

# Flowmeter Sensor

## Model PRGEN-FLO

SMARTREK Datasheet FLOWMETER

### Why use the Flowmeter A-Link

Flowmeters are widely used in municipalities to accurately measure water flow in pipes. By measuring the volume of water flowing through the pipe over a given period of time, usually expressed in gallons per minute (GPM), they provide valuable data which can be used to calculate water consumption and detect leaks.

### Applications

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

### Features

- Single channel passive pulse counter
- Compatible with 5V pulse output
- Up to 10km range
- Continuous flow monitoring
- Resettable totalizer output
- Reads a signal up to 2.8kHz
- Robust design for outdoor environments
- Up to 5 years battery life expectancy
- Compatible with most flowmeters on the market

### Description

The A-Link Flowmeter is a single-channel, long-range wireless pulse counter that can be connected to the pulse output of any sensor, flowmeter, or water meter. It can count both passive and active pulses and calculate the flow rate by averaging the total pulse count over 10 seconds. Additionally, the A-Link stores the total pulse count in its internal memory, allowing it to keep track of the totalizer value even when disconnected from the ATRAX gateway. Note that debouncing conditioning may be necessary depending on the type of pulse output connected to the A-Link.



Figure 1: Flowmeter A-Link

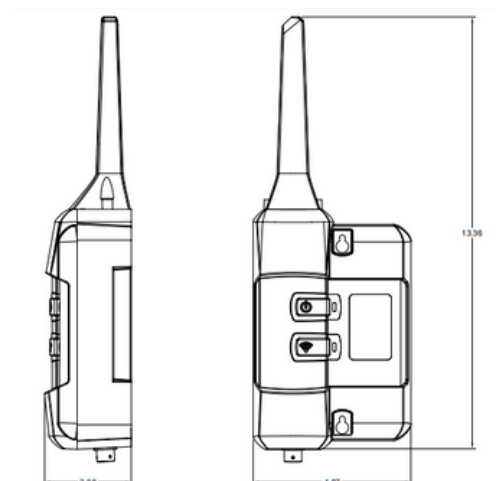
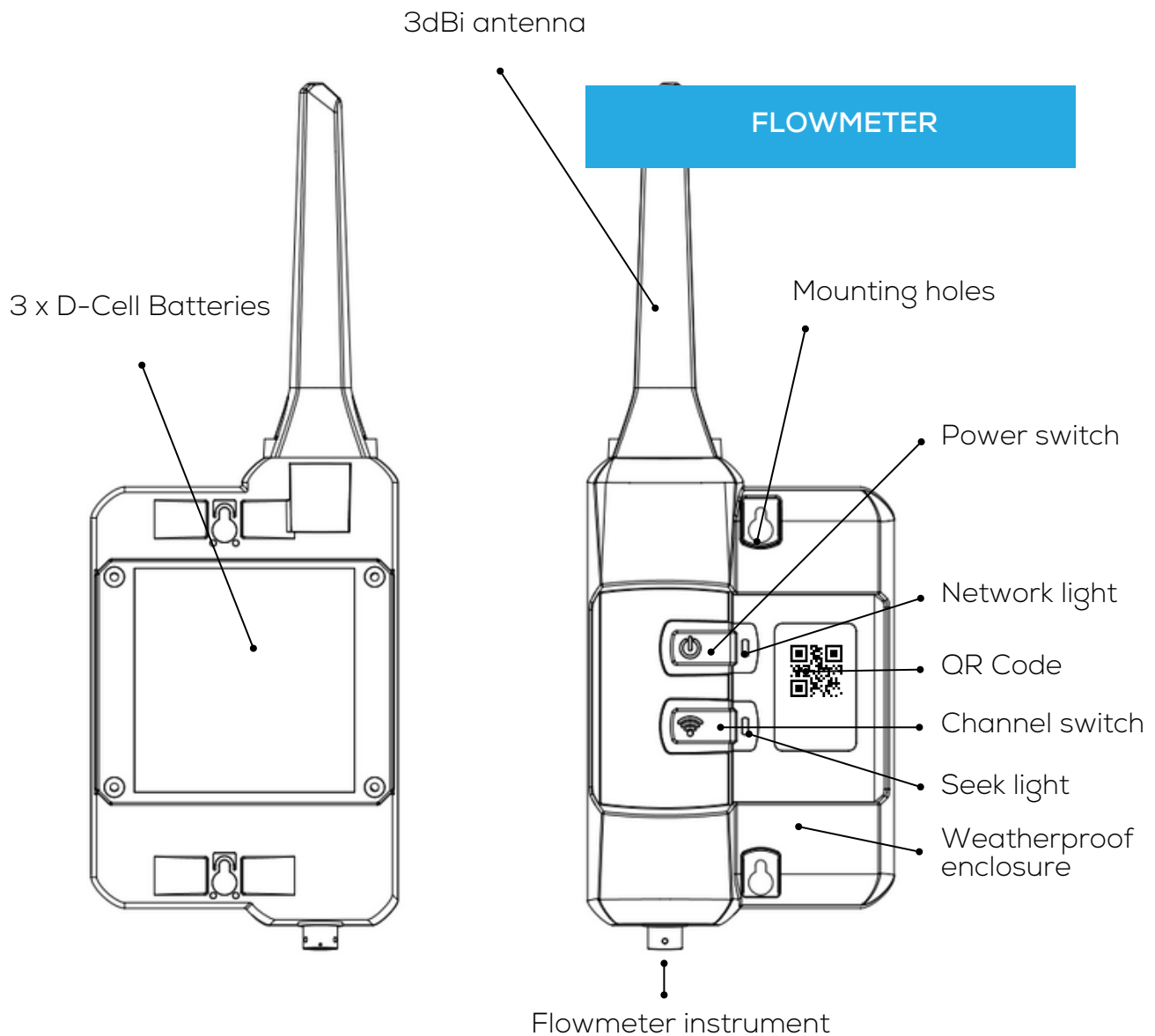


Figure 2: Technical drawing

**Description**

- Unconditioned
- 100Hz
- 1kHz
- 10kHz

These filters enable the sensor to pick up signals and convert them into clean pulses. For example, a mechanical or reed switch pulse will not generate a perfect square wave, resulting in multiple pulses being registered. In this case, a debouncing filter would be required, depending on the maximum output frequency signal that the A-Link will receive. The unconditioned option requires a clean square wave pulse, typically available on most flowmeters.



**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 channel		1
Max frequency at input	kHz	2.8
Maximum pulse count		2 <sup>32</sup> (4,294,967,296)
Max voltage at input	V	5.5V
Close circuit current	mA	0.4
Open circuit voltage	V	3.3
Volume unit	L, gal, imp gal, kg, lb, MT, t(S/T), t(W/T)	
Time unit	s, min, h	
Debouncing cutoff frequency	kHz	0.1, 1, 10*

\*By default 1 kHz

Power consumption

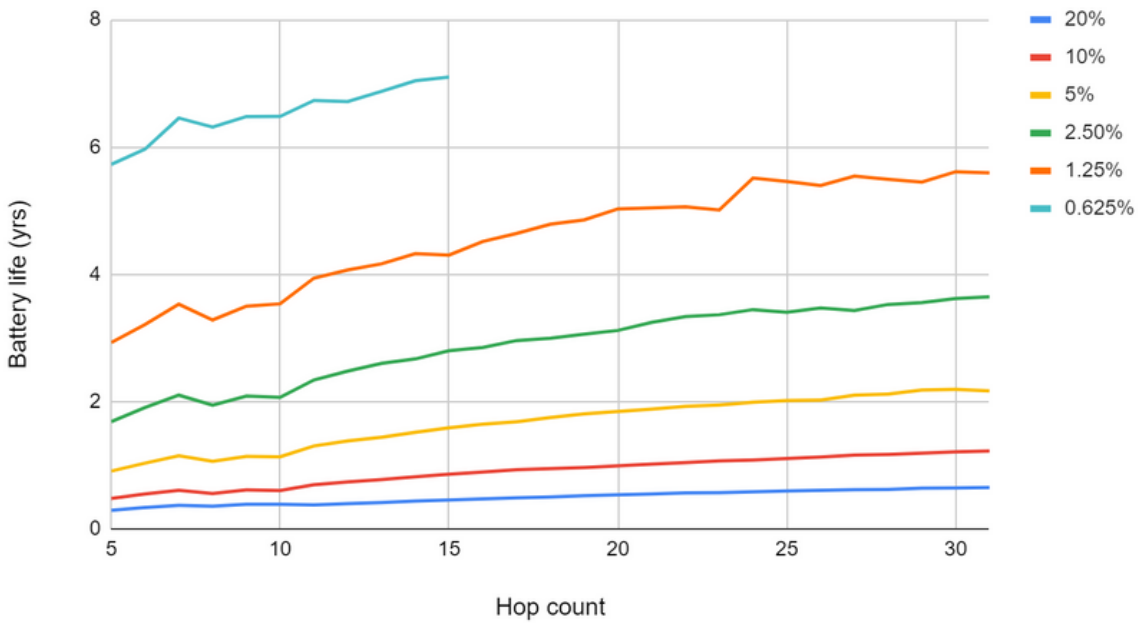


Figure 3: Battery life vs. hop count

Connecting Flowmeter A-Link

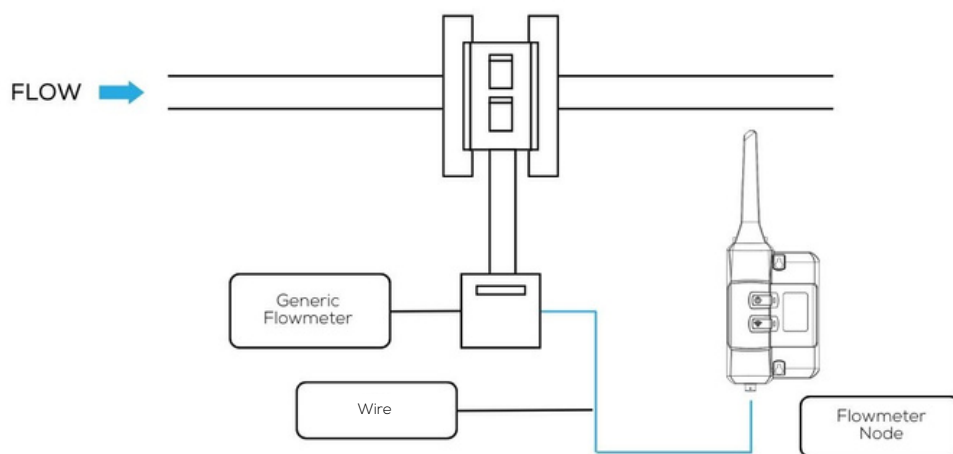
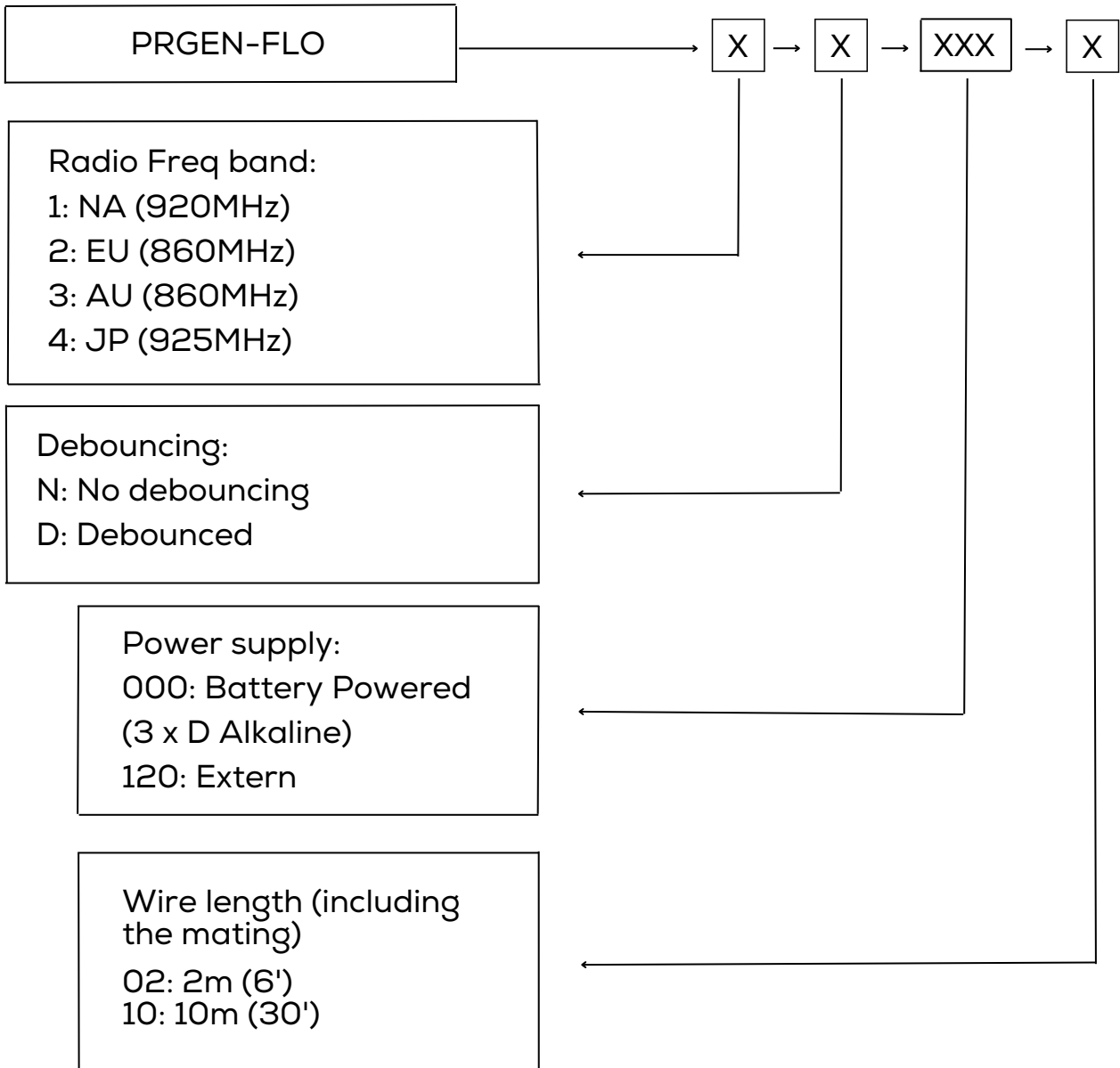
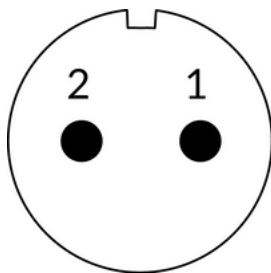


Figure 4: Flowmeter diagram

Ordering information



Pinout specification



Hardware Specifications	Pinout
<ul style="list-style-type: none"> <li>Standard pulse input Flowmeter</li> </ul>	<ul style="list-style-type: none"> <li>Pulse + (white)</li> <li>Pulse - (black)</li> </ul>

Figure 5: Pinout scheme