

An advanced modular sub-metering system

EnergyICT's latest sub-metering product, the **EIMeter Flex**, is a modular electricity metering system which can simultaneously monitor up to 12 three-phase loads or up to 36 single-phase loads, or any combination of both load types.

This modular sub-metering system integrates load measurement, I/O functions, logging and communications in a single, flexible unit which can be adapted to the needs of a range of energy management cases.

Because of its modularity, the **EIMeter Flex** saves space for those applications where several meters need to be installed. Moreover, single voltage input and a single communications port further allows customers to save on costs!

Key Features

- 128x64 Dot Graphic LCD & keypad (6keys)
- Up to 6 slave modules extension
- 32 MB Local storage
- DIN-RAIL mountable

- 4Q Measurements
- Each slave can be addressed individually
- Multi-tariff option - max 8 week types and 8 seasons

Upstream:

- Default ModBus (RS485) communication

Downstream:

- Voltage transformers
- Current transformers
- Up to 12x3-phase or 36x1-phase metering

EIMeter Flex components

The **EIMeter Flex** system is built from a combination of the following modular components:

- 1 Master Display Unit
- 1-6 optional slave sub-metering modules:
- 1 Communications Module (e.g. Modbus RS485)
- At least 1 sub-metering module must be fitted

EIMeter® Flex

Modular Electricity Sub-metering System

+ **Monitors up to 12
three-phase loads or 36
single-phase loads**

+ **DIN-RAIL mountable**

+ **Flexible slave module
extension**

+ **4Q measurements**

Easy, straightforward configuration

All new **EIMeter Flex** systems are factory configured and calibrated with at least the following components:

- Master Display unit
- at least 1 slave sub-metering module

Default settings are provided which can be user configured during commissioning to suit the site to be monitored and host communication requirements.

On power up, **EIMeter Flex** systems recognise and accept their factory configured modules. Changes to the system hardware configuration may be made in the field such as adding/removing modules. CT, VT & Pulse configuration can be displayed at the touch of a button.

Precise Measurements

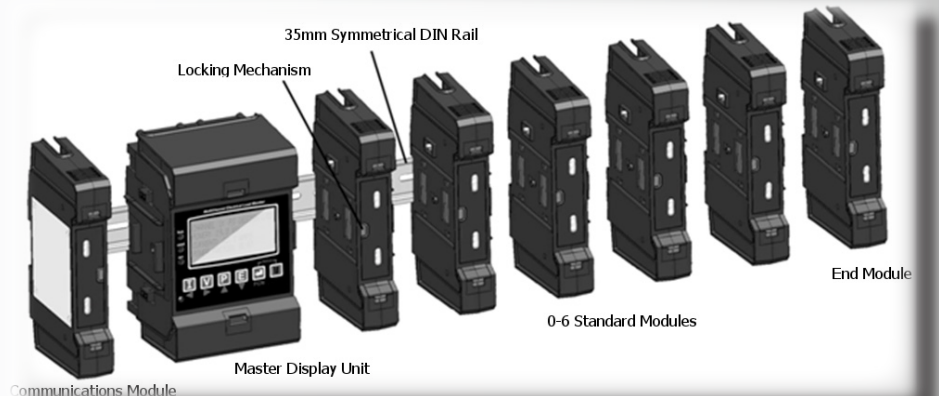
An internal precision measurement system maintains full accuracy in the presence of harmonics (up to the 30th harmonic at 50 Hz) and randomly and/or periodically interrupted waveforms - as commonly found on modern electronically controlled loads.

Voltage Inputs

Voltage measurement connections are common for all the slave meters and are made at the Master Display Unit. The voltage inputs are attenuated before being passed on to all metering modules.

Current Inputs

Each phase current input of a slave sub-metering module is associated with one



of three phase voltage inputs, which are supplied by the Master Display Unit.

- Case Isolation: 600Vac
- Internal Isolation: 2.11kV
- Operating Temperature Range: 0 to 60°C
- Cable: 105°C, 600Vac

Multi-functional Master Display Unit

The Master Display Unit provides a user interface and local display of metered parameters on a graphic LCD. The Master Display Unit also acts as a power supply and voltage measurement input for all the Sub-Metering Modules, which may be attached to it. This single voltage input point makes wiring much simpler and safer by removing the need for distributed voltage connections.

Mounting

The **EIMeter Flex** is designed to be mounted on a 35mm symmetrical ("Top-Hat") DIN Rail. The **EIMeter Flex** should be mounted close to the power system distribution point to minimise the length of voltage and current input connections. Ensure that the voltage cable clamps are securely tightened and all terminal covers are securely fitted before power-up.

Power Connections

EIMeter Flex connects to the following power networks:

- 3-Phase 3 or 4 Wire: Nominal 230V Phase to Neutral (400V Phase to Phase)
- Single Phase 2 Wire: Nominal 230V Phase to Neutral.
- Two Phase 3-Wire: Nominal 120V Phase to Neutral (240V Phase to Phase)

Dimensions

Length x Depth (off wall) x Height:

- **Master Unit:**
 - 100mm x 96mm x 164mm
- **Communication Unit:**
 - 29mm x 96mm x 164mm
- **Slave Unit:**
 - 29mm x 96mm x 164mm

Maximum size with Master + Comm. module and 6 slave modules:

- 303mm x 96mm x 164mm

Product references

- **EMTR000027**
EIMeter Flex Master Unit + RS485 unit
- **EMTR2000028**
EIMeter Flex Slave Unit (2 x 3-phase or 6 x 1-phase)