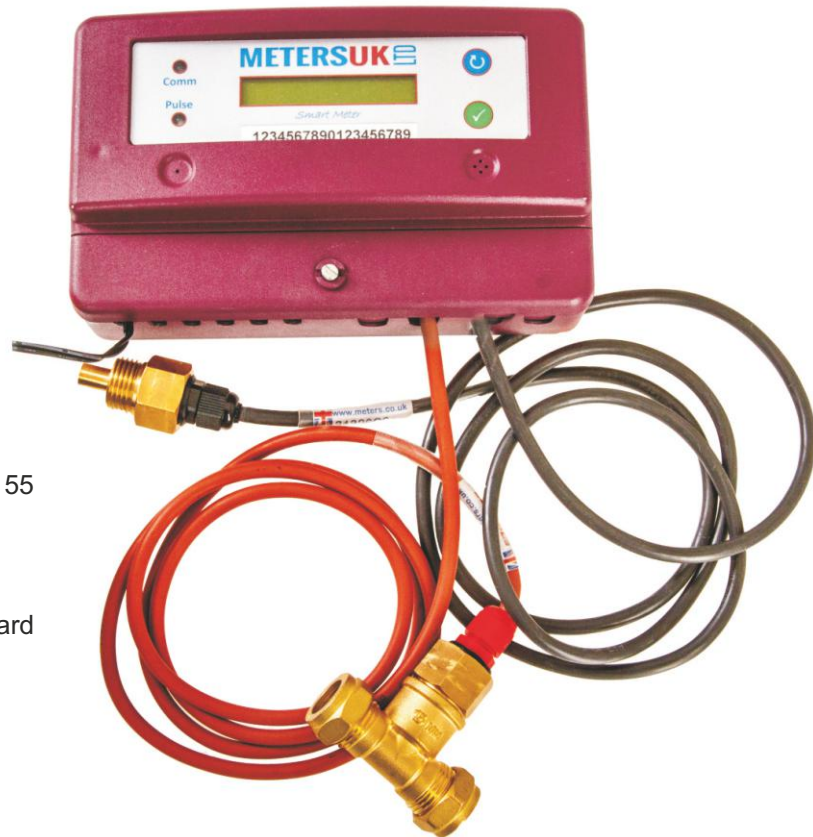


SmartHeat

Thermal Energy Calculating Smart Heat Meters

KEY FEATURES

- Calculates the energy used in heating or cooling systems
- The complete heat package falls within the combined component accuracy of Class 1-levels
- 'On site' programming facility and digital key option for reprogramming
- National Measurement office MID Approval no. UK/0126/0155
- Manufactured to EN 1434 - 2007 Parts 1 - 6
- Suitable for all billing applications - including RHI
- Open collector pulsed output - (with grab circuit) - as standard
- Digital high accuracy temperature sensors with ROM chip
- Sensors do not need to be in matched pairs
- M-Bus to EN13757-2/3/4 & EN1434-3
- Modbus to EN15745-2/4 and 2007

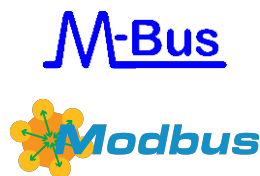


SMARTHEAT PRODUCT LIST

Standard Pulse Version

M-Bus pulsed version

Modbus pulsed version



Hot water system or Chilled

WRAS approval No. 1711335 Cold

1905031 Hot



DETAILS AND DIMENSIONS

Cases	Heavy duty nylon case (Ip60 rated) with Perspex front viewing panel
Case Front Panel	Two programming buttons located on the front panel. Communication LED & Pulse LED
Case Size	186mm w x 108mm h x 58mm d
Mounting	Wall mounted
Case Weight	0.9kg

DETAILS AND DIMENSIONS

Voltages	230 volts (standard) 110 volts (export only) 24 volts
LCD Display	16 Characters - single line
Environmental Class	Conforms to the operational requirements of both Class B Domestic Outdoor Installations) Class C (Industrial Installations)
Temperature Operating Range	0°c to 90°c
Accuracy Class	Class1—complete unit - falls within Accuracy Class1 MID (2004)
Temperature Sensors	EN 1434 2007 Parts 1- 6 2016 OIML R75
Long Distance Sensors	Smart Heat Fixings (LD Version). Perfect data accuracy transferable up to 100 meter cable lengths manufactured in 5, 10, 20, 50 and 100 metres
Security Labels	No peel permanent security labels 45.7 x 25.4mm available on request.
Smart Heat Pipe Fittings	Flow parts 15-50mm screwed connections. Conex T pieces suitable for copper/ plastic/steel pipes with threaded immersion pockets
Smart Heat Pipe Fittings	Flow Parts 50-200mm Flanged to PN16. Threaded welding boss and threaded immersion pockets suitable for steel pipes
Flow Meters 15 to 50mm	Multi Jet Dry Dial Turbine suitable for Vertical or Horizontal mounting. Screwed male connections. Maximum temperature 40°c Chilled and heating 90°c Manufactured to EN 4064. Anti magnetic security pulsed output Mid Compliance TCM/10 - 4792
Low flow error compensation	Software compensation greatly improves accuracy at low flow rates
Power Consumption	Idle 0.03amps. Operational 0.1amp. The repeatable nature of the output over temperature for band gap - based sensors means that an accuracy factor of up to .02% is possible
CE Conformity	Conforms to Low voltage directive 73/23/EEC
Conformity	Conforms to both RoHS and WEEE directives
Pulse Output	Open collector - with grab circuit - bandwidth 50ms - 10 pulses per kWh/mWh
Wiring	16 way terminal block on PCB. Removal of terminal case cover is required sealable terminals on completion of wiring
Programming	Two buttons on front case - scroll and accept
Re-programming Option	Via Dongle. 3 wire terminal clips into circuit board for reprogramming
Operational Error Codes	<p>ERROR 1 No sensors connected or shorted to 5 volts</p> <p>ERROR 2 Data shorted to 0 volts</p> <p>ERROR 3 Data transmission error</p> <p>ERROR 4 Only 1 sensor connected</p> <p>ERROR 5 Not a pair (either two hot or two cold)</p>