

ESY3xxV

Extension current modules



Description

Three-phase current measurement accessory for the EMS system, compatible with 333 mV or 5 A current transformers.

The small size allows the module to be installed close to the loads to be monitored and thanks to the two RJ45 ports it is possible to easily connect up to 10 ESY devices in cascade to the EMS.

Each ESY module is self-powered and is automatically found by EMS once it is connected to the ESY bus; the programming is done through the EMS web app.


Applications

ESY device can be installed in any low-voltage switchboard to monitor the energy consumption and the electrical variables of any load. Compatible with any current transformer with 5 A secondary current, it can be installed in systems with rated current up to 10 kA, even in retrofit applications if used with openable transformers like CTA or CTD S.

Benefits

- **Compact housing.** 1-DIN housing dimension to facilitate installation near the loads to be monitored.
- **Multi-load management.** The EMS system manages up to 10 ESY modules connected to it via the ESY bus network. Each ESY module manages up to three current channels and it is possible to distribute the measurements coming from the three current sensors in one or more loads.
- **Self supply.** The ESY devices are self-powered by the ESY bus, therefore they do not require a separate power supply.
- **Plug and play fast installation.** Once connected to the ESY bus network via Ethernet cables, the device is automatically found by the EMS system.

References

 **How to order**

 **ESY3X**

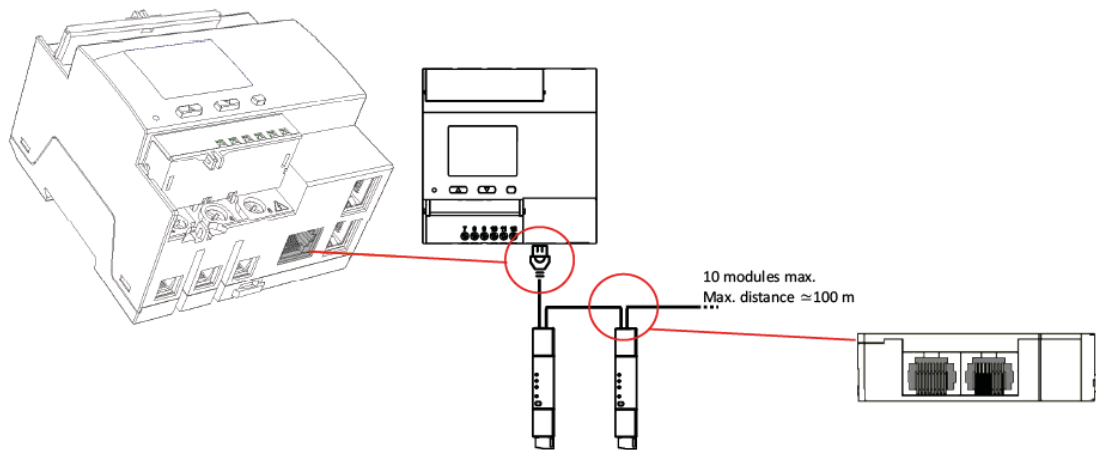
Enter the code option instead of

Code	Options	Description
ESY3X	-	-
<input type="checkbox"/>	AV5	5 A CT connection
	MV	333 mV CT connection

Main functions

- Measure active, reactive and apparent energy
- Measure the main electrical variables
- Measure the load run hours
- Transmit data to EMS system through ESY-Bus
- Measure the total harmonic distortion (THD) of currents

Architecture

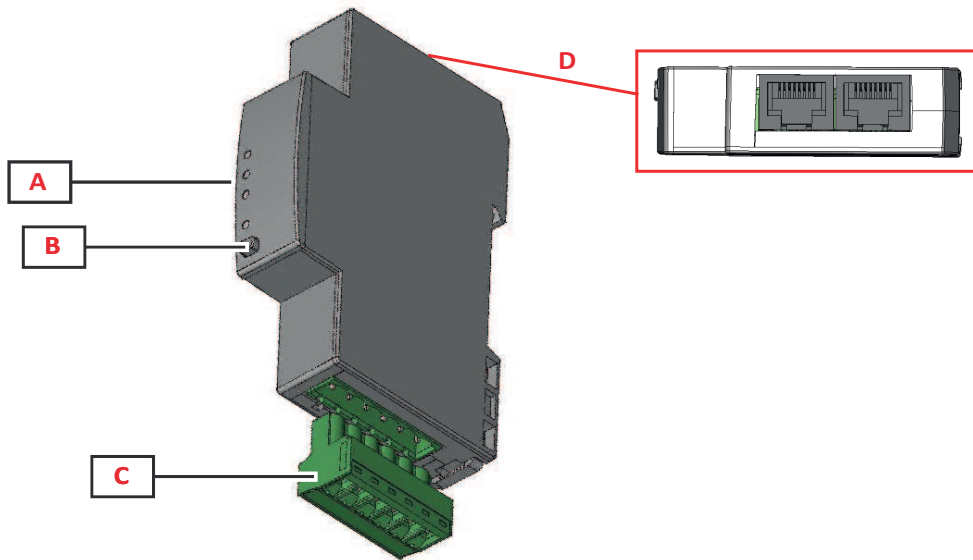


Important note: Each EMS module is supplied with an ESY bus termination (see the picture below).







This termination unit must be applied to the last ESY module of the network.

Structure



Area	Description
A	LED
B	Configuration button
C	Current transformer terminal
D	ESY bus ports

LED

LED	Colour	Function	Description
LED 1 	Green	Module Status	Slow flashing: Connected but not configured Fast flashing: Connected and configuration in progress ON: Properly addressed and configured
LED 2 	Yellow	Communication Status	OFF: not communicating Flashing: address conflict or communication problems ON: communication is properly working
LED 3 	Red	Module Diagnostic	OFF: no problem Slow flashing: Voltage drop issue Fast flashing: Over-current issue
LED 4 	Red	kWh Pulses	kWh pulses of the sum of the current channels, not dependent on the configured system (e.g. if a module is configured as 3.1P, the pulse is still related to the sum of the channels). OFF if module is not configured.

Features

Available measurements

Active energy	Unit	System	Phase
Imported (+) Total	kWh+	•	•
Exported (-) Total	kWh-	•	•
Imported (+) Total by tariff (t1, t2)	kWh+	•	-
Reactive energy	Unit	System	Phase
Imported (+) Total	kvarh+	•	•
Exported (-) Total	kvarh-	•	•
Quadrant I, II, III, IV	kvarh	•	-
Apparent energy	Unit	System	Phase
Total	kVAh	•	-
Run hour meter	Unit	System	Phase
Total (kWh+)	hh:mm	•	-
Total (kWh-)	hh:mm -	•	-
Total ON time	hh:mm	•	-
Electrical variable	Unit	System	Phase
Current	A	•	•
Neutral current	A	•	-
Active power	W	•	•
Apparent power	VA	•	•
Reactive power	Var	•	•
Power factor	PF	•	•
THD current*	THD A %	-	•

*Up to 31th harmonic

Variables update settings

The table below shows the variables / counters update time according to the number of ESY modules connected.



Number of connected ESY											
	0	1	2	3	4	5	6	7	8	9	10
Main meter	<100 ms										
ESY n.	-	<100 ms	<150 ms	<200 ms	<250 ms	<300 ms	<350 ms	<450 ms	<450 ms	<500 ms	<550 ms



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