

Add-on blocks for P1MB miniature circuit breakers 1-63A



P1X 1011 P1X 16230



Order code	Characteristics	Qty per MCB	Qty per pkg	Wt
		n°	n°	[kg]
Auxiliary contact.				
P1X 1011	One changeover (SPDT), side mount	1	10	0.040
Indicator contact for thermal-magnetic trip.				
P1X 1311	One changeover (SPDT), side mount	1	10	0.040
Undervoltage trip release.				
P1X 14230	230V 50/60Hz, side mount	1	8	0.070
Shunt trip release.				
P1X 16230	110-415V 50/60Hz, side mount	1	8	0.070

General characteristics

- Auxiliary and indicator contact width: 9mm / 0.35" (0.5 module)
- Undervoltage and shunt trip release width: 17.5mm / 0.69"
- Maximum combination: 3 add-on blocks on MCB left side only of which 1 undervoltage or shunt release directly on MCB side and then 2 contacts of which 1 auxiliary and 1 indicator.

Operational characteristics

- IEC rated impulse voltage Uimp: 4kA
- IEC rated operational current in AC: 6A 230V for releases; 3A 400V for auxiliary contacts.

Certifications and compliance

Certifications obtained: UL Recognized for USA and Canada (cURus – File E359585) as Accessories for supplementary protectors. Products having this type of marking are intended for use as components of complete workshop- assembled equipment. Compliant with standards: IEC/EN 60947-5-1.

Add-on blocks for P2MB miniature circuit breakers 80-125A



P2X 1311 P2X 1311



Order code	Characteristics	Qty per MCB	Qty per pkg	Wt
		n°	n°	[kg]
Auxiliary contact.				
P2X 1011	One changeover (SPDT), side mount	1	10	0.040
Indicator contact for thermal-magnetic trip.				
P2X 1311	One changeover (SPDT), side mount	1	10	0.040
Undervoltage trip release.				
P2X 14230	230V 50/60Hz, side mount	1	8	0.070

General characteristics

- Auxiliary and indicator contact width: 9mm / 0.35" (0.5 module)
- Undervoltage and shunt trip release width: 17.5mm / 0.69"
- Maximum combination: 3 add-on blocks on MCB sides of which 1 undervoltage or shunt release on MCB right side and 2 contacts on the left of which 1 auxiliary and 1 indicator.

Operational characteristics

- IEC rated impulse voltage Uimp: 4kA
- IEC rated operational current in AC: 6A 230V for releases; 3A 400V for auxiliary contacts.

Reference standards

Compliant with standards: IEC/EN 60947-5-1.

Accessories for P1MB types



P1X 90 33



P1X 91 33



P1X 92 01



P1X 92 02



Order code	Description	Qty per pkg	Wt
		n°	[kg]
P1X 90 31	1-phase connection busbar for 55 1P modules (55 1P MCBs in total), 966mm/39.2" long	10	0.240
P1X 90 33	3-phase connection busbar for 60 modules (20 3P MCBs in total), 1060mm/41.7" long	10	0.474
P1X 91 30	Kit of 5 isolating covers for unused busbar terminals	10	0.030
P1X 91 31	End cap for 1-phase P1X9031 busbar	50	0.001
P1X 91 33	End cap for 3-phase P1X9033 busbar	50	0.001
P1X 92 01	1-pole terminal for busbar supply, 25mm ² max conductor	25	0.011
P1X 92 02	1-pole terminal for busbar supply, 50mm ² max conductor	25	0.022

General and operational characteristics

SINGLE-PHASE SUPPLY BUSBAR

- Central point of power supply: 100A max
- Side point of power supply: 63A max
- Pitch: 17.5mm / 0.69"
- Busbar section: 10mm²
- Number of modules/poles: 55
- For paralleling connection
- Standard-supplied length: 966mm/39.2" which can be cut in shorter sections.

THREE-PHASE SUPPLY BUSBAR

- Central point of power supply: 100A max
- Side point of power supply: 63A max
- Pitch: 17.5mm / 0.69"
- Busbar section: 10mm²
- Number of modules/poles: 60 (20pcs 3P MCBs)
- For paralleling connection
- Standard-supplied length: 1060mm/41.7" which can be cut in shorter sections.

2P and 4P 2 and 4 module



P1 RC 2P...



P1 RC 4P...

Order code	Trip	IEC In	IEC IΔn	N° of DIN modules	Qty per pkg	Wt
	Type	[A]	[mA]	n°	n°	[kg]
Two pole RCCB type AC.						
P1 RC 2P 25 AC030	AC	25	30	2	6	0.185
P1 RC 2P 25 AC300	AC	25	300	2	6	0.185
P1 RC 2P 40 AC030	AC	40	30	2	6	0.185
P1 RC 2P 40 AC300	AC	40	300	2	6	0.185
P1 RC 2P 63 AC030	AC	63	30	2	6	0.185
P1 RC 2P 63 AC300	AC	63	300	2	6	0.185
Two pole RCCB type A.						
P1 RC 2P 25 A030	A	25	30	2	6	0.185
P1 RC 2P 25 A300	A	25	300	2	6	0.185
P1 RC 2P 40 A030	A	40	30	2	6	0.185
P1 RC 2P 40 A300	A	40	300	2	6	0.185
P1 RC 2P 63 A030	A	63	30	2	6	0.185
P1 RC 2P 63 A300	A	63	300	2	6	0.185
Four pole RCCB type AC.						
P1 RC 4P 25 AC030	AC	25	30	4	3	0.326
P1 RC 4P 25 AC300	AC	25	300	4	3	0.326
P1 RC 4P 40 AC030	AC	40	30	4	3	0.326
P1 RC 4P 40 AC300	AC	40	300	4	3	0.326
P1 RC 4P 63 AC030	AC	63	30	4	3	0.326
P1 RC 4P 63 AC300	AC	63	300	4	3	0.326
Four pole RCCB type A.						
P1 RC 4P 25 A030	A	25	30	4	3	0.326
P1 RC 4P 25 A300	A	25	300	4	3	0.326
P1 RC 4P 40 A030	A	40	30	4	3	0.326
P1 RC 4P 40 A300	A	40	300	4	3	0.326
P1 RC 4P 63 A030	A	63	30	4	3	0.326
P1 RC 4P 63 A300	A	63	300	4	3	0.326

General characteristics

These RCCBs are intended for the protection of people against indirect contact (electric shock) and of installations against fire hazards due to a persistent earth/ground fault current.

Specifically to prevent electric shock, RCCBs must be rated with a rated residual current ($I_{\Delta n}$) not exceeding 30mA so that these devices trip in the case of earth/ground fault only.

They usually are connected in series with MCBs which assure short circuit and overcurrent protection too.

P1RC types have a $I_{\Delta n}$ of either 30mA or 300mA and are available with two different versions of residual current tripping, as follows:

Type AC – Tripping for earth/ground fault is ensured “for residual sinusoidal alternating currents, suddenly applied or slowly rising”. It is identified by the symbol:



Type A – Tripping for earth/ground fault is ensured “for residual sinusoidal alternating currents and pulsating direct currents, suddenly applied or slowly rising”. In addition to the protection given by Type AC, this version protects against residual current with pulsating waveform. This can be caused by circuits connected with electronic equipment. The symbol identifying Type A is the following:



Main features include:

- IEC rated current I_n : 24A, 40A and 63A
- Versions: 2 and 4 pole
- Type of operation: AC or A
- Pole width: 17.5mm / 0.69"
- Contact status with flag indicator
- Fixing on 35mm DIN rail (IEC/EN 60715).

Operational characteristics

- Dissipation per pole:
 - 1.1W for P1RC2/4 P25... type AC or A
 - 2.9W for P1RC2/4 P25... type AC or A
 - 7.2W for P1RC2/4 P25... type AC or A
- IEC rated insulation voltage U_i : 400V
- IEC rated impulse voltage U_{imp} : 4kV
- IEC rated operating voltage U_c : 230VAC for 2P; 230/400VAC for 4P
- IEC rated residual operating voltage $I_{\Delta n}$: 30mA or 300mA
- IEC rated short-circuit capacity I_{cn} : 10kA.

Certifications and compliance

Certifications obtained: TÜV – SÜD.
Compliant with standards: IEC/EN 61008-1.

1P+N - 10kA 2 module



P1 RB 1N...



Order code	Trip curve	IEC In	IEC Inc	IEC IΔn	DIN n°	Qty per pkg	Wt [kg]
Single pole + neutral RCBO type AC.							
P1 RB 1N C06 AC030	C	6	10	30	2	6	0.205
P1 RB 1N C06 AC300	C	6	10	300	2	6	0.205
P1 RB 1N C10 AC030	C	10	10	30	2	6	0.205
P1 RB 1N C10 AC300	C	10	10	300	2	6	0.205
P1 RB 1N C16 AC030	C	16	10	30	2	6	0.205
P1 RB 1N C16 AC300	C	16	10	300	2	6	0.205
P1 RB 1N C20 AC030	C	20	10	30	2	6	0.205
P1 RB 1N C20 AC300	C	20	10	300	2	6	0.205
P1 RB 1N C25 AC030	C	25	10	30	2	6	0.205
P1 RB 1N C25 AC300	C	25	10	300	2	6	0.205
P1 RB 1N C32 AC030	C	32	10	30	2	6	0.205
P1 RB 1N C32 AC300	C	32	10	300	2	6	0.205
P1 RB 1N C40 AC030	C	40	10	30	2	6	0.205
P1 RB 1N C40 AC300	C	40	10	300	2	6	0.205
Single pole + neutral RCBO type A.							
P1 RB 1N C06 A030	C	6	10	30	2	6	0.205
P1 RB 1N C06 A300	C	6	10	300	2	6	0.205
P1 RB 1N C10 A030	C	10	10	30	2	6	0.205
P1 RB 1N C10 A300	C	10	10	300	2	6	0.205
P1 RB 1N C16 A030	C	16	10	30	2	6	0.205
P1 RB 1N C16 A300	C	16	10	300	2	6	0.205
P1 RB 1N C20 A030	C	20	10	30	2	6	0.205
P1 RB 1N C20 A300	C	20	10	300	2	6	0.205
P1 RB 1N C25 A030	C	25	10	30	2	6	0.205
P1 RB 1N C25 A300	C	25	10	300	2	6	0.205
P1 RB 1N C32 A030	C	32	10	30	2	6	0.205
P1 RB 1N C32 A300	C	32	10	300	2	6	0.205
P1 RB 1N C40 A030	C	40	10	30	2	6	0.205
P1 RB 1N C40 A300	C	40	10	300	2	6	0.205

General characteristics

These RCBOs perform both to protect in cases detect and trip the event of residual current and to protect circuits in case of short circuits and overcurrent. From a practical point of view, RCBOs integrate both functions of MCB and of RCCB.

They have a **C-type** trip characteristic (instantaneous trip 5-10 times I_n) and are used for inductive loads (mixed loads, resistive and inductive with low inrush current). In addition, they have a rated residual current ($I_{\Delta n}$) of either 30mA or 300mA and are available with two different versions of residual current tripping type AC or A as described on page 13-8.

Main features include:

- IEC rated current I_n : 6-40A
- Version: single pole + neutral
- Contact status with flag indicator
- Trip characteristic: Curve type C
- Fixing on 35mm DIN rail (IEC/EN 60715).

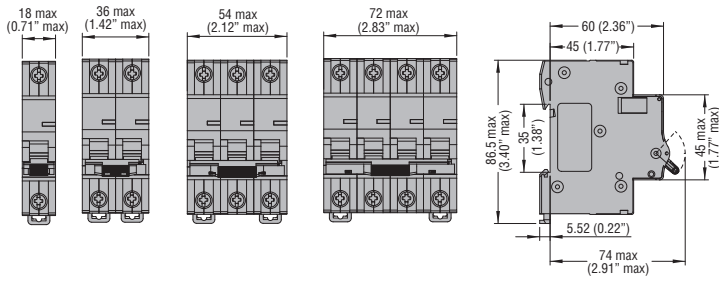
Operational characteristics

- Dissipation per pole: 3-13W
- IEC rated insulation voltage U_i : 400V
- IEC rated impulse voltage U_{imp} : 4kV
- Normal operating voltage U_c : 230VAC
- IEC rated residual operating voltage $I_{\Delta n}$: 30mA or 300mA
- IEC rated short-circuit capacity I_{cn} : 10kA.

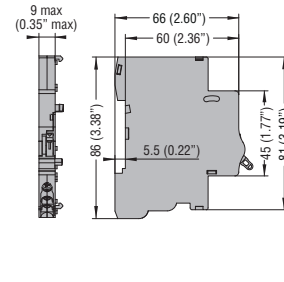
Certifications and compliance

Certifications obtained: TÜV – Rheinland.
Compliant with standards: IEC/EN 61009-1.

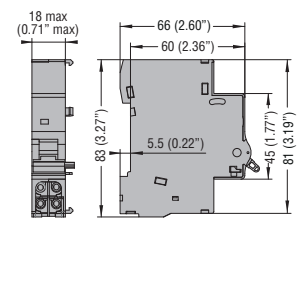
MINIATURE CIRCUIT BREAKERS P1 MB...



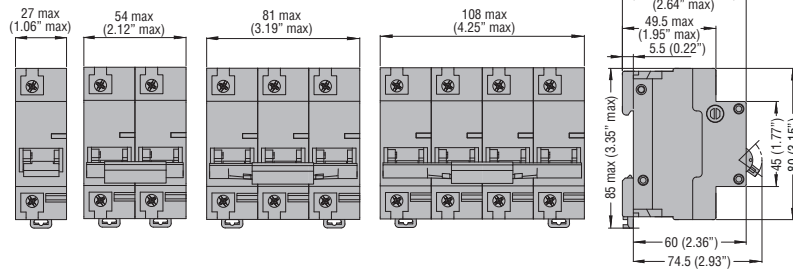
ACCESSORIES Add-on contacts P1X 1011 P1X 1311



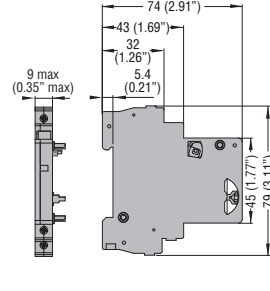
Undervoltage and shunt releases P1X 14230 P1X 16230



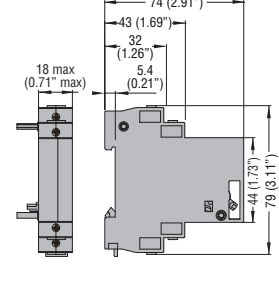
MINIATURE CIRCUIT BREAKERS P2 MB...



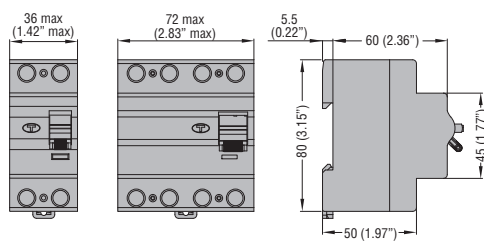
ACCESSORIES Add-on contacts P2X 1011 P2X 1311



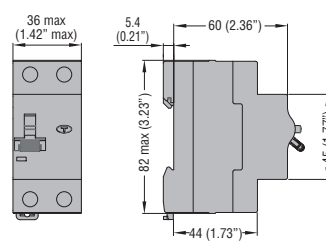
Undervoltage and shunt releases P2X 14230



RESIDUAL CURRENT OPERATED CIRCUIT BREAKERS P1 RC...

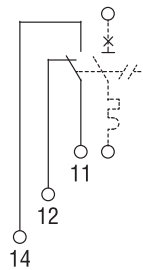


RESIDUAL CURRENT OPERATED CIRCUIT BREAKERS WITH OVERCURRENT PROTECTION P1 RB...

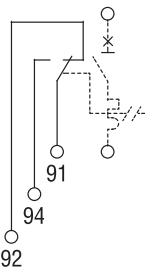


Wiring diagrams

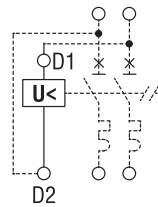
P1X 1011 P2X 1011



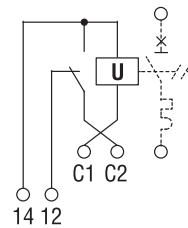
P1X 1311 P2X 1311



P1X 14230



P1X 16230 P2X 16230



TYPE		P1 MB	P2 MB	P1 RC	P1 RB
Standards		IEC/EN 60898, IEC/EN 60947-2	IEC/EN 60947-2	IEC/EN 61008-1	IEC/EN 61009-1
IEC rated insulation voltage U_i	V	440	400	400	400
IEC rated impulse withstand voltage U_{imp}	kV	4	4	4	4
IEC rated operational voltage U_e	in AC	230 (1P, 1P+N) / 230/400 (2P, 3P, 4P)	230 (1P) / 230/400 (2P, 3P, 4P)	230 (2P) / 230/400(4P)	230
	in DC	60 (1P) / 80 (2P)	60	—	—
Rated frequency	Hz	50/60	50/60	50/60	50/60
Maximum rated current	A	63	125	63	40
Available rated current for types	A	1, 2, 4, 6, 10, 16, 20, 25, 32, 40, 50, 63	80, 100, 125	25, 40, 63	6, 10, 16, 20, 25, 32, 40
Versions		1P, 1P+N, 2P, 3P, 4P	1P, 2P, 3P, 4P	2P, 4P	1P+N
IEC instantaneous tripping (tripping characteristic)		Curve B: 3-5 I_n Curve C: 5-10 I_n Curve D: 10-14 I_n	Curve C: 5-10 I_n Curve D: 10-14 I_n	—	Curve C: 5-10 I_n
IEC residual current operating characteristic		—	—	AC, A	AC, A
IEC rated residual operating current $I_{\Delta n}$	mA	—	—	30, 300	30, 300
Short circuit capacity	kA	10 (6kA 1P+N)	10	—	10
Mechanical life	cycles	20,000	10,000	20,000	20,000
	Nm	2	3	2	2
	lbin	15	26	15	15
Maximum tightening torque of terminals	Tool	Pz2	Pz2	Pz2	Pz2
Conductor section min-max	mm ²	1-16	2.5-50	1-35	1-25
	AWG	14-6	14-1/0	16-2	16-3

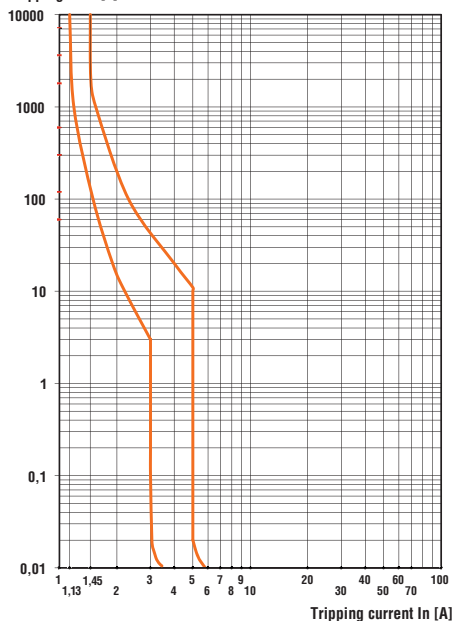
AMBIENT CONDITIONS

Temperature	Operating	°C	-35...+70	-35...+75	-25...+55	-25...+40
	Storage	°C	-40...+80	-40...+80	-35...+60	-35...+60
Maximum altitude	m	2,000	2,000	2,000	2,000	
Pollution degree		2	3	2	2	
Mounting	35mm DIN rail (IEC/EN 60715)					

TRIP CHARACTERISTICS (Thermal - magnetic overcurrent type)

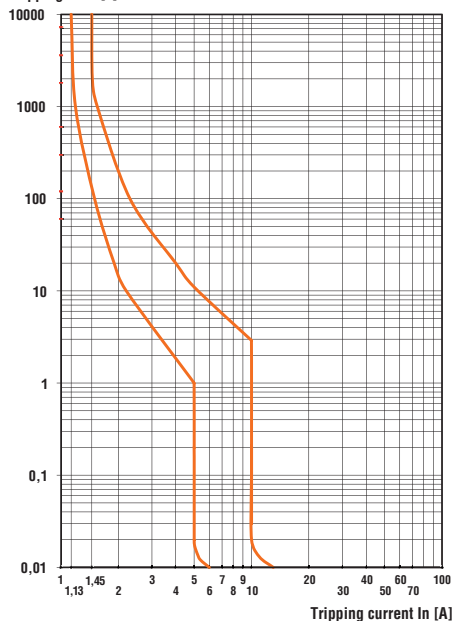
Curve B

Tripping time [s]



Curve C

Tripping time [s]



Curve D

Tripping time [s]

