iot
SOLUTIONS

Eastron®
EUROPE

Innovation, Quality and Competitive edge
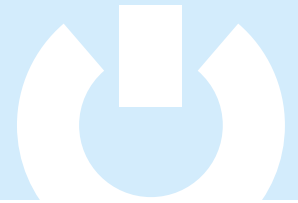
Multiclick

MultiClick

A fast, easy and reliable solution for installing power metering systems.

Eastron MCS-D50

Designed and certified in the United Kingdom.

MultiClick

Multiclick is a modular based solution for intelligent measuring and monitoring for power management and distribution, one central point for reading multiple circuits, saving space, time and cost on installations.

MCS-I   MCS-U   MCS-D

This new concept of intelligent measuring and monitoring of power management and distribution has been designed and engineered for new and retro fit applications. Up to 32 x Three Phase or 96 x Single Phase circuits measured and accessible from one centralized data display.

The current, Power and Energy is monitored by the MCS-I module, which has three RJ12 inputs for three individual split core sensors or alliteratively you can just the first RJ12 input, if using our three-phase block sensor. There are three different levels of the MCS-I modules ranging from basic measurement to THD (Total Harmonic Distortion), power per phase and overload alarm functions. The MCS-I modules can then be interconnected via the RJ45 input/ output back to the Voltage and communication module (MCS-U) You can have up to 32 x MCS-I modules connected on one bus (32 x three phase or 96 x single phase circuits). There is no voltage reference required for the MCS-I module.

The MCS-U module is the Voltage and Communication module, you will connect your voltage reference for the complete system to this device (1ph2W or 3ph4W). It will be interconnected to the MCS-I module and the display Module (MCS-D) via RJ45 input / output ports. In the event you do not require a display, you can utilize the RS485 output on this module to program or to connect into a BMS system or energy management platform (Connex).

Depending on the level of requirements we can provide a basic 96x96mm display which will measure the multiple circuits, it can also be used for the setting up of the entire system. Alternatively, we can offer a HMI screen which in conjunction with our Eastron ConneX, which can be used as a centralised metering data point or as a sub metering remote monitoring and data logging end to end solution.
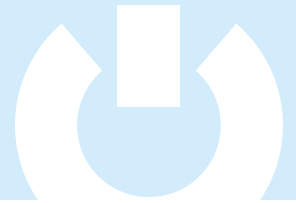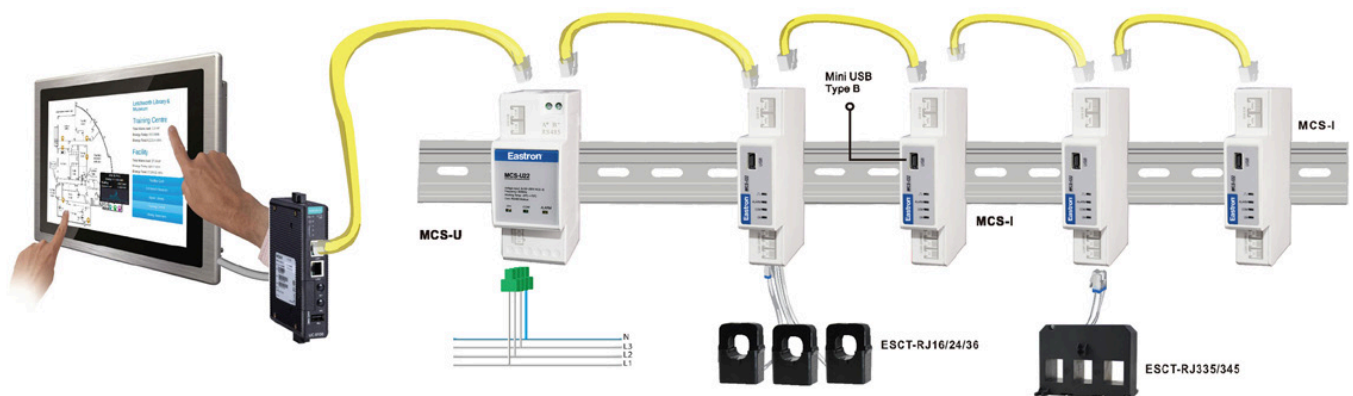
Examples of installation

Basic measurement and display
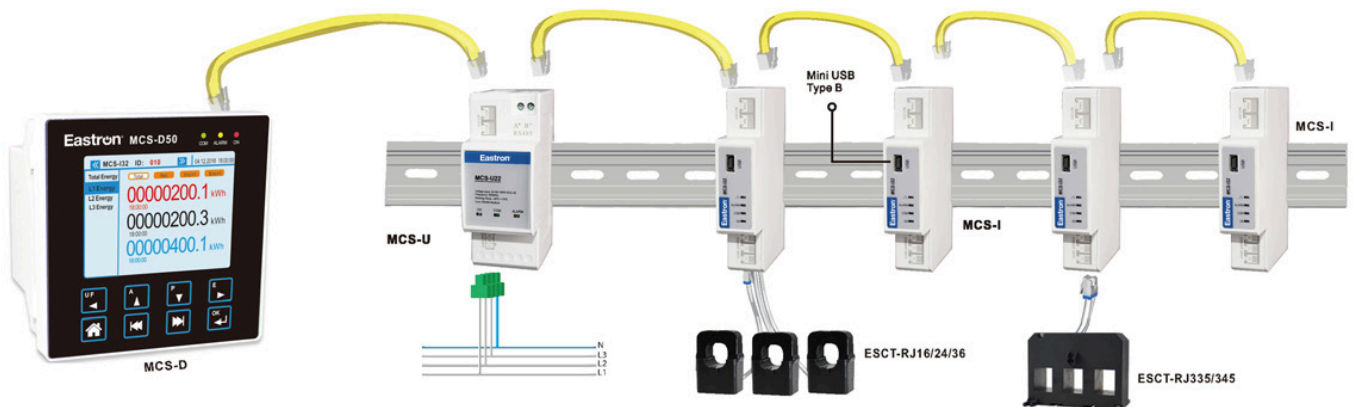
-100 metre maximum cable run from first device to the end device

HMI interface with Connex Software and Remote Monitoring

-100 metre maximum cable run from first device to the end device

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- 1 DIN module (18x90mm)
- Three different variant options at different price points.
- No voltage reference required (Voltage reference is taken from the MCS-U module for entire system)
- 3 x RJ12 CT inputs (3 x Single phase or 1 x Three phase sensor)
- RJ45 input and output for the interconnecting on the bus network
- Up to 32 x MCS-I modules on one network
- Entire network of MCS-I modules measured and displayed from one centralised point
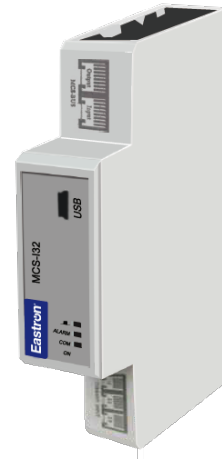
| MCS-I Current Module	Module Functions
MCS-I30	Total / Net / Imp / Exp Kwh / Kvarh, and I1,I2,I3,In,ΣP, ΣQ, ΣS, ΣPF
MCS-I31	Total / Net / Imp / Exp Kwh / Kvarh, I1,I2,I3,In,ΣP, ΣQ, ΣS, ΣPF, P,Q,S,PF Per Phase and THD-I
MCS-I32	Total / Net / Imp / Exp Kwh / Kvarh, I1,I2,I3,In,ΣP, ΣQ, ΣS, ΣPF, P,Q,S,PF Per Phase, THD-I, Max Demand and Overload Alarm Function

Conformity references:

Electromagnetic Compatibility: IEC/EN61326-1, IEC/EN55011 Class A, IEC/EN61000-4-2,-3-4-5-6-8-11 IEC/EN50470-1/3
Accuracy: IEC60253-22 Class 0.5s, IEC61557-12 Class 0.5
Safety: EC/EN61010, IEC/EN50470-1

Dimension drawing
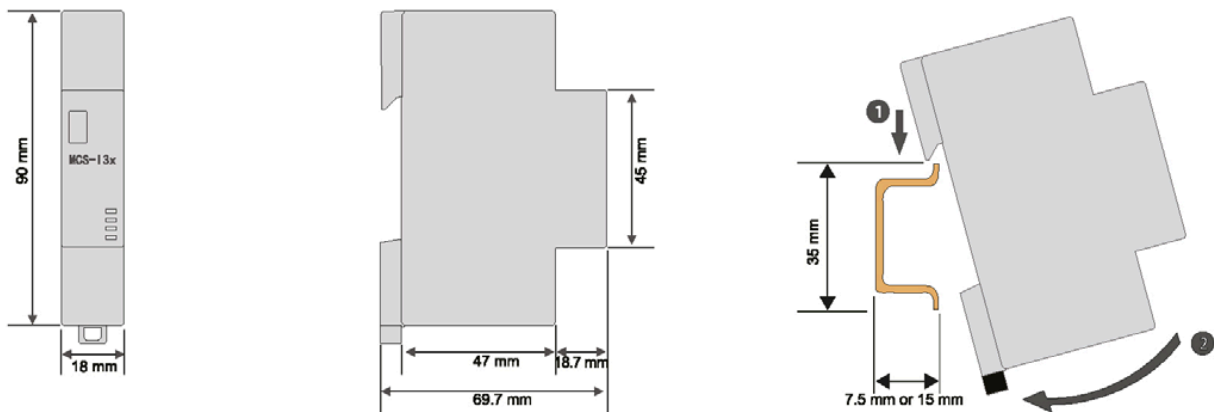
Installation

- 2 DIN Module (36x90mm)
- Three different variant options at different price points.
- One voltage reference required for entire system (1ph2W or 3ph3W)
- Plug in voltage terminal
- RJ45 input and output ports for interconnection of MCS-D and MCS-I modules
- Can connect up to 32 x MCS-I modules to 1 x MCS-U Module
- RS485 Output Modbus RTU

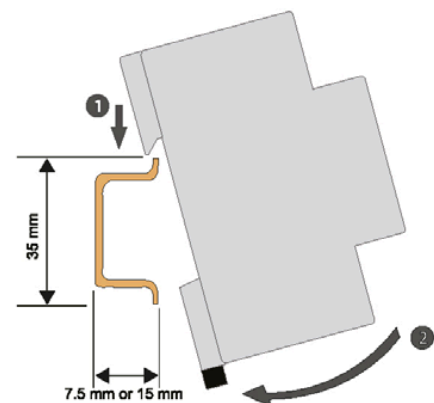| MCS-U Voltage Module	Module Functions
MCS-U20	U12,U23,U31,U1,U2,U3 and Frequency
MCS-I21	U12,U23,U31,U1,U2,U3, Frequency, THD-U and Alarm Threshold
MCS-U22	U12,U23,U31,U1,U2,U3, Frequency, THD-U, Alarm Threshold and RS485 Port

Conformity references:

Electromagnetic Compatibility: IEC/EN61326-1, IEC/EN55011 Class A, IEC/EN61000-4-2,-3-4-5-6-8-11 IEC/EN50470-1/3
Accuracy: IEC60253-22 Class 0.5s, IEC61557-12 Class 0.5
Safety: EC/EN61010, IEC/EN50470-1

Dimension drawing

90 mm

36 mm

42.5 mm 16 mm
63 mm

35 mm

7.5 mm or 15 mm

Installation

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Eastron® EUROPE

- **96x96mm Panel Mounted**
- **Three different variant options at different price points.**
- **Operates as a Data Concentrator with 1G memory**
- **High resolution colour FTF LCD display**
- **Configuration tool with auto address of modules on the bus network**
- **Detects Modbus address conflicts and can automatically correct**
- **Modbus RS485 RTU output or Ethernet Modbus TCP**
- **Operates as a gateway (MCS-D50/60 only equipped with ethernet port)**
- **SOE Management (Sequence of Events)**

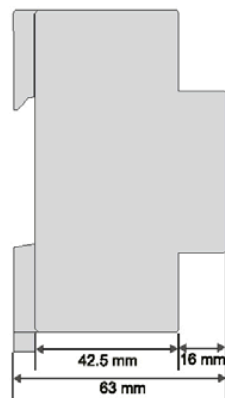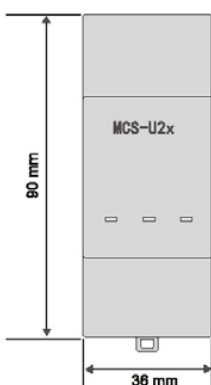| MCS-D Display	Display Functions
MCS-D40	Multi-points display with RS485 Modbus RTU
MCS-D50	Multi-points display with RS485 Modbus RTU and Ethernet Modbus TCP
MCS-D60	Multi-points display with RS485 Modbus RTU, Ethernet Modbus TCP and embedded web server power and energy monitoring

Conformity references:
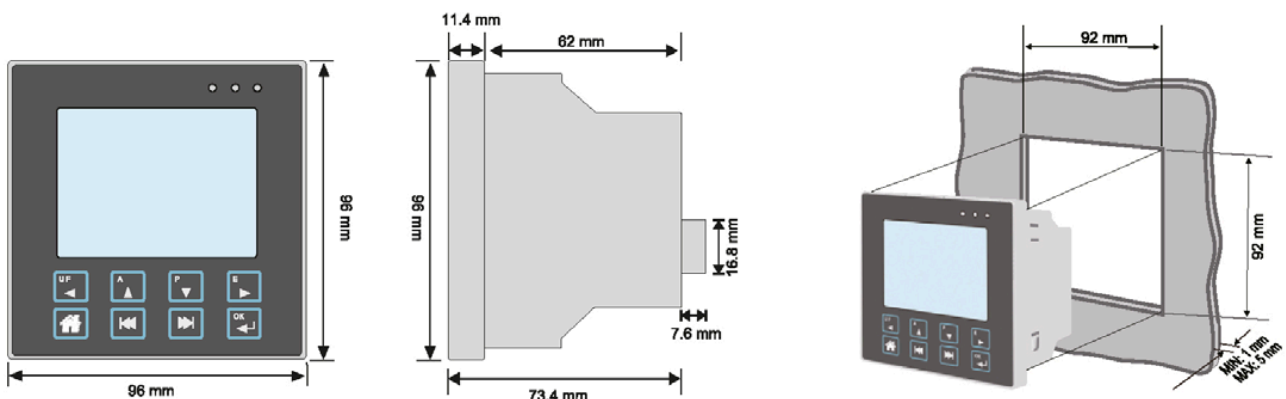
Electromagnetic Compatibility: IEC/EN61326-1, IEC/EN55011 Class A, IEC/EN61000-4-2,-3-4-5-6-8-11 IEC/EN50470-1/3

Accuracy: IEC60253-22 Class 0.5s, IEC61557-12 Class 0.5
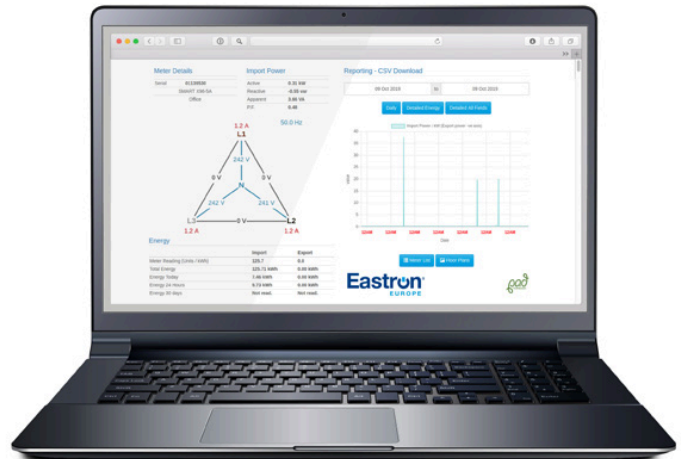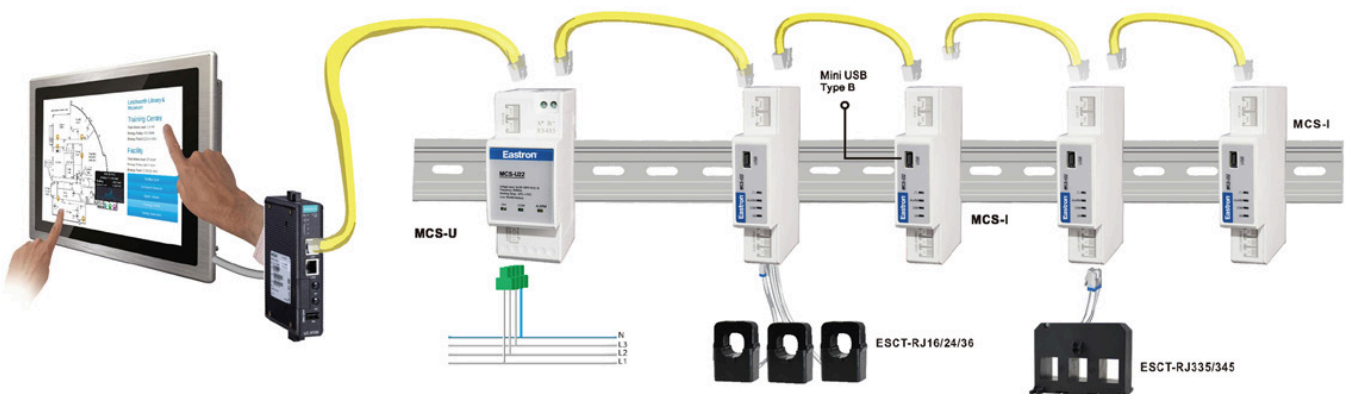
Safety: EC/EN61010, IEC/EN50470-1

Dimension drawing

Installation

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- **Remote Monitoring or Central Data Point access within the building (Or both)**
- **Prewired and commissioned solution**
- **No ongoing software license costs**
- **Auto-Detect function re meter id's**
- **Upload floor plan and drag and drop metering points for easy to use navigation**
- **Graphs and reporting function**
- **Optional HMI web-based touchscreen**
- **MOXA UC-8112-LX Industrial PC and fully integrated into all Eastron products**

Example of installation

-100 metre maximum cable run from first device to the end device

Eastron EUROPE

EASTRON ConneX Sub-Metering - Software Platform

Sub-Meter Data Logging & HMI Hardware - MOXA UC-8112-LX Industrial PC

The Eastron ConneX Sub-Metering software platform runs on a dedicated Industrial PC, the MOXA UC-8112-LX. This device runs a Linux operating system (Debian) to provide a stable and versatile platform on which the ConneX "GoConfigure" software can run. The Connex "GoConfigure" software system is developed in-house by PAD Technology Ltd, Eastron Europe's software and hardware integration partner.

This device is able to store data locally on an Industrial SD card using robust SLC NAND Flash, suitable for long term storage of data under harsh environments.

Data logging frequency can be configured to the application, typically 1 minute or 5 minute reads being suitable for most applications. Where higher read frequencies are required, e.g. sub-minute reads, this can also be accommodated by the platform.

Simplified Commissioning

The ConneX "GoConfigure" software automatically detects new meters added to the sub-metering network, streamlining initial commissioning, extension and repair of metering networks.

Datalogging Cloud Storage

The ConneX "GoConfigure" software may also be configured to push data reads to the PAD Technology "eMIG" cloud based service to allow on-line access to your sub-metering data. eMIG provides secure access to graphical and reporting views of your data.

Automatically paging views of your sub-meters allow you to keep an eye on the state of your plant's energy consumption in detail, without the need to manually search through for individual meters.

Local-only Data Storage

Occasionally the internal security arrangements of an organisation make it impossible to push data to the cloud for long term storage. We are able to offer "local-only" long term data storage, using a local server and optional network attached storage solution. This provides robust storage and backup of your data on RAID 1 redundant hard drives. Where the metering system is on a totally isolated LAN, the server workstation can also be used for interrogating the metering data, generating CSV reports and saving data to memory sticks for processing elsewhere.

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Human Machine Interface - HMI

The Connex "GoConfigure" software runs a Web-HMI. This may be displayed on a dedicated HMI touch screen, for example the IP65 ARCHMI-815P 15" HMI touchscreen, or the HMI may be accessed from any PC or laptop on the same local area network, using an Internet Browser.
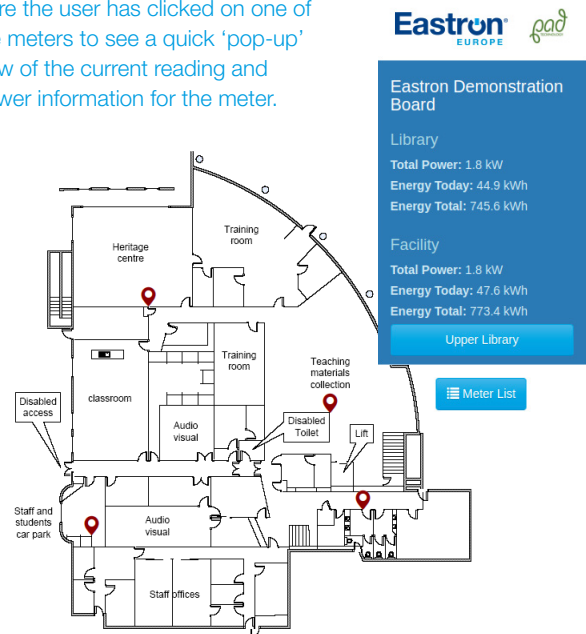
The HMI provides an auto-paging view of all meters on the system, providing instantaneous power and energy readings for each individual meter. This view may be accessed from (for example) a separate smart TV or display PC, to allow continuous monitoring of your sub-metering system in your office.

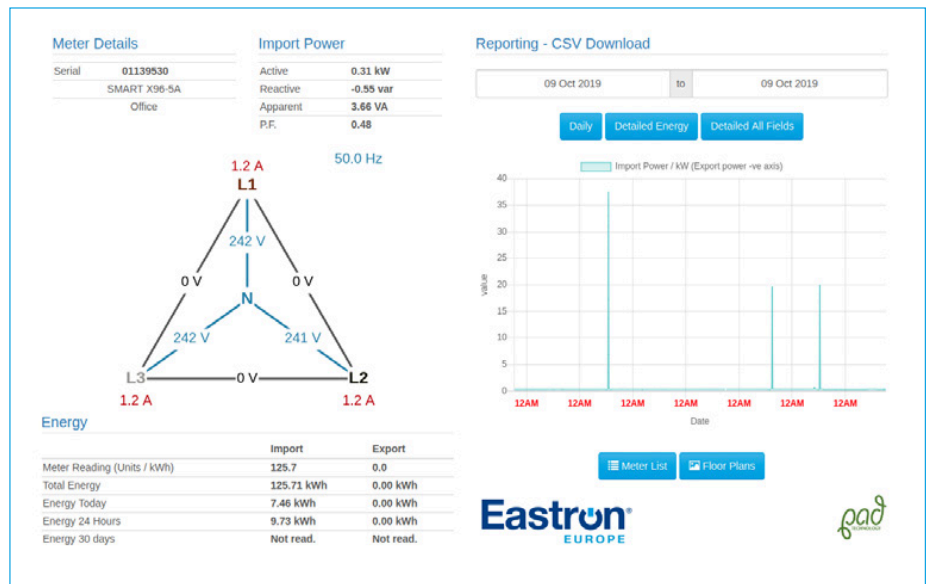Where required, we are able to integrate your logo or text into the display.

The HMI allows you to set up any number of plant-specific views of your meters, using e.g. a floor plan, or a plant schematic that you create. Floor plans or schematics can be uploaded to the HMI as JPG, PNG or GIF files. The administrator of the system can then position meters on to the floor plan or schematic.

This example shows a library with a number of sub-meters annotated on it.

Here the user has clicked on one of the meters to see a quick 'pop-up' view of the current reading and power information for the meter.

Eastron Demonstration Board

Library
Total Power: 1.8 kW
Energy Today: 44.9 kWh
Energy Total: 745.6 kWh

Facility
Total Power: 1.8 kW
Energy Today: 47.6 kWh
Energy Total: 773.4 kWh

Upper Library

Meter List

Double clicking on the meter then takes the user to the detailed meter view:

Meter Details		Import Power	
Serial	01139530	Active	0.31 kW
	SMART X96-5A	Reactive	-0.55 var
	Office	Apparent	3.66 VA
		P.F.	0.48

50.0 Hz

1.2 A
L1
242 V
0 V   0 V
N
242 V   241 V
L3 —— 0 V —— L2
1.2 A   1.2 A

Energy

	Import	Export
Meter Reading (Units / kWh)	125.7	0.0
Total Energy	125.71 kWh	0.00 kWh
Energy Today	7.46 kWh	0.00 kWh
Energy 24 Hours	9.73 kWh	0.00 kWh
Energy 30 days	Not read.	Not read.

Reporting - CSV Download

09 Oct 2019   to   09 Oct 2019

Daily   Detailed Energy   Detailed All Fields

Import Power / kW (Export power -ve axis)

Meter List   Floor Plans

In this view the user is able to interrogate information such as line to line voltages, reactive power, power factor and mains frequency, to allow them to diagnose issues with individual power supplies in the network.

The user can view energy usage over time.

Additionally, this page provides meter specific graphical plots and reading downloads in a variety of forms, for opening in spreadsheet software such as Microsoft Excel.

Easy Configuration

Adding new view on the data, by uploading bespoke images and positioning meter on to them is very easy. This is secured by an administrator login username / password.

The user may upload an image file from their local computer by clicking on "Add Floor Plan" and adding basic information about the view (for example the view name, description and the order in which it should appear in a list).

The user may then add or remove any of the meters in the network to overlay the graphic, ready for them to view in the HMI.

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RJ325

- Class 0.5 Accuracy
- 100mA Secondary
- RJ12 Connector Output
- 25mm Centres
- 60-200A Primary current options
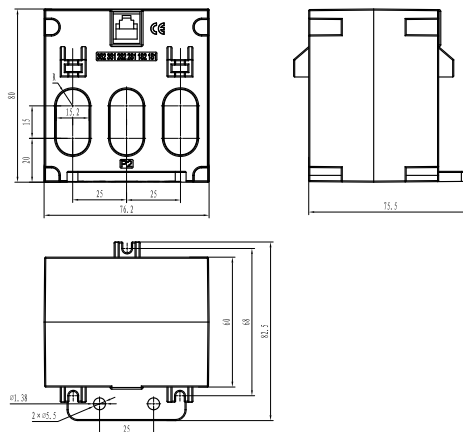
Model	Rated Amp	Output	Burden	
			Class 0.5	Class 1.0
ESCT-RJ325	60A	100mA	0.25	1
ESCT-RJ325	100A	100mA	0.25	1
ESCT-RJ325	120A	100mA	0.25	1.5
ESCT-RJ325	125A	100mA	0.25	1.5
ESCT-RJ325	150A	100mA	0.25	2.5
ESCT-RJ325	160A	100mA	0.25	2.5
ESCT-RJ325	200A	100mA	0.25	2.5

RJ335

- Class 0.5 Accuracy
- 100mA Secondary
- RJ12 Connector Output
- 35mm Centres
- 60-250A Primary current options
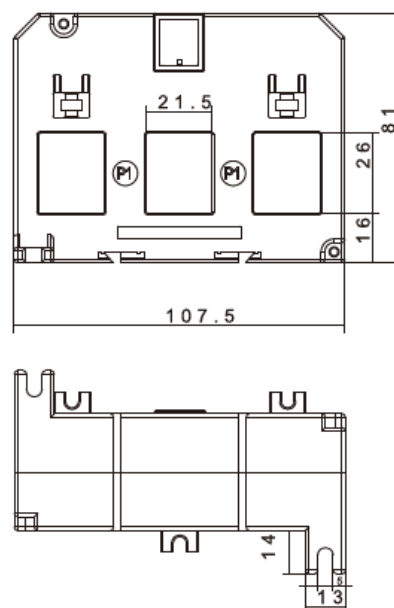
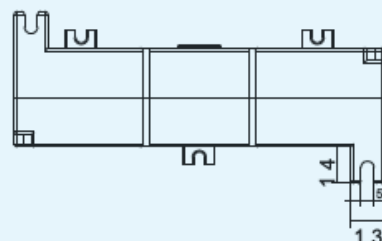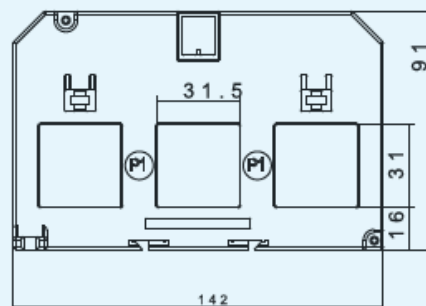| Model	Rated Amp	Output	Burden	
			Class 0.5	Class 1.0
ESCT-RJ335	63A	100mA	0.25	0.25
ESCT-RJ335	125A	100mA	0.25	0.5
ESCT-RJ335	150A	100mA	0.25	0.5
ESCT-RJ335	200A	100mA	0.25	0.5
ESCT-RJ335	250A	100mA	0.25	0.5

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RJ345

- Class 0.5 Accuracy
- 100mA Secondary
- RJ12 Connector Output
- 45mm Centres
- 250-630A Primary current options

| Model	Rated Amp	Output	Burden	
			Class 0.5	Class 1.0
ESCT-RJ345	250A	100mA	0.25	0.5
ESCT-RJ345	300A	100mA	0.25	0.5
ESCT-RJ345	400A	100mA	0.25	0.5
ESCT-RJ345	500A	100mA	0.25	0.5
ESCT-RJ345	600A	100mA	0.25	0.5
ESCT-RJ345	630A	100mA	0.25	0.5

RJ370

- Class 0.5 Accuracy
- 100mA Secondary
- RJ12 Connector Output
- 70mm Centres
- 600-1600A Primary current options

Model	Rated Amp	Output	Burden	
			Class 0.5	Class 1.0
ESCT-RJ370	600A	100mA	0.25	3.75
ESCT-RJ370	630A	100mA	0.25	3.75
ESCT-RJ370	800A	100mA	0.25	5
ESCT-RJ370	1000A	100mA	0.25	5
ESCT-RJ370	1200A	100mA	0.25	7.5
ESCT-RJ370	1600A	100mA	0.25	7.5
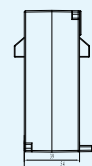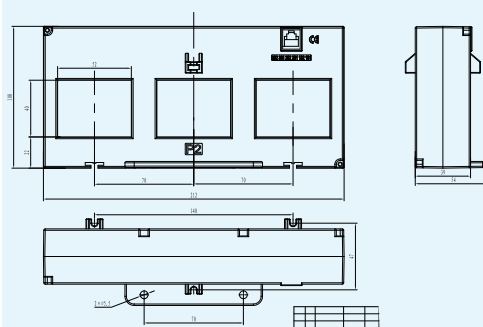
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ESCT-TU 16

Product Codes	Primary Current	Accuracy Class	Aperture (WXH)
ESCT-TU16-5/100mV	5A	0.5	16mm ø
ESCT-TU16-10/100mV	10A	0.5	16mm ø
ESCT-TU16-50/100mV	50A	0.5	16mm ø
ESCT-TU16-100/100mV	100A	0.5	16mm ø
ESCT-TU16-150/100mV	150A	0.5	16mm ø
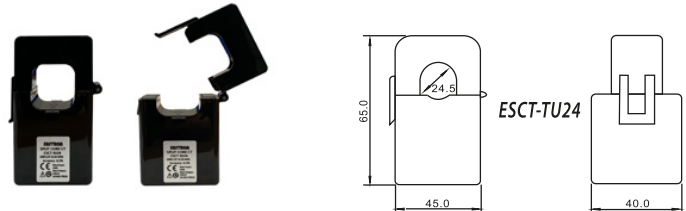
ESCT-TU24

ESCT-TU 24

Product Codes	Primary Current	Accuracy Class	Aperture (WXH)
ESCT-TU24-10/100mV	10A	0.5	24mm ø
ESCT-TU24-50/100mV	50A	0.5	24mm ø
ESCT-TU24-100/100mV	100A	0.5	24mm ø
ESCT-TU24-250/100mV	250A	0.5	24mm ø
ESCT-TU24-300/100mV	300A	0.5	24mm ø
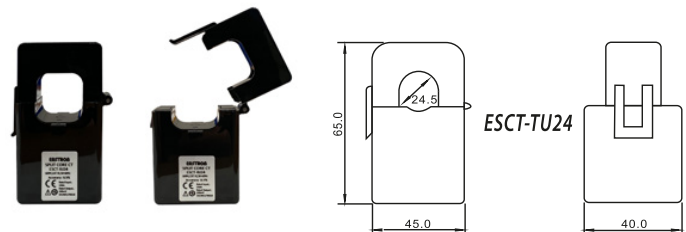
ESCT-TU24

ESCT-TU 36

Product Codes	Primary Current	Accuracy Class	Aperture (WXH)
ESCT-TU36-20/100mV	20A	0.5	36mm ø
ESCT-TU36-100/100mV	100A	0.5	36mm ø
ESCT-TU36-250/100mV	250A	0.5	36mm ø
ESCT-TU36-400/100mV	400A	0.5	36mm ø
ESCT-TU36-600/100mV	600A	0.5	36mm ø
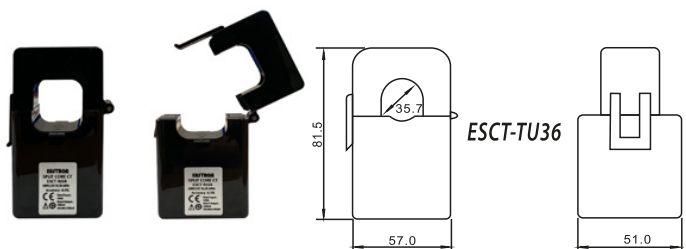
ESCT-TU36

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MultiClick

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