

# WIRELESS SIGNALLING UNITS



The **Micha** Wireless Signalling Units are designed to facilitate connection between the Power Generation Display Unit and a remote energy meter.

The **Transmitter** Unit (PN: 102433, picture on left) can have inputs from two separate energy meters, and includes a divider circuit to cater for combined input frequencies of up to 40Hz. The maximum output frequency should ideally be less than 2Hz for reliable transmission. A plug-top PSU is supplied with the unit.

The **Receiver** Unit (PN: 102434, picture on right) is powered from auxiliary 5V terminals within the display unit, or can be powered from a separate 7-15V DC supply. The transmitter and receiver units are supplied as matched units to minimise cross-talk between other installations, but can be easily reprogrammed.

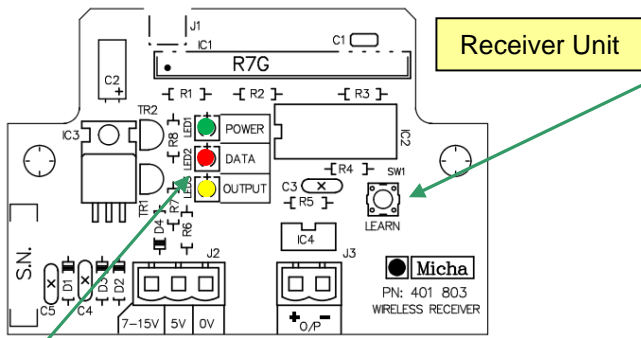
A range of up to 500M can be expected, but this is highly dependent on positioning and local conditions - reception will be affected by both internal and external walls of buildings. The units should be mounted as high as possible with the aerial vertical, and away from any obstruction, particularly metal.



## Installation Connections: Receiver

The Receiver unit is designed specifically to work with the Micha Power Generation Display and should be connected to it as below. Connect a +5V supply from the Power Generation Control pcb to the '5V' and '0V' terminals, or an isolated 7V-15V supply to the '+V' and '0V' terminals.

Connect each used output pair of terminals to the appropriate input terminals as shown below.



**SW1** is used for 'learning' matched transmitters.

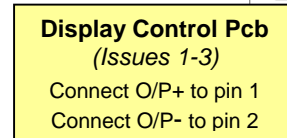
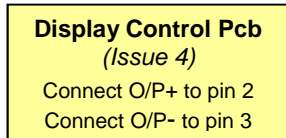
**Learn Mode:** press SW1 for approximately 1 second. The Data LED will turn on. After the first valid input, the LED will turn off, after the second input it will pulse for around 3 seconds.

**Erase Mode:** press SW1 for 8-10 seconds. The Data LED will pulse for around 3 seconds after which all memorised transmitters will be erased.

(Transmitter and Receiver units are normally supplied as matched pairs.)

### LEDs

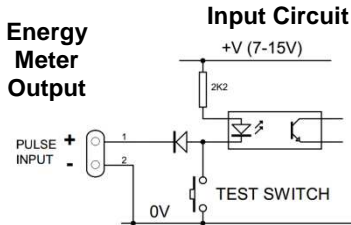
The Data LED and the Output LED pulse brightly if a valid signal is received.



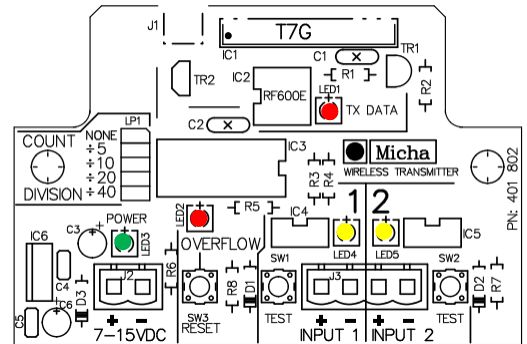
## Installation Connections: Transmitter

Connect a supply of between 7V and 15V to J2.

Connect the SO pulse output of the energy meter to Input 1 or Input 2. If the meter provides volt-free contacts, polarity is not important. If the meter uses a transistorised output, ensure the correct polarity of the switching circuit as shown in the diagram below:



Transmitter Input Circuit



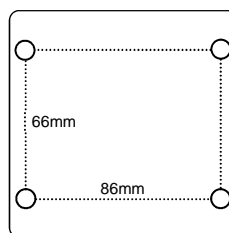
Transmitter Unit

The on-board TEST switches SW1 and SW2 short the input terminals and can be used to test the Transmitter. The Data LED indicates transmission.

## General Specification:

	Transmitter	Receiver
Supply Input Voltage :	7-15VDC	5VDC or 7-15VDC
Quiescent Supply Current :	15mA (0.1W)	12mA (60mW)
Max Supply Current :	60mA (0.4W)	16mA (80mW)
Operating Frequency :	434.525MHz : EN 300-220 compliant	
Operating Temperature Range :	0°C to +55°C	
Cable Glands :	M12 (Max cable diameter 7.0mm)	
Enclosure :	Light Grey Polycarbonate	
Dimensions :	100mm x 100mm x 55mm excluding glands (Antenna Length: 165mm)	

Enclosure Fixing Centres:  
86mm x 66mm



### Notes:

The units are supplied 'unbranded' to allow the installer to fit their own label. The enclosures have a recess 65mm(W) x 85mm(H) on the lid which can be used for this purpose.

The wireless units use the popular 434MHz waveband which does not require a licence in the UK. The end user should be aware that other devices, such as wireless doorbells and security monitoring, may use a similar waveband and interaction may occur. To minimise interference, the transmitter is enabled only during data transmission, and KeeLoq (rolling code) encoding is utilised to prevent invalid data being received.

Both transmitter and receiver can be used with Version 1 types, part numbers 101977 and 101978.

