

# meters uk Ltd <sup>TM</sup>

Utility Meter Manufacturers

An Accredited Low Carbon Company

**ELECTRICITY – GAS – HEAT – WATER METERS**



## Modbus Cable Specification

Heat Meters HCM40008



Modbus over RS485 cable should have the following characteristics –

- 1 twisted pair of conductors for data
- 1 additional conductor for common
- An overall protective screen

The twisted pair of conductors for data should have a characteristic impedance of 120 Ohms and a capacitance of less than 80pF per metre. All the conductors should be of at least 0.2mm<sup>2</sup> (24 AWG) cross section and preferably of stranded construction for greater durability.

The total length of all cable within a network is limited to 1km with this type of cable.

**EF1 – Interfaces** – Electric – Gas – Oil – Water Meter Applications



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If using EF1 interfaces an additional conductor is required to provide power. This can be achieved using 2 twisted pairs with one pair for data and the other pair for common and power. This type of cable can also be used where power is not required in which case the additional conductor is not connected.

The common conductor should be connected to the GND terminal on all the Modbus interfaces to provide a reference for data reception. The outer screen should not be connected to any of the interfaces, but should maintain continuity and be earthed near the master interface.

Suitable cables are –

Belden 9842

Belden 3106A (not for EF1)

Belden 3107A

A cheaper alternative for smaller networks (up to 500m total cable length) is to use Cat5 ethernet cable with similar characteristics.

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