

4.7 DIT (Demand Integration Time)

This sets the period (in minutes) in which the Current and Power readings are integrated for maximum demand measurement. The options are off; 5; 10; 15; 30 or 60 minutes.

Set
dit
10

Use the **M** and **P** buttons to select the menu option. The screen will show the current setting.

Set
dit
10

Hold the **E** button to enter the menu option, the current selection will flash.

Set
dit
20

Use the **M** and **P** buttons to select the required option.

Set
dit
20

Hold the **E** button to confirm the selection.

Hold the **U/I** button for 3 seconds to exit the set up menu.

4.8 Supply System

The unit has a default setting of 3 Phase 4 Wire (3P4W). Use this section to set the type of electrical system.

545
3P4

Use the **M** and **P** buttons to select the menu option. The screen will show the current setting.

545
1P2

Hold the **E** button to enter the menu option, the current selection will flash.

545
1P2

Use the **M** and **P** buttons to select the required option.

Hold the **E** button to confirm your adjustment. Hold the **U/I** button for 3 seconds to exit the set up menu.

4.9 CLR

The meter provides a function to reset the maximum demand value of current and power.

CLR

Use the **M** and **P** buttons to select the menu option. The screen will show the current setting.

CLR
dit

Hold the **E** button to enter the menu option, the current selection will flash.

Hold the **E** button to confirm the setting and press **U/I** to return to the main set up menu.

4.10 Change Password

Set
PASS
1000

Use the **M** and **P** to choose the change password option.

Set
PASS
1000

Hold the **E** button to enter the set up menu. The first digit will start flashing.

Set
PASS
1000

Use **M** and **P** to set the first digit and press **E** to move right. The next digit will flash.

Set
PASS
1100

Repeat the procedure for the remaining three digits.

Set
PASS
1100

After setting the last digit, Hold the **E** button to save your selection.

Hold the **U/I** button for 3 seconds to exit the set up menu.

5 Specifications

5.1 Measured Parameters

The unit can monitor and display the following parameters of a Single Phase Two Wire (1P2W) or Three Phase Four Wire (3P4W) system.

5.1.1 Voltage and Current

- Phase to Neutral Voltages 100-289V AC (not for 3P3W supplies).
- Phase to Phase Voltages 173-500V AC (3 Phase supplies only).
- Percentage Total Voltage Harmonic Distortion (V %THD) for each Phase to Neutral (not for 3P3W supplies).
- Percentage Total Voltage Harmonic Distortion (V% THD) between Phases (3 Phase supplies only).
- Current %THD for each Phase.

5.1.2 Power factor and Frequency and Max. Demand

- Frequency in Hz
- Instantaneous power:
- Power 0-3600 MW
- Reactive power 0-3600 MVAR
- Volt-amps 0-3600 MVA
- Maximum Demand Power since last reset
- Power factor
- Maximum Neutral Demand Current, since the last reset (for Three Phase supplies only)

5.1.3 Energy Measurements

- Imported/Exported active energy 0 to 9999999.9 kWh
- Imported/Exported reactive energy 0 to 9999999.9 kVARh
- Total active energy 0 to 9999999.9 kWh
- Total reactive energy 0 to 9999999.9 kVARh

5.2 Measured Inputs

Voltage inputs through 4-way fixed connector with 2.5mm² stranded wire capacity. Single Phase Two Wire (1P2W)OR Three Phase Four Wire (3P4W) unbalanced. Line frequency measured from L1 Voltage or L3 Voltage. Three current inputs (six physical terminals) with 2.5mm² stranded wire capacity for connection of external CTs. Nominal rated input current 0.1A AC RMS.

5.3 Accuracy

- Voltage 0.5% of range maximum
- Current 0.5% of nominal
- Frequency 0.2% of mid-frequency
- Power factor 1% of unity (0.01)
- Active power (W) ±1% of range maximum
- Reactive power (VAR) ±1% of range maximum
- Apparent power (VA) ±1% of range maximum
- Active energy (Wh) Class 1 IEC 62053-21
- Reactive energy (VARh) ±1% of range maximum
- Total harmonic distortion 1% up to 31st harmonic
- Response time to step input 1s, typical, to >99% of final reading, at 50 Hz.

5.4 Auxiliary Supply

This unit does not require a separate auxiliary supply; the unit is self supplied it draws the necessary power from the voltage input connections. If a three phase supply is connected, and the phase that is powering the unit fails, it will change the phase supply to avoid shutting down.

5.5 Interfaces for External Monitoring

Three interfaces are provided:

- RS485 communication channel that can be programmed for Modbus RTU protocol

The Modbus configuration (baud rate etc.) and the pulse relay output assignments (kW/kVARh) are configured through the set-up screens.

5.5.1 RS485 Output for Modbus RTU

For Modbus RTU, the following RS485 communication parameters can be configured from the set-up menu:

Baud rate: 2400, 4800, 9600, 19200, 38400

Parity: none (default) / odd / even

Stop bits: 1 or 2

RS485 Network Address: 3 digit number - 001-247

Modbus™ Word order Hi/Lo byte order is set automatically to normal or reverse. It cannot be configured from the set-up menu.

5.6 Reference Conditions of Influence Quantities

Influence Quantities are variables that affect measurement errors to a minor degree. Accuracy is verified under nominal value (within the specified tolerance) of these conditions.

- Ambient temperature 23°C ±1°C
- Input waveform 50 or 60Hz ±2%
- Input waveform Sinusoidal (distortion factor < 0.005)
- Auxiliary supply voltage Nominal ±1%
- Auxiliary supply frequency Nominal ±1%
- Auxiliary supply waveform (if AC) Sinusoidal (distortion factor < 0.05)
- Magnetic field of external origin Terrestrial flux

5.7 Environment

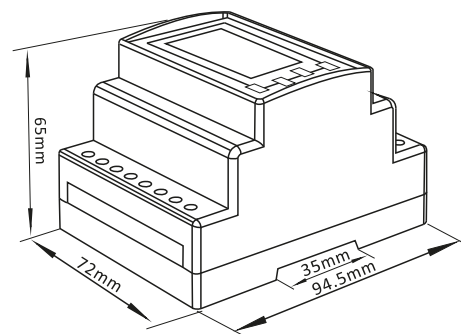
- Operating temperature -25°C to +55°C*
- Storage temperature -40°C to +70°C*
- Relative humidity 0 to 95%, non-condensing
- Altitude Up to 3000m
- Warm up time 1 minute
- Vibration 10Hz to 50Hz, IEC 60068-2-6, 2g
- Shock 30g in 3 planes

*Maximum operating and storage temperatures are in the context of typical daily and seasonal variation.

5.8 Mechanics

- DIN rail dimensions 72 x 94.5 mm (WxH) per DIN 43880
- Mounting DIN rail (DIN 43880)
- Sealing IP51 indoor
- Material Self-extinguishing UL 94 V-0

6 Dimensions



7 Installation

7.1 CT Orientation

With this meter the CT can be installed one of two ways depending in which way, will determine which patch lead to use.

RJ12 3 Phase Current Transformer installation
Note: RJ12 3 phase current transformers are supplied with 1.5 metres of straight RJ12 cable (as highlighted in Set-up 1 diagram) for reversed phased connections it is necessary to purchase the optional reversed RJ12 cable.

Set-up 1, Straight RJ12 Lead
Please Check User Manual

Set-up 2, Reversed RJ12 Lead
Please Check User Manual

7.2 Three Phase Four Wire

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Customer Service: 01376 335 271 | www.sifamtinsley.co.uk | Specifications are subject to change without notice

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