



Technical Guide WIT1.1

M-Bus Cyble v2.0

STANDARD 2.0

Cyble technology for water meter remote reading with M-Bus protocol

Cyble communication modules have been designed to fulfil requirements of all utilities willing to remote read their water or gas meters. As water meters are an important investment for utilities, all Itron water meters are pre-equipped considering actual or future evolutions towards remote reading technologies. The Cyble M-Bus facilitates the integration of Itron water or gas meters into a M-Bus network. This module offers advanced reading functionality that enables the utilities to offer additional services to their customer.

FEATURES & BENEFITS

- » The Cyble M-Bus suits to remote reading applications through M-Bus networks in residential, commercial and industrial uses. It provides all relevant data according to EN 13757-2 and EN 13757-3 2013.

Ease of Installation

The Cyble M-Bus is completely compatible with all Itron water and gas meters equipped with the Cyble target.

- » It can be easily retrofitted and installed on meters already on the field.
- » With a few easy installation steps, the meter seal and protective cap do not need to be broken or dismantled.
- » It can be shipped already mounted (and configured) on the meter.

High Reliability

With the proven and patented Cyble detection technology the electronic index of the Cyble M-Bus is always the mirror

image of the mechanical index.

The integrity and reliability of this data is key for use in billing applications.

- » Magnetic tampering is impossible since the non-magnetic target is not influenced by an external magnet.
- » As the detection is by change of induction the unit can be operate in flooded pits.
- » It is designed to withstand harsh environments (IP68).
- » The Cyble M-Bus complies with E.M.C. standards for protection against electromagnetic disturbances.

Useful Basic Data

Transmission of standardized data:

- » Date and time.
- » Primary and secondary address.
- » Volume and back flow indexes.
- » Alarms: tampering detection and low battery.

Standards Compliance

- » M-Bus according to EN13757-2 and 13757-3 2013 in the scope of the CEN TC 294.
- » EEC marking.



Pre-equipped register with the Cyble Target

GENERAL TECHNICAL SPECIFICATIONS

M-Bus features

Compliant with	EN13757-2 and EN 13757-3 2013
Baud rate	300 to 2400 bps
Cable	2 wires, non polarized cable

Functional Specifications

Operating temperature	-10 °C/+55 °C
Storage temperature	-20 °C/+55 °C
Case protection	IP68
Power source	Lithium battery
Battery life time*	15 years (Note: since the M-Bus communication is powered by the bus, the number of readings does not affect the battery life time)
Dimensions	92 x 57 x 30 mm
Cable dimensions	3 m two wire cable, 2 x 0,25 mm ²

* Under normal applications within the specified working temperature range

DETAILED FUNCTIONALITIES

- » Customer ID (10 digit alpha-numerical).
- » Peak flow management (memorization over the last 13 months).
- » Monthly Fixed Date Reading (FDR) of volume over the previous 13 months: Tariff applications, Tenant change, ...
- » Leakage Detection above 2 thresholds recorded over the previous 13 months.
- » Back flow detection (temporary or permanent) records over the previous 13 months.
- » Tampering detection => dismantling module alarm temporary and permanent.

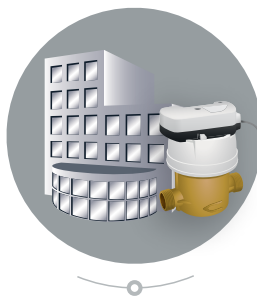
The new version of M-Bus Cyble Standard 2.0 embed new functionalities:

- » 2 possibility to choose 2 different “default frames”
 - one fully compliant with the previous (Factory choice)
 - one with updated manufacturer identification, and suppression of the plain text VIF (Bat Life time & Customer Id)
- » Improvement of utilisation with Gas meter, with the possibility to choose Corrected or uncorrected index for volume identification.

APPLICATIONS

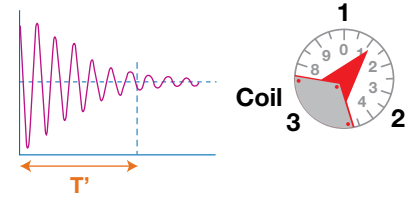


- » Individual properties
- » Multiple properties

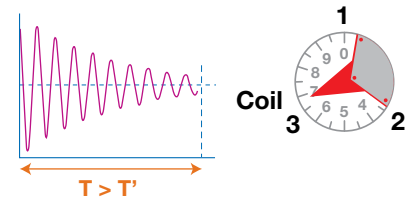


- » Combined properties
- » Commercial buildings
- » Industrial application

TARGET PRINCIPLE



Target present



Target absent

ACCESSORIES AND SOFTWARE TOOL

The cyble M-Bus is delivered with:

- » 3 m cable
- » Fixing screw
- » Plastic seal

For reading, retrofit installation or parameters setting, a Configuration Tool “M-Bus Field Tool” is available.

