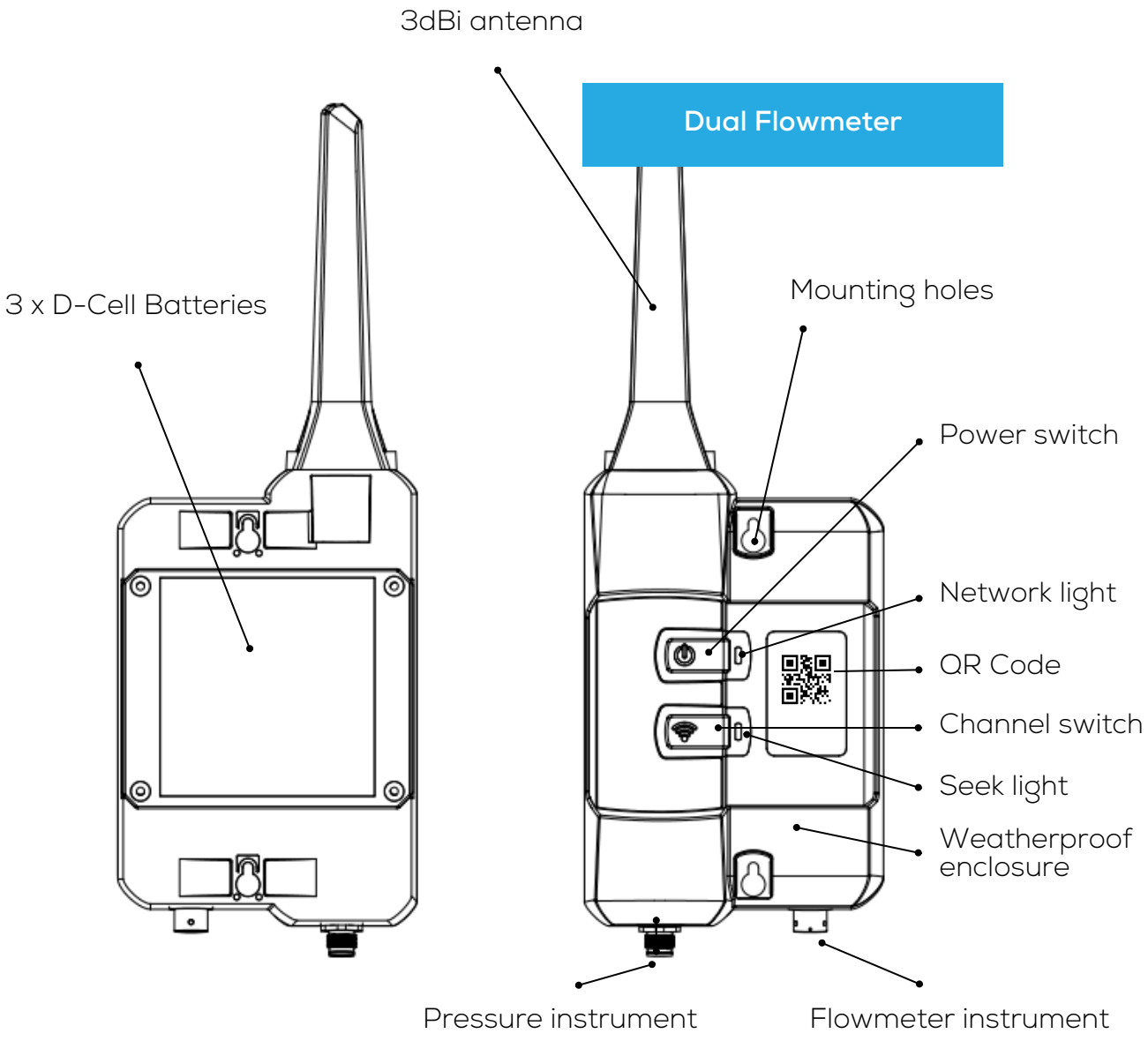


Figure 2: Technical drawing

Options for pulse debouncing conditioning

- Unconditioned
- 100Hz
- 1kHz
- 10kHz

These filters allow the sensor to pick up unclean signals and convert them into clean pulses. For example, a pulse from a mechanical or reed switch will not generate a perfect square wave, thus resulting in the registration of multiple pulses. In that case, a debouncing filter would be required, and the type would depend on the maximum output frequency signal the A-link will receive. The unconditioned option requires a clean square wave pulse, typically available on most magmeters with pulse output options.



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	Performance
Nb of bidirectionnal channel		1
Max frequency at input	kHz	2.8
Maximum positive pulse count		2^{32} (4,294,967,296)
Maximum negative pulse count		2^{32} (4,294,967,296)
Max voltage at input	V	5.5V
Close circuit current	mA	0.4
Open circuit voltage	V	3.3V
Volume unit	L, gal, imp gal, kg, lb, MT, t(S/T), t(W/T)	
Time unit	s. min. h.	
Pressure Transducer series		HPT200-EC
Pressure Range *	PSI	0-300
Pressure accuracy	% F.S.	±0.5
Burst Pressure	% F.S.	300
Safe Overload	% F.S.	200
Temperature Accuracy	°C	±0.5
Flowmeter connector		Bare wires
Pressure connection port		1/4" NPT male

*For other pressure range please contact us with your requirement

Power consumption

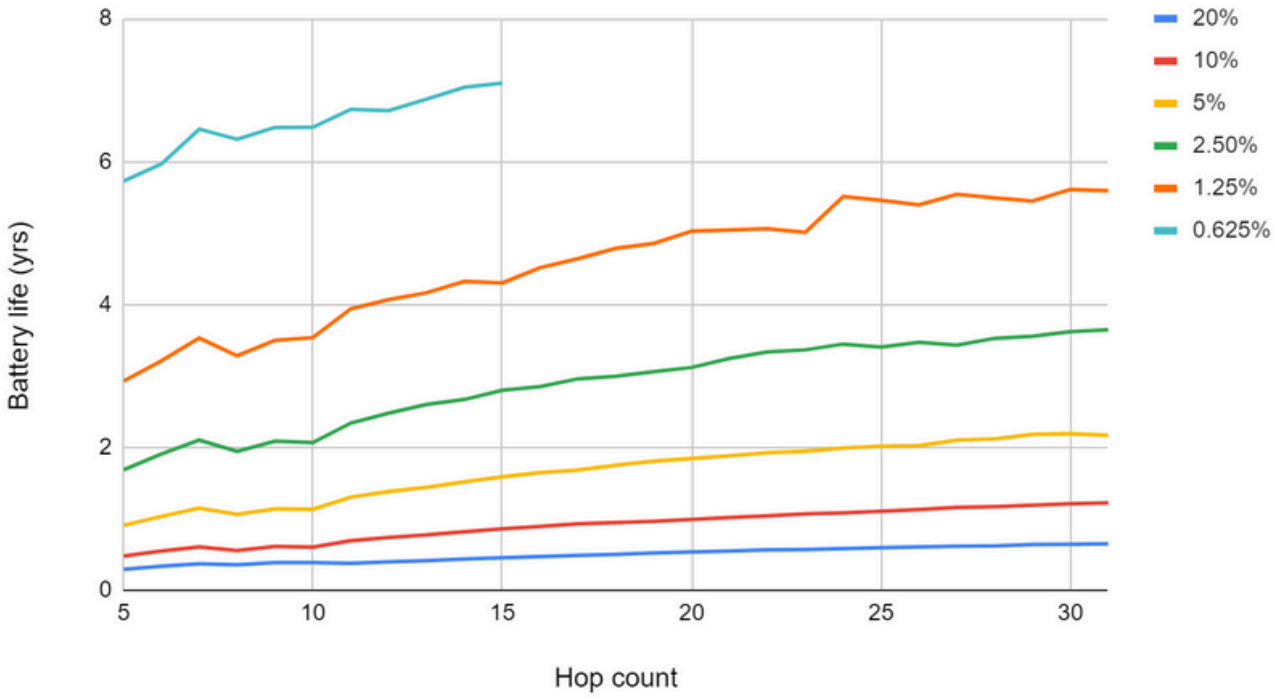
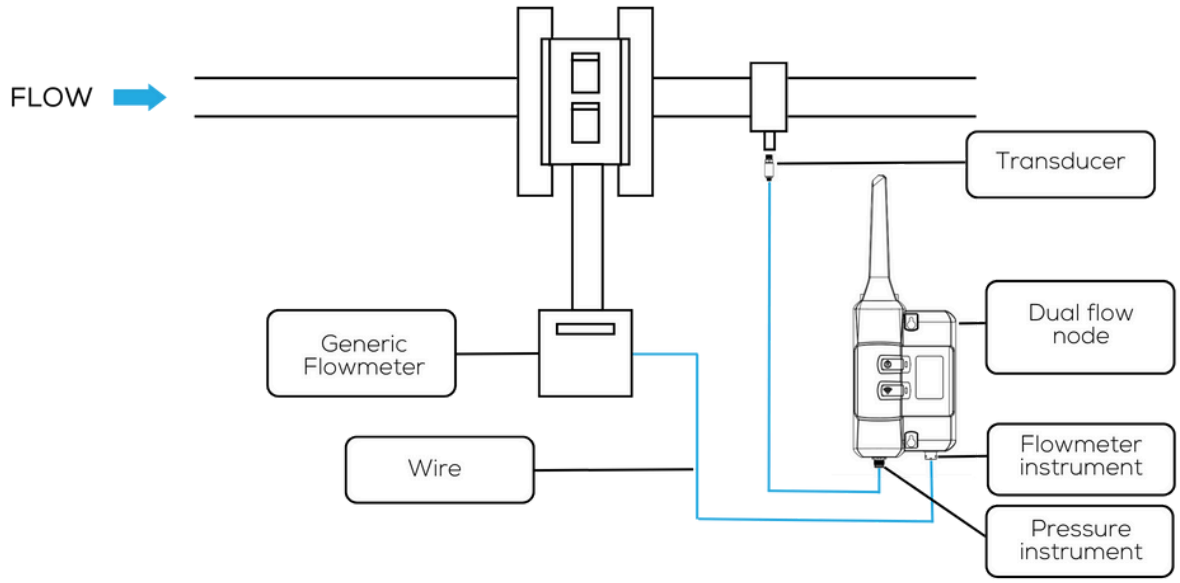


Figure 3: Battery life vs. hop count

Connecting Dual Flowmeter



Wiring specifications

Hardware Specifications	Pinout
Pulse inputs Dual Flowmeter	1. Common - (black) 2. Forward pulse + (white #1) 3. reverse pulse + (white #2) 4. Not connected
Input pressure transducer	1. VCC 2. SCL 3. SDA 4. GND

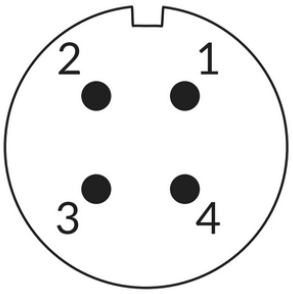


Figure 5: Pinout

Ordering information