

Central unit for load management

F521

Description

The central unit for load management is an SCS device that measures the power consumed by the electric system and controls the status of the Load Management system actuators, to prevent the risk of tripping of the electric meter. The device can manage up to 63 actuators (electric loads) per each phase.

The central unit is also capable of processing and saving currents and voltages, to provide information on energy and power

- instantaneous power in W;
- total energy accumulated in Wh.

The device has an internal memory that allows saving the following information:

- cumulative energy on an hourly basis for the last 12 months;
- cumulative energy on a daily basis for the last 2 years;
- cumulative energy on a monthly basis for the last 12 years.

This information is then made available on the user interfaces, and is displayed through instantaneous values, totalizers and graphs.

In order to allow the central unit to archive consumption information, the system must be fitted with a device capable of supplying current date and time information (e.g. Touch Screen). If this information is not available, the meter will be unable to archive the data, and will continue calculating the values of the instantaneous variables (power).

Technical data

Operating power supply with SCS BUS:	18 – 27 Vdc
Absorption:	28 mA max
Rated current:	16 A
Maximum current:	90 A
Operating temperature:	0 – 40 °C

Dimensional data

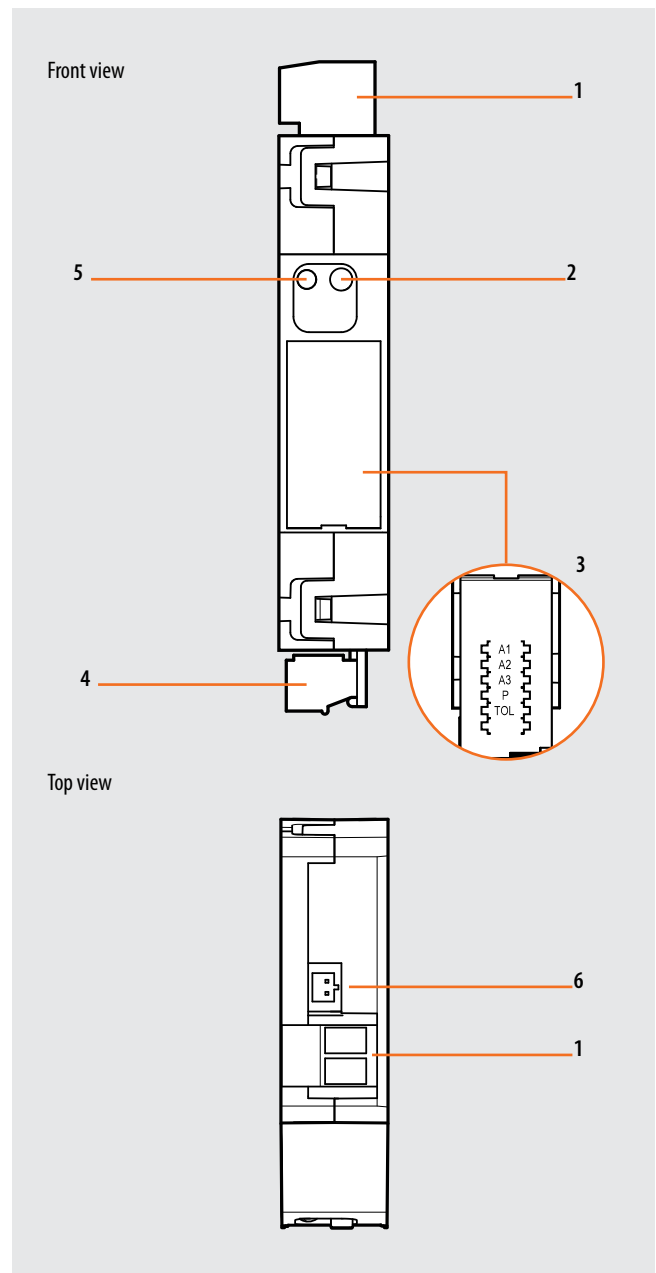
1 DIN module

Configuration

The device can be configured by connecting the physical configurators to the correct sockets (Physical configuration)

The central unit for load management is provided with socket for 5 configurators, which define:

- A1/A2/A3 central unit address (A1 for the hundreds, A2 for the tens, A3 for the units);
The maximum number of addresses is 255.
- P rated power R_{pow}
- TOL tolerance



Legend

1. 230 Vac connection
2. Switch on and deletion of cumulative energy data procedures pushbutton
3. Configurator sockets closing door
4. SCS/BUS connection
5. User interface LED, SEE TABLE
6. Toroid connection, item 3523

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The P configurator is used to select the rated power (Rpow) as shown in the table:

P	Rated power Rpow (kW)	Approximate value in Ampere at 230 Vac(*)
0	3	13
1	1.5	6.5
2	4.5	20
3	6	26
4	9	40
5	10.5	46.5
6	12	52
7	14	61
8	15	65
9	18	78

NOTE (*): The reference value for the load control thresholds is the one of the rated power in kW. The Ampere value can be used as general indication to help the installer in those cases when the service manager supplies the current information.

Load control actuators acquisition

Once the installation stage has been completed, the central unit must acquire the actuators on the bus; unless this operation is carried out, the device will continue signalling lack of information (fixed orange LED), and no load control function will be carried out.

The procedure for the acquisition of the actuators on the BUS is as follows:

1. Press the key; after approximately 10 seconds the red LED will turn on steadily; release the key.
2. The red LED flashes quickly and the central unit interrogates the system to identify the actuators installed.
3. Once the procedure has been completed, if no actuators have been found the acquisition failed notification (orange LED on steady) remains active, otherwise the LED turns green, and the central unit starts operating correctly.

The procedure for the acquisition is inhibited if the central unit is not installed correctly (voltage of the bus too low, or 230 V missing), or if an overload is present; it is therefore only possible to complete the acquisition procedure if the LED is orange steady (installation correct but no actuator acquired), or green steady (system already configured and actuators acquired).

If the power supply voltage is insufficient (lower than 21 V approximately), the central unit causes the green LED to flash to indicate the installation error: the device works correctly, but does not ensure the correct saving and recovery of the data in case of BUS error.

Procedure for the deletion of the cumulative energy data:

1. Press and hold down the key; after approximately 10 seconds, the red LED will turn on steadily; continue holding down the key.
2. After 10 seconds the orange LED flashes quickly. release the key.
3. All the cumulative energy data are reset.

The TOL configurator is used to select the rated power tolerance as shown in the table:

TOL	Tolerance
0	0
1	-5%
2	-10%
3	-15%
4	-20%
5	+5%
6	+10%
7	+15%
8	+20%

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LED notifications based on the status of the Central unit for load management:

Device status	LED
Normal operation (below threshold with all loads enabled)	GREEN
Current threshold exceeded	RED
System not acquired	ORANGE
Current system acquisition	RED flashing 100 ms/100 ms
BUS problem (BUS voltage insufficient, or voltage drop detected)	GREEN flashing 500 ms/500 ms
Installation error (230 Vac not detected)	RED flashing 100 ms/900 ms
Configuration error	ORANGE flashing irregularly on GREEN
No configuration	ORANGE flashing 128 ms/128 ms on GREEN

Wiring diagrams

Central unit for load management connection

