

Every bit counts

Making energy usage visible



SOLUTIONS FOR THE DISPLAY OF ENERGY CONSUMPTION
AND LOAD CONTROL MANAGEMENT

Saving energy has never been this easy

With Legrand SCS control systems it's easy to see how much gas and electricity a residence is consuming. With a few simple components, property owners can view energy usage data in a user-friendly format on a colour touch screen.



10 inch colour touchscreen



3.5 inch colour touchscreen

A complete consumption and energy production check-up

The user can display on the touchscreen not only the consumption inside their home (power and gas), but also the energy and hot water output obtained by solar panels. With a few simple steps, the user can select the type of consumption that needs to be checked, the type of display (instantaneous or graphs), and the period (day, month, year).



CONSUMPTION
DISPLAY

Consumption display - Visualisation

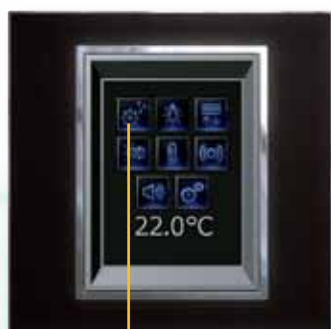
Visibility drives savings



An aware user is one that saves - decreasing their impact on the environment and reducing their costs. Studies have shown that displaying energy consumption results in users changing their routines or correcting faults which result in savings of 10-15%!



UP TO
15%
SAVINGS



Dedicated icon of the main screen of the touchscreen



Energy selection screen



Power consumption screen



Monthly power consumption graph



Daily power consumption graph

The energy data collection devices enable electricity and gas consumption to be displayed on the touchscreen. It is also possible to display the energy produced on site from solar thermal and photovoltaic systems.

The consumption can be displayed on the touchscreen as instantaneous or cumulative data in graphical or table format to make interpretation easy. By setting tariff values it is possible to display the data in the form of costs.

Consumption display

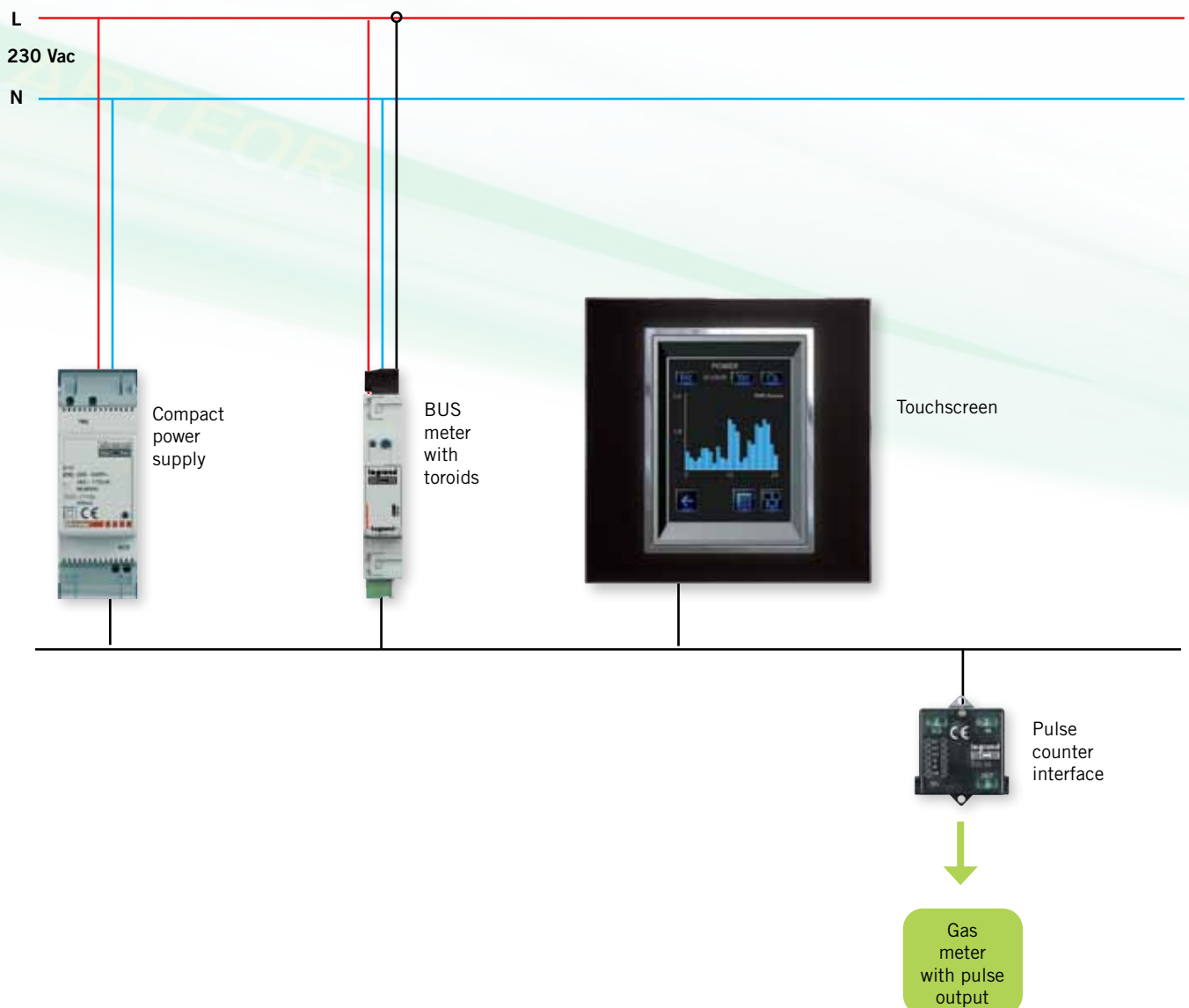
Displaying consumption...

The energy data collection devices can be integrated directly on the BUS of the automation/temperature control system, or be part of a dedicated system, as shown on the diagram below. In this case a power supply will be necessary to power the BUS and touchscreen to display consumption levels.

When pulse counter interfaces and toroid power meters are linked to the MYHOME consumption

display system it enables display on the touchscreen. This display shows consumption of power and gas as well as heating data.

Using the power meters and the pulse counter interfaces, it is possible, when a photovoltaic or a thermal solar system is installed, to monitor how much power is being generated.





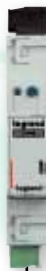
...and the production data



Photovoltaic panel



Inverter



BUS meter with toroids



Thermal solar panel



Hot water meter with pulse output



Pulse counter interface

SCS BUS

Consumption display

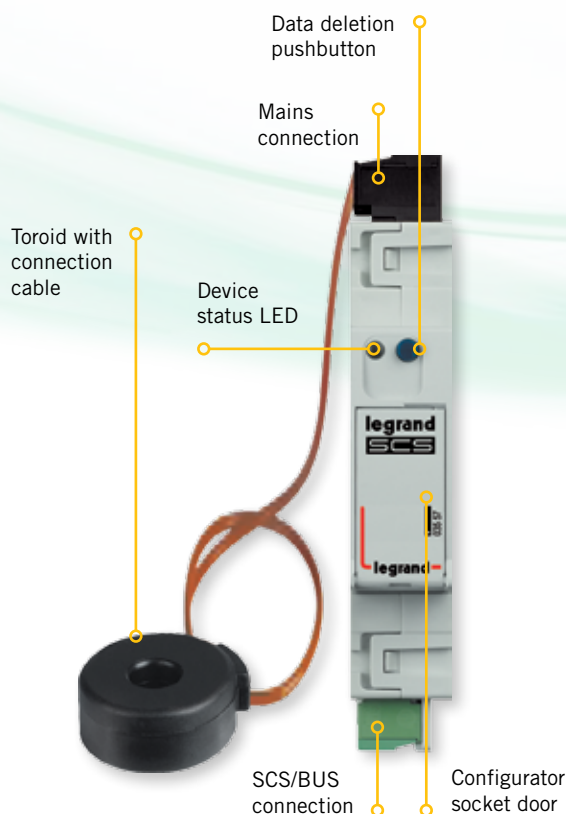
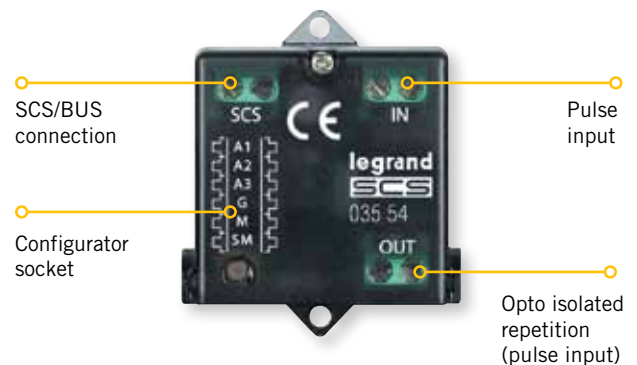
Measurement and display devices

Pulse counter interface 03554

The device detects, counts, and processes the information received from meters with pulse outputs; the data is then made available to the SCS BUS, and displayed on the touchscreens. The processing and accounting functions are:

- Instantaneous consumption (calculated as the average of 2 pulses received during the time unit)
- Hourly, daily and monthly consumption (one year memory)

The device may be installed in flush mounted boxes, behind traditional type devices, or also inside distribution boards, but without taking up any DIN rail space



BUS meter with 3 inputs for toroids 03555

The device measures up to three separate circuits, by connecting up to three toroids to the appropriate inputs. The data is displayed on the touchscreens through the SCS BUS. The processing and accounting functions are:

- Instantaneous consumption of 3 lines maximum
- Cumulative hourly consumption for the last 12 months, daily consumption for the last 2 years and monthly consumption for the last 12 years

The above described functions are also valid to save the data coming from solar thermal and photovoltaic systems. The device is supplied with 1 toroid and corresponding connection cable; it is suitable for installation inside distribution boards and switchboards and requires the space of 1 DIN module.



Consumption display

Measurement and display devices continued...

Touchscreens

On the touchscreen it is possible to display:

- The instantaneous consumption
- The daily and monthly consumption
- The average daily consumption for each month
- The total consumption of the last 12 months
- The power generated by PV panels
- The consumption in several units of measure
- The water heated by thermal solar (hot water meter needed)
- The heat/cool coming from heating/cooling meter

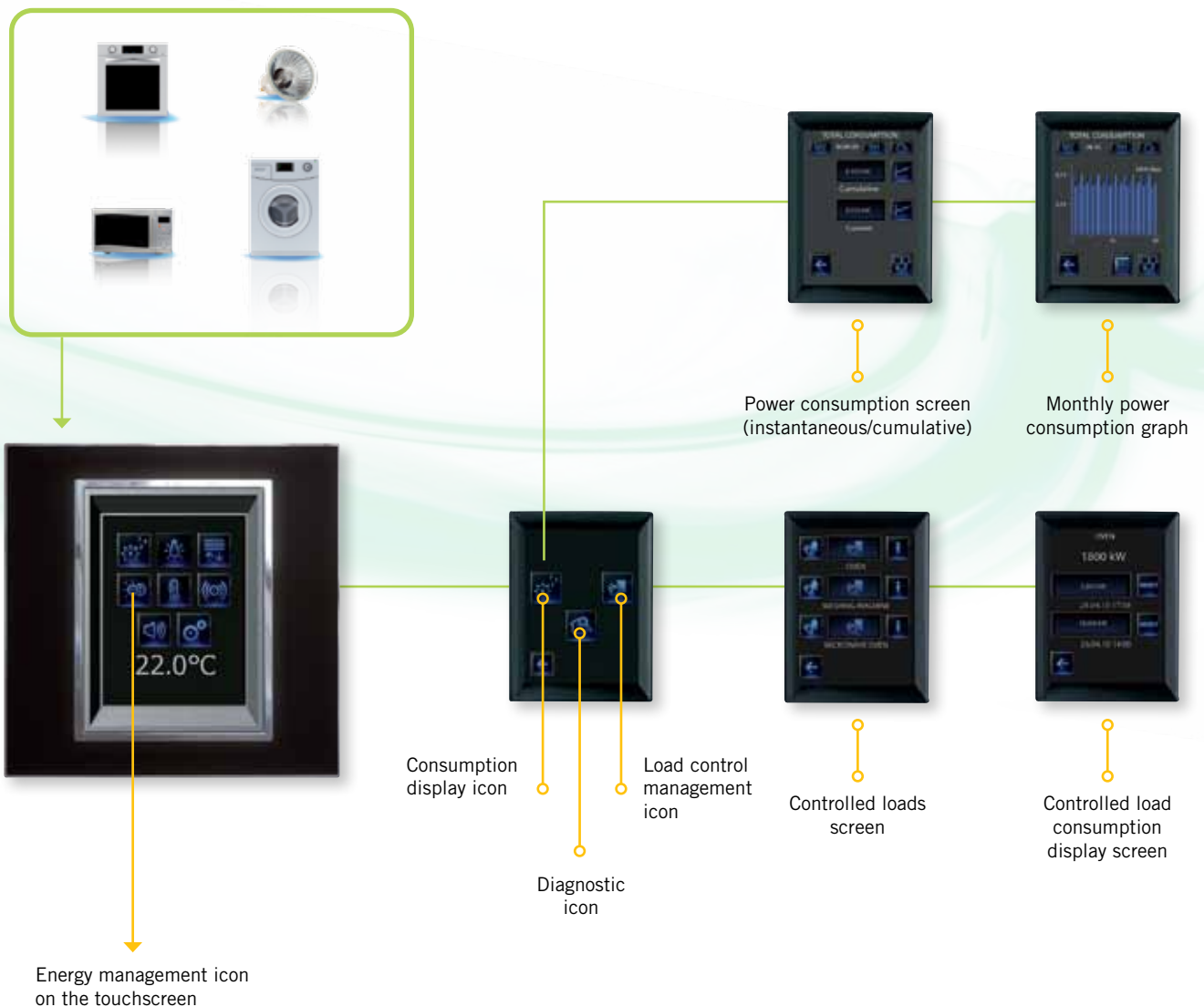


Load control management

The end of the black-out

The load control management system manages the maximum power used, by automatically disconnecting appliances in a prioritised order when a predetermined electrical consumption level is reached. The system:

- manages up to 63 loads
- displays on touchscreens the instantaneous and cumulative hourly, daily and monthly consumption of the controlled phase. In addition, the actuator with sensor, enables measurement of the actual consumption of the controlled load
- Appliances or circuits can be disabled or re-enabled through the touchscreen along with setting appliance priorities
- The touchscreen enables users to check that the electricity loads are operating correctly through measurement of any earth leakage
- The actuation and control devices occupy only one DIN module each therefore optimising space on the distribution board
- By configuring the actuators of the load control system in automation mode, it is possible to use the touchscreens to set the time delays for the activation of the loads at set times



Load control management

Operation



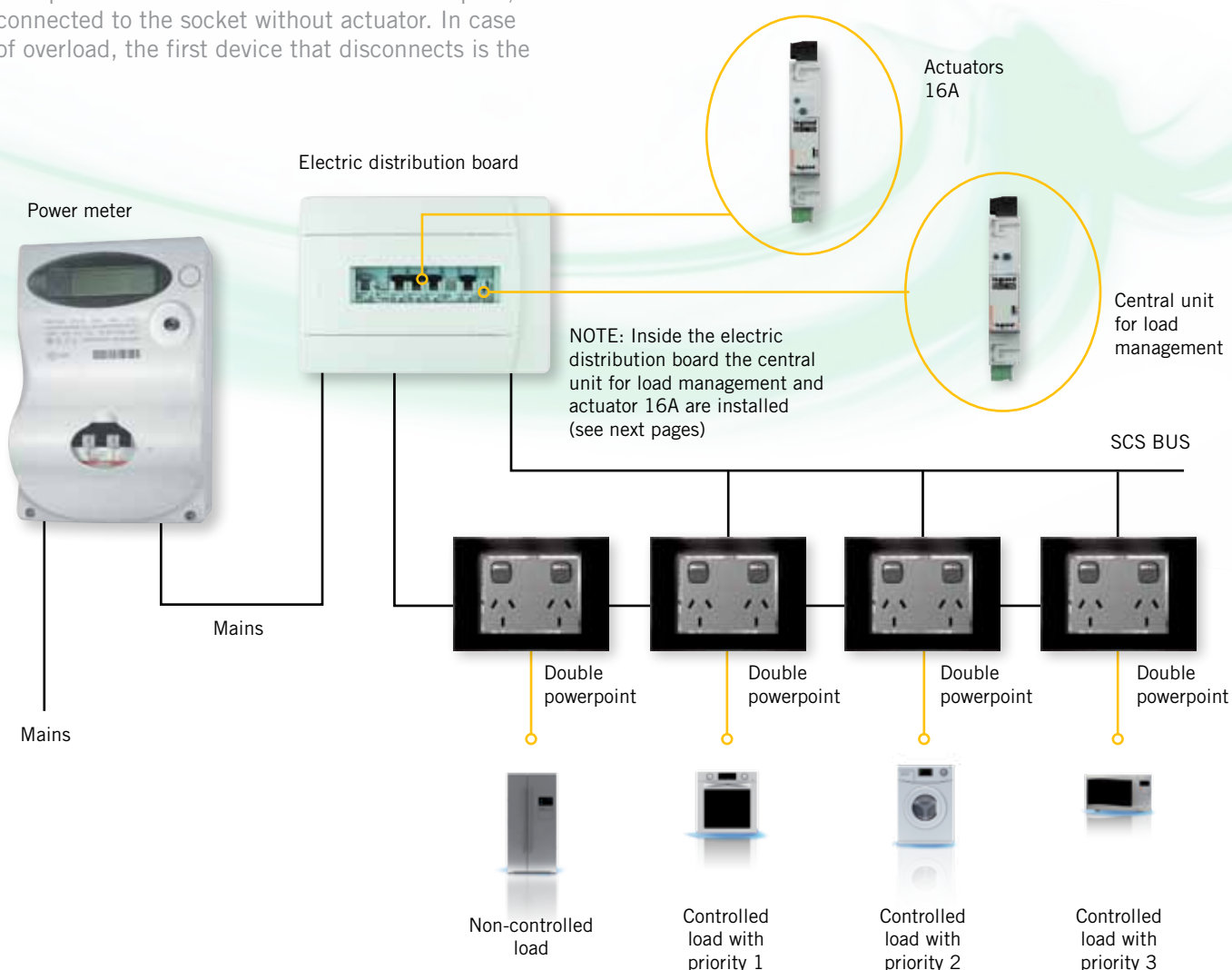
Using the external toroid, the central unit measures the power used by the loads connected and compares it with the value preselected during the installation (using the configurators it is possible to select powers between 1.5 and 18kW, with tolerances up to +/- 20%).

An actuator is associated to each appliance being controlled. The actuator receives the information from the central unit and disconnects the load from the network in case of overload. The disconnection sequence of the actuators is defined during the installation. This can be achieved by using a simple configuration operation to be carried out on the devices themselves. The central unit gives the possibility of managing up to 63 priority levels, and a number of devices depending on the available supply current.

In the example shown, the oven, the microwave oven and the washing machine represent the loads controlled using actuators, while the refrigerator, the operation of which should not be interrupted, is connected to the socket without actuator. In case of overload, the first device that disconnects is the

one considered the least important by the user, in this example the oven, whose actuator has configurator no.1. The microwave is on the other hand the most important device, and the corresponding actuator has configurator no.3. This load therefore only disconnects after the oven and the washing machine.

The user can reactivate the disconnected device at any time using the actuator pushbutton or the touchscreen. In this case, if the overload condition still exists, the central unit will enable the operation of the selected load, but will disconnect the subsequent loads starting from the least important, until the overload situation is resolved. The operating status of loads is notified both by the actuators and the touchscreens. By configuring the actuators of the load control management system in automation mode, it is possible to use the touchscreen to set the time delays for the activation of the loads at set times.



Load control management

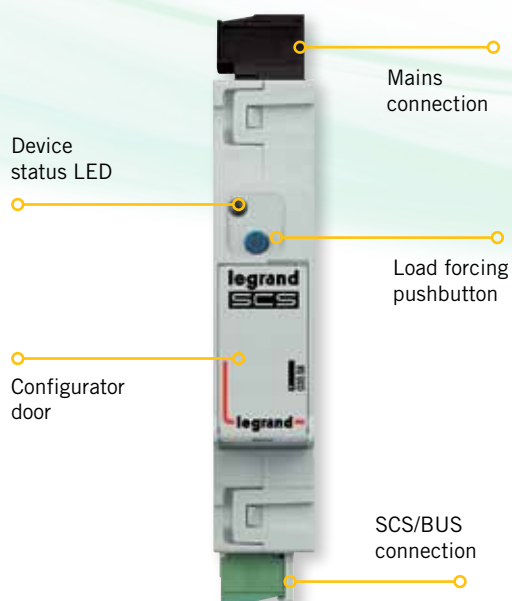
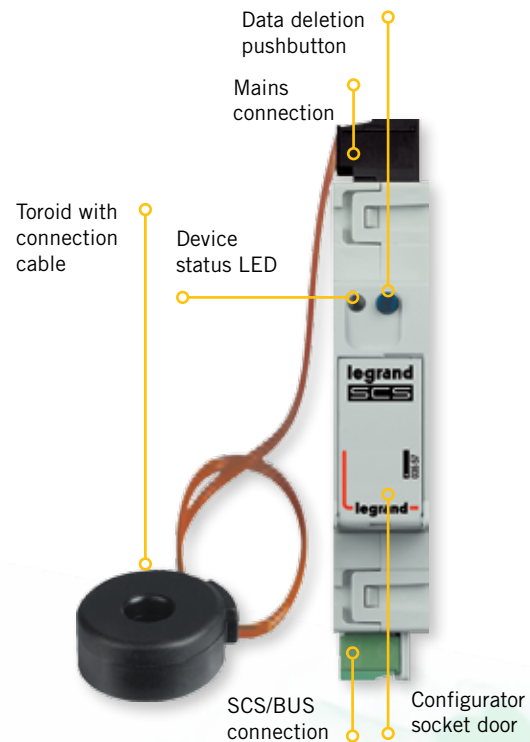
Devices for load control management

Central unit for load management 03557

The device is capable of measuring the input power from the electric system and to control the status of the actuators of the load management system. The central unit manages up to 63 appliances or electric loads per each phase, measures currents and voltages, and processes this data to provide energy and power information. The processing and accounting functions are:

- Instantaneous consumption of the controlled line
- Cumulative hourly consumptions for the last 12 months, daily consumptions for the last 2 years, monthly consumptions for the last 12 years

The central unit is suitable for installation inside distribution boards and switchboards and requires the space of 1 DIN module.



Actuator 16A with current sensor 03558

The device is an actuator with an integrated current sensor for the measurement of controlled load consumption (instantaneous consumption and 2 independently resettable energy totalisers), and is capable of performing both energy management and automation functions. When configured in energy management mode, it gives the possibility of measuring the load input power, the power and the earth leakage current (through the connection of an external toroid). The actuator is suitable for installation inside distribution boards and switchboards and requires the space of 1 DIN module.

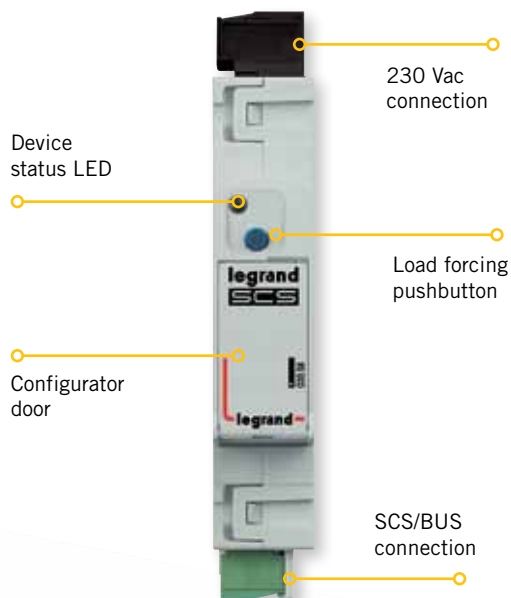
Load control management

Devices for load control management continued...



Actuator 16A

The device is an actuator capable of performing both energy management and automation functions. The actuator is suitable for installation inside distribution boards and switchboards and requires the space of 1 DIN module.



Extra Toroid 03556

Additional toroid for 03555



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