



The quick-fit energy metering solutions

Controls

EM200 quick-fit

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Nowadays energy cost control is very important, so a detailed energy monitoring system, load by load, is frequently used in new distribution panels.

Each load supply (corresponding to a single circuit breaker, either single- or three-phase) is equipped with its own energy meter and relevant current transformer/s.

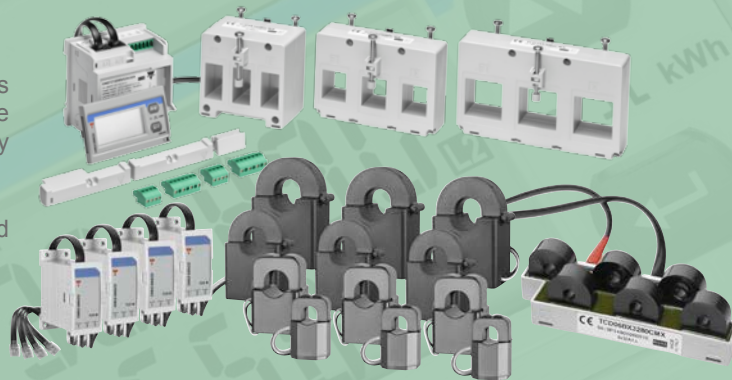
In addition, cost reduction is a must for all kinds of manufacturing facilities, including panel builders.

The quick fit energy meters have been developed with the objective of providing a clear solution to both the above requirements. Thanks to its new and innovative features, EM270 and EM280 are the ideal meters to be installed in mass production of new “smart” distribution boxes and switch-gears. EM271 is the equivalent quick fit solution for retrofit applications.

EM270 and EM280 are of great value to panel builders who require an extremely short installation time and the use of far fewer wires and terminals when compared to any traditional solution.

The EM271 is the fastest solution to add a multiple-load monitoring system in an existing installation.

All these are ultra-compact solutions.



A boost of innovation in the world of energy metering

- Save 90% of the installation time.
- Squeeze 3 meters in 1.
- Daisy-chain voltage and serial bus.
- Connect multiple current transformer blocks quickly with no wiring error (new installations).
- Connect groups of split-core miniature current sensors with no wiring errors (retrofit installations).
- Install the meter in the panel or in a DIN-rail, simply by placing the patented removable display in the relevant side.

The benefits of the EM270, EM271 and EM280

The dedicate current transformer blocks

A range of three models of triple current transformers specifically for the EM270 is available, with a form factor and a current range compatible with the European standard MCCB (Moulded case circuit breakers).

A range of 3 split-core miniature current sensor blocks is available to fit any possible retrofit installation without disconnecting the loads.

A 6-channel CT block is compatible with the MCB (miniature circuit breakers) from factor and can be put in a line keeping the same hole center distance.



Three meters in one

By means of two RJ11 current inputs, each managing three current channels, EM270, EM271 and EM280 are capable of monitoring all the electrical variables and energy of two independent three-phase loads or six independent single-phase loads. Whenever a split load needs to

be monitored (e.g. the power and lighting branches of an installation) EM270, EM271 and EM280 can get any electrical variable from the two branches and, if the function is enabled, also provide the information as a virtual meter upstream of the two physical meters.



Voltage loom

Two terminal blocks for voltage inputs are located one at each side of EM270, EM271 and EM280. In this way it is easy to daisy-chain any meter in the panel to another one, saving installation time, space and avoiding the use of additional voltage

connections and terminals, also assuring a smarter and tidier result. The same concept is applied to the serial communication terminals. It is therefore also simpler to implement the serial bus.



Detachable terminals

All the terminal blocks are detachable and fully integrated in the meter housing. They can be removed and pre-wired separately, to further reduce the installation time.

The second voltage input screw terminal block can be replaced with a sealable cover on the last instrument of the chain, so as to avoid any accidental access to live voltage.



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The right solutions to your needs

I want a compact metering solution

New distribution boxes

EM270 and TCD_X

In the case of contiguous breakers, space saving is assured by the appropriate triple current transformer form factor, compatible with MCCB standards.



I can't disconnect the loads

Retrofit

EM271 and TCD_M

In case of retrofit applications, no load disconnection, space saving and quick fitting are assured by split-core sensor groups.



I need to monitor each single load

Multiple loads management

EM280 and TCD06BX

A row of TCD06BX can be installed parallel to the miniature circuit breakers: the same 17.5 hole centre distance assures a smart, compact, fast and easy installation.



Installation is simply ... fast



Only 33% of the traditional measuring hardware is required.

Just a single click is required to connect the multiple current transformer blocks to the meters, zeroing connection errors. The CT ratio is automatically read and set.



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The double face EM270, EM271 and EM280



EM270, EM271 and EM280: 72x72 mm or DIN-rail mounting in the same model

EM270, EM271 and EM280 have the capability, unique in the market, of being either panel mounted or DIN-rail mounted thanks to the patented removable, wire-less and battery-less display.

Should they be mounted on the panel, with a dimension of 72x72mm, or DIN-rail mounted, taking up only four modules, no adaptor or external accessory is needed: just put the display where you need it. A special optional frame allow also mouting in existing 96x96mm holes.

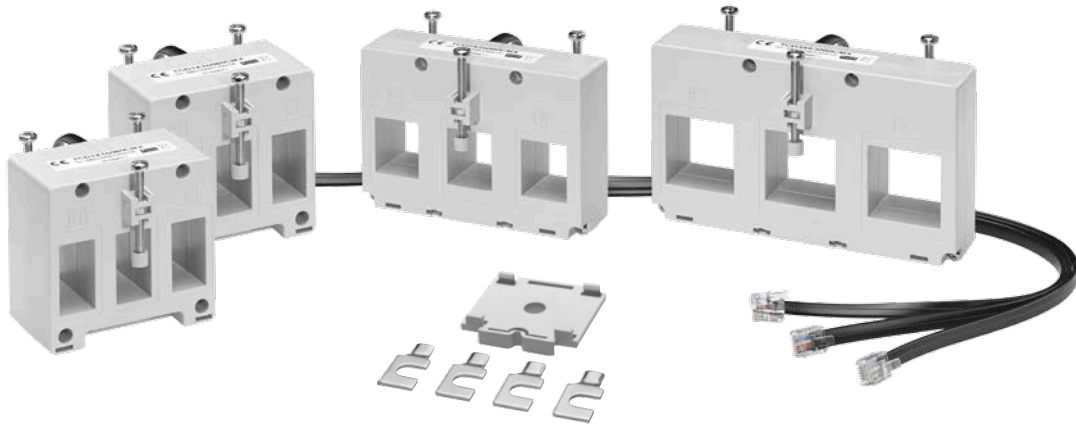
EM270, EM271 and EM280 are supplied in two voltage input versions: 400 VLL and 230 VLL. Two output combinations are possible: a serial RS485 port (Modbus RTU protocol) with double connections for daisy-chaining or single serial RS485 port (Modbus RTU protocol) and two pulse

retransmission opto-mosfet outputs for integration with existing PLC-based energy monitoring systems.

A set of terminal covers, which can be sealed to the meter, are included so as to assure tamper-proof protection. By installing the cover, no screw can be accessed and no detachable terminal block nor RJ11 plug can be removed without authorization.



A wide range of dedicate current transformes



The TCD_X series

The EM270 offer includes a series of triple current transformers. The TCD_Xs cover three ranges of currents and bus-bar holes, 160A (15.5x25mm), 250A (21x25mm) and 630A (31x31mm), with the hole centre distances respectively 25, 35 and 45 mm, fitting the European standard MCCB sizes. The TCD_Xs provide the

most advanced combined measuring and communication solution so as to achieve optimum accuracy. In addition, when the TCD_Xs are mounted in distribution panels where power cables are not properly wired in terms of phase sequence and/or current flow direction, the EM270 can easily fix these wiring problems

just by changing some configuration parameters.

Accessories for different mountings are included: metal clips for panel mounting, removable adaptor for DIN-rail mounting (both perpendicular and parallel to the rail itself) and screw for mounting directly onto the bus-bars.

The TCD_M series

The EM271 offers a series of triple split-core miniature current sensors groups included. The TCD_Ms cover ranges from 60 to 400 A with different sizes. The connection head of the sensor groups is compact and can be both panel-mounted or DIN-rail mounted.



The TCD06BX

EM280 can be linked to a 6-channel CT block, able to measure 32A per channel. It can be panel mounted and installed in a row, keeping always the 17.5mm hole centres between 2 channels.



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