

RX VIVIENDA MCB 6000 A up to 40 A (1 module per pole)

Cat.Nos: 4 499 25 to 4 499 30 - 4 499 34 to 4 499 39



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1. USE

Legrand RX VIVIENDA thermal-magnetic circuit breaker (MCB) with positive contact indication for control, protection against short-circuits and overloads, and isolation of electrical circuits.

When the handle is at the bottom position, the MCB is released.

2. RANGE

Cat.Nos	Nb of pole	In (A)	Curve
4 499 25	1P+N	10	C
4 499 26		16	
4 499 27		20	
4 499 28		25	
4 499 29		32	
4 499 30		40	
4 499 34	2P	10	C
4 499 35		16	
4 499 36		20	
4 499 37		25	
4 499 38		32	
4 499 39		40	

3. TECHNICAL CHARACTERISTICS

■ 3.1 Technology

Electromagnetic function with current-sensing relay technology.

■ 3.2 Electrical characteristics

Polarity	1P+N / 2P
Rated current (In)	10 / 16 / 20 / 25 / 32 / 40 A
Magnetic tripping curves	C Curve (between 5 and 10 In)
Thermal threshold according to IEC/EN 60898-1	Non operating current (Inf): 1.13 In Operating current (If): 1.45 In.
Rated Voltage and Frequency	230 V ~ / 400 V ~ 50 / 60 Hz with standard tolerances
Minimum operating voltage	12 V ~
Maximum operating voltage	250 V ~ for 1P+N / 440 V ~ for 2P with possible derating of the breaking capacity
Breaking capacity	6000A in accordance with standard EN/IEC 60898-1
Width	1 module per pole. Each pole is 17.8 mm

Short-circuit breaking capacity of only one pole	Icn1 = Icn
Rated insulation voltage Ui	500 V
Degree of pollution	2 in accordance with standard EN/IEC 60898-1
Dielectric strength	2500 V
Impulse withstand voltage Uimp	4 kV
Operation at 400 Hz	The magnetic thresholds increase by 45%.
Load to close and to open a pole through the handle:	0.11 Nm per pole to close 0.045 Nm per pole to open
Neutral earthing system	TT, TN, IT systems
Mechanical endurance: Conforms to standard EN/IEC 60898-1	20 000 operations without load 10000 operations with load (under In with cos φ = 0.9)

Short-circuit breaking capacity:

Alternate current 50/60Hz, single-phase or three-phase network, in accordance with standard: EN/IEC 60898-1

Un		1P+N	2P
110 V ~	Icn	10000 A	16000 A
230V ~		6000 A	10000 A
400V ~		-	6000 A
110 V ~	Ics	100% of Icn	100% of Icn
230V ~		100% of Icn	100% of Icn
400V ~		100% of Icn	100% of Icn

Short-circuit breaking capacity of only one pole

Icn1 = 6 kA at 230 V, where Icn1 is the breaking capacity of one pole of the multi-pole MCB's in case of short-circuit to earth.

Breaking capacity of one single pole under 400 V voltage (IT network): 1.5kA

Breaking capacity of one single pole under 230 V voltage (IT network): 6 kA

■ 3.3 Power dissipated

Power dissipated per pole (W):

Circuit breaker C curve

In (A)	10	16	20	25	32	40
1P+N Phase pole	1.8	2.2	2.4	2.6	3.1	3.9
1P+N Neutral pole	0.5	1.3	2.0	1.1	1.8	1.9
2P	1.8	2.2	2.4	2.6	3.1	3.9

$$\text{Impedance per pole } (\Omega) = \frac{P \text{ dissipated}}{I_n^2}$$

3. TECHNICAL CHARACTERISTICS (continued)

3.4 Mechanical characteristics
Enclosure heat and fire resistance
Glow-wire test at 960°C in according to IEC 60695-2-12
Compliance with EN/IEC 60898-1

Plastic materials
Parts made of Polyamide
Halogens-free plastic materials.
Marking of parts according to ISO 11469 and ISO 1043.

Precious metal
Silver: < 0.04 g per pole.
No gold.

Protection classes:
Protection index of terminals against solid and liquid bodies:
IP 20 [Device installed in a cabinet], (in accordance with standards EN/IEC 60898-1 and EN/IEC 60529).
Protection index of the box against solid and liquid bodies:
IP 40 (in accordance with standards EN/IEC 60529).
Protection index against mechanical shocks:
IK 02 (in accordance with standards EN/IEC 62262).

Sinusoidal vibration resistance
In accordance with IEC 60068.2.6

- Axis: x, y, z.
- Frequency range: 5÷100 Hz; duration 90 minutes
- Displacement (5÷13,2 Hz): 1 mm
- Acceleration (13,2÷100 Hz): 0,7 - (g=9,81 m/s2)

3.5 Climatic characteristics
Ambient temperature:
Operating: - 25 °C / + 70 °C
Storage: - 40 °C / + 70 °C

3.6 Derating
Temperature derating
The nominal characteristics of a circuit breaker are modified according to the ambient temperature inside the cabinet or the enclosure where the circuit breaker is located.
Reference temperature: 30 °C in accordance with EN/IEC 60898-1

Ambient Temperature/In (°C)										
In (A)	- 25	- 10	0	10	20	30	40	50	60	70
10	12.5	11.5	11.1	10.7	10.3	10.0	9.7	9.3	9.0	8.7
16	20.0	18.7	18.0	17.3	16.6	16.0	15.4	14.7	14.1	13.5
20	25.0	23.2	22.4	21.6	20.8	20.0	19.2	18.4	17.6	16.8
25	31.5	29.5	28.3	27.2	26.0	25.0	24.0	22.7	21.7	20.7
32	41.0	37.8	36.5	34.9	33.3	32.0	30.7	29.1	27.8	26.5
40	51.0	48.0	46.0	44.0	42.0	40.0	38.0	36.0	34.0	32.0

Derating of MCBs function of the number of devices side by side:
When several MCBs are juxtaposed and operate simultaneously, the thermal evacuation of the poles is limited. This results in an increase in operating temperature of the circuit breakers which can cause unwanted tripping. It is recommended to apply the following coefficients to the rated currents

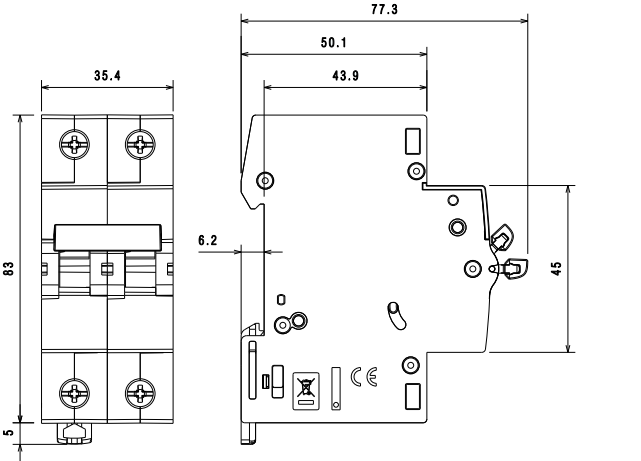
Number of circuit breakers side by side	Coefficient
2-3	0.9
4-5	0.8
6-9	0.7
≥ 10	0.6

These values are provided by recommendation IEC 61439-1 and the standards NF C 63421 and EN 61439-1.

In order to avoid having to use these coefficients there must be good ventilation and the devices must be kept apart using the spacing elements Cat.No 4 063 07 (0.5 module).

Influence of the altitude	≤ 2000 m	3000 m	4000 m
Dielectric strength	3000 V	2500 V	2000 V
Maxi. operational Voltage	400 V	400 V	400 V
Derating at 30 °C	none	none	none

4. DIMENSIONS AND WEIGHTS

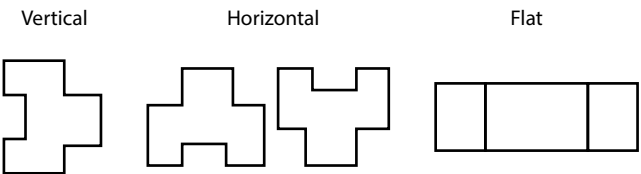


Average weight per pole: 0.110 kg

Packaged volume and quantity:		
	Volume (dm³)	Packaging
For all catalogue numbers	1.76	6

5. FIXING AND CONNECTION

5.1 Fixing
On symmetrical rail EN/IEC 60715 or DIN 35 symmetrical rail.
Mounting options:



Recommended tool for rail mounting: Flat screwdriver 5.5 mm (6.5 mm maximum).

5. FIXING AND CONNECTION (continued)

5.2 Connection	
Power supply	Top or bottom terminals
Type of terminals	Inputs and outputs via screw terminals
Terminal depth	14 mm
Terminal capacity	Flexible cable: max. 25 mm ² Rigid cable: max. 35 mm ²
Terminal arrangement	Terminals protected against direct finger contact IP20 (Device installed in a cabinet)
	The location of the terminals allows supplying by traditional HX ³ pin busbar
Screw head	Mixed head, slotted head and Pozidrive PZ2
Tools required	Pozidrive PZ2 screwdriver or flat screwdriver 5.5 mm (6 mm maximum)
Tightening torque	Recommended 2.5 Nm (mini. 2 Nm - maxi. 3 Nm)

Here are the sections accepted by the screw terminal for connecting copper conductors:

	Without ferrule	With ferrule
Rigid cable	1 x 1.5 mm ² to 35 mm ² 2 x 1.5 mm ² to 16 mm ²	-
Flexible cable	1 x 1.5 mm ² to 25 mm ² 2 x 1.5 mm ² to 10 mm ²	1 x 1.5 mm ² to 25 mm ² 2 x 1.5 mm ² to 10 mm ²

Manual actuation of the MCB:
Ergonomic 2-position handle
Handle upward: Device closed
Handle downward: Device open

Contact status display:
By marking on the front face of the device

- "I ^ ON" = contacts closed
- "O v OFF" = contacts open

6. AUXILIARIES AND ACCESSORIES

Wiring accessories
Pin busbar HX³ traditional

Possible combinations of MCB's and auxiliaries: No auxiliary is associable to the MCB
RCD add-on modules: No RCD add-on modules

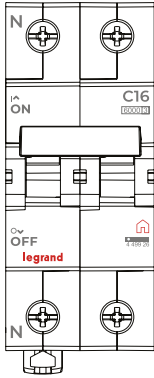
Sealing
Possible in "Open" position (OFF) or "Close" position (ON)

Locking

- 5 mm padlock	Cat. No. 4 063 13
- 6 mm padlock	Cat. No. 0 227 97
- Padlock support	Cat. No. 4 063 03

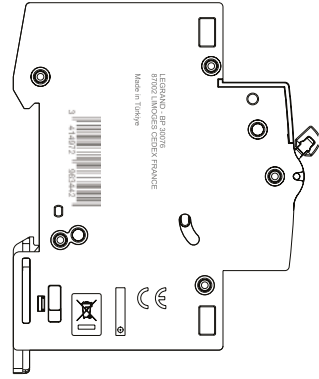
7. MARKING

Front face marking
By permanent ink pad printing (legrand and red house logos) and laser marking



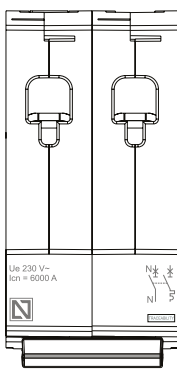
- Handle position indication: ON / OFF
- Breaking curve
- Rated current (in A)
- Icn (in A) rated breaking capacity in accordance with EN/IEC 60898-1 (in a box)
- Limiting class "3"
- Legrand reference code, and Logo
- "N" to identify Neutral pole (For 1P+N references only)

Left side marking
By laser.



- Legrand address
- Made in
- Barcode

Upper side marking
By laser.



- Rated Voltage(s)
- Icn (in A)
- Standard logo(s)
- Traceability information "year W week" (e.g. 25W15)
- Electrical scheme

Please note: The information provided in this section is for reference only. Actual data and marking layout may vary depending on the product version

8. STANDARDS AND REGULATIONS

Compliance with standards:

- EN/IEC 60898-1 with 6000 A breaking capacity
- EU guidelines: 2014/35/EU + 2014/30/EU

Usage in special conditions:

The performance of circuit breakers can be influenced by particular climates: hot dry, cold dry, hot humid, salt fog atmosphere
Category C compliant (testing temperature of -25°C to +70°C, resistant to salt spray) in accordance with the classification defined in Annex Q of standard IEC/EN 60947-1.
Salt fog atmosphere according to IEC 60068-2-52

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.

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.

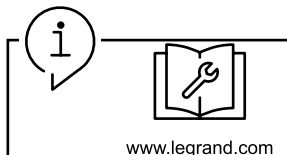
WEEE

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

Packaging:

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

9. OTHER INFORMATION



PEP: available on e-catalog

XLPro Calcul: Calculation notes creation software, addressed to installers, design office and maintenance operators. Definition of the electrical characteristics of a low voltage installation in compliance with the applicable standards.

XLPro³ Tool Selectivity and backup / Legrand Selectivity and backup: Software dedicated to installers, panelbuilders and design offices. Definition of the selectivity and backup values of an association of electrical devices and obtention of the tripping curves of the selected products.

XLPro 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.

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.