HYGRADE WATER

Itron

Technical Guide FM2.9

AnyQuest & EverBlu Pulse Enhanced

Radio Module for Remote Meter Reading

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

With this generic interface module water, gas, electric, heat and cooling meters can be integrated into the AnyQuest, EverBlu and UniGate 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 / EverBlu Pulse Enhanced Working Technology

» Based on the proven design of AnyQuest / EverBlu Cyble, the Pulse Enhanced works reliably even in harsh environments.

» It counts, memorises, analyses and transmits on request, the consumption data of any meter via, mobile or fixed network reading systems.

» The AnyQuest / EverBlu Pulse Enhanced is compatible to the open RADIAN 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 / 10 years of lifetime when read through EverBlu fixed network.

» With the IP 68 protection the device can even be installed in flooded pits.

» Special electronic design ensures long communication range even in very dense populated and RF perturbated areas.

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

Advanced Functions

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

» Up to 181 consumption intervals (24 hourly indexes when used in EverBlu / UniGate application).

» 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
  • peakflow log + 13 monthly alarms
  • 2 x time of use indexes
  • critical alarms are date stamped

Radio Frequency Features

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

AnyQuest Software

Functional Specifications

Dimensions	138 x 54 x 59 mm
Battery lifetime (min.)	15 years mobile reading use 10 years fixed network use (EverBlu / UniGate)
Case protection	IP 68 submersible
Relative humidity	0 to 100%
Operating temperature**	-10°C / +55°C***
Accidental temperature	-20°C / +70°C
Conformity	$C\epsilon$ 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 Functionnalities

	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 module has been tampered
	Alarm log	Log of start and end dates for last recorded critical alarms
	Peak flow-rates	5 highest peak flow-rate values with date of occurrence
	Peak flow alams	13 monthly alarms if the peak flow threshold has been exceeded
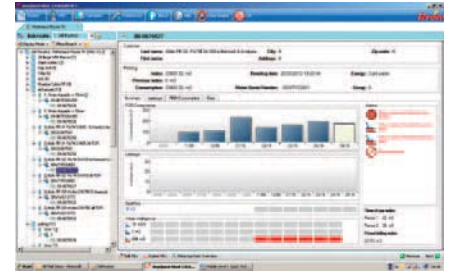
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