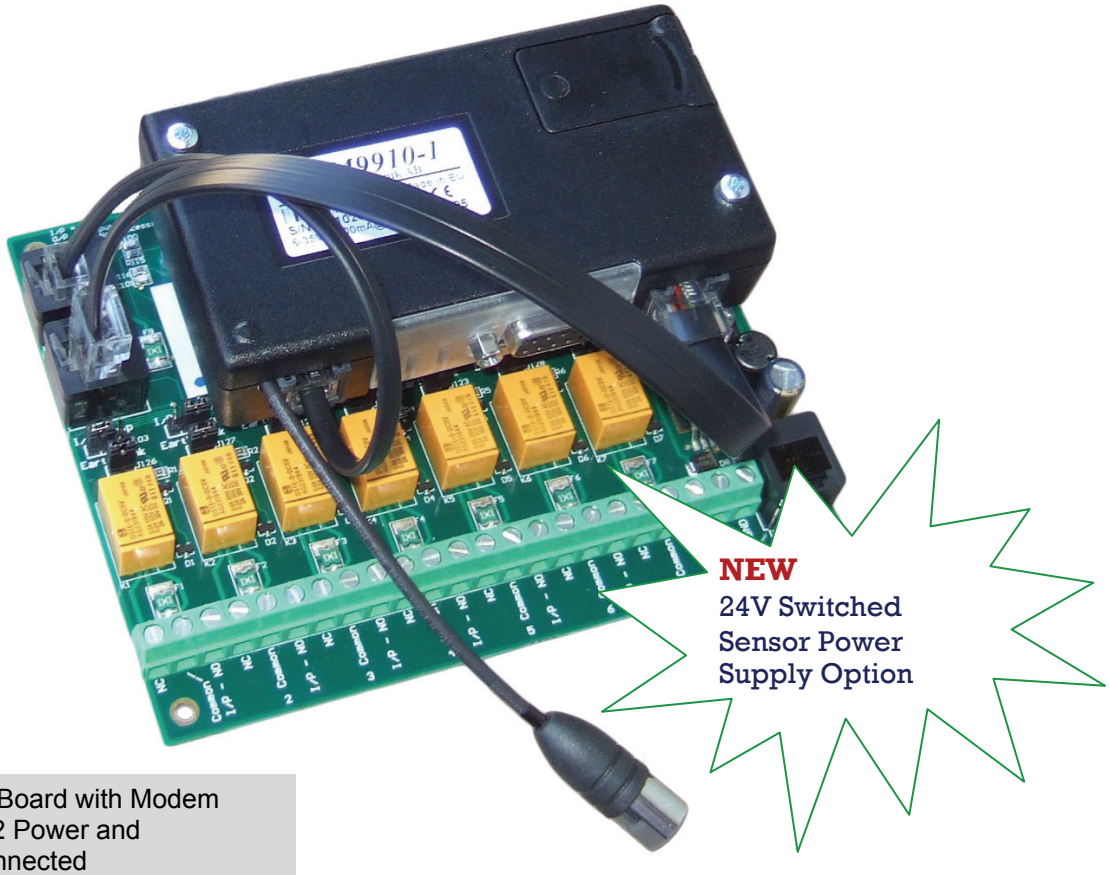
ETM I/O Board

for use with ETM9140-1 Terminal

ETM_IO_Board



Picture shows I/O Board with Modem Mounted and RJ12 Power and RJ45 I/O leads connected

The I/O board allows for the connection of typical commercial/industrial sensors and control components such as;

- 0-10v or 4-20mA sensors
- Switching of DC loads to a maximum of 2A 30VDC

Kit Includes;

- RJ12-RJ12 cable for linking power from I/O board to modem
- RJ45-RJ45 cable for linking I/O from modem to I/O board
- PCB standoffs and screws for attaching modem to Board

Typical Applications Include;

- Irrigation pump control
- Alarm and control of air conditioning & refrigeration units
- Remote monitoring of water or fuel tank levels
- Remote monitoring of environmental conditions such as temperature, humidity, rainfall etc
- Remote monitoring and alarm for server rooms, including ability to provide a reset signal if required
- Rainfall &/or bore hole level monitoring

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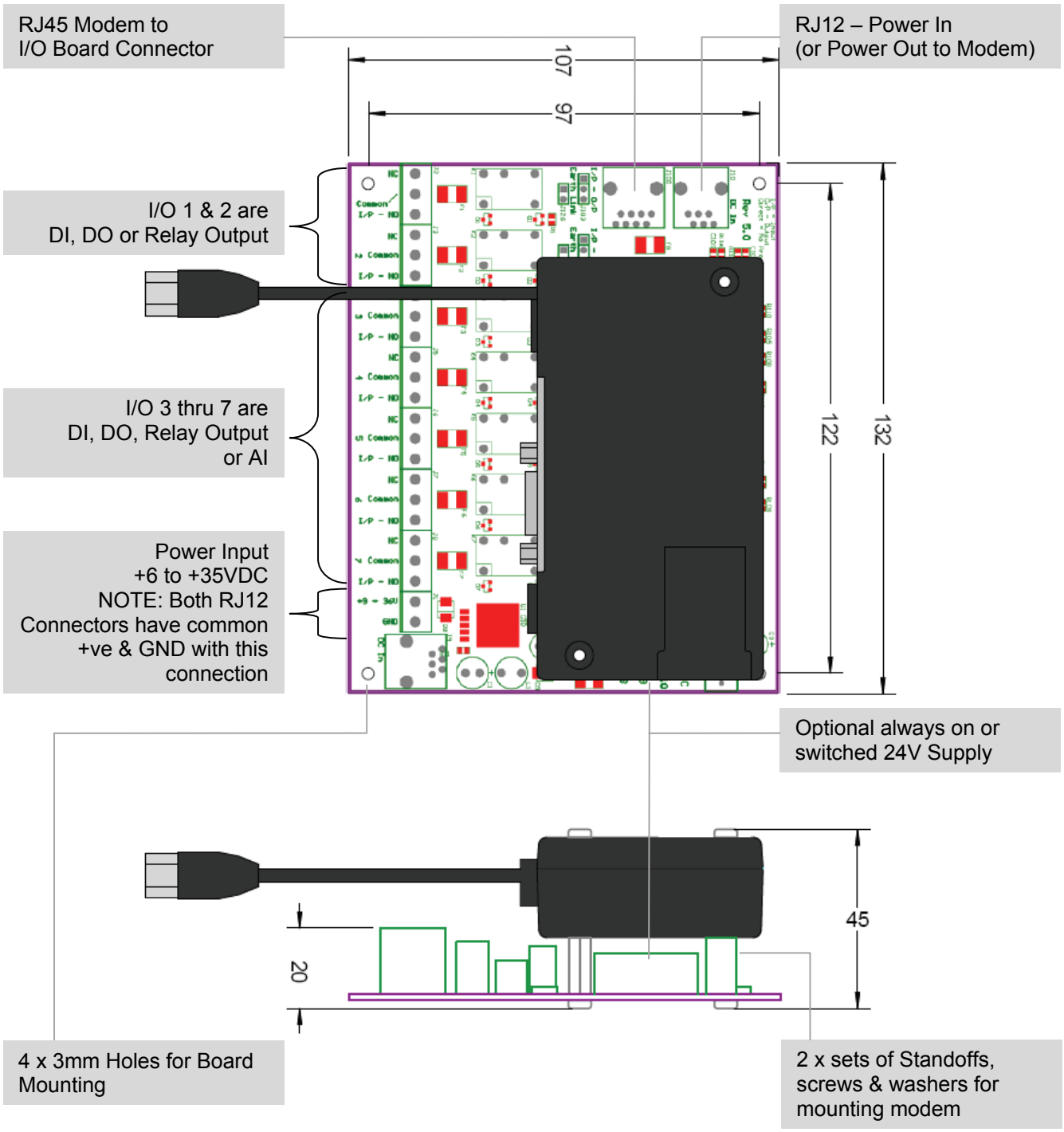
Product Dimensions and Connection Diagram

The unit has been designed to allow the modem (either ETM9570-1 or ETM9910-1) to be mounted separately or fitted to the standoff's provided on the board as shown below. Power can be provided to the unit either via the screw terminals as marked on the unit or via one of the RJ12 terminals using one of ETM Pacific's standard power supplies. The modem should be powered from the board using the short RJ12-RJ12 cable provided. The modems I/O's are connected to the board using the RJ45-RJ45 cable provided.



DI – Digital Input, I/O 1,2 & 3 can be pulse input
DO – Digital Output
AI – Analogue Input, can be either 0-10V or 4-20mA

I/O Connectivity

Jumpers located on the board allow for the following connectivity/signal processing for each I/O – note that the terminal needs to be configured to accept the processed signal either as a Digital Input, Digital Output or Analogue input as appropriate.

I/O No.	Required Jumper Position by I/O Function				
	Direct I/O	Relay Output Max 2A 30VDC	Relay Output Max 2A 30VDC *(Not Grounded[1])*	0-10V Analogue Input[2]	4-20mA Analogue Input[3]
1 & 2	I/P - O/P Earth Link	I/P - O/P Earth Link	I/P - O/P Earth Link	N/A	N/A
3 thru 7[4]	4-20 / 0-10 I/P - Direct I/P - Direct I/P - O/P Earth Link	4-20 / 0-10 I/P - Direct I/P - Direct I/P - O/P Earth Link	4-20 / 0-10 I/P - Direct I/P - Direct I/P - O/P Earth Link	4-20 / 0-10 I/P - Direct I/P - Direct I/P - O/P Earth Link	4-20 / 0-10 I/P - Direct I/P - Direct I/P - O/P Earth Link

Notes:

1. Common of relay not connected to ground of I/O board, note ground of I/O board is connected to modem ground.
2. If using 0-10V input (to I/O's 3 thru 7) this board coverts the 0-10V signal to 0-2.5V which is an acceptable analogue input range for ETM Terminals
3. If using 4-20mA input (to I/O's 3 thru 7) this board coverts the 4-20mA signal to 0.5-2.5V which is an acceptable analogue input range for ETM Terminals
4. If using IO7 as a direct DI then a resistor between +ve supply and I/P-NO of between 60kOhm-200kOhm should be added otherwise the components on the IO board will affect correct sensing of the open and closed states

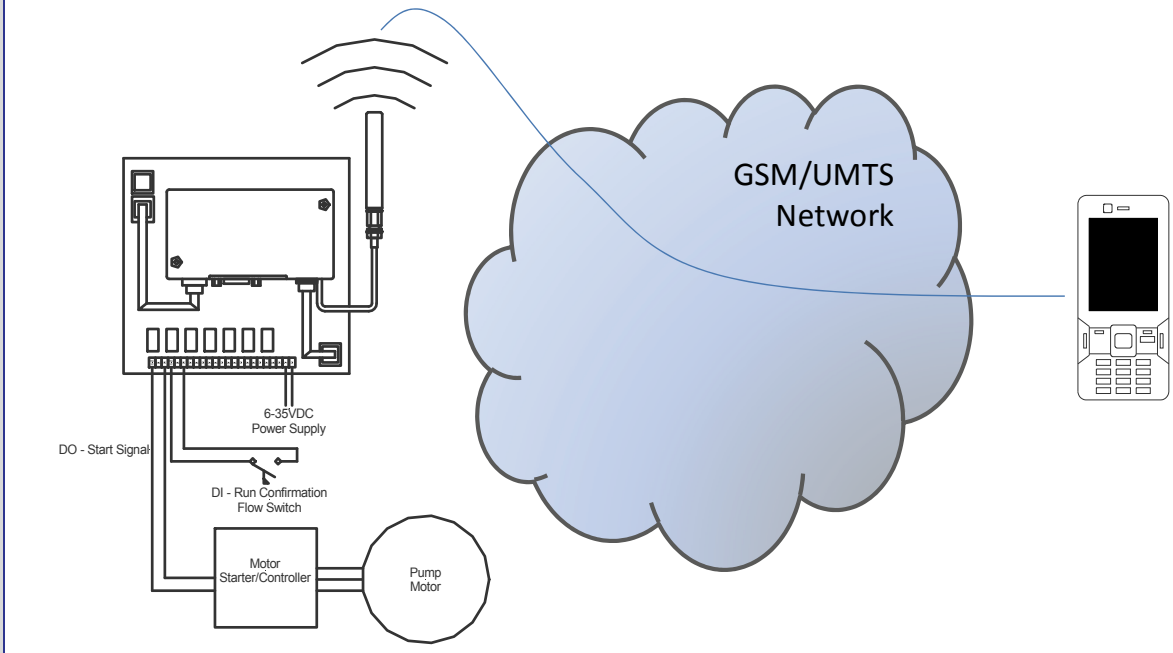
I/O No.	Required Jumper Postion		Notes
	Sensor Power Supply Always On	Switched Sensor Power Supply[2]	1. Maximum sensor supply 100mA 2. For Switched Supply IO7 must be set to Output Nominally Low and in the logging tab Toggle IO7 must be set with a time of 1sec or greater refer to the modems configuration tool user guide
IO 7 SD	I/0 7 SD	I/0 7 SD	

Technical Specifications

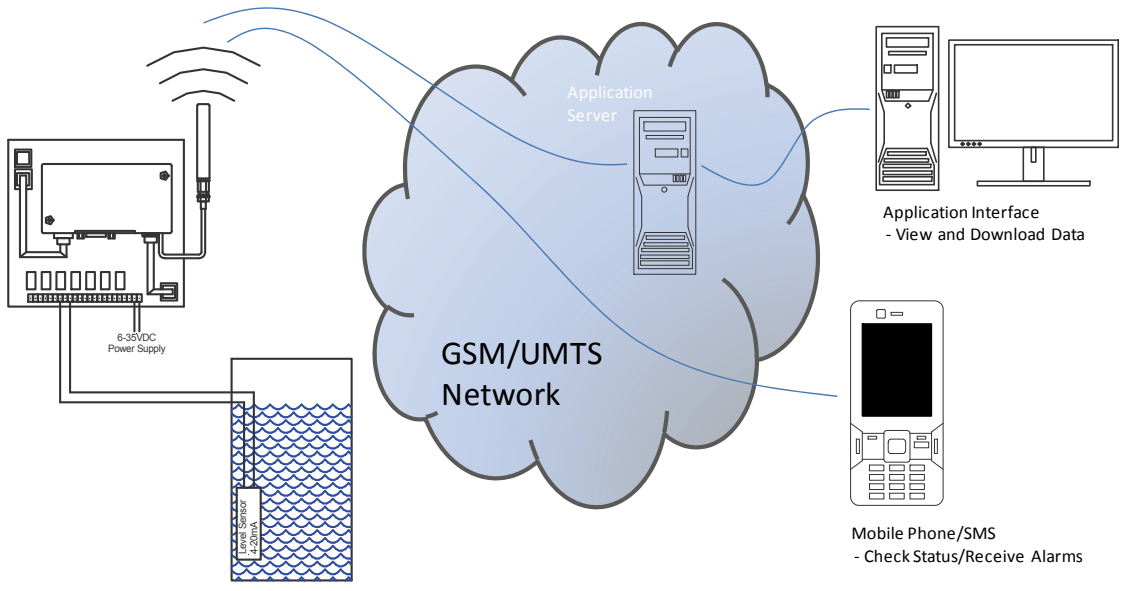
- Dimensions 132mm x 107mm x 20mm (without modem attached)
- Weight 140g
- Operating Temperature Range -20°C to 55°C
- Input power supply +5 to 35VDC via RJ12 connector or screw terminals
- Power consumption 12mA at 12VDC (without modem connected)
- 24V sensor power supply, 100mA maximum

Application Examples

SMS Pump Control with Flow Confirmation



Tank Level Monitoring – SMS Alarm &/or Data Acquisition



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