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Meter Interface Unit (MIU) Whisker.IO™ Sensor

General Description

Whisker.IO SensorBlocks™ are battery powered, long range wireless devices that can monitor and control the world around them from up to 4 miles away. They are designed to be extremely flexible and can easily be configured to meet exacting requirements.

The *MIU* **SensorBlock** measures consumption using any pulse output water/gas/electric meter. An optional valve control circuit allows remote control of a 12V motorized shutoff valve. See specifications for more information.

Power

Each SensorBlock™ can be powered for up to 5 years from 2xAA batteries or can be powered externally via the removable terminal strip.

Normally, the block would be powered by batteries, but If the open collector output is required, the block will need to be powered externally from a 2.7 to 3.6V power supply.

Mechanical

Commercial blocks are extremely small (3x2x1.5”) and come with a multi-use mounting bracket that can be attached in a number of ways. The bracket can be screwed to a wall using the included screws and wall anchors or it can be strapped (or zip tied) to an odd shaped surface like a pipe.

Antenna

For normal applications, the SensorBlock™ comes standard with an internal antenna. In applications where extreme range is required or where an external antenna is required, SensorBlocks can be shipped with a RPSMA antenna connector which is compatible with our TQX-900E di-pole antenna.

Internal Channels

The MIU SensorBlock is configured to monitor battery voltage and temperature. It reports these values on the same period as the consumption values.

Channel	Description	Sampling
AI3	Battery Voltage	Periodic, Window Event
AI29	Temperature (+/- 1C)	Periodic, Window Event

External Connections

Terminal	Description	Sampling
1	VCC	NA
2	Valve On	NA
3	Valve Dir	NA
4	NA	NA
5	Pulse In	Periodic Counter
6	GND	NA

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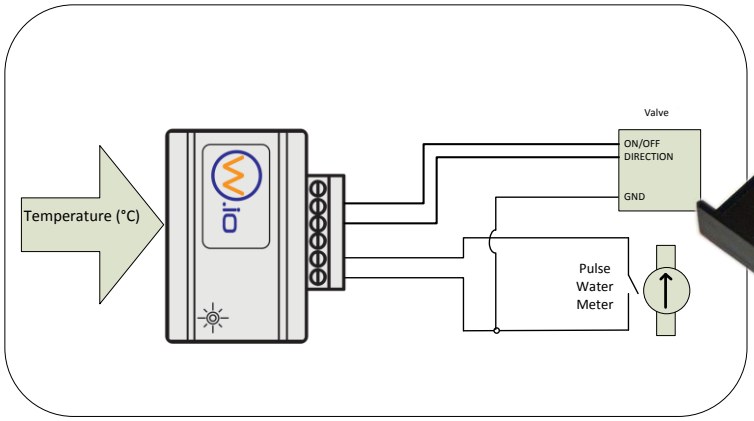
Typical Application – Water Sub-Metering



Electrical Specification

Parameter	Minimum	Typical	Maximum	Units
External Supply voltage	1.8	3.0	3.6	VDC
Battery life – 2xAA Energizer Alkaline		5		Year
Operating Temp. Range (with alkaline batteries)	-20	25	40	°C
Operating Temp. Range (with LiFeSO2 batteries)	-40	25	60	°C
Operating Temp. Range - external power	-40	25	85	°C
Transmission range		4		Miles[1]
Temperature measurement range	-40		80	°C
Temperature measurement accuracy	-4		+4	°C
AIN1 analog voltage input range	0		2.5	V
AIN1 analog-to-digital conversion resolution		10		Bits
Maximum periodic sample rate	-	-	24	Hours/sample
Minimum periodic sample rate	5	-	-	Minutes/sample
Valve Operating Voltage		12V		mA
DO0 – open collector output max voltage			50	VDC

Order Information

Part Number	Description
SB-900-1000-I	902-928MHz MIUc SensorBlock with internal antenna
SB-900-1000-E	902-928MHz MIU SensorBlock with external RPSMA connector
SB-900-1001-I	902-928MHz MIUc SensorBlock with internal antenna and valve control
SB-900-1001-E	902-928MHz MIU SensorBlock with external RPSMA connector and valve control

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