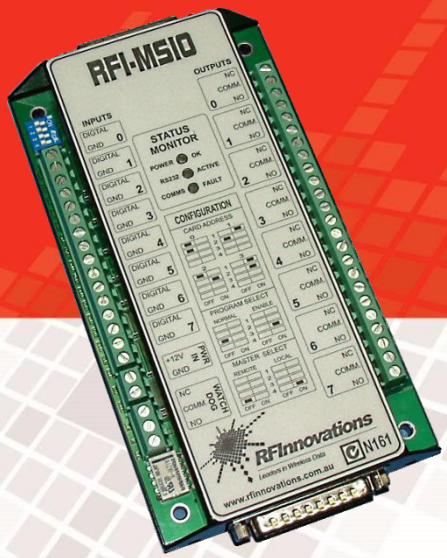
RFInnovations

Leaders in Wireless Data

an STI Engineering product

Modbus RTU Mini-SCADA Unit



The RFI-MSIO is a Modbus capable low cost Mini-SCADA unit ideal for remote telemetry applications. The unit provides access to analog and digital inputs and outputs in a simple, ready to use package with no need to program.

The unit is compatible with all Modbus RTU devices and ready to use with RF Innovations data radio networks.

Features

- Operates as a Modbus RTU Slave
- Modbus RTU Master operation for small point-to-multipoint systems
- 8 inputs analog or digital
- 8 outputs analog or digital
- Analog standard 0-5V or 4-20mA
- Digital 0-5V or Relay (dry contact)
- Can be installed back-to-back for additional I/Os
- LED status indicators
- Watchdog timer and output for link fail indication and fall-back
- Can be installed without programming

Applications

The RFI-MSIO is suited for applications in Utilities, Mining, Agriculture and Transport industries where reliable wide area I/O transfer is critical.

The RFI-MSIO can be used in a point-to-point mode out of the box, providing simple transfer of the available inputs and outputs, or as a part of a larger telemetry and SCADA system.

The unit can be used in large scale telemetry and SCADA systems for providing an easy to use alternative to remote PLC slave units.

STI Engineering

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Specifications

Simple Operation	The RFI-MSIO can be used 'out of the box' with no need for ladder logic programming
Master Mode	For point-to-point systems the unit can be put into Master mode via DIP switches, removing the need for a complex Modbus Master PLC or software
Watchdog Output	The watchdog timer output can be used to determine the operation of the system and to control fall back operation of a remote station in the case of network failure
Expandable I/O	Use two units back to back to expand to 16 inputs and 16 outputs
LED Status Indicators	Status indicators show the operation of the unit, serial communication status and system communication status
Radio Enabled	Protocol communication and timing settings are ready to use over a cabled or wireless network
Modbus RTU Enabled	Industry standard Modbus RTU implementation means the unit can be seamlessly added to existing control systems

PHYSICAL
Dimensions: 190mm x 85mm x 35mm
Weight: 260g
Construction: Powder coated mild steel chassis and cover

GENERAL
Operating Voltage: 11V to 16V DC negative ground (24VDC option available)
Operating Current:
30 mA @12 V DC (no I/O loading)
8 mA @12 V DC per active 4-20 mA analogue output
2 mA @ 12 V DC per active digital or relay output
2 mA @ 12 V DC per active 0-5 V analogue outputs
Operating Temp: -10 to + 60°C
Operating Humidity: Up to 95% non-condensing relative humidity
Mode Configuration: via DIP switches
Parameter Configuration: via terminal

I/O SYSTEM
I/O Refresh Rate: 10Hz (100ms)
Protocol: Modbus RTU over serial (www.modbus.org)
Protocol Resolution: 16 bit
Serial Interface: RS232C
Interface speed: 300 to 38400 bps software selectable

DIGITAL
Outputs: 0-5V or 3-wire Relay (factory set)
Inputs: 0-5V internal pull up
Protection: Over voltage, reverse voltage and short circuit

ANALOG
Outputs: 0-5V or 4-20mA (factory set)
Inputs: 0-5V internal pull up or 4-20mA (factory set)
Protection: Over voltage, reverse voltage and short circuit

CONNECTORS
Data: Custom DB25 Female connector
Power: Terminal block
Expansion card: Custom DB25 Male connector

OPTIONS
RFI-MSIO - XXYYZaabb
Where

XX =
IC: Independent Card
PC: Primary Card
EC: Extension Card

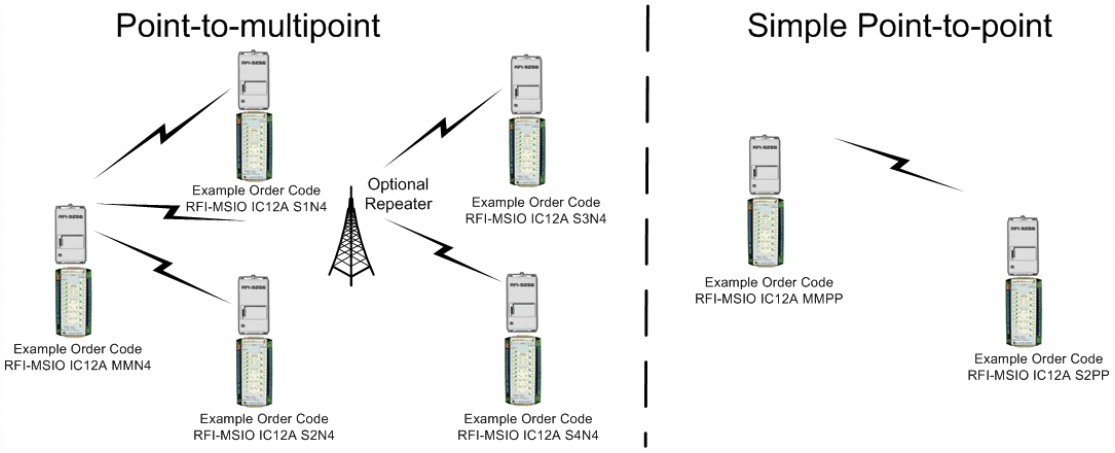
YY=
12: 12V nominal input voltage
24: 24V nominal input voltage

Z=
A: 8 Digital In, 8 Relay Out
B: 2 Analog 0-5V In, 6 Digital In, 2 Analog 0-5V Out, 6 Relay Out
C: 4 Analog 0-5V In, 4 Digital In, 4 Analog 0-5V Out, 4 Relay Out
D: 2 Analog 4-20mA In, 6 Digital In, 2 Analog 4-20mA Out, 6 Relay Out
E: 4 Analog 4-20mA In, 4 Digital In, 4 Analog 4-20mA Out, 4 Relay Out

aa=
MM: System Master
S1 to S4: Slave of Address 1 to 4

bb=
PP: Point to point network
N2 to N4: Network with 2 to 4 slaves
HN: HMI / SCADA point-to-multipoint

Specifications subject to change without notice MKT0230 Rev 2.1



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