



TC900 Transmitter
for
AMR Systems

User Manual

The TC900 Meter Interface Unit (MIU) is a radio transmitter designed for use in the 902 to 928 MHz ISM band, and a license is not required to use this equipment.

It is part of a system that requires the use of a matching radio receiver (Receiver) to collect the readings, and a programming unit that will allow customization of input data during installation, if required.

The system is suitable for walk or drive-by radio systems, and is a one-way radio link. The transmitter sends the meter reading continuously at intervals of 5 seconds or greater and does not require a “wake-up” signal.

The transmitter is offered in three main variants

- | | |
|---------|---|
| TC900 E | For interfacing with a variety of encoder registers (and single pulse meters) |
| TC900 G | For connection to the generator type meter interface |
| TC900 P | For use with single and dual pulse type meters |

Within these headings other options are available for a larger battery to give a longer operating life, and data logging.

Installation

The TC900 is supplied with a 4 core cable to connect to the meter register.

Encoders

For ECR type encoders connect as follows

Red	Clock / Power
Green	Data
Black	Ground / Common
White	Optional tamper

Note that for other encoder types the connections may be different

Generators

White	+
Black	-

The TC900 can accept pulses of either polarity without damage

Pulse

Green	Input
Black	Ground / Common
Red	Input 2
White	Optional tamper (connect to Black wire at the meter)

For wire jointing, the use of "Gel-Caps" is highly recommended for maintaining reliable connections. Unused wires should also be sealed with a Gel-Cap connection.

To achieve the best radio performance the TC900 should be mounted vertically with the cable at the bottom.

It should be mounted away from large metal areas by at least 6 inches, and if in a pit, should preferably be hung from beneath a pit lid, or fixed to a stake.

If mounted on a wall, then generally the higher it can be mounted the better will be the radio range.

Ideally the broad side of the box should face in the direction that the meter will be read from.

For shipping, the radio transmitter is set to be switched off, and needs to be switched back on for use. For this, use the programmer unit which also allows other parameters to be set if desired.

TC900 configuration

On installation the use of the Programmer unit allows a number of settings to be adjusted. Use the arrow keys to scroll up or down to the required menu. Select the setting to change with the "Enter" key. Then type in the number, or scroll through the options and press "Enter" to change the data and store in the TC900. To back out of a menu use the "back" button.

After switch-on and in the main menu the following selections are available

Meter setup	For typical installation requirements
Meter type	
Leak test	
Batch	This allows for simple switching on or off of a number of units

In the "Install settings" menu there is the choice of

Meter ID	Sets the meter serial number
Reading	Sets the initial meter reading if used with pulse meters
Tamper count	Resets the tamper count
Enable the MIU	Switches the TC900 on
Disable the MIU	Switches the TC900 off
Main delay	Sets the transmitter repetition period in seconds (5 secs min)

Meter Type menu

This menu allows selection of the meter type to be used with the TC900

Leak test menu

Enable leak test	Switches leak detect function on
Disable leak test	Switches the leak detect function off
Sampling interval	
Sampling count	

For more information on the use of the Programmer please refer to the reference manual for this device.

TC900 Specification

Operates in the 902 to 928 MHz band and complies with the requirements of FCC Part 15.249.

Temperature Range	-40°F to +158°F (-40C to +70C)
Battery Life	Over 10 years (15 years with extended life battery option)
Battery	Replaceable Lithium Thionyl Chloride
Case	High grade Polycarbonate
Antenna	Internal
Transmitted data	Meter reading
	Serial Number
	Leak detect flag
	Tamper count
	MIU status

Notes

Please note that under FCC rules, the following notice applies

This device complies with Part 15 of the FCC Rules.

Operation is subject to the following two conditions:

- (1) this device may not cause harmful interference, and**
- (2) this device must accept any interference received, including interference that may cause undesired operation.**

This transmitter is in a sealed compartment and should not be opened or modified in any way.

Specifications for this unit may be changed without notice

The information given in this user manual may also be changed without notice

TClarity™ is a trade name for a range of AMR products manufactured by Transmit Technology Ltd
Contact us at sales@tclarity.com