


# HCM4

## Thermal Energy Calculating Meters

- *Calculates The Energy Used In Heating or Cooling Systems*
- *kWh or mWh Readout*
- *'On Site' Programming Facility*
- *Manufactured to ISOEN 1434 – Class 1.0*
- *Suitable For All Billing Applications – Including Renewable Heat Incentive* 
- *Open Collector Pulsed Output – (With grab circuit) – As standard*
- *Prepayment Option*
- *Only Heat Meter – Designed for a 20 year life*



### Data Sheet

**Case** -- Heavy Duty Nylon Case with perspex front viewing panel, two programming buttons located on the front panel

**Case Size** -- 124mm wide 170 mm high 95 mm deep

**Mounting** -- Wall mounted

**Case Weight** 0.9kg

**Voltages** – 230 volts (standard) 110 volts (export only) 24 volts

**LCD Display** -- 16 Characters including spaces

**Display Visual Size** -- 65mm wide 13 mm high with dots per character 5 x 7

**Environmental Class** -- Confirms to the operational requirements of both Class B (Domestic Outdoor Installations) and Class C (Industrial Installations)

**Temperature Operating Range** 0c to 90c

**Accuracy Class** -- Complete Unit = Calculating Module & DHAS = Accuracy Class 1  
Conforms to Measuring Instruments Directive (MID) 2004) and ISOEN1434

**Temperature Sensors** – DHAS – Digital High Accuracy Sensors

**Long Distance Sensors ( LD Version)** – Perfect data accuracy transferable up to 200metres cable lengths manufactured in 5,10,20,50,100 & 200 metres

**Sensor Mounting/Fixing** –Strap on sensors (standard) - brass pockets into pipe work optional

**Sensor Accuracy** -- Conforms to within the ISOEN 1434 Parts 1 to 6 - Class 1 requirements

**Low Flow Error Compensation** – Software compensation to greatly improve accuracy at low flows

**Power Consumption** – Idle 0.03amps Operational 0.1amp

**High Precision Version** --HCM4 DHAS sensors have a software error compensation which provides a error compensation of up to factor 10. By compensating for the known offset and curvature of the device characteristics. This method is successful due to the simple second

www.hcm4.com



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Certificate No. 2030

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## Thermal Energy Calculating Meters

order error curve and the repeatable nature of the output over temperature for band gap – based sensors. An accuracy factor of up to 0.02% is possible.

**CE Conformity** -- Conforms to Low Voltage Directive 73/23/EEC

**Conformity** – Conforms to both RoHS & WEEE directives

**Pulse Output** - Open collector --with grab circuit – band width 50ms – 10 pulses per KWh/MWh

**Wiring** -- 21 way (max) Terminal block on PCB -- Removal of case cover is required -- sealable terminals on completion of wiring

### Operational Error Codes

**ERROR 1** No sensors connected or shorted to 5volts

**ERROR 2** Data shorted to 0 volts

**ERROR 3** Data transmission error

**ERROR 4** Only 1 sensor connected

**ERROR 5** Not a pair (either 2 hot or two cold connected)

**4 - 20 mA Outputs** -- Control signal with 2 test points at 4 mA & 20 mA -- Programmable for either Active(standard)or passive signals (0 to 10mA available as an alternative)

Total no of graduations 800 = Value of each graduation 20 micro amps Supply Voltage 15 volts Maximum Voltage 30 volts. High Refresh Rate 1 Sec

### Product List

**HCM 4000** Pulsed Output ( Standard Product)

**HCM 4001** 2 Pulse Outputs

**HCM 4002** 2 Pulse Inputs + 2 Pulse Outputs

**HCM 4003** Pulsed Out + Variable Flow Input

**HCM 4004** Pulsed Output + 4 - 20 mAmp

**HCM 4005** Pulsed Output + VAV Hot & Chilled Split System

**HCM 4006** M Bus

**HCM 4007** RS485

**HCM 4008** Modbus

**HCM 4009** Heat Pumps

**HCM 4010** Prepayment

**HCM TOM** Thermal Oil Meter

### Flow Meters

**Pipe Sizes 15mm to 50mm** - Manufactured To ISOEN 4064

Multi Jet Dry Dial - Max Water Pressure 16 bar - Vertical or Horizontal Mounting

Anti Magnet Pulsed Output – Screwed male couplings

**Pipe Sizes 50mm to 500mm** – Manufactured to ISO EN 4064 – Woltmann Type

Multi Jet Dry Dial - Max Water Pressure 16 bar - Vertical or Horizontal Mounting

Anti Magnet Pulsed Output – Flanged to PN16

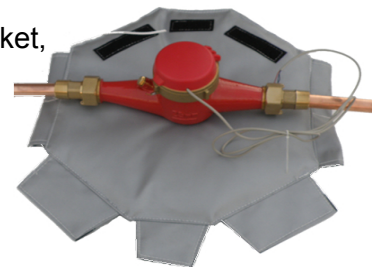
### Thermal Jackets

All Flow Meters are recommended to be installed with a Thermal Jacket,

Details at [www.meters.co.uk/tj's.htm](http://www.meters.co.uk/tj's.htm)

### Application Suitability

Billing – Energy Monitoring – RHI ( Renewable Heat Incentive)



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