



AnyQuest Pulse Enhanced

Radio Module for Remote Meter Reading

The AnyQuest Pulse Enhanced module has been designed to fulfil the requirement to easily connect any meter with pulse output to the Itron AMR systems.

With this generic interface module water, gas, electric, heat and cooling meters can be integrated into the AnyQuest radio reading systems.

Benefits of Wireless Solution

- » Radio meter reading increases the reading speed.
- » The data reliability is improved significantly by avoiding typing or writing errors.
- » The radio reading also opens the accessibility to all meters even if the customer is absent or the meters are installed in hard to read locations.

AnyQuest Pulse Enhanced Working Technology

- » Based on the proven design of AnyQuest Cyble, the Pulse Enhanced works reliably even in harsh environments.
- » It counts, memorizes, analyses, and transmits on request, the consumption data of any meter via mobile or fixed network reading systems.
- » The AnyQuest Pulse Enhanced is compatible to the open RADIANT radio protocol.

Ease of Installation

Thanks to the special design, it can be easily fixed on the piping or screwed on the wall.

The cable connection to the pulse emitter can be easily done on site and it is protected by a sealed cover.

Consistent Reliability

With the long experience in battery powered metering products, Itron knows that reliability is key for customer satisfaction.

- » The enhanced power management allows 15 years of mobile use.
- » With the IP 68 protection the device can even be installed in flooded pits.
- » Special electronic design ensures long communication range even in very densely populated and RF perturbed areas.

- » The AnyQuest Pulse Enhanced case is made of extra robust plastic material which makes it resistant to shocks and UV-lights.

Advanced Functions

AnyQuest Pulse Enhanced provides powerful smart functions, adding value for your AMR / AMI applications:

- » Up to 181 consumption intervals
- » Leakage alarm + 13 months history
- » Backflow alarms + backflow index
- » Tamper alarm
- » End of battery lifetime indicator
- » Metering intelligence functions:
 - meter oversized
 - meter undersized
 - meter blocked.
 - peak flow log + 13 monthly alarms
 - 2 x time of use indexes
 - critical alarms are date stamped.

Radio Frequency Features

| | |
|--|--|
| Protocol | RADIAN |
| Modulation | Frequency Shift Keying |
| Frequency & power | 433.82 MHz ; ≤ 10 mW ERP |
| Transmission | Symmetrical 2 way communication |
| Reed input char. Solid state input char. Dir. / Backflow input char. | $R_{on} \leq 1 \text{ k}$ with $R_{off} \geq 2.2 \text{ M}$ or $R_{on} \leq 50$ with $R_{off} \geq 1 \text{ M}$; $f_{max} \leq 10\text{Hz}$; $t_{pulse} \geq 6\text{ms}$ $R_{off} \geq 1 \text{ M}$; $R_{on} \leq 30$; $C_{out} \leq 1 \text{ nF}$ (logic high = forward flow counting) |
| Tamper contact (normally open or normally closed depending on configuration) | Pulse length $\geq 2 \text{ s}$ (normally closed) $f_{max} = 0.1 \text{ Hz}$; $R_{on} \leq 1 \text{ k}$ with $R_{off} \geq 1 \text{ M}\Omega$ |
















Functional Specifications

| | |
|-------------------------|---|
| Dimensions | 138 x 54 x 59 mm |
| Battery lifetime (min.) | 15 years mobile reading use |
| Case protection | IP 68 submersible |
| Relative humidity | 0 to 100% |
| Operating temperature** | -10°C / +55°C*** |
| Accidental temperature | -20°C / +70°C |
| Conformity | CE certified, in accordance with the European R&TTE directive (1999/5/EC) Atex version available on request. |

* High Temperature (HT) version also available on request.

** 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).

Enhanced Functionalities

| | | |
|---|---------------------------|---|
|  | Volume index | Volume index at time of reading |
|  | Preset billing date. | Volume index recorded at 4 preset dates (programmable) |
|  | Data-logging | History of up to 181 consumption intervals (hourly, daily, weekly, monthly) |
|  | 2 Time-Of-Use Indexes | Registers consumption within a defined intervals of the year and day |
|  | Volume above threshold | Total consumption above a high flow-rate threshold |
|  | Volume below threshold | Total consumption below a low flow-rate threshold |
|  | Meter sizing indicators | 2 x 13 monthly indicators if the meter is oversized or undersized. |
|  | Leakage information | 13-month history of number of leakage days |
|  | Backflow volume and alarm | Total backflow volume and 13 monthly alarms |
|  | Meter stopped detection. | Alarm if no consumption over a configurable period has been recorded. |
|  | Reversed meter detection | Alarm if > 1000 consecutive pulses in reverse direction have been recorded. |
|  | Module tamper detection | Alarm if the radio module has been tampered. |
|  | Alarm log | Log of start and end dates for last recorded critical alarms |
|  | Peak flowrates | 5 highest peak flow-rate values with date of occurrence |
|  | Peak flow alarms | 13 monthly alarms if the peak flow threshold has been exceeded. |



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For more information, contact your local sales representative or agency:

ITRON WATER METERING

9, rue Ampère
71031 Mâcon cedex
France

Phone: +33 3 85 29 39 00

Fax: +33 3 85 29 38 58