

# T210 Electronic Outreader



The T210 provides accurate remote readings for digital registers while adding convenience and safety for the reader.

## Features

- Reduced Meter Reading Costs
- High Integrity Pulse Counting
- Fully Configurable
- Long Battery Life
- Operates at -22°F to +158°F (-30°C to +70°C)
- Leak Detection
- "Touch Free" Reading
- Display Meter Reading
- Holds last read value
- "Bypass" & "Main" display icon
- Settable up to 8 digits displayed
- Supports bi-directional pulsers
- Installed away from pit meters improving access safety
- Installed in easy to access location to deal with difficult to access meters

## Tampering and Leak Alarm

The T210 can be configured to detect suspected fraud, for example the cutting of pulse input wires, and can also indicate if no water has been consumed for 30 days, indicating potential meter stoppages or removal of the pulse probe.

The T210 can also be configured to look for leaks providing a warning when long periods of continuous flow are detected. The warning is transferred with the meter reading at the time the meter is read and the warning is reset.

## Additional Features

- The T210 incorporates fully sealed electronics with a permanently connected battery for reliability.
- A sophisticated combination of digital signal processing and current pulse techniques provides high-integrity pulse counting.
- The T210 is compatible with all major handheld meter reading computers with communication via the Versaprobe Universal probe. It may also be read by Elster AMCO Water's T450 Mini Reader and programmed with the PSR140.
- The T210 has an 8 digit liquid crystal display (LCD). The 1/4" character height makes the display easy to read. With careful design and selection of materials, the display can survive temperatures as low as -22°F. A cover is provided to protect the LCD from high levels of ultraviolet light, and also to provide shade to facilitate reading in high sunlight conditions.

## Reduced Meter Reading Costs

The T210 (ScanCounter II) electronic outreader is designed specifically for accurate counting of water meter pulse outputs. It incorporates an easy to read display. The T210 is a cost effective solution to meter reading access problems because it can be installed in a location easily accessed by the meter reader. Using a wired connection, the T210 accumulates pulses from the water meter and stores the reading.

The meter reading and serial number is recorded, via the T450 Mini-Reader, PSR140 Reader/Programmer or the Versaprobe universal meter probe. This enables utilities to simply, and cost effectively, migrate their system from visual to electronic reading.

## Environmental

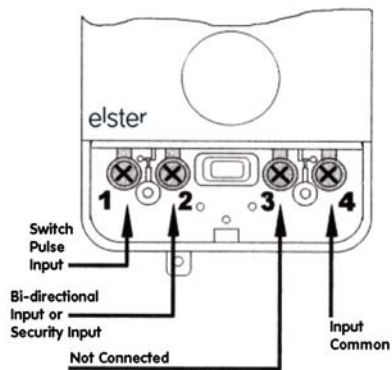
Sealing:	IP67 (electronics enclosure) IP44 (terminal enclosure, can be IP67 with non-corrosive silicon gel or sealant applied over the terminals on Installation)
Operating Temperature:	-22°F to +158°F (-30°C to +70°C)
Operating Humidity:	95% RH

## Physical

Housing:	High Impact Polycarbonate
Drop Test:	3.25 ft drop on concrete
Dimensions:	4.75" (H) x 2.75" (W) x 1.5" (D)
Weight:	5.3 oz.

## Electrical

Power Source:	3.6V Lithium Battery Operating life not affected by the number of pulses counted <b>This product contains Lithium batteries which must be disposed of by a qualified disposal agency. Under no circumstances should they be crushed or incinerated.</b>
Battery Low Indicator:	On LCD if fitted and in data output
Maximum Input Frequency:	40Hz
Worst case mark-space ratio:	12-75% (Reed switch) 30-70% (Open collector)
Low pass cut frequency:	12.5Khz
Software Watchdog:	1 sec
Approvals:	CE marked.
Wiring:	See diagram below.



Note: Connections to reed-switch pulsers, such as AMCO Water Metering Systems' LRP (on the T3000) and T-probe for the V100 (red and blue wires), are made to pins 1 and 4. The security input requires a loop connection to the common input (between pin 2 and pin 4). A direction flag input is required for pin 2 and pulse input to pin 1 when used in a bi-directional mode.

## Configuration Options

- No. of digits displayed (4,5,6, 7 or 8)
- Scale Factor 1 to 2,000
- Programmable 10 alpha numeric serial number
- Programmable initial meter reading
- Leak monitor
- Security/Tamper - non usage, wire cut, magnetic field interference
- Choice of units – USG, USG X 1000, CuFt X 100, litres., klitres, m<sup>3</sup>
- Choice of inputs: Volt-free (reed switch) or Open-collector
- Compatible with all Elster AMCO Water meters providing low resolution pulse output.

## Fully Configurable

The display can be set to use 4 to 8 digits, enabling the display to show either the full meter reading or only billing units. An activity icon on the display indicates when pulses are received by the T210, simplifying installation and testing.

Additionally, the display can be configured to indicate tampers and the possibility of leaks in the customer's system. A location is provided on the housing for a meter serial number label. The T210 can be used with any meter that has pulse output.

The meter reading is easily preset at the time of installation. To reduce time and errors in the field, configuration is carried out using an Elster PSR140 reader/programmer. The T210 is programmed with a specific serial number or customer account number at the time of installation.

Note: The PSR140 refers to the T210 as a 'ScanCounter II'.

## Generic Settings

The factory default programming mimics the dial face of the register that is specified when the T210 is ordered. No tampers will be set as standard; however main/bypass icons for compound meters will be set when specified for use with a C3000 or C4000 compound meter.

Special programming within the device capabilities can be requested at time of order, or programming for use with products other than standard Elster AMCO Water metering products.

The programmed reading units and multiplier are noted by a sticker affixed to the T210 in the serial number recess above the LCD display.

Elster AMCO Water, Inc.  
1100 SW 38th Avenue  
Ocala, FL 34474 USA

T +1 800 874 0890 (US)  
T +1 866 703 7582 (Canada)  
T +1 787 872 2006 (Caribbean)  
F +1 352 368 1950

watermeters@us.elster.com  
www.elsteramcowater.com

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