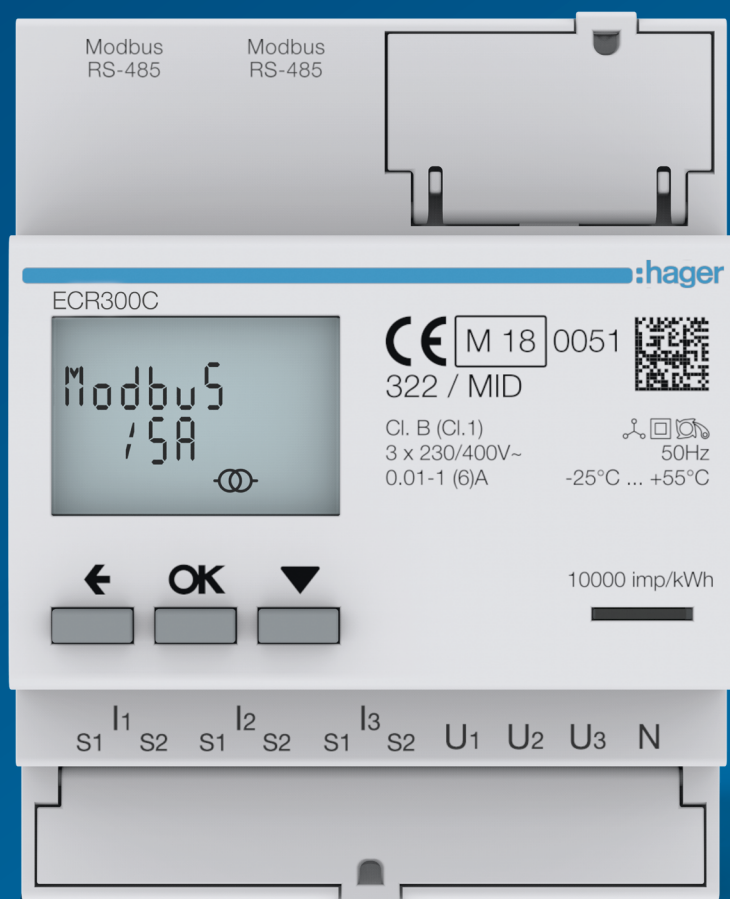


Residential and Commercial  
Metering solutions

Track,  
communicate,  
optimise



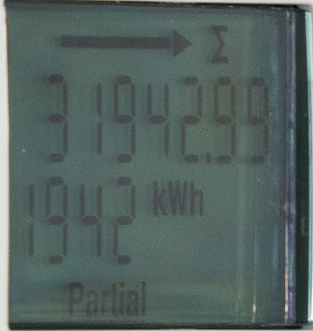
:hager

Modbus  
RS-485

Modbus  
RS-485

ECR300C

hager



CE M 18 0051

322 / MID

Cl. B (Cl.1)  
3 x 230/400V-  
0.01-1 (6A)

50Hz  
-25°C ... +55°C

10000 Imp/kWh



S1 I<sub>1</sub> S2 S1 I<sub>2</sub> S2 S1 I<sub>3</sub> S2 U<sub>1</sub> U<sub>2</sub> U<sub>3</sub> N

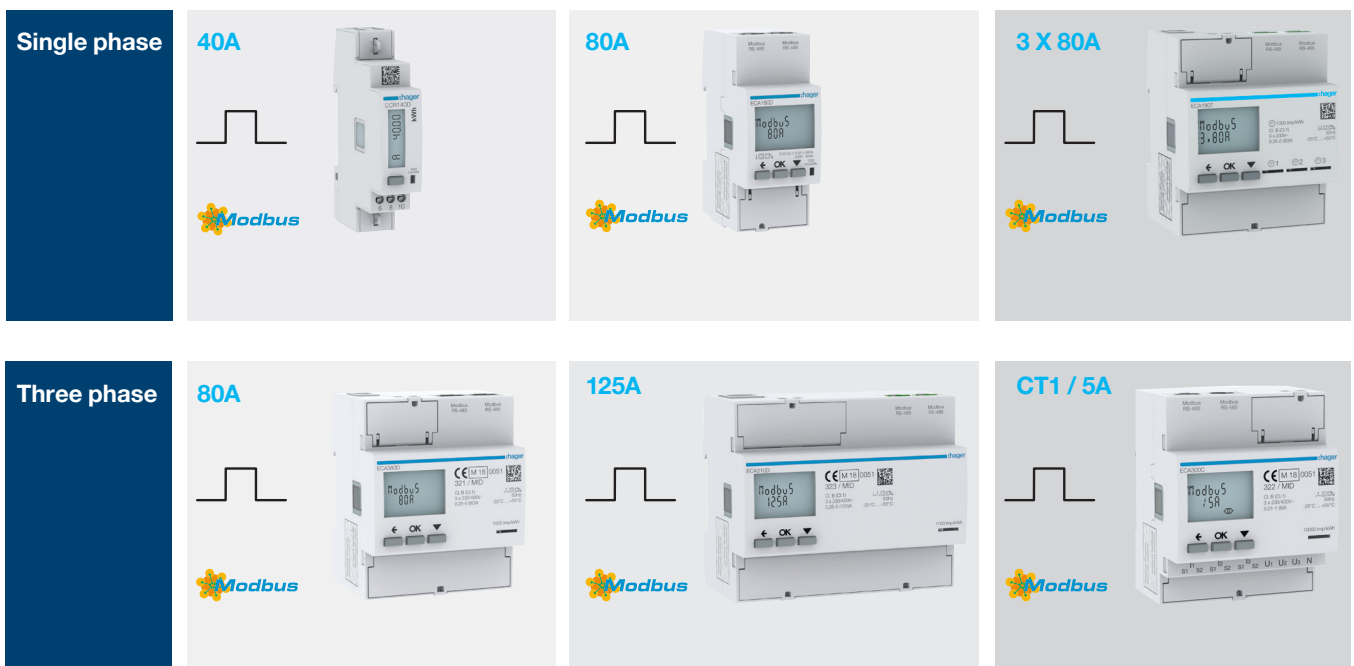
# Welcome to the smart, connected, and efficient building.

**With metering solutions designed by Hager, you can access precious information. You can track your building's energy consumption and gain better control; Detect an anomaly on the network; Monitor equipment remotely; Predict consumption and be in a better position to negotiate your electricity contract.**

**Energy efficiency buildings are being driven by local and international standards as well as regulations such as the Commercial Building Disclosure (CBD) program. This makes energy metering an essential element in assessing the buildings energy rating (NABERS). In such environments, Hager metering solutions provides savings and optimisation and will guarantee you are fully prepared to the changes in the regulatory framework and to the new consumption habits.**

# Our new range: straightforward, modern solutions

A complete solution, which allows you to save space in your installation and to be connected, regardless of the measurement rating.



## Complete range

Our comprehensive range of new energy meters provides end-to-end functionality. Plus a few highlights that you only get from Hager, for example direct measurement up to 125A without a converter. Or the 3 x 80A 1-phase metering in a compact device. When integrated into a monitoring system, you therefore only use one instead of three bus addresses. The meters can be used as bidirectional meters for consumed and supplied mains power. They also measure the active, reactive and apparent power.

## Multiple interfaces

The new energy meters communicate via all common interfaces; depending on the design via pulse measurement, or Modbus (predominantly in functional buildings).



**FAQ**



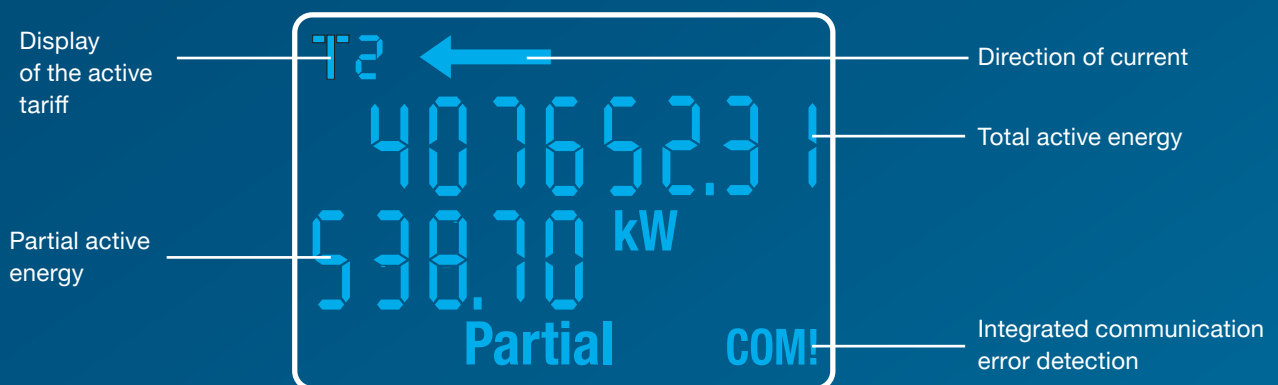
**VIEW**

**Specifications and  
Technical Guide**



**VIEW**

## Simple and intuitive menus



## The same level of functionality for all meters

All Hager meters enable the recovery of the following data:

- Voltage,
- Current,
- Frequency,
- Power factor,
- Active energy and power.

If required by the ratings, it is possible to also measure more advanced parameters, such as the reactive and apparent power and energy measurements, as well as measuring the energy discharged in the network (exported energy).

**All this information is saved by an internal memory in the meter.**

# Overview of the range



Reference	ECx140D	ECx180D	ECx180T
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## Selection criteria

Connection	Single-phase 40A direct	Single-phase 80A direct	Single-phase 80A direct (3 track)
Supply voltage	230V AC	230V AC	230V AC
Maximum current I <sub>max</sub>	40A	80A	3 x 80A
Accuracy class, active//reactive energy	Cl.1/-	Cl.1/Cl.B//Cl.2	Cl.1/Cl.B//Cl.2
Max. permissible transformer rating	-	-	-
MID certification, required for use in re-invoicing	MID except ECN140D	MID	-

## Connectivity

No communication	ECN140D	-	-
Pulsed communication	ECP140D	ECP180D	ECP180T
RS485 series communication	ECR140D*	ECR180D*	ECR180T*

## Functions and values recorded by the product

Current	• except on ECN140D	•	•
Voltage	• except on ECN140D	•	•
Power factor	• except on ECN140D	•	•
Frequency	• except on ECN140D	•	•
Active power	• except on ECN140D	•	•
Reactive power	-	•	-
Apparent power	-	•	•
Active energy	•	•	•
Reactive energy	-	•	•
Partial resetting of consumption measurements	-	•	•
Energy import/export	• except on ECN140D	•	•
Tariff control	-	•	•
Number of tariffs managed by: physical input/communication	ECN = 1/0 ECP = 1/0 ECR = 1/8	ECP = 2/0 ECR = 2/8	ECP = 2/0 ECR = 2/4
I/O function	• except on ECN140D	depending on version	•
Configurable I/O function	-	depending on version	•
Saved by internal memory	•	•	•

## \*Terminating Resistor

Reference	Designation	Connector	Use
SMC120R*	120 Ohm terminating resistor	pin	Modbus line termination



\*Terminating resistor required if Modbus function is used.



# Multifunction meter



## The main functions

A measurement unit enables analysis of the networks.

It records basic parameters, such as current, voltage, Cos Phi, power and energy, as well as harmonic disturbances and the reaction to different parameters.

Installed at the head of the installation and in sensitive networks, the measurement unit provides essential information to check the operating derivatives of a building.

**01 Separate communication and memory expansion module can be added subsequently (on SM102E and SM103E),**

**02 Configuration of the minimum and maximum thresholds,**

**03 Tariff level controlled via communication.**

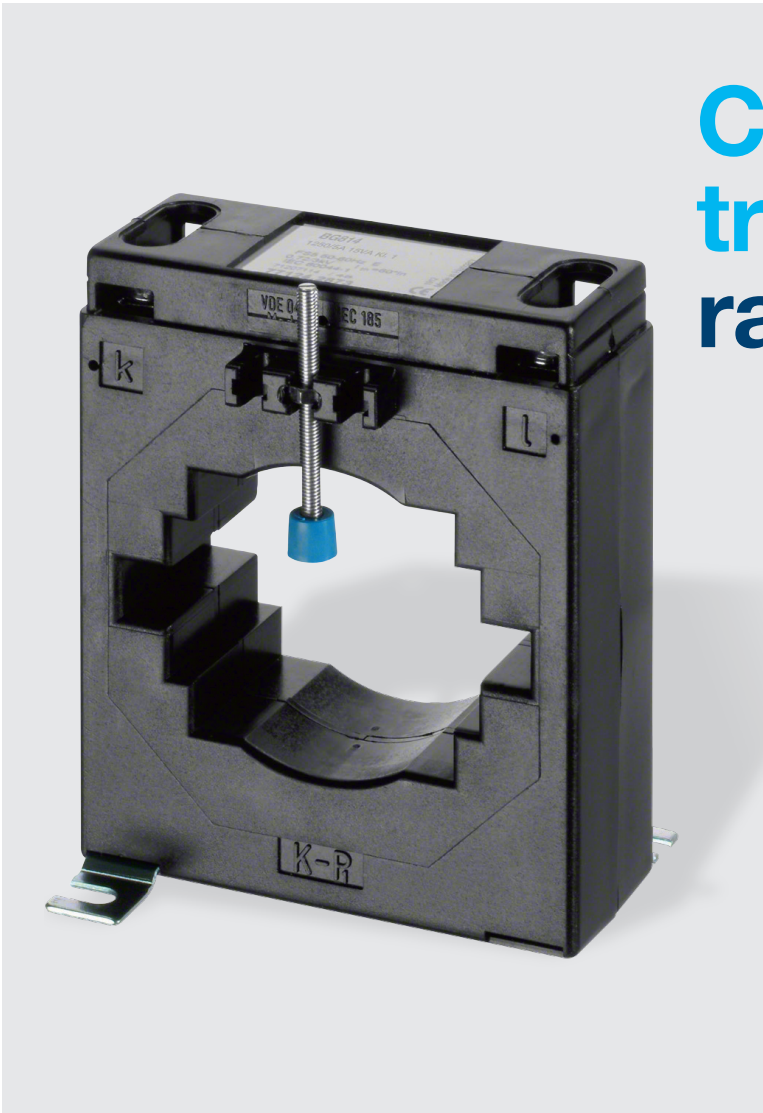
Reference	Voltage	Type of measurement	Rating	Communication	No. of 17.5 mm modules	Package
SM101C	400V AC	Indirect	1/5A	Modbus	4	1 pcs
SM102E	400V AC	Indirect	1/5A	Pulse (ref. SM200) Modbus RTU (ref. SM210)	Built-in	1 pcs
SM103E	400V AC	Indirect	1/5A	Pulse (ref. SM201) Modbus RTU (ref. SM210 or SM213) Ethernet (ref. SM213 or SM214)	Built-in	1 pcs



## Function selection guide

Reference	SM101C	SM102E	SM103E
Current	•	•	•
Voltage	•	•	•
Power factor	•	•	•
Frequency	•	•	•
Active power	•	•	•
Reactive power	•	•	•
Apparent power	•	•	•
Active energy	•	•	•
Reactive energy	•	•	•
Internal clock	•	•	•
Advanced internal clock function	•	•	•
Partial resetting of consumption measurements	-	-	-
Import/export of energy	•	•	•
Tariff control	•	•	•
I/O function	•	•	•
Configurable I/O function	•	•	•
Programming of the maximum demand threshold	•	•	•
Management of harmonics	-	•	•
Alarm function	•	•	•
Recording of measured values per day/week/month	-	-	-
Minimum/maximum demand	•	•	•
Tariff control by physical input	•	•	•
Tariff control by communication system	•	•	•
Tariff control by the clock	•	•	•
Saved by internal memory			

# Current transformer range



- 01 Current transformers equipped with twin current socket terminals,**
- 02 Range dedicated to measuring the current on busbars and supply cables.**

Current transformers are used to feed analogue and digital ammeters, as well as kWh meters. Their current on secondary circuit (0-5A) is proportional to the current on primary circuit class: 1

- Can be mounted on copper busbar or on cable
- Can be mounted on DIN rail with adaptors
- Frequency: 50/60Hz

## References

### Current transformers (CT)

Ratio	Cat ref.
50/5	<b>SRA00505</b>
100/5	<b>SRA01005</b>
150/5	<b>SRA01505</b>
200/5	<b>SRA02005</b>
250/5	<b>SRA02505</b>
300/5	<b>SRI03005</b>
400/5	<b>SRC04005</b>
600/5	<b>SRC06005</b>
DIN rail mount for CTs	<b>SRZH01</b>



SRA00505



SRI03005



SRC06005



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