Waveflow™

Wireless Smart Meter Transceiver and Data Logger

Waveflow 2 is an advanced battery-powered wireless transceiver and data logger for demanding smart metering applications. Deployed in networks covering millions of homes and commercial locations around the world, this flexible ready-for-branding or OEM platform can be integrated into new gas, water and electric meter designs or connected with existing meters as an after-market add-on.

Waveflow provides fast remote access to all relevant meter information, allowing utilities to speed up data collection and billing cycles and to offer new value-added services to customers. Waveflow integrates Wavenis® wireless technology for large-scale automated metering networks as well as walk-by solutions.

- Logs meter index and events periodically

- Transmits data automatically or on-demand

- Issues alerts for leaks, tampering, backflow, low battery

Waveflow connected to modular pulse probe

OEM platform for smart meters

Waveflow 2 can be customized to meet your specific application and design requirements. A flexible OEM platform, this solution is available either as a finished ready-to-brand product in IP68 casing, or as wireless board that can be integrated directly into your new products.

- Wireless OEM card or ready-to-use module in IP68 casing

- Supports up to 4 meters
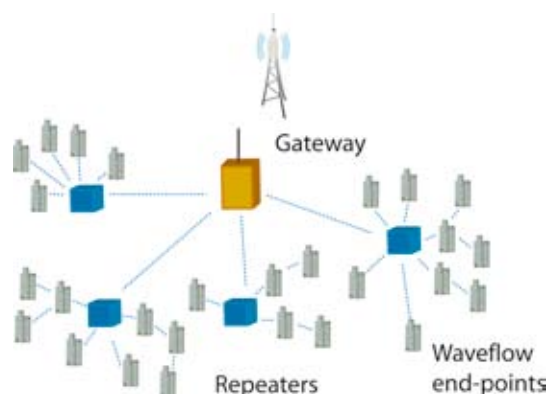
Industry–leading wireless performance

In metering networks, strong last-mile wireless coverage and long battery life in the field are among the most important factors for success and low-cost of ownership over time.

Waveflow is based on Wavenis wireless technology, a highly optimized ultra-low-power and long-range solution specifically designed to handle communications in harsh, complex and often unpredictable scenarios. With its unique approach to wireless network synchronization, Wavenis delivers the extreme long range and battery life required for cost-effective, easy-to-deploy and worry-free smart metering networks.

Waveflow solution integrated in custom casing

- Battery life over 10 years[1], even in highly dense networks

- Range up to 1 km/0.6 mi (25 mW/868 MHz, 10 mW/433 MHz); 4 km/2.5 mi (300 mW/915 MHz)

- Enhanced power saving technology

- Easy one-touch configuration in the field[2]

- Supports Wavenis synchronized or unsynchronized networks

Waveflow end-points collect and transmit data from remote sensors such as utility meters

Waveflow

Full-featured wireless sensor monitor

- Designed for walk-by and fixed network monitoring: compatible with Wavewalk software for walk-by solutions and Wavenet Manager for fixed network remote reading.
- Available in pre-potted plastic casing with external cable connection to compatible meters, or as OEM board for under-glass integration (includes helical antenna)
- Inputs for up to 4 identical meters
- Programmable data logging: stores up to 2,000 index readings
- Bubble-up daily data transmission (synchronous mode)
- Sample battery life: up to 10 years with 3.6V 3.6A.h battery (based on one bubble-up transmission per day)

Wavenis wireless connectivity

- Designed for large-scale metering networks
- Transfers data wirelessly to and from remote locations
- 2-way on-demand communications; automatic 1-way transmission (synchronous mode); spontaneous alerts
- Robust against physical and electronic interference
- Integrated range extender feature in every device: up to 3 repeaters to connect gateway to end-point
- Highly optimized for long battery life in the field (synchronized fixed networks, optimized data transmission)
- One-touch network integration[2] with Wavetalk range extenders and Wavegate Ethernet/GPRS gateways using Wavewalk software on a PDA (Wavenis interface via Waveport Bluetooth)
- Supports Wavenis synchronous or asynchronous networks

Dedicated metering profile

- Water valve profile for remote shutoff with compatible meters and equipment
- Alerts for major and residual leaks (programmable thresholds), back-flow, tampering and low battery, weak RSSI

IP68 Waveflow with cable connection

Product information

- Wavenis® 433 MHz, 868 MHz or 915 MHz transceiver
- Range (line of sight): up to 1 km/0.6 mi with 25 mW (868 MHz) and 10 mW (433 MHz); up to 4 km /2.5 mi with 300 mW version (915 MHz)
- FCC 15.247 and 15.249 approved for 915 MHz modules, -40°C to +85°C (–40° to 185° F)
- EN 300-220 compliant for 433 & 868 MHz modules, -20°C to +70°C (–4° to 158° F)
- Plastic casing: 9.8 x 4.7 x 3.5 cm (3.9 x 1.9 x 1.4 in); pre-potted 120 g (4.2 oz); IP68 127 g (4.5 oz)
- Wireless OEM board: 6.5 x 3.8 x 1.9 cm (2.6 x 1.4 x 0.74 in); 34 g (1.2 oz)
- 868MHz (25 mW) and 433MHz (10 mW) with 3.6A.h battery
- 915MHz (300 mW) modules with 13A.h battery
- ATEX certification[3] ⟨Ex⟩ II2G

Related Coronis products

- Wavetalk 2
- Wavegate GPRS/Ethernet gateway
- Coronis Bluetooth Beltbox
- Wavewalk monitoring/configuration software
- Wavenet Manager monitoring and configuration

Waveflow – Available configurations									
	OEM board			Pre-potted			Potted		
MHz	433	868	915	433	868	915	433	868	915
IP68				x[6]	x[6]	x[6]	x	x	x
Power — 10 mW	x			x			x		
Power — 25 mW		x [3]			x			x	
Power — 100 mW			x			x			x
Inputs (max) [4]	Up to 4 inputs (3 for ATEX module)								
Cable or probe [5]				x	x	x	x	x	x
Modes — Synchronous		x	x		x	x		x	x
Modes — Asynchronous	x	x	x	x	x	x	x	x	x

(1) Depending on environment and transmission frequency. (2) With Self-discovery Protocol (SDP) to add end-points in synchronized networks. (3) ATEX-ready version available. Contact Coronis for additional information. (4) Check with Coronis to ensure meter/probe compatibility. (5) Probe provided by customer. (6) Customer is responsible for potting the lower cavity of the module.

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