

## The Kent Range of Metering Products

### T-Probe

#### For retro-fitting to V100 and V110 meters

Most V100 and V110 meters have the probe location hole in the body and a driving magnet fitted. V100 or V110 meters without this facility cannot be retro-fitted with a T-probe.

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The brass bodied V100 (Kent PSM) and some versions of the thermoplastic V110, can be specified with the facility for a magnetically operated (reed switch) pulsed output, by the retrofitting of a dedicated probe assembly.

The probe is fitted with a  $100\Omega$  series resistor to protect the reed switch from power surges and is usually provided with a 5 metre length of cable, terminating in a sealed flying lead.

## **V100 & V110 T-PROBE**

### INSTALLATION INSTRUCTIONS

### **Location and Operating Principle:**

The Probe position is next to the counter, on the top shoulder of the meter body, protected with a removable plastic cover (See 'A' opposite). The volt free pulse is generated from the counter rotation, which has a two pole circular magnet fitted to the end roller. As the magnet rotates and opposite poles pass the reed switch, it pulls the reed contacts together. This produces 2 pulses per revolution of the end roller.

Where there are 4 red rollers, (15mm and 20mm size), this will generate 1 Pulse / 0.5 Litre.

1	2	3	4	0	0	0	0
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Where there are 3 red rollers, (25mm, 30mm and 40mm size), this will generate 1 Pulse / 5.0 Litre.

1	2	3	4	5	0	0	0
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### **Probe Fitting Instructions:**

Remove and discard the plastic protective plug. Insert the probe into the socket and align with screw hole.

Fit the retaining screw through the hole in the probe. (The reed switch within the probe is self-positioning, with the screw firmly in place). (See 'B' opposite). To prevent unauthorised interference, the screw head can be security lock-wired to the meter body with copper wire and a lead seal, making the probe installation completely tamperproof.



'A' Probe location position under protective plug.



'B' Probe fitted and screwed in place with security screw.

## **Cable Identification and Wiring Details:**

The factory fitted cable used for the T-Probe is defined as 4 x 7 / 0.2mm with Red, Blue, Black and Yellow as the core colours, contained within a white outer sheath.

There are 2 wiring variants available, identified as follows:

Common Loop-Back: 'TL1'      Product Code:      RR1LRBX005X

Separate Loop-Back: 'TL2'      Product Code:      RR1LRTX005X

(Standard Version)

For 'TL1' variant, the BLACK and YELLOW cores are the volt free pair. The loop-back is across RED and YELLOW cores. The Blue core can be cut back and discarded, as it is not connected.

For 'TL2' variant, the RED and BLUE cores are the volt free pair. The loop-back is across the BLACK and YELLOW cores. These connections are not otherwise polarity sensitive.

**Note:** The reed switch assembly is rated at 50 Vdc maximum working. The duty cycle of the switch closure is typically 70% on, 30% off.

## **Health and Safety at Work Act 1974**

1. We wish to inform you that in accordance with Section 6 of the above Act, we take every care, as far as is reasonably practicable to ensure that our products are safe without risk to health when properly handled, transported, installed, used, maintained and disposed. However, as manufacturers and suppliers of a wide range of products, we would advise you that related information for these products will be found in the following literature.

- Regulations (such as the COSHH Regulations, Manual Lifting Regulations, Personal Protective Equipment Regulations), British Standards and other applicable ISO and European Specifications and Codes of Practice, as applicable to the intended application of the products.
- Regulations for electrical equipment of buildings (published by the Institution of Electrical Engineers).
- Catalogues and product leaflets of this Company or literature which may be obtained by specific request to the Company.

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- 2.** It is important that the products concerned should be installed, handled, transported, commissioned and maintained by, or under the supervision of, competent persons in accordance with good engineering practice and:

  - IEE Regulations for the electrical equipment of buildings.
  - Regulations, British, European, ISO and other standards, specifications and Codes of Practice, as applicable to the intended application of products, i.e. Water Supply Bye-Laws.
  - Statutory Requirements.
  - Any instructions specifically advised by the Company and, where appropriate, with particular reference to information marked on the product. The product must only be used in the condition supplied or specified by the Company, without modification, and for the purpose for which it was designed.
  
- 3.** In accordance with your statutory duties to employees and other persons, you are therefore requested to take such steps as are necessary to ensure that any appropriate information relevant to our products is made available by you to everyone concerned. The Company takes no responsibility for any failure to comply with the above guidelines.

# **V100 & V110 T-PROBE**

## **INSTALLATION INSTRUCTIONS**



Elster Metering Limited  
Pondwicks Road  
Luton, Bedfordshire  
LU1 3LJ, United Kingdom  
Telephone +44 (0)1582 402020  
Facsimile +44 (0)1582 438051  
Website: [www.elstermetering.com](http://www.elstermetering.com)  
E-mail: [water.metering@gb.elster.com](mailto:water.metering@gb.elster.com)

The Company's policy is one of continuous improvement and the right is reserved to modify the specifications without notice.

## The Kent Range of Metering Products

# Electronic Pulse Splitter

**Available for V100, V110, V200,  
V210, V120, V140, S2000, C4000,  
C4200 and H4000 meters**

The Elster Pulse Splitter is a cost-effective, dual output pulse transmitter, providing a secondary output from a single pulse source and is specifically designed for use with the above meters (model to be specified), to meet today's Water Industry demand.

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The Pulse Splitter, which is only suitable for the low resolution (reed switch) type of meter outputs. The standard Pulse Splitter is provided with a 2 metre cable length between meter probe/pulse unit and Splitter box input, with the output cables terminating in 2 x 5 metre flying leads which are sealed against water ingress.



# Electronic Pulse Splitter

## INSTALLATION INSTRUCTIONS

### Operating Principle

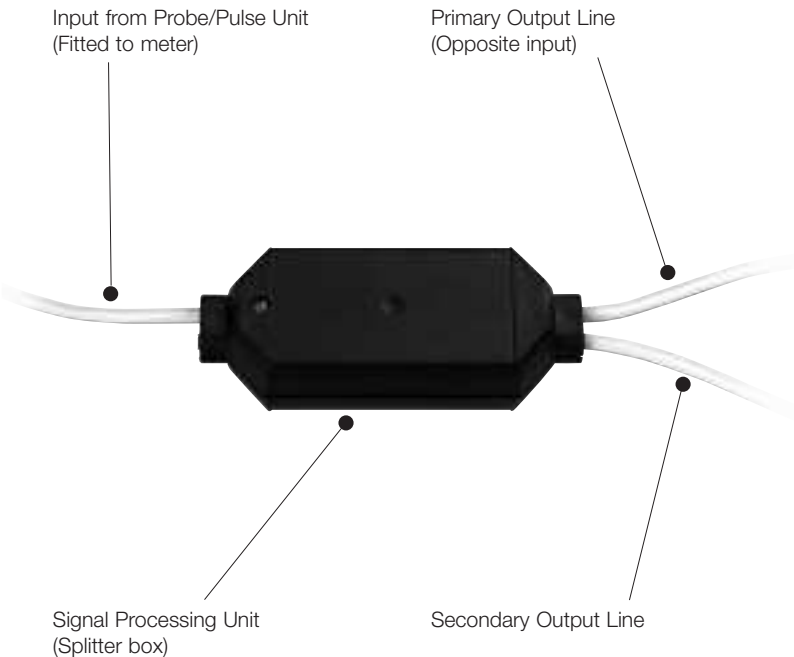
The probe/pulse unit connection cable from the meter, enters the signal-processing unit and via the internal electronic circuitry, splits the signal into two identical outputs. This enables the output cables to simultaneously transmit a volt free signal to a building management system and independently, to a logger or remote wall counter.

Note: The Primary and Secondary cables are defined as 4 x 7/0.2 mm with core colours of RED, BLACK, YELLOW and BLUE, enclosed in a WHITE outer sheath, 3.8/4.0 mm outside diameter.

### Pulse Splitter Connections

Core Colour	Primary Cable	Secondary Cable	Function
Red	Most Positive (+)		Pulse Reed (Reed Switch Closure)
Black	Most Negative (-)		
Yellow	Not Polarity Sensitive (As Pulse Unit specification)	Not Connected	Tamper Loop or Security Reed
Blue	Not Polarity Sensitive (As Pulse Unit specification)	Not Connected	





**Note:** The two outputs are designated as Primary and Secondary. The Primary output, (opposite the input) has the pulse reed wiring and any Tamper Loop or Security Reed wiring of the original probe.

The Secondary output has the pulse reed wiring only, ie, the Yellow and Blue wires are not connected.

The Pulse Splitter is designed and rated to be fully compliant with all retro-fit probes and pulse units in the Elster range of products.

However, the Pulse Splitter is not necessary when a dual output is required from certain meters, ie, H2000, H3000, V300 or the C3200 combination (main) meter, as there is already a complete range of dedicated dual output pulse units available. (Detailed on leaflet ref: 8596A4793).

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# Electronic Pulse Splitter

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