



## WISE I/O Interface – Serial RS-485 4-20mA, Discretes, Relay I/O

Model #: WISE DIN-IOS

### FEATURES

- o **Bi-Directional I/O Interface Expansion** – 2Ain, 2Aout, 2Din, 2Rout – converted to RS-485; compatible with RS-485 ports on all WISE DIN Rail products
- o **Two I/O Interfaces Modules** – tied together using a twisted pair allow remote sensors and control functions to be networked over RS-485.
- o **Industrial Grade** - -40°C to +70°C, DIN Rail enclosure with ESD and RF filtering on all I/O
- o **Low DC Power** – connections for external battery and solar panel
- o **Simple to Install** – no calibration or configuration required

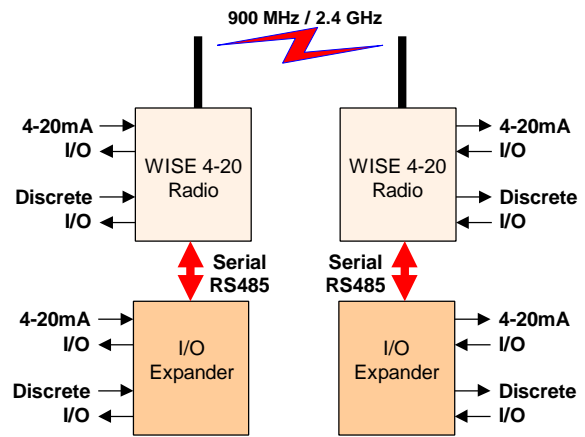
### Overview

The WISE I/O Interface can be used if additional I/O points are required on WISE 4-20 or Modbus radios. The Interface doubles the number of I/O points available with a considerable cost savings as compared to adding another radio. The RS-485 serial interface allows the Interface to be installed up to 1000' away from the radio, with a simple twisted-pair hook-up.

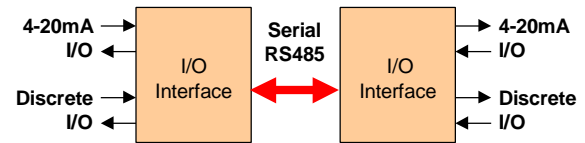
Two I/O Interfaces can also be used without radios - in data acquisition applications - connected to each other using RS-485. This configuration allows analog and discrete signals to be sent over the single twisted pair, digitally.

### Installation

The I/O Interface is shipped factory-configured and tested. There is no field configuration necessary. Typical installation involves simply mounting and powering the units and connecting the RS-485 and I/O.



**WISE I/O Interface Application:**  
I/O Expansion



**WISE I/O Interface Application:**  
Wired RS-485 Data Acquisition  
and Control

*Contact our factory in California  
to speak directly to an engineer:  
(310) 379-2000*

### Self Test /Verification

A 'Test' button is provided on the I/O Interface to allow verification of the communications link (radio / RS-485) and analog / digital (relay) outputs, independent of connected sensors and systems. The test button can be disabled via an internal DIP switch.

### LED Indication

LED's on the front panel indicate RS-485 TX/RX activity. If the RS-485 link should fail, an Alarm LED illuminates until the link is restored. A DC In LED indicates power is applied (typically through an external AC supply).

### Solar / Battery Operation

Low power remote site installations with higher point

counts are easy to implement with the I/O Interface. An external solar panel and external 12V battery (options) connect directly to Interface. The Interface manages the battery charging and controls power to external sensors. Between sensor reads, the Interface can be configured to sleep, further reducing site power consumption. This combination of features allows smaller batteries and solar panels to be used – reducing the cost of installing and maintaining the system.

### Factory Support

Synetcom is committed to supporting our customers – contact our factory to speak to an engineer: (310) 379 2000.

### Specifications: WISE I/O Interface – Serial RS-485

<u>Item</u>	<u>Specification</u>
Interface - Inputs	2: 4-20 mA (16 bit precision), 2: Digital (ground to assert),
Interface – Outputs	2: 4-20 mA (16 bit precision), 2: Relay (dry contact closure)
I/O Expansion Port	1: RS-485, 1,200 bps (multi-drop capable), transient suppressor protected
Sensor DC Supply	2: Gated 15VDC, @ 100mA; optional 2: Gated 24VDC @ 70mA each
Analog Accuracy	4-20 mA - .1% full-scale @ 20°C, .3% full-scale -40°C to +70°C
Interface Protection	RFI filtering all I/O, Transient suppressors all I/O, Self-reset fuse 4-20 I/O
Network Topologies	Point-to-point
RS-485 Characteristics	Twisted pair 1000' range, internal 120 ohm termination
DC In / Solar	12 VDC to 24VDC – Use either external AC supply or optional solar panel
12V Battery	Optional external battery for battery back-up (UPS) or solar applications
DC In Current	200 mA average, .00005 mA Sleep mode
Enclosure Material	Housing: Glassfilled Polycarbonate, Cover: Polycarbonate
Enclosure Size	5.0" x 4.0" x 3.0" (L x W x H)
Enclosure Mounting	35mm DIN rail – horizontal mounting
Environmental	-40°C to +70°C

### Accessories:

Antennas, Coaxial cable, Lightning protection systems, Mounting kits, I/O cables, Batteries, Solar power sub-systems



[www.synetcom.com](http://www.synetcom.com)  
(310) 379-2000 (310) 372-2331/F  
23879 Madison Street  
Torrance, CA 90505

