128, av. du Maréchal-de-Lattre-de-Tassigny - 87045 LIMOGES Cedex
Tél. : 33(0)5 55 06 87 87 - Fax : 33(0)5 55 06 88 88
www.legrand.com

Connected contactor

Cat.Nos: 4 121 71-1 991 22
Included in the packs: 4 121 91B - 4 121 93B - 1 991 55 - 1 991 56B

Home + Control

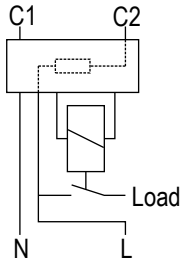
CONTENT **Page**

1. USE

Legrand connected contactor enables to remotely control (ON / OFF) loads (like water heater, swimming pool pomp, heaters, charging plug for electric cars…) by smartphone with Home + Control app and / or by voice via a voice assistant. This connected version also offers functions such as:
- Energy consumption: autommatically provides energy consumption information of the circuit to which the connected contactor is wired to.
- Scheduling: automatic opening and closing action scenarios based on a timeline (daily/time slot).

Technology
- Connected contactor with control by single contact, via smartphone, voice assistants and / or by its push button on the front.
- Integrated «Zero crossing» technology allowing contact wear to be kept to a minimum when switching under load.

Symbol



2. TECHNICAL CHARACTERISTICS

2.1 Electrical characteristics

Pole	1 pole «NO»
Types of contacts	Normally open contact type
Rated current	20 A
Power consumption	2 W Max.
Rated supply voltage	100 to 240V ~
Rated impulse withstand voltage (Uimp)	4 kV
Rated insultating voltage (Ui)	250 V~
Rated operating voltage (Ue)	100 to 240 V ~
Rated impulse withstand voltage (Uimp)	4 kV
Rated insulation voltage (Ui)	250 V ~
Rated operational current (Ie) depending on utilization category	AC-7a or AC1 (heaters) : Ie = 20 A
	AC-7b or AC3 (electric motors) : Ie = 5 A
Resistance to short-circuits*	Presumed short circuit current 1500 A according to EN 60669-2-1 Thermal stress: 15 000 A^2s according to EN 60669-2-1
Sectioning distance	Micro-gap construction contact according to the standard EN 60669-2-1
Dielectric resistance	2000 V between front face and rail
	750 V between upstream and downstream.
Rated frequency	50/60 Hz
Noise level	Noiseless switch <10dB
Pollution degree	2

***Recommendations:** For the contactors protection against short circuits according to the conditional current, it is recommended to use a circuit breaker or fuse gG with rated current ≤20 A. If conditions allow it, the existing electrical protections in the electrical panel can be reused for this purpose.

Electrical performances:
Resistive load maxi: 4800 W
Motor load max. : 1200 VA
Maximum incandescent lamp load: 3840 W
Max. lamp load with integrated ballast (CFLi, LEDi...): 650 W
Max. lamp load with external ballast: 3000 W

2. TECHNICAL CHARACTERISTICS *(continued)*

2.2 Mechanical characteristics

Endurance

Operations under load with incandescent lamps according to EN 60669-2-1	10 000
Operations under load with externally ballasted lamps according to EN 60669-2-1	5 000
Operations under load with self-ballasted lamps according to EN 60669-2-1	10 000
Operations under « resistive» load according to EN 60669-2-1	200 000
Operations cycles AC-7a according to EN 61095	10 000
Operations cycles AC-7b according to EN 61095	30 000
Operations without load	20 000 000

Protection degree
- Protection index of terminals against direct contacts: IP2X (wired device).
- Protection index of the front face against direct contacts: IP3XD.
- Class II, front panel with front plate.
- Class of protection against mechanical impacts IK 04**.**

Vibration and shaking resistance
- Vibrations: 10 to 55 to 10Hz single amplitude 0.75mm
- Shaking: 1000m / s ^{2} (6 ± 1ms)

2.3 Climatic and material characteristics

Ambient operating temperature
Min. = - 5 °C / Max. = + 45 °C.

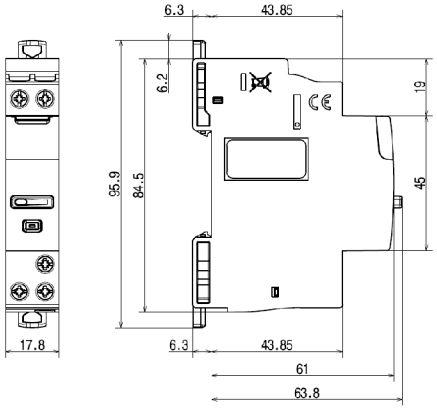
Ambient storage temperature
Min. = - 40 °C / Max. = + 70 °C.

Influence of altitude
No influence up to 2 000 m.

Plastic material
- Halogen-free.
- Self-extinguishing polycarbonate.
- Heat and fire resistant according to IEC/EN 60669-2-1, glow-wire test at 960°C.
- Classification UL 94 V0 (≥1.5mm).

2.4 Radio interface characteristics
- Standard IEEE 802.15.4
- Frequencies 2,4 to 2,4835Ghz
- Transmitter output power <100mW
- Distance max between 2 radio devices: 50m in open field.

3. DIMENSIONS AND WEIGHT



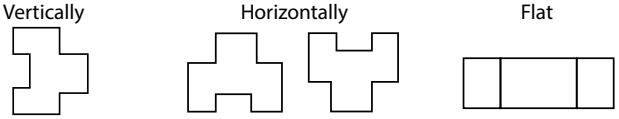
Width: 1 module, 17.8 mm wide.
Volume when packed: 0,62 dm^3.
Average weight: 78g

4. MOUNTING

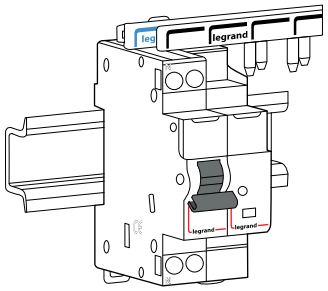
The connected contactor can be mounted on symmetrical rail EN / IEC 60715 or DIN 35.

It can be mounted:

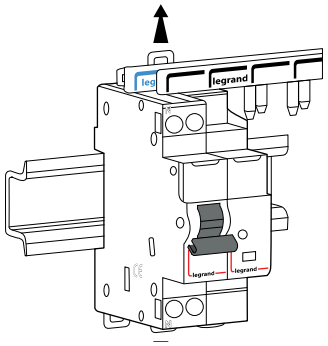
Vertically Horizontally Flat



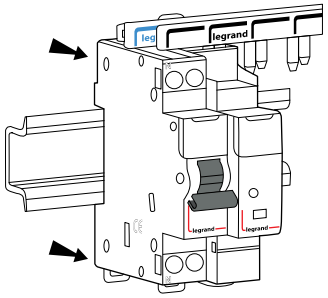
Row positioning
The product shape and the positioning of the terminals allow the passage of single-line, three-lines and plug-in connection combs at the top of the product. Therefore, it is possible to freely choose the position of the connected contactor in the row and to connect the other devices on the same DIN rail using a comb.



Module maintenance
It is possible to switch a connected contactor in the middle combed row upstream without disconnecting the other devices on the same DIN rail.



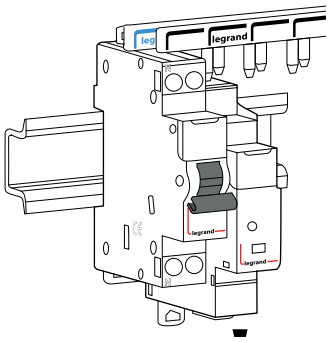
1. Unclip the clamp to put it in open position.



2. Unscrew the terminals and pull the device forward in order to release it from the DIN rail.

4. MOUNTING *(continued)*

Module maintenance *(continued)*



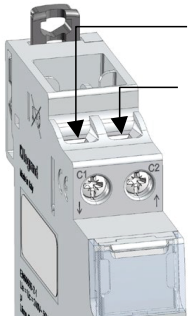
3. Pull the device downward in order to completely release it from the prongs of the comb.

5. CONNECTIONS

Thanks to its control circuit with integrated power supply and protection, it is no longer mandatory to install a 2A circuit breaker for the protection of the control circuit if a contact is wired between C1 and C2.

For the protection of the contactor, it is recommended to use a circuit breaker or a gG fuse with a nominal current ≤ 20A. If conditions allow, the existing electrical protections in the electrical panel can be reused for this purpose.

■ 5.1 Wiring of the command (upstream terminals)

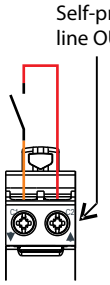


C1: Terminal for control command (IN)

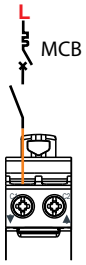
C2: Terminal self-protected Line for remote (OUT)

Advantage: « auto protected terminals » technology. It is not necessary to put a 2A protection.

In case of a remote control done via a wired push button, the control is done either :
- via C1 and C2 terminals (example: for France, contact from Linky meter);

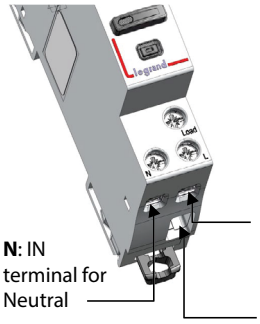


- or via a push button through the phase line protected by a circuit breaker on terminal C1.



WARNING: Do not wire a Neutral to C1 or C2.

■ 5.2 Wiring of the power supply and the load (downstream terminals)



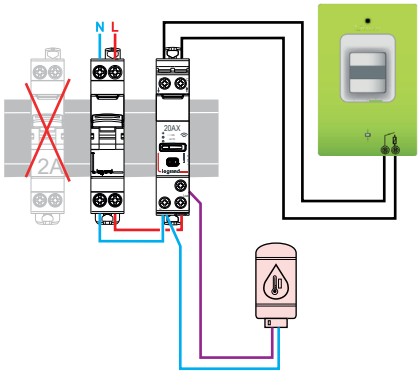
N: IN terminal for Neutral

L: IN terminal for the Line

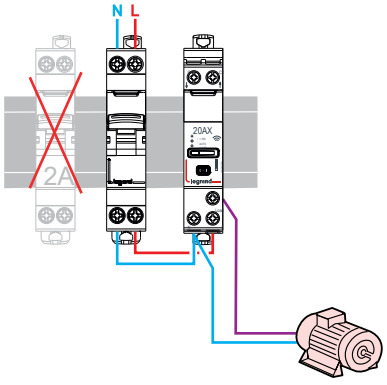
Load: OUT terminal for the line after contact (towards Load)

■ 5.3 Wiring diagrams

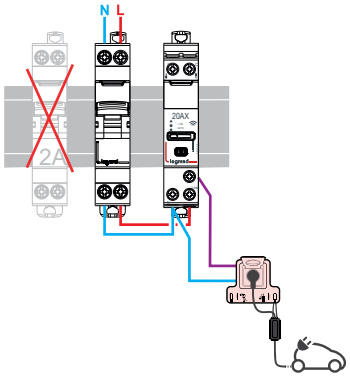
Installation controlled by the energy supplier electric meter (specific to France)



Installation for electrical motor



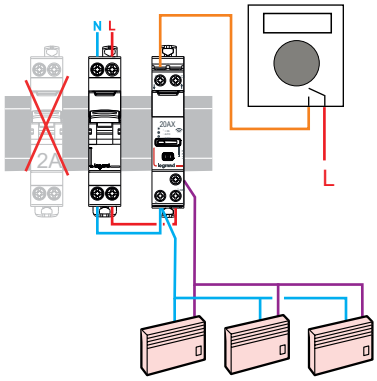
Installation for charging electric cars



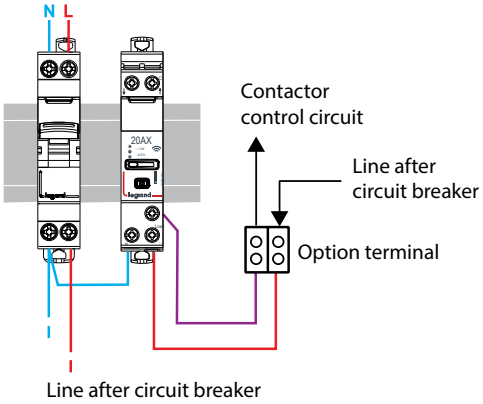
5. CONNECTIONS *(continued)*

■ 5.3 Wiring diagrams *(continued)*

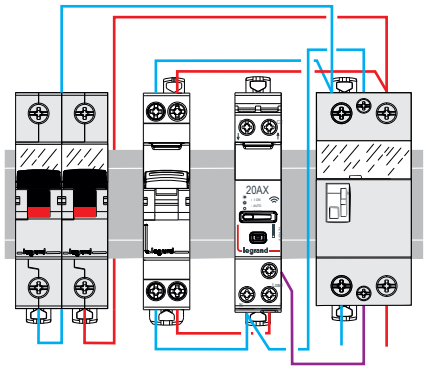
Control of heaters through an already installed central remote



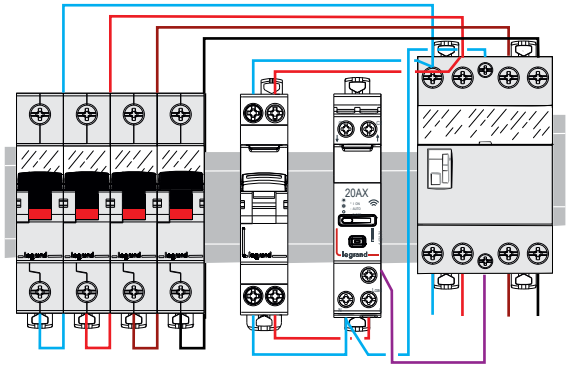
Cabling in a swimming pool control cabinet



Control of a single phase standard contactor (>20A)



Control of a three phase standard contactor (>20A)



■ 5.4 Wireless network

Maximum number of connected devices in the network: 100

■ 5.5 Recommended tools

- For the terminals: screwdriver Pozidriv n°1 or flat-blade 4 mm.
- For clamping: screwdriver flat-blade (5,5mm or less) or Pozidriv n°1

■ 5.6 Connection

Control and power screw terminals:
- Terminal type: cage
- Depth: 9 mm
- Stripping length recommended: 9 mm
- Screw head: Pozidriv n°1 or slotted
- Type of screw: M3.5
- Minimum tightening torque: Min: 0.8 Nm / Max: 1.4 Nm / Advised: 1 Nm

Conductor type for remote control terminals (C1, C2)

Copper cables	Without ferrule	With ferrule
Rigid cable	1x (0.75 to 2.5mm²) 2 x (0.75 to 1.5mm²)	-
Flexible cable	1x (0.75 to 2.5mm²) 2 x (0.75 to 1.5mm²)	1 x (0.75 to 2.5mm²) 2 x (0.75 to 1.5mm²)

Conductor type for power terminals (N, L, LOAD)

Copper cables	Without ferrule	With ferrule
Rigid cable	1x (0.75 to 6mm²) 2 x (0.75 to 2.5mm²)	-
Flexible cable	1x (0.75 to 6mm²) 2 x (0.75 to 2.5mm²)	1 x (0.75 to 2.5mm²) 2 x (0.75 to 1.5mm²)

6. CONFIGURATIONS

■ 6.1 Standard contactor (not connected)

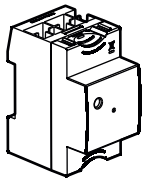
The product can be used as a «standard» contactor (not connected) and /or can be used with:
- Legrand smartphone app « Home + Control»

Available on Google Play or App Store ;

- Voice assistants (compatible with the main voice assistants of the market).

■ 6.2 Adding a connected contactor in a connected installation

To create a connected installation you must install:
- a Gateway module;

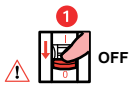


- or any kind of « with Netatmo » gateway.

6. CONFIGURATIONS *(continued)*

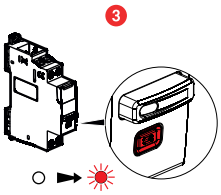
■ 6.2 Adding a connected contactor in a connected installation *(continued)*

Beforehand, the general circuit breaker must be turned OFF.



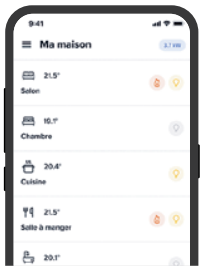
Turn off the power at **general circuit breaker**

Turn on the power at **general circuit breaker*** once the installation completed and controlled**



* In order to restart all connected products at the same time.
** After wiring the installation, refit the front plate so that no active live part is accessible.

Finalize the installation in the Legrand Home + Control app.
Download the Home + Control App and follow the instructions for adding the connected product in your setup.



Télécharger dans l'App Store

DISPONIBLE SUR Google Play

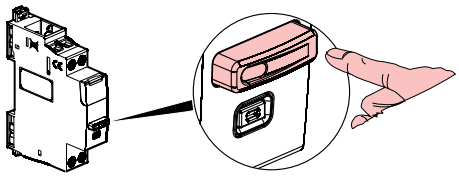
It is also possible to control the installation via a voice assistant and customize the scenarios via the Home + Control App.

fonctionne avec Hey Google | Fonctionne avec Apple Home | fonctionne avec alexa

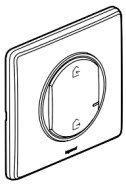
■ 6.3 Remote control commands

Remote control can be operated:

- Directly with the front face push-button of the device when operating on site;



- Via the Home / Away wireless master switch;

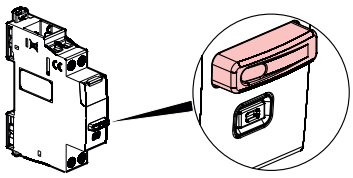


- Via smartphone with the Home + Control smartphone app;

- By voice through a vocal assistant.

■ 6.4 Visualization of the operating mode of the device and contacts

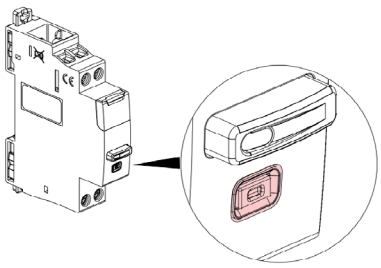
The visualisation is possible via the LED, on the push button command.



Color	Status	Meaning
	OFF	Manual mode and opened Contact (OFF).
Blue/Off	Slow blinking	Automatic mode and opened Contact (OFF).
Blue/Green	Slow blinking	Automatic mode and closed Contact (ON).
Green	Fixed	Manual mode and closed Contact (ON).

■ 6.5 Visualization of the setup

Visualization of the setup is possible via the LED on the settings button.

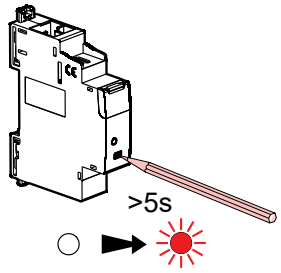


Color	Status	Meaning
Red	Fixed	Temporary status. Device not connected to the radio network.
Green	Fixed	Temporary status. Device correctly paired to the radio network (when the radio network is still open).
	OFF	Normal status. Device paired to the radio network (when the radio network is closed).

6. CONFIGURATIONS *(continued)*

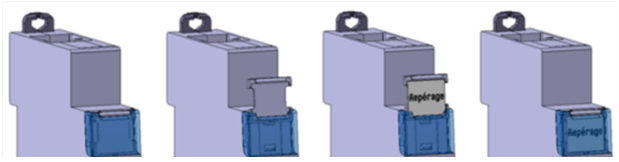
6.6 Resetting the connected contactor to remove it from a connected installation

Press and hold over 5 seconds on the setting button until the LED on the setting button is fixed red. It is no longer paired with the Gateway module / Gateway power outlet.



6.7 Labelling

Circuit identification is possible with a label inserted into the label holder located at the front of the product.

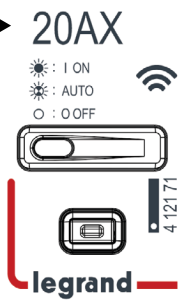


6.8 Other configurations and actions

All the other features and settings such as scenarios etc. are explained step by step in the smartphone app.

7. MARKING

AX: Rated current for externally ballasted lamps loads and another rated current



Icon to easily identify a connected device in the electrical panel board

8. CONFORMITY

The connected contactor complies with the standards:
- NF EN 60669-2-1 / IEC 60669-2-1
- NF EN 61095: AC-7a and AC-7b

The conected contactor is compliant with :
RoHS : Compliance with the 2011/65/EU Directive (RoHS), as modified by the 2015/863/EU Delegated Directive, on the restriction of the use of certain hazardous substances in electrical and electronic equipment.

- Compliance with Directives 91/338/EEC of 18/06/91 and Decree 94-647 of 27/07/04.

REACH : The substances identified as SVHC (Substances of Very High Concern) according to the REACH Regulation (1907/2006), if present in the products at a concentration above 0.1% weight by weight, are declared inside the European SCIP database. At the date of publication of this document none of the substance listed in the annex XIV is found in this product.

WEEE : WEEE Directive (2012/19/EU). The sale of this product includes a contribution to the appointed environmental bodies of each European country in charge of handling, at the end of their life, the products falling within the scope of the EU Directive on Electrical and Electronic Equipment Waste

Electromagnetic Interference (EMI)

Compliance Compliant with EN 301 489-1, NF EN 60669-2-1:
- Immunity to shock waves
- Emission at radio frequencies
- Immunity to electrical transients in bursts
- Immunity to conducted disturbances induced by radiofrequency fields
- Immunity to radiated fields
- Immunity to electrostatic discharges
- Immunity to voltage dips and short interruptions

Compliant with radiated emission according to NF EN55032.

Plastics

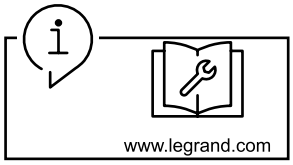
Marking of parts in accordance with ISO 11469 and ISO 1043.
ISO 7000:2004, Graphical symbols for use on equipment - Index and synopsis.

Packaging

Design and manufacture of packaging compliant with European Directive 94/62/CE.

9. OTHER INFORMATION

XLPro³ Panels: Distribution panel design software, addressed to panelbuilders and electrical panel designers. Design of the electrical distribution of the panel, production of electrical diagrams, establishment of products and overall costing of the project.



Instuction sheet: detailed mounting information available on e-catalog.

For further technical information, please contact Legrand technical support.

Unless otherwise indicated, data reported in this document refers exclusively to test conditions according to product standards.

For different conditions of use of the product, inside electrical equipment or in any different installation context, refer to the regulatory requirements of the equipment, local regulations and design specifications of the system.