

# MeterLink



## Mainscom-1

### Programmable Multi-Mode Meter

Mainscom-1 is a single-phase 100A meter designed for use with the MeterLink Smart Metering and Control System

Integral power-line-carrier transceiver compatible with MeterLink

Internal switchgear for prepayment mode or remote interrupt/enable

Remotely-programmable tariffs using 4 rates or blocks

AMR capability includes half-hour demand profile recording

Optional IEC 61107 optical port and water/gas meter interfaces

Meter status monitoring and tamper detection

MeterLink

Networks Under control.

# MeterLink

## Networks Under control

### SPECIFICATION

#### DESCRIPTION

Single-phase kilowatt-hour smart meter, programmable for credit or remote prepayment metering modes and tariffs, plus demand profiling and demand control. MAINSCOM-1 meters are part of the MeterLink system and also handle water and gas metering via optional interfaces

#### STANDARDS

IEC 61036 Ed 2: indoor static watt-hour meters  
BS7856: dimensions and main connections  
CENELEC EN 50065: power-line carrier signalling  
IEC 61107 Ed 2: - the opto communications port

#### DIMENSIONS

W130mm x H205mm x D100mm (approx)

WEIGHT 0.95Kg

#### MOUNTING

BS 7856 Conventional Mounting Triangle

#### ELECTRICAL

Rated Voltages: 220V, 230V, or 240V

Operating Range: 220V -20% to 240V +15%

System Frequency: 50 Hz

Supply Burden: 2 watts or 10 VA

Basic Current: 20 A (other values upon request)

Maximum Current: 100 A

Overload Current Withstand: 120 amps 8.5 hours  
200 amps 500 secs

#### METERING

Single shunt element, IEC 61036 Accuracy Class 2,  
LED Pulse rate - 1000/kWh, calibration at 230V

#### DISPLAY

8 digit LCD with min 50% contrast after 15 years

Maximum Value: 999999.99 kWh

Character Height: Numerical 6.0 mm (min)

Alpha 1.5 mm (min)

Manual display lists for programmed mode/tariff

#### CLOCK

Accuracy 10 ppm (+/- 6 minutes per year) plus  
remote synchronisation via MeterLink

#### BATTERY

Standby: 3 years (nominal)

Power Outages: 2 Years Life: 15 years.

#### OPERATING TEMPERATURE

-20 to + 65 Deg C

#### SWITCHGEAR

Load switch rating: 100 A

#### POWER-LINE CARRIER TRANSMISSION

to CENELEC 50065 max 4800 Bd

#### OPTO COMMS PORT (OPTIONAL)

IEC 61107 mode C (FLAG)

#### WATER/GAS METERING INTERFACES (OPTIONAL)

Pulse or serial data, valve control

The MAINSCOM range of smart meters feature two-way power-line carrier communications via the low-voltage electricity distribution network. They are part of the MeterLink system providing an end-to-end system solution that includes automatic meter reading (AMR). In addition MAINSCOM-1 data collected via the MeterLink system includes demand recording for 30-minute intervals and monitoring of reverse energy detection and terminal tampering. MAINSCOM-1 meters also support remote time synchronisation from the MeterLink system.

MAINSCOM-1 includes two pushbuttons for navigation through the display lists:

Blue: Display Sequence - Main List for Mode and Tariff in use

Orange: Display Sub-lists, and any Emergency Credit operation

Credit Meter Mode	Remote Prepayment Mode
Total energy kWh Energy rates 1-4kWh Reverse energy kWh Maximum load kW Date, Time Tariff times Supply status	<b>Credit Mode list plus:</b> Credit or Debit Emergency Credit Credit Limit <b>and either:</b> Standing Charge Rate charges 1-4 Rate times <b>or:</b> Block charges 1-4 Block units kWh Taxes
Options: Water/Gas	Options: Water/Gas
<b>Additional Displays:</b> Total volumes Current period Previous period Supply status	<b>Credit Mode list plus:</b> Credit or Debt Credit alarm Standing charge Block charges Block volumes

### Basic Circuit Diagram

MAINSCOM-1 can also provide for up to 4 auxiliary output terminals (numbered 5-8) for control options and up to 4 auxiliary data terminals (under the terminal lid) for interfaces to other metering (water, gas).

