

#### Heat Prepayment – Technical Data

##### Heat Calculator

- Calculates The Energy Used In Heating or Cooling Systems
- kWh or mWh Read Out
- Digital High Accuracy Sensors
- Time Saving Strap On Pockets
- 'On Site' Programming Facility
- Manufactured to ISOEN 1434 Parts 1 to 6
- 230 volts or 24 volts
- Pulsed Output – (With Grab Circuit )



**Case** -- Heavy Duty Nylon Case with perspex front viewing panel, two programming buttons are 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

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

**Long Distance Sensors** ( LD Version) – Perfect data accuracy transferable up to 200metres cable lengths manufactured in 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 (Standard Version)

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

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

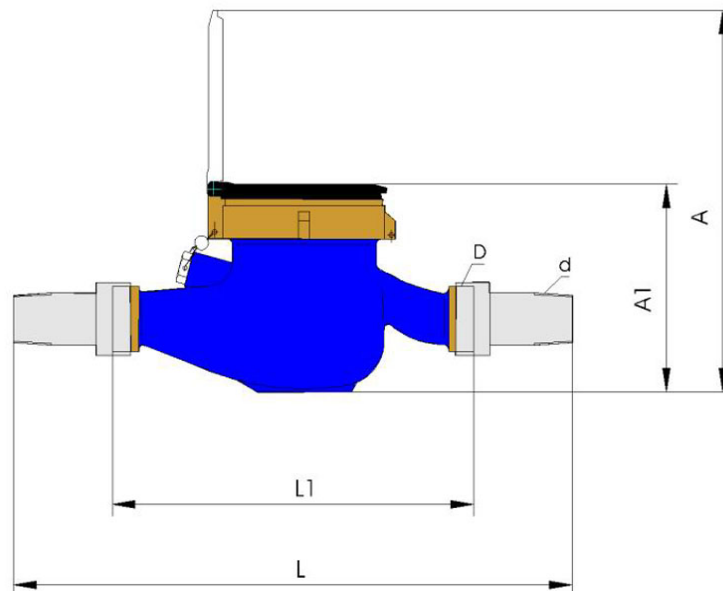
**Operational Life** – Based on historic model of components etc 20 years +

##### Flow Meter

- Muti Jet Dry Dial
- Manufactured to ISOEN 4064
- Class B
- Long Term Clear Reading - Frost Resistant
- Cold Meters Max Temperature 40c
- Hot Meters Max Temp 90c
- Water Pressure 16 bar
- Anti magnetic security pulsed output
- Suitable for both Billing & Monitoring Applications
- Vertical Or Horizontal Mounting



TOMi Range – Water Meters – Main Technical Data									
Size	QS Max Flow	QP Nominal Flow	Min Reading	Max Reading	Length mm L1/L	Width mm	Height mm A1/A	Connecting Thread	Weight Kg With Connection s
15mm	3	1.5	0.0001	999999	165/259	99	122/190	G3/4B	1.52
20mm	5	2.5	0.0001	999999	189/290	99	122/190	G1B	1.72
25mm	7	3.5	0.0001	999999	260/355	103	130/200	G1 1/4B	2.62
30mm	12	6	0.0001	999999	260/380	104	118/198	G1 1/2B	2.82
40mm	20	10	0.0001	999999	300/431	124	163/260	G2B	5.1
50mm	30	15	0.0001	999999	300/450	125	163/260	G2B	8.5



Construction - Cast brass – replaceable dry dial module snug fit plastic cap.  
 Sealing Points – On body and couplings  
 pH Scales – Suitable

### Pulsed Output Data

- **Historically highly reliable**
- **Located for ease of installation on top meter**

Anti magnetic volt free contact – (Reed Switch)

Temperature Range – Flexing -5c to +50c

Temperature Range – Static -20c to +70c

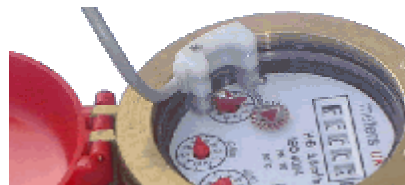
Bending Radius 10x Cable Diameter

Electrical Characteristics

Cross Section 24//0.22 AWG/mm2

Insulation Resistance 20 (min) Mohm km

Pulsed Output from TOMi is Volt Free



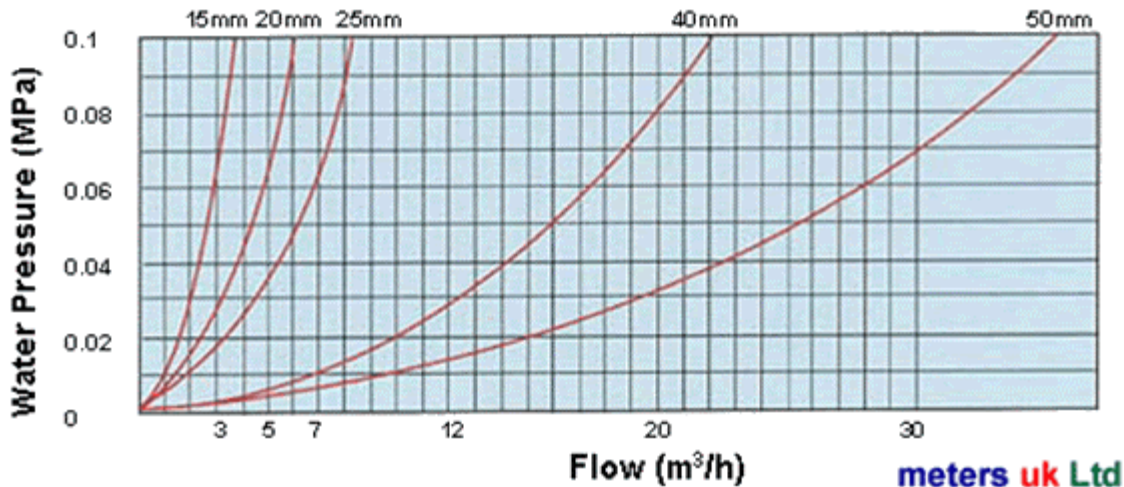
3 wires

Blue = common

Black = Pulse 1 (-) To the - pulse input terminals of your equipment

Red = Pulse 2 (+) To the + pulse input terminal of your equipment

Maximum Voltage that can be introduced = 12vdc for liquids in the 5 to 8 range of the ph scale



meters uk Ltd

### HE203 Card Reader

**Physical Data** Heavy Duty Nylon Case , with Perspex front viewing panel  
**Case Size** - 124 mm wide 170 mm high 95 mm deep Case Weight – 1.1 kg

**Card Settings Ranges** (Variable ) 1 to 1000 units per card side Credits – Pulse(s) – Buzzer Warning – Emergency Credit

**Card Type** Magnetic Striped Card. bi encoded (encoded both sides)

No of uses 2 Card is clipped to show use, on removing from card reader.

**Size** 83.6mm wide x 52.9 high -- Credit Card Size

**Module** 100amps – AC1 230 volts (110 volts version available) 50/60hz

**Module Contactor** – Bi Stable Electronic Contactor –

**Switching Current** 4.5w over 20 ms

**Switching life** – 100,000 switches minimum

**Terminal Block** Nickel plated brass terminals, are fitted for main terminals.

**Terminal cover** is of a tamperproof construction and design, with a security lip fitting into the main meter case,

and star constructed fixing for sealing with a 6.5mm screw head fitting conforming to BS 5685 Pt 1

**Contactor** Using Electronic Contactor 100amps Both versions are latching contactors (Bi Stable)

Electronic Contactor has – Very Low Current Consumption 4.5 watts per 20-millisecond latch = 90m Joules per latch

No heating of coils (Usual in standard product – Mono Stable Contactors)

**LCD Display** 16 Character Display includes spaces Visual Diameter 65mm wide 13mm high

Hitachi Display Driver -- 5 x 7 dots per character Character Size 8.5mm High 4.5 Wide

Characters available = 92 includes low and high case

**Influence Of Supply Voltage** The HE 203 module complies with IEC 1036 section 4.4.2

Operation over the voltage range complies with IEC 1036 section 4.4.2.1 with permissible error as given in IEC 1036 table 14.

For voltage dips and short interruptions the module complies with IEC 1036

section 4.4.2.2 and tested according to IEC 1036 section 5.4.2.1 Power Burden less than 2VA



**Data Retention/Memory** Should loss of power occur, programmed data will be retained in memory for 10 years, 200 cards of credit can be stored into memory at any one time

**Memory Access** Via Zapper Reset Tool

**Temperature Range Operating Range** - 10c to 45c

Limit range of operation -20c to 55c

Storage range -25c to 70c This complies with IEC 1036 4.3.1

**EMC Standards** Full compliance meeting generic standard EN50091-2 and immunity standard EN50082-2 for industrial environments

**Safety Standard** Complies with EN61010 installation category 11 Pollution degree 2

**RoHS & WEE Directives** Compliance with both European directives



## 2 Port Valve

**Type** Paddle Type

**Maximum Pressure** 10 bars

**Pipe** – Suitable for copper or steel pipe installations

