

### Key Differentiators

#### Data Concentrator With MQTT

The XetaDC concentrates data from many Modbus servers into a unified Modbus map or publishes to MQTT (*Linux/Debian only*). It polls devices over Ethernet, serial, and RF links, concatenating and simplifying values into a Modbus “proxy” register map within the XetaWave device. The RTU then only needs to poll the consolidated Modbus map within the XetaWave devices to obtain the values. Polling can occur more often and the RTU is offloaded.

#### Wire Replacement

Create a virtual wire from any network accessible XetaWave I/O point to any other network accessible XetaWave I/O point and the Wire Replacement application will replicate the signal from the input to the output. Instead of transiting wires where it may not be possible, too costly, or reliable, XetaWave I/O can be used to replicate those signals across Ethernet or Radio links. *Linux/Debian versions only.*

#### Seamless Ethernet and Serial

XetaWave I/O supports Seamless Ethernet and Serial networks to offer the ultimate flexibility in upgrading legacy equipment.

Standard and Edge Computing XetaWave I/O solutions are available with or without integrated high speed, long range wireless communications. XetaWave I/O is compatible with common instrumentation interfaces, supports Modbus, and seamlessly integrates with XetaWave networks. XetaWave I/O is ideally suited for process control to monitor temperature, pressure, level, and flow as well as to control pumps, latches, valves, and more.

#### Multi-Function I/O

XetaWave I/O includes a total of **8 multi-function I/O channels** to monitor and control industrial operations. All 8 I/O

channels support analog input (1 to 5 Volt or 4 to 20 milliAmps), analog output (4 to 20 milliAmps), digital input (wet contact, dry contact), and digital output (sinking 2 Amps with current monitoring). XetaWave I/O also has programmable output actions for communication loss and power up. XetaWave multi-function I/O helps automate any industrial automation application with minimal configuration.

#### Abundant Solutions

XetaWave I/O is available in many industrial grade products offered by XetaWave including the I/O Expander and the XetaEdge Edge computer.

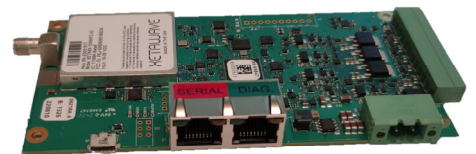
Both offer two Ethernet and two serial ports and also support the Data Concentrator and Wire Replacement

applications. XetaWave’s Ethernet radios also

include the option for XetaWave I/O and support the Data Concentrator and Wire Replacement as well. XetaWave’s new 900 MHz board level serial radio with XetaWave I/O offers a replacement for the FreeWave FGR2-IO radio.



*Rugged Enclosure  
Board level & plastic  
enclosures also available.*



*Xeta9 Serial—900  
MHz Radio with I/O*

# XetaWave I/O

## I/O Channels

Pin	IO Ref	Function
1	IO 1	Analog In or Out or Digital In
2	IO 2	Analog In or Out or Digital In
3	IO 3	Analog In or Out or Digital In
4	-	Ground
5	IO 4	Analog In or Out or Digital In
6	IO 5	Digital In or Out MMS on all units prior to Dec 2021
7	-	Ground
8	IO 6	Digital In or Out
9	-	Ground
10	IO 7	Digital In or Out
11	-	MultiMaster Sync (MMS) On Debian units since Dec 2021
12	IO 8	Digital In or Out

## I/O Specifications

Digital Input	
Max Voltage	+ 30 Vdc
Low Voltage	< 2.25 Vdc (IO 1-4), < 0.9 Vdc (IO 5-8)
High Voltage	>2.25 Vdc (IO 1-4), > 2.4 Vdc (IO 5-8)
Counting	0.4 Hz (IO 1-4), 10 Hz (IO 5-8)
Pull-up Resistor	47 kOhms (IO 5-8)
Digital Output	
Max Current	2 A with protection
Analog Input Voltage	
Max Voltage	Supply voltage
Voltage Range	0 to 6 Vdc (IO 1-4), 0 to 7.5 Vdc (IO 5-8)
Accuracy	0.5% (IO 1-4), 2.5% (IO 5-8)
Analog Input Current	
Range	0 to 25 mA with 0.5% accuracy
Pull-down Resistor	250 Ohms
Analog Output	
Range	1 to 24 mA with 0.5% accuracy

**Expansion** When needing more than 8 I/O channels, the XetaWave I/O products can double the I/O count by interfacing together through either an Ethernet or serial port.

## Availability *(see datasheet for specific models)*

I/O Expander family	Ethernet platform (enclosed)
XetaEdge family	Edge computers (board and enclosed) and Edge computer Ethernet radios (enclosed)
Debian family	Ethernet radios (enclosed)
Linux family	Ethernet radios (enclosed)
XETA9X-11INNFD-IO	900 MHz serial radio (board)

