

## TCM3-4DIO

### TELEMETRY DIGITAL IO CONTROL MODULE LOW POWER LICENCE EXEMPT

The TCM3-4DIO is a fully integrated wireless industrial digital IO control and monitoring module. Digital input signals at one module are transmitted to a remote module and recreated as output signals or passed to a host device via the RS232 interface. The ease of use and numerous features make this module ideal for adding wireless IO control to any short to medium range control and monitoring application.

#### *Features*

- 4 relay digital outputs.
- 4 opto-isolated digital inputs.
- Up to 5km outdoor range @ VHF 100mW.
- Up to 50m indoor range @ UHF 10mW.
- Simple built-in serial configuration.
- Controller status indicators.
- Mappable comms failure relay.
- D9 Serial interface. TXD/RXD/GND.
- 12VDC or 24VDC operation,

#### *Applications*

- Remote pump house
- Mining equipment control
- Water and sewerage equipment
- Building management and control
- Agricultural and irrigation systems

#### *Easy and Reliable*

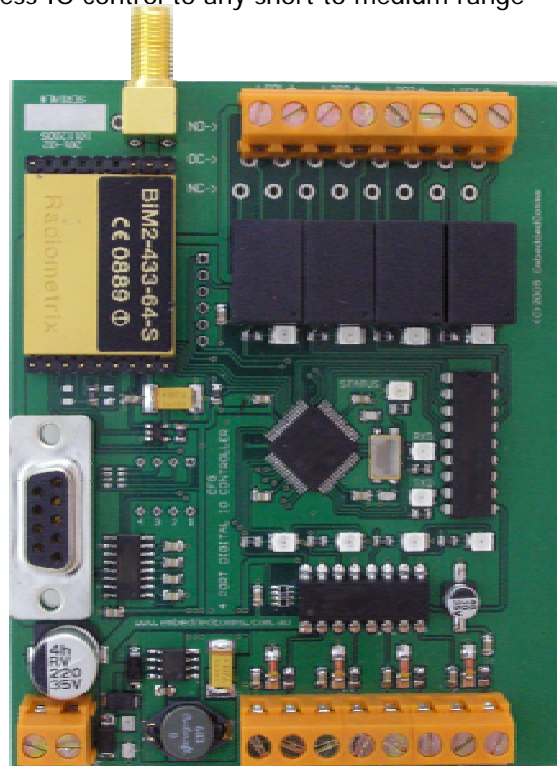
The TCM3-4DIO control module is designed as DIN Rail mountable device that can be easily added to existing products and enclosures. It is fitted with secure screw terminal blocks for ease of module removal. The IO Control module comes in a number of license exempt frequencies suitable for most countries using standard ISM bands.

Reliability is achieved by using radio transceivers ensuring that all status updates between modules are acknowledged. The modules use addressable data packets with error checking, packet acknowledgements and retransmissions to achieve a reliable invisible wireless control link.

There are regular status transmissions between modules to update the input signals and to check the radio link integrity. The status of the radio link is displayed on a status LED.

Built for ease of use and rapid installation, the RS232 compliant interface ensures direct connection to DTE serial equipment for setup and configuration. The internal serial configurator enables post installation setup of the modules using a basic serial terminal device.

Using site ID's and unit addressing, many groups of IO control modules can operate within close radio range without interference with each other. A simple network may use a pair of IO control modules with inputs from one module mapped to output on another module. Large complex networks can be constructed allowing any input to be mapped to any output on any other module.



# ***TECHNICAL SPECIFICATIONS***

## **TCM3-4DIO**

### **General**

- Operating Voltage 12VDC (12V model) or 24VDC (24V model)
- Power Protection Over voltage and reverse voltage protected
- Operating Temperature 0 to +55 degrees C
- Indicator Lights Input & output states, Transmit, Receive and Status
- Terminal Blocks Screw type. 2.5sqmm conductors

### **Digital Inputs**

- Type Opto isolated – rated 5000V. Common ground
- Suitable for Free contacts or NPN transistor
- Contact Wetting Current 5mA at 12V or 5mA @ 24V

### **Digital Outputs**

- Type Relay. Normally open
- Rating 0.5A @ 125 VAC or 1A @ 24 VDC
- Optional relay ratings 3A @ 125VAC or 1A @ 60VDC

### **Serial Interface**

- RS232 Interface DCE - 9 pin female D style,
- RS232 Signals RXD, TXD, GND using 8 data/1 stop/no parity
- Supported Baud Rates 2400/4800/9600/19200/38400/57600

### **Radio Transceiver**

- Operating Frequencies Single channel. See below for frequency options
- Transmitter Output Power 10mW ERP UHF or 100mW ERP VHF
- Operating Range Upto 200m UHF or Upto 5Km VHF, depending on antenna used
- Aerial Connector SMA right angle

### **Radio Approvals**

- Australian Standards AS 4268.2
- European Standards EN 300-220-1, ETS 300-683

### **Data Transmissions**

- Inputs Change of state
- System Periodic keep alive transmissions
- Error Detection 16 bit CRC
- Communications Failure Mappable relay output and LED output.

### **Physical**

- PCB size 110mm (L) x 107mm (W) x 22mm (H)

### **Accessories**

- Antennas Various antenna options available. Please ask.
- Enclosures DIN Rail holders to suit.

### **Radio Options**

- TCM3-4DIO-151P / TCM3-4DIO-151.6P 151.300 @ 100mW / 151.600 @ 100mW
- TCM3-4DIO-173 / TCM3-4DIO-173P 173.225MHz @ 10mW & 100mW (NZ)
- TCM3-4DIO-433 433.920MHz @ 10mW
- TCM3-4DIO-434 433.065MHz @ 10mW Narrow Band
- TCM3-4DIO-918 918.252MHz @ 1mW (AUS)