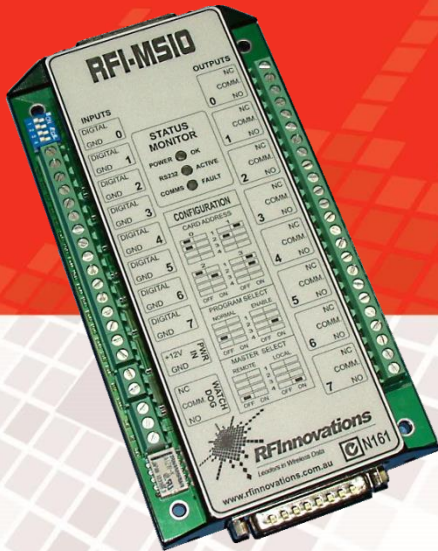




# RFInnovations

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.

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# Specifications

<b>Simple Operation</b>	The RFI-MSIO can be used 'out of the box' with no need for ladder logic programming
<b>Master Mode</b>	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
<b>Watchdog Output</b>	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
<b>Expandable I/O</b>	Use two units back to back to expand to 16 inputs and 16 outputs
<b>LED Status Indicators</b>	Status indicators show the operation of the unit, serial communication status and system communication status
<b>Radio Enabled</b>	Protocol communication and timing settings are ready to use over a cabled or wireless network
<b>Modbus RTU Enabled</b>	Industry standard Modbus RTU implementation means the unit can be seamlessly added to existing control systems

<p><b>PHYSICAL</b>  <b>Dimensions:</b> 190mm x 85mm x 35mm  <b>Weight:</b> 260g  <b>Construction:</b> Powder coated mild steel chassis and cover</p> <p><b>GENERAL</b>  <b>Operating Voltage:</b> 11V to 16V DC negative ground (24VDC option available)  <b>Operating Current:</b>          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  <b>Operating Temp:</b> -10 to + 60°C  <b>Operating Humidity:</b> Up to 95% non-condensing relative humidity  <b>Mode Configuration:</b> via DIP switches  <b>Parameter Configuration:</b> via terminal</p>	<p><b>I/O SYSTEM</b>  <b>I/O Refresh Rate:</b> 10Hz (100ms)  <b>Protocol:</b> Modbus RTU over serial (<a href="http://www.modbus.org">www.modbus.org</a>)  <b>Protocol Resolution:</b> 16 bit  <b>Serial Interface:</b> RS232C  <b>Interface speed:</b> 300 to 38400 bps software selectable</p> <p><b>DIGITAL</b>  <b>Outputs:</b> 0-5V or 3-wire Relay (factory set)  <b>Inputs:</b> 0-5V internal pull up  <b>Protection:</b> Over voltage, reverse voltage and short circuit</p> <p><b>ANALOG</b>  <b>Outputs:</b> 0-5V or 4-20mA (factory set)  <b>Inputs:</b> 0-5V internal pull up or 4-20mA (factory set)  <b>Protection:</b> Over voltage, reverse voltage and short circuit</p> <p><b>CONNECTORS</b>  <b>Data:</b> Custom DB25 Female connector  <b>Power:</b> Terminal block  <b>Expansion card:</b> Custom DB25 Male connector</p>	<p><b>OPTIONS</b>  <b>RFI-MSIO - XXYYZaabb</b></p> <p><b>Where</b>  <b>XX =</b> IC: Independent Card          PC: Primary Card          EC: Extension Card</p> <p><b>YY=</b> 12: 12V nominal input voltage          24: 24V nominal input voltage</p> <p><b>Z=</b> 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</p> <p><b>aa=</b> MM: System Master          S1 to S4: Slave of Address 1 to 4</p> <p><b>bb=</b> PP: Point to point network          N2 to N4: Network with 2 to 4 slaves</p>
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Specifications subject to change without notice V161122

