87045 LIMOGES Cedex
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RX³ M.C.B. 6000 A up to 63 A
(1 module per pole)

Cat. N°(s): 4 197 49 to 4 199 23



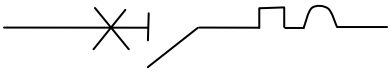
CONTENTS PAGES

1. Description, use 1
2. Range 1
3. Overall dimensions 1
4. Preparation - Connection 1
5. General characteristics 2
6. Compliance and and approvals 5
7. Equipments and accessories 5

1. DESCRIPTION - USE:

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

Symbol :



Technology:

. Limiting device

2. RANGE

Rated currents, In:

. Curve B 6 / 10 / 13 / 16 / 20 / 25 / 32 / 40 / 50 / 63 A
. Curve C 6 / 10 / 13 / 16 / 20 / 25 / 32 / 40 / 50 / 63 A

Polarity:

. 1P, 2P, 3P, 4P curve B
. 1P, 1P+N, 2P, 3P, 4P curve C

Width:

. 1 module per pole. Each pole is 17,7 mm

Magnetic tripping curves :

. B curve (between 3 and 5 In)
. 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 / frequency:

. 230 V ~ / 400 V ~ - 50 / 60 Hz with standard tolerances

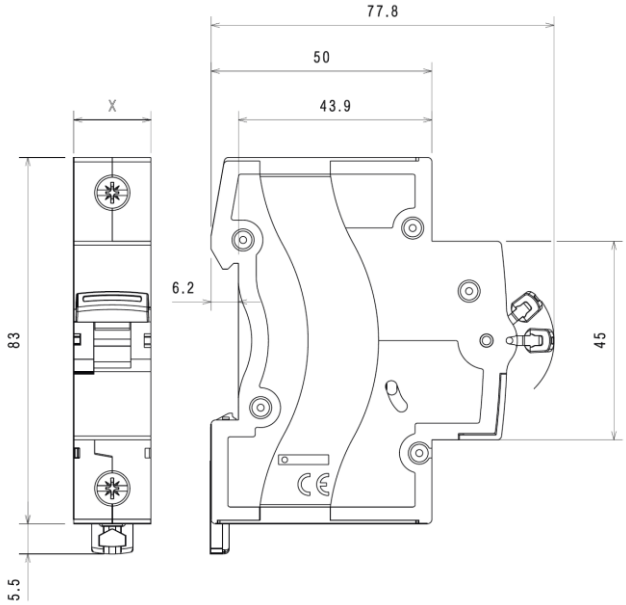
Maximum operating voltage:

. 1P & 1P+N 230 V ~ ± 10%
. 2P, 3P, 4P 400 V ~ ± 10%

Breaking capacity:

. 6000 A in accordance with standard EN/IEC 60898-1

3 OVERALL DIMIENSIONS



	X
1P / 1P+N	**17.7 mm**
2P	**35.4 mm**
3P	**53.1 mm**
4P	**70.8 mm**

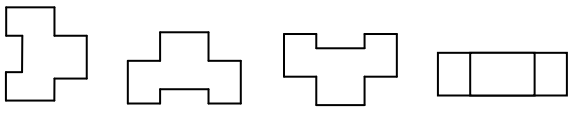
4. PREPARATION - CONNECTION

Fixing:

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

Operating positions:

.Vertical Horizontal Upside down On the side



4. PREPARATION - CONNECTION *(continued)*

Power supply:
. From the top or the bottom.

Connection:
. Inputs and outputs via screw terminals
. Cage terminals, with release and captive screws
. The location of the terminals allows supplying by traditional HX³ pin busbar.

Terminal depth :
. 14 mm

Stripping length recommended:
. 11 mm

Screw head:
. Mixed, slotted and Pozidriv 2.

Tightening torque:
. Recommended: 2.5 Nm.
. Mini: 2 Nm. Maxi: 3 Nm.

Tools required:
. For the terminals: Pozidriv n°2 or flat screwdriver 5.5 mm (6 mm maximum).
. For fixing: flat screwdriver 5.5 mm (6 mm maximum).

Connectable section:

	Copper cables	
	Without ferrule	With ferrule
Rigid cable	**1 x 1.5 mm² to 25 mm²** **2 x 1.5 mm² to 10 mm²**	-
Flexible cable	**1 x 1.5 mm² to 16 mm²** **2 x 1.5 mm² to 10 mm²**	**1 x 1.5 mm² to 16 mm²**

Manual actuation of the MCB:
. Ergonomic 2-position handle: ON and OFF

4. PREPARATION - CONNECTION *(continued)*

Contact status display:
. By front face marking:
- "O-OFF" = contacts open
- "I-ON" = contacts closed

Sealing:
. Possible in ″Open″ position (OFF) or ″Close″ position (ON).

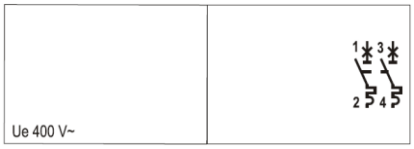
Locking:
. By 5 mm padlock (cat. N° 4 063 13) or 6 mm padlock (cat. N° 0 227 97) with padlock support (cat. N° 4 063 03).

5. GENERAL CHARACTERISTICS

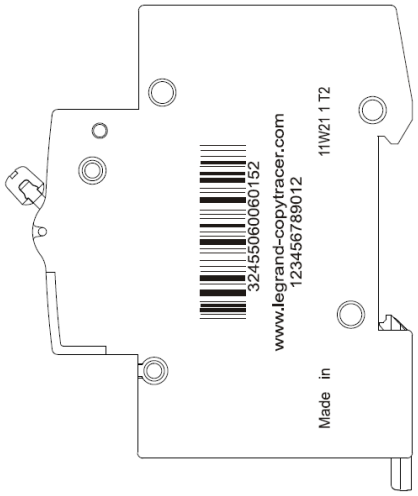
Marking on the front side:
. By permanent ink pad printing:
- Trade name: RX³
- Breaking curve
- Rated current (in A)
- Contact status.
- Icn in A rated breaking capacity in accordance with IEC/EN 60898-1 (in a box)
- Limiting class “3” (in a square)
- Mark: Legrand.



Top face marking:
. By permanent pad printing
- Rated voltage(s), Certification logo and Electric diagram



Side face marking:
. By laser marking:
- Copy-tracer and production information



5. GENERAL CHARACTERISTICS *(continued)*

Short-circuit breaking capacity:

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

Un		1P / 1P+N	2P	3P / 4P
110 V~	Icn	**10000 A**	**16000 A**	**-**
230V~		**6000 A**	**10000 A**	**10000 A**
400V~		**-**	**6000 A**	**6000 A**

110 V~	Ics	**75% of Icn**	**75% of Icn**	**75% of Icn**
230V~				
400V~				

. Alternate current 50/60Hz, single-phase or three-phase network, in accordance with standard: EN/IEC 60947-2

Un		1P / 1P+N	2P	3P / 4P
110 V~	Icu	**10 kA**	**16 kA**	**-**
230V~		**6 kA**	**10 kA**	**10 kA**
400V~		**-**	**6 kA**	**6 kA**

110 V~	Ics	**75% of Icu**	**75% of Icu**	**75% of Icu**
230V~				
400V~				

Short-circuit breaking capacity of only one pole:

. Icn1 = 6 kA at 230 V, where Icn1 is the breaking capacity of one pole for multi-pole MCB's in case of short-circuit to earth.
. Breaking capacity of one single pole under 400 V compound voltage (IT network) = 1.5kA.
. Breaking capacity of one single pole under 230 V compound voltage (IT network) = 6 KA.

Minimum operating voltage:

. 12 V a.c. per pole.

Pulse rated voltage:

. Uimp = 4 kV

Insulation rated voltage:

. Ui = 500 V

Pollution degree :

. 2 in accordance with standard EN/IEC 60898-1.

Electric strength:

. 2500 V

Operation at 400 Hz:

. The magnetic thresholds increase by 45%.

Load to close and to open a pole trough the handle:

. 0.1 Nm per pole to close.
. 0.075 Nm per pole to open.

Isolating distance (distance between contacts):

. more than 5 mm with the handle in open position O

5. GENERAL CHARACTERISTICS *(continued)*

Mechanical endurance:

. 20000 operations without load.
. 10000 operations with load (under In*cos φ = 0.9).

Enclosure material:

. Polyester.
. Characteristics of this material: self extinguishing, heat and fire resistant according to EN 60898-1, glow-wire test at 960°C for external parts made of insulating material necessary to retain in position current-carrying parts and parts of protective circuit (650°C for all other external parts made of insulating material).

Average weight per pole:

. 0.120 kg.

Volume when packed:

	Volume (dm^3)
1P (packed per 12)	**2.0**
1P+N / 2P (packed per 6)	**2.0**
3P (packed per 4)	**2.0**
4P (packed per 3)	**2.0**

Ambient temperatures:

. Operation: from – 25 °C to + 70 °C
. Storage: from – 40 °C to + 70 °C

Degree or class of protection:

. Protection index the screw head against solid and liquid bodies: IP 20, (in accordance with standards IEC 529, EN 60529 and NF C 20-010).
. Protection index of the box against solid and liquid bodies: IP 40 (in accordance with standards IEC 529, EN 60529 and NF C 20-010).
. Protection index against mechanical shocks: IK 02 (in accordance with standards EN 50102 and NF C 20-015).

Dissipated power in case of fire:

. available on request with required Standard

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/s^2)

Power dissipated per pole (W) :

. Circuit breaker B and C curves

In	6 A	10 A	16 A	20 A
1P÷4P	**1.1**	**1.8**	**2.2**	**2.4**

In	25 A	32 A	40 A	50A	63A
1P÷4P	**3.0**	**3.2**	**4**	**4.5**	**5.5**

. Impedance per pole (Ω) = $\frac{\text{P dissipated}}{In^2}$

5. GENERAL CHARACTERISTICS *(continued):*

Derating of circuit-breakers according to ambient temperature :

. The rated 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									
In (A)	- 25°C	- 10°C	0°C	10°C	20°C	30°C	40°C	50°C	60°C	70°C
6	**7.5**	**7.0**	**6.6**	**6.4**	**6.2**	**6.0**	**5.8**	**5.6**	**5.4**	**5.3**
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**
30	**38.3**	**36.0**	**34.5**	**33.0**	**31.5**	**30.0**	**28.8**	**27.3**	**26.1**	**24.9**
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**
50	**64.0**	**60.0**	**57.5**	**55.0**	**52.5**	**50.0**	**47.5**	**45.0**	**42.5**	**40.0**
63	**80.6**	**75.6**	**72.5**	**69.9**	**66.1**	**63.0**	**59.8**	**56.1**	**52.9**	**49.7**

Derating of MCB for use with fluorescent lights:

Ferromagnetic and electronic ballasts have a high inrush current for a short time. These currents can cause the tripping of circuit breakers. At the time of the installation, it should take into account the maximum number of ballasts per circuit breaker that the manufacturers of lamps and ballasts indicate in their catalogues.

Influence of the altitude:

	≤2000 m	3000 m	4000 m	5000 m
Dielectric holding	**3000 V**	**2500 V**	**2000 V**	**1500 V**
Max operational Voltage	**400 V**	**400 V**	**400 V**	**400 V**
Derating at 30°C	**none**	**none**	**none**	**none**

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 given by the recommendation of IEC 61439-1, NF C 63421 and EN 61439-1 standards.
To avoid using these coefficients, it is necessary to allow a good ventilation and to separate the devices with 0.5 module spacing elements (cat. N° 4 063 07).

6. COMPLIANCE AND APPROVALS

In accordance with standards:

. EN/IEC 60898-1 (Switches for domestic fixed installations and similar – 2nd section : special requirements for remote electromagnetically controlled switches (remotes switches) with 6000 A breaking capacity
. EU guidelines : 73/23/EEC + 93/68/EEC
. Legrand circuit-breakers can be used under the conditions of use as defined by EN/IEC 60947.
. The performance of circuit breakers can be influenced by particular climates: hot dry, cold dry, hot humid, salt fog atmosphere

Classification according to Annex Q (standard IEC/EN 60947-1) :

. Category C with a range test temperature -25 °C / +70 °C
. Salt fog atmosphere according IEC 60068-2-52

Environment respect – Compliance with EU directives:

. Compliance with Directive 2011/65/EU of 08/06/11 called "RoHS" which provides for the banning of hazardous substances such as lead, mercury, cadmium, hexavalent chromium, brominated flame retardants polybrominated biphenyls (PBBs) and polybrominated diphenyl ethers (PBDEs) from 1st July 2006
. Compliance with Directive 91/338/EEC of 18/06/91 and Decree 94-647 of 27/07/04

Precious metal:

. Silver: 0,08 g per pole of MCB
. No gold

Plastic materials :

. Halogens-free plastic materials.
. Marking of parts according to ISO 11469 and ISO 1043.

Packaging:

. Design and manufacture of packaging in accordance with Decree 98-638 of 07.20.98 and Directive 94/62/EC

7. EQUIPMENT AND ACCESSORIES

Wiring accessories:

. Supply busbar

Possible combinations of MCB's and auxiliaries:

. No auxiliary is associable to the MCB

RCD add-on modules:

. No RCD add-on module