

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

Cat.Nos: 4 324 10/11/12



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1. USE

Legrand RX VIVIENDA MCB + POP is a thermal-magnetic circuit breaker with positive contact indication for control, protection against short-circuits and overloads, and isolation of electrical circuits, associated to an Overvoltage release.

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

2. RANGE

Cat.Nos	Nb of pole	In (A)	Curve
4 324 10	2P	25	C
4 324 11		32	
4 324 12		40	

3. TECHNICAL CHARACTERISTICS

■ 3.1 Technology

Magnetic and thermal tripping.

■ 3.2 Electrical characteristics

Polarity	2P
Rated current (In)	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 (In _f): 1.13 In Operating current (I _f): 1.45 In.
Rated Voltage and Frequency	230 V ~ 50 Hz with standard tolerances
Maximum operating voltage	255 V~
Breaking capacity	6000A in accordance with standard EN/IEC 60898-1
Width	1 module per pole. Each pole is 17.7 mm
Short-circuit breaking capacity of only one pole	I _{cn} 1 = I _{cn}
Rated insulation voltage U _i	500 V
Degree of pollution	2 in accordance with standard EN/IEC 60898-1.
Dielectric strength	2500 V
Impulse withstand voltage U _{imp}	4 kV
Load to close and to open a pole through the handle:	0.1 Nm per pole to close 0.075 Nm per pole to open
Neutral earthing system	TT, TN systems

Mechanical endurance

M.C.B mechanical endurance:
20 000 operations without load
10 000 operations with load
(under I_n with cos φ = 0.9)
Conforms to standard
EN/IEC 60898-1

POP mechanical endurance:
600 electrical tripping.
This device supports the mechanical
cycles of the associated device.
Conforms to standard EN 50550

POP tripping characteristics:

V (V)	≤ 255	275	300	350	400
T (s)	No tripping	3-15	1-5	0,25-0,75	0,07-0,2

Short-circuit breaking capacity:

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

Un	I _{cn}	1P+N
110V~		10 000 A
230V~		6 000 A

110V~	I _{cs}	100 % of I _{cn}
230V~		

Short-circuit breaking capacity of only one pole

- Three -phase network 230 / 400 V~ in TN neutral system, I_{cn}1 = 10 kA

■ 3.3 Power dissipated

Power dissipated per pole (W):

Circuit breaker C curve

In (A)	25	32	40
2P	4,2	3,2	4,8

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

3. TECHNICAL CHARACTERISTICS (continued)

■ 3.4 Mechanical characteristics

Device heat and fire resistance

Resistance to incandescent wire tests at 960 °C, in accordance with standard IEC/EN 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: < 0.08 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): 1mm

- 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
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

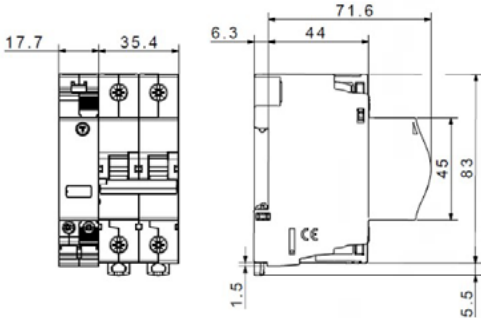
These values are provided by recommendation IEC 61439-1 and the standards NF C 63421 and EN 61439-1.

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 product: 0.262 kg

Packaged volume and quantity:

	Volume (dm ³)	Packaging
For all catalogue numbers	0.5	1

5. FIXING AND CONNECTION

■ 5.1 Fixing

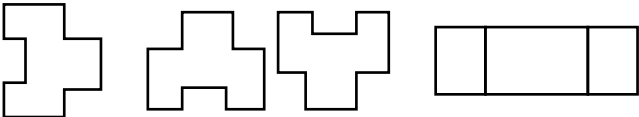
On symmetrical rail EN/IEC 60715 or DIN 35 symmetrical rail.

Mounting options:

Vertical

Horizontal

Flat



Recommended tool for rail mounting:

- For MCB: flat screwdriver 5.5 mm (6 mm maximum).

- For POP: flat screwdriver 4 mm.

5. FIXING AND CONNECTION (continued)

5.2 Connection

Power supply	MCB from the top or the bottom. POP only from the bottom
Type of terminals	Inputs and outputs via screw terminals
Terminal depth	MCB: 14 mm POP: 8 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	MCB: Mixed, slotted head and Pozidrive PZ2 POP: Mixed, slotted head and Pozidrive PZ1
Tools required	MCB: Pozidrive P n°2 or flat screwdriver 5,5 mm (6 mm maximum) POP: Pozidriv P n°1 or flat screwdriver 4 mm
Tightening torque	MCB: Recommended 2.5 Nm (mini. 2 Nm - maxi. 3 Nm) POP Recommended: 0.8 Nm (mini: 0.5 Nm - maxi: 1 Nm)

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

MCB:

	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

POP auxiliary:

	Without ferrule	With ferrule
Rigid cable	1 x 0,5 mm ² to 1,5 mm ² 2 x 1,5 mm ²	-
Flexible cable	1 x 0,5 mm ² to 1,5 mm ² 2 x 1,5 mm ²	1 x 0,5 mm ² to 1,5 mm ² 2 x 1,5 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

Display of Overvoltage release state:

By mechanical indicator on front face of the auxiliary:
- red: indicates the tripping of the device by the coil.
- transparent: the Overvoltage release is in ON position (armed position, ready for tripping).

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
- 6 mm padlock
- Padlock support

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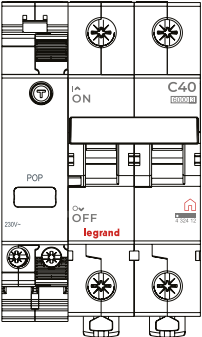
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7. MARKING

Front face marking

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



On the MCB:

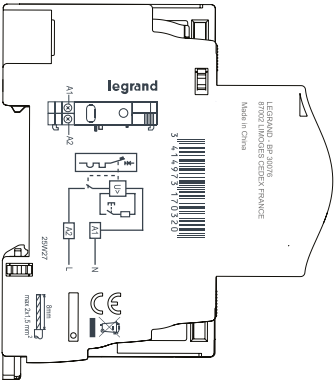
- Handle position indication: ON / OFF
- Breaking curve
- Rated current (in A)
- Icn (in A) rated breaking capacity in accordance with EN/IEC 60898-1 (in a box)
- Limiting class "3" (in a square)
- Legrand reference code, and Logo

On the POP, auxiliary:

- Trade name: POP
- Operating voltage (in V)

Left side marking

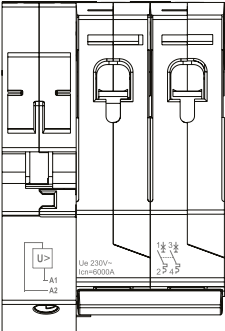
By laser.



- Legrand address
- Made in
- Barcode
- Traceability information "year W week" (e.g. 25W27)
- Electric wiring diagram and cabling information

Upper side marking

By laser.



On the M.C.B. by laser:

- Rated Voltage(s)
- Icn (in A)
- Electrical scheme

On the POP auxiliary:

- Electrical diagram

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
- EN 50550 POP
- 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 Appendix Q of standard IEC/EN 60947-1.

Category C with a range test temperature -25 °C / +70 °C

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.

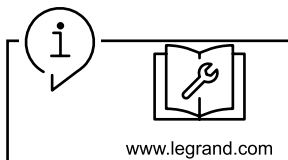
WEEE

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.