Detailed Submetering Specifications

Inovonics has prepared the following detailed specifications for its submetering product line to augment our product specific documentation, serving as a quick reference guide when evaluating submetering alternatives.

Is there something you don't see, or do you have a question about something listed? Please contact your account manager with questions.

Submetering Credentials

Number of employees	75+
Year founded	1986
First submetering system developed	1997
Pulse meter transmitters deployed	3 million+
Site survey kits (for estimating and troubleshooting)	EN7016 Survey Kit, EN7017 Survey Kit and App
Hardware warranty	3 years

Pulse Meter Transmitters

Indoor range*	25,000 Sq. Ft.
RF modulation	FSK (vs. GFSK) to ensure message delivery, minimize interference, extend battery life
Occupied bandwidth	Wide channel bandwidth to maximize range/battery life and minimize output power and error rate
ISM band utilization	25 channels across 25 MHz using the entire 902-928 band for better immunity to multi-path signal degradation
Adjacent channel rejection	Prevents adjacent channel reception to ensure message receipt
Frequency diversity	Sends each message on three different frequencies to minimize message loss due to multi-path interference
Time multiplexing	Uses a 21 msec long message on three frequencies to accommodate larger sites and higher transmission frequency while minimizing message collision
Low data rates	Improves range, extends battery life
Battery life	10 years in an indoor, climate controlled environment with specified battery
Battery	CR123A, custom made, non corrosive battery holder
Mounting options	Mounting bracket, zip ties, double sided tape
Alerts	Tamper, low battery
DOE efficiency standards (Level 6)	Install anywhere in the USA without concern for future rework

Repeater

Indoor range*	50,000 Sq. Ft.
Power supply	Commercial grade: Custom manufacture, intrinsically safe operations at 158°F, 100 year life expectancy, UL1310 wire pull test (vs. off the shelf consumer grade)
Back up battery	24 hours
Mounting options	Commercial grade: Secure, mounted to wall
Wiring connections	Commercial grade: Secure, inside case (vs. external which can become unplugged)
Alerts	Tamper, loss of power, low battery; jamming

* Actual range varies based on type of construction, RF interference and other factors. Data is directional only. Use a survey kit to determine range limitations by site.

Gateway

Power supply	Commercial grade: Custom manufacture, intrinsically safe (vs. off the shelf consumer grade)
Field updates	Firmware able to update over the air via internet connectivity
Buffering	30 days for 600 transmitters at 60 min check in
Transmitters supported	EN7580 – up to 2,000; EN7581 – up to 50
Wiring connections	Commercial grade: Secure, inside case (vs. external which can become unplugged)
Network compatibility	EchoStream (ES) and Frequency Agile (FA) Q1 2019
Ethernet	Integrated
Cellular	Compatible with Netgear LB2120 modem with auto failover
WiFi	Compatible with IOGEAR Ethernet 2 WiFi Adapter
Eligible for DCC trade in	Yes

Application

Key Features	Web-based with no software required, accessible on mobile device, cloud data storage, all functionality – to include reporting – available via open API, connectivity diagnostics
Reporting	Device Status (analogous to TapWatch 3 check in monitor), Exception Status/Leak Detection, Device Discovery (analogous to TapWatch 3 Com Port Sniffer), Reads History
Site set up	Auto registration, bar code scan, file import, quick site setup template
TW3 conversion	Automatic
TW2 conversion	Within 24-hours via Inovonics technical support
Network compatibility	EchoStream (ES) and Frequency Agile (FA)
Water/Temp detector	Contact Inovonics for details
Time stamp	Local time (vs. coordinated universal time or UTC)
Reads collected	Every 15 mins.
Permissions	Administrator managed at portfolio or site level, specific time period
User log in	Single log in, i.e. subcontractors use single log in to access multiple organizations

inovonics®