

MODULAR ENDPOINT WC20i



KEY FEATURES

Sensor independent

Costs less than 60ft of installed conduit

Compact and simple to install and maintain

Rugged design for demanding outdoor environments

Automatically configures as a star or mesh network

Internal battery or solar panel powers sensor and radio for years

Up to ½ mile range

½" NPT conduit interface

Class 1 Division 1, Intrinsically safe system

OVERVIEW

Rugged, Simple, Flexible, Value

FreeWave's new WC20i Modular Endpoint is an intrinsically safe wireless communication device that is easily and quickly installed at a low-CAPEX or OPEX price point.

WC20i Modular Endpoints can connect and power sensors with expansive options for interfaces: HART, Analog, Digital, Modbus, Thermocouple, and RTD. The WC20i is available with long lasting internal batteries or with a solar power option.

Together with the WC45i Gateway, the WAVECONTACT system is quickly deployed to implement industrial automation where wired installations would be cost prohibitive. The WC20i is designed for Class 1 Division 1 locations. Each unit is priced lower than 60 feet of C1D1 installed conduit.

Accessories

WC-USB-4PIN: 4-pin to USB Interface Cable

WC-3BAT-IS: Replacement battery for WC20i Modular Endpoint and WC15i Multi-Input C1D1

WC-2BAT-RECH: Rechargeable battery, NOT Intrinsically Safe / NOT C1D1

Related Products

WC30i-PSI Wireless Pressure Sensor, WC45i Gateway

TECHNICAL SPECIFICATIONS

TRANSMITTER

Frequency	902–928 MHz, FHSS, license-free ISM Band Compliant with FCC Part 15
Range	Up to ½ mile
Data Update Rates	User-selectable. 5 seconds to 1 hour, typical.
Networks	Up to 65,520 separate networks
Over the Air Rate	10kbps

RECEIVER

Sensitivity	-109dB
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INTERFACES

Data Interface	Wireless, available as Modbus registers at Gateway
Sensor Interfaces	HART, 4-20mA current loop, 1-5V, Digital input (state, counter, totals, frequency), RS-485/Modbus, Thermocouple and RTD temperature sensors.
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 does NOT require a work ticket. Optional C1D1 solar/battery module
Battery Life	1–10 years, depending on the sensor type and reporting frequency
Radio Power	40 mW
Sensor Power	Powers both the radio system and the sensor/transmitter. User configurable for 18.5 and 12.5V. Barriers and external power not required.

GENERAL INFORMATION

Operating Temperature	-40°C to 60°C
Humidity	0% to 100% condensing
Enclosure Size	3.5in. tall × 5.0in. wide × 5.0in. deep
Safety	Intrinsically Safe Class 1 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-HART	WC20i-HART-Solar	HART (Single)
WC20i-AN	WC20i-AN-Solar	Analog (Single; 1-5V or 4-20 mA)
WC20i-485	WC20i-485-Solar	Modbus
WC20i-DI	WC20i-DI-Solar	Digital Inputs (Two)
WC20i-485-2DI	WC20i-485-2DI-Solar	Modbus with Digital Inputs (Two)
WC20i-RTD	WC20i-RTD-Solar	RTD (Resistive Temperature Device)
WC20i-KTH	WC20i-KTh-Solar	K-Type Thermocouple (i, k, other)

**These models use an Internal Lithium Battery Pack.

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

SOLUTIONS



CONTACT US

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 For more information, visit www.freewave.com

WC20I Modular Endpoints are commonly compatible with these (and many other) sensor types (interfaces in parentheses):

Pressure Sensors and Transmitters	(Analog, HART, Modbus)
Guided Wave Radar Tank Level Sensors	(Analog, HART, Modbus)
Level Switches	(Analog, Digital Out)
Flow Meters	(Digital (counts), Modbus)
Valves and Motor Controllers	(Digital I/O)

Pressure Sensor / Transmitter

Company	Model
American Sensor Technologies (AST)	AST4400
	AST4401
	AST4410
	AST44LP
	AST4300
	AST4310
	AST43LP
	AST4500
	AST4510
	Emerson
Emerson Model 3302	
Emerson Model 5301	
Emerson Model 5302	
United Electric Controls SOR	12 Series
	815PT Smart Pressure Transmitter
Viatran	Level Transmitter 351
	HammerUnionPressureTransmitter509
	HammerUnionPressureTransmitter510
	HammerUnionPressureTransmitter520
	PressureTransmitter544
	PressureSensor548
	PressureTransmitter550
	PressureTransmitter551
	PressureTransmitter553
	PressureTransmitter554
	PressureTransmitter555
	PressureTransmitter570
	PressureSensor571
	PressureSensor572
	HammerUnionPressureTransmitter709
	PressureTransmitter748
	PressureTransmitter770
	HammerUnionPressureTransmitter809
	PressureTransmitter848
	PressureTransmitter870
	PressureTransmitter948
	PressureTransducer970
	GagePressureTransmitterIGP10
PressureTransmitterSPX2281	
Wika	E10 Series
Yokagawa	EJX Series - EJA-E, EJA-A Series

Buoyancy Level Sensors

Company	Model
Magnetrol	Jupiter Magnetostrictive Level Transmitters
MTS	Level PlusM Series
Siemens	Siemens Model 2100 Digital Level Sensor

Pressure Switch

Company	Model
American Sensor Technologies (AST)	AST20SW

Guided Wave Radar Tank Level Sensors

Company	Model
Magnetrol	Magnetrol ECLIPSE MODEL 706
	Magnetrol ECLIPSE MODEL 705
Vega	VEGAFLEX 81
	VEGAFLEX 82
	VEGAFLEX 83
	VEGAFLEX 86
	VEGAFLEX 61
	VEGAFLEX 62
	VEGAFLEX 63
	VEGAFLEX 65
	VEGAFLEX 66
	VEGAFLEX 67

Radar Tank Level Sensors

Company	Model
Emerson	Emerson Model 5301
	Emerson 5302
Magnetrol	Magnetrol PULSAR RX5
	Magnetrol Model R82
Vega	VEGAPULS 61
	VEGAPULS 62
	VEGAPULS 63
	VEGAPULS 65
	VEGAPULS 66
	VEGAPULS 67
	VEGAPULS 68

Level Switch

Company	Model
Emerson	Rosemount 2110 Compact Liquid Level Switch
	Rosemount 2120 Vibrating Fork Liquid Level Switch
	Tuffy II Side Mounted Float Switch
Magnetrol	Series T20/T21 Single Stage / Dual Stage Float Switches
	Vegaswing 51
Vega	Vegaswing 61
	Vegaswing 63

Flow

Company	Model
ABB	ABB TotalFlow
Cameron	NuFlo MC-II
	NuFlo MC-III
	Micromotion Coriolis Flow Meter
Emerson	RotaMASS 3 Coriolis Flow Meter
Yokogawa	Vortex Flow Meter

Well Control

Company	Model
Lufkin	SAM Well Manager and Rod Pump Controller

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