



Technical Guide WIT1.5

Cyble 5

Multi-connectivity RF Module for IoT LoRaWAN and Sigfox data collection.

The Cyble 5 is a unique solution helping utilities engage in the ongoing digitalization of their water and gas distribution networks. Designed to transform mechanical meters into communication data points, Cyble 5 enables IoT data collection using LoRaWAN or Sigfox networks allowing for improved billing efficiency, customer service and more.

FEATURES AND BENEFITS

Designed for the field.

Easy to connect through a clip-on design with no wiring or wall mounting required, Cyble 5 is compact with an integrated antenna allowing for use in a wide range of existing meter box installations.

Robust under severe conditions.

Conceived to resist water, contaminants, corrosion, rough handling, and temperature cycling for a preserved reliability over time. Adaptable to water and gas environment, Cyble 5 is also IP68.

Fine-tuned by decades of industry expertise.

Cyble's patented technology ensures a perfect correlation between the mechanical meter register and the digital index for sustained accuracy. Compatible with Itron's Cyble-ready range of mechanical water meters & c-Series gas meters.



Interoperable with open standards
(LoRaWAN/Sigfox)

INTEROPERABLE WITH OPEN-STANDARDS.

With out-of-the-box connectivity options, Cyble 5 modules operate with open standard IoT network protocols (LoRaWAN /Sigfox).



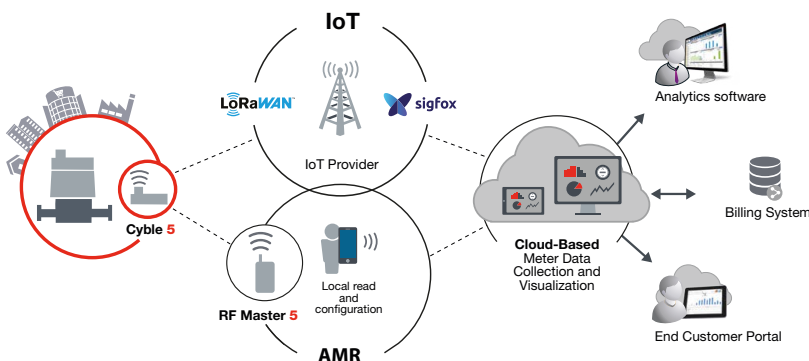
IoT Networks (LoRaWAN™ or Sigfox®)

Connect smart water meters to networks dedicated to the Internet of Things (IoT) using LoRaWAN™ or Sigfox® technologies.



Wireless read and configuration

Wirelessly read and configure Cyble 5 on the spot using Itron's RF Master 5.



EXTENDED DATA SET FOR WATER AND GAS UTILITIES

Supporting digital transformation, Cyble 5 helps utilities engage in their key operational challenges by transforming data collection through IoT. Delivering timely, relevant, and extensive sets of data in water and gas, Cyble 5 allows for a better understanding of resource use and improved customer relationships.



Billing Index & Consumption Data Logging

Daily billing and custom billing functions along with precise consumption data logging up to 15min resolution



Flow Distribution

Precise monitoring of the distribution flow



Backflow / Reverse Flow

Detection and quantification of backflow to help assess water quality and/or sanitary risk

Alerts

Alarms are generated when important events are detected, such as:



- » Leakage at customer side
- » Tamper, blocked meter, reversed meter
- » Backflow, peak flow
- » Oversize/undersize
- » Temperature high, temperature low

Diagnostics

Good system performance is ensured via monitoring of:



- » Battery level
- » Configuration settings
- » Clock synchronization in LoRaWAN

Technical Specifications

Radio Frequency Features	
Protocol	LoRaWAN™AS923, Sigfox® RC4, proprietary Mobile AMR
Modulation	CSS (LoRa®), BPSK (Sigfox®), FSK
Frequency carrier	915-928 MHz
Radiated power	≤ 25 mW (LoRa®, Sigfox® RC4), ≤ 3 mW (Mobile AMR)
Battery lifetime	Up to 14 years*
Functional Specifications	
Power source	Lithium batteries
Protection	IP 68
Relative humidity	0 to 100% - submersible
Operating temperature**	-10°C / +55C***
Accidental temperature	-20°C / +70°C

* in standard conditions of use and temperature, theoretical lifetime without guarantee, depends on connectivity mode and reporting interval.

** Under normal applications with the specified reference operating conditions.

*** Operation: +5°C to +35°C / Storage: +5°C to +35°C / Transport: Min -20°C (<24 hours continuous), Max. +70°C (<24 hours continuous), / Min. operational temperature: -10°C (< 15 days/years) / Max operational temperature: +55°C (<15 days/years).



Dimensions (mm)

Compliance

- » IP68 certified according to EN 60529
- » AS/NZS 62368-1
- » AS/NZS 4268
- » AS/NZS CISPR32
- » EN 300 220, EN 300 328, FCC Part 15

Connectivity Certifications

- » LoRaWAN R1.0.2
- » Sigfox V2.6.0



Aquadis+ equipped with the Cyble 5 module



TD8 equipped with the Cyble 5 module