

WaveContact Series

WC20i Modular Endpoints



Rugged, Simple, Flexible

FreeWave's WC20i Modular Endpoints allow wired instruments from a wide variety of manufacturers to be integrated into a low-cost wired network.

Modular Endpoints can connect and power sensors and transmitters with expansive options for interfaces: HART, Analog, Discrete, Modbus, K-Type Thermocouple, and RTD.

The WC20i is available with long lasting internal batteries or with a solar power option, both of which are approved for use in Class I, Division 1 hazardous areas.

Together with the WC45i Gateway, WC20i Modular Endpoints and other WaveContact nodes can be combined to form a wireless IO network that is typically quicker to deploy, less expensive, and more reliable than wired installations.

Key Features

- Sensor agnostic
- Compact and simple to install and maintain
- Rugged design for demanding outdoor environments
- Self-organizing mesh network technology
- Powered through either an internal long-life battery or a Class I, Division 1 approved solar kit
- Up to 0.8 km (0.5 miles) range which can be extended through Repeaters
- ½" NPT conduit interface
- Class I, Division 1, intrinsically safe

Transmitter

Frequency Range	902 to 928 MHz, FHSS, license-free ISM Band Compliant with FCC Part 15
Range	Up to 0.8 km (0.5 miles) with clear line of sight
Radio Power	40 mW
Data Update Rates	5 seconds to 1 hour, user-selectable
Over-the-Air Rate	10 kbps

Receiver

Sensitivity	-109 dBm
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Interfaces

Data Interface	Wireless, available as Modbus registers at the Gateway
Sensor Inputs	4 to 20 mA, 1 to 5 V, HART, Digital, RS485/Modbus, Thermocouple, or RTD
Internal Diagnostics	Battery voltage, signal strength, error conditions

Power Requirements

Battery Pack	3 X D Lithium battery pack, field replaceable; C1D1 certified when used with FreeWave system; in situ replacement allowed; Optional C1D1 solar/battery module
Battery Life	Up to 10 years depending on sensor type and check-in interval
Sensor Power	12.5 V or 18.5 V, user configurable power for sensor Note: Solar kit is NOT for use with 4 to 20 mA loop-powered devices

General Information

Operating Temperature	-40°C to +60°C (-40°F to +140°F)
Humidity	0 to 100%, non-condensing
Dimensions	12.7 L x 12.7 W x 8.9 H (mm) 5.0 L x 5.0 W x 3.5 H (in)
Weight	15 g (0.3 lbs)
Safety	Intrinsically Safe Class I, Division 1, Temp Code T3, Groups C&D. Conforms to UL Std. 913, Certified to Can/CSA Std C22.2 No. 157

Information to Order

Model Number**	Model Number***	Description
WC20i-485	WC20i-485-Solar	Modbus
WC20i-485-2DI	WC20i-485-2DI-Solar	Modbus with Two Digital Inputs
WC20i-AN	WC20i-AN-Solar	Analog (Single: 1.5 V or 4 to 20 mA)
WC20i-DI	WC20i-DI-Solar	Two Digital Inputs
WC20i-HART	WC20i-HART-Solar	HART (Single)
WC20i-KTH	WC20i-KTH-Solar	K-type Thermocouple (i, k, other)
WC20i-RTD	WC20i-RTD-Solar	RTD (Resistive Temperature Device)

**These models use an Internal Lithium Battery Pack.

***These models use a Class I, Division 1 solar module with integrated charger, battery, solar panel, and mounting bracket.

Accessories

WC-USB-4PIN	4-pin to USB Interface Cable
WC-BAT-3D-IS	Replacement battery for WC20i Modular Endpoint
WC20i-Solar	Solar Panel kit with bracket, charger, and High Capacity battery pack (Included when purchasing "-Solar" models)

Related Products

- WC45i Gateway
- WC30i Wireless Sensors
- WC40i Modbus, Multi-IO, and Remote Shutdown nodes