

### Residual blocks



P1 RA 2P...

new



P1 RA 3P...

Order code	Type	IEC In	IEC IΔn	N° of DIN module	Qty per pkg	Wt
		[A]	[mA]	n°	n°	[kg]

Residual blocks – 2P – type A.

P1 RA 2P 40 A030	A	40	30	2	1	0.160
P1 RA 2P 40 A300	A	40	300	2	1	0.160
P1 RA 2P 63 A030	A	63	30	2	1	0.160
P1 RA 2P 63 A300	A	63	300	2	1	0.160

Residual blocks – 3P – type A.

P1 RA 3P 40 A030	A	40	30	3.5	1	0.205
P1 RA 3P 40 A300	A	40	300	3.5	1	0.205
P1 RA 3P 63 A030	A	63	30	3.5	1	0.205
P1 RA 3P 63 A300	A	63	300	3.5	1	0.205

Residual blocks – 4P – type A.

P1 RA 4P 40 A030	A	40	30	3.5	1	0.230
P1 RA 4P 40 A300	A	40	300	3.5	1	0.230
P1 RA 4P 63 A030	A	63	30	3.5	1	0.230
P1 RA 4P 63 A300	A	63	300	3.5	1	0.230

### General characteristics

These devices 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.

They snap onto the P1MB series thermal-magnetic circuit breakers; this combination forms a single device to protect people, protect against fire and protect lines.

### Operational characteristics

- IEC rated insulation voltage  $U_i$ : 400V
- IEC rated impulse voltage  $U_{imp}$ : 4kV
- IEC rated frequency: 50/60Hz
- IEC rated operational voltage  $U_e$ : 230/400V
- IEC rated residual current for tripping  $I_{\Delta n}$ : 30mA; 300mA.

### Certifications and compliance

Compliance with standards: IEC/EN 61009-1.

### Residual current operated circuit breakers



P1 RC 2P...



P1 RC 4P...



P1 RC 4P B...

new

new

Order code	Type	IEC In	IEC IΔn	N° of DIN module	Qty per pkg	Wt
		[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

Two pole RCCB type B.

P1 RC 2P 40 B030	B	40	30	4	3	0.280
P1 RC 2P 40 B300	B	40	300	4	3	0.280
P1 RC 2P 63 B030	B	63	30	4	3	0.280
P1 RC 2P 63 B300	B	63	300	4	3	0.280

Four pole RCCB type B.

P1 RC 4P 40 B030	B	40	30	4	3	0.335
P1 RC 4P 40 B300	B	40	300	4	3	0.335
P1 RC 4P 63 B030	B	63	30	4	3	0.335
P1 RC 4P 63 B300	B	63	300	4	3	0.335
P1 RC 4P 80 B030	B	80	30	4	3	0.335
P1 RC 4P 80 B300	B	80	300	4	3	0.335

### 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 thermal-magnetic breakers which assure short circuit and overcurrent protection too. P1RC types have a  $I_{\Delta n}$  of either 30mA or 300mA and are available with three 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:

Type B – tripping is ensured for all conditions already covered by types AC and A. They also ensure tripping for high-frequency leakage currents up to 1000Hz and direct currents. They are particularly suitable for applications with inverters, UPSs and electric vehicle charging stations.

The symbol identifying Type B is the following:

Main features include:

- IEC rated current In: 25A, 40A and 63A
- Versions: 2P and 4P
- Type of operation: AC, A and B
- 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 P40... type AC, A or B
  - 7.2W for P1RC2/4P63... type AC, A or B
  - 9.7W for P1RC2/4P80... type B
- IEC rated insulation voltage  $U_i$ : 400V
- IEC rated impulse voltage  $U_{imp}$ : 4kV
- IEC rated frequency: 50/60Hz
- IEC rated operational voltage  $U_c$ : 230VAC for 2P; 230/400VAC for 4P
- IEC rated residual operating voltage  $U_e$ :  $I_{\Delta n}$ : 30mA; 300mA
- IEC short-circuit breaking capacity  $I_{cn}$ : 10kA

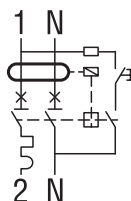
### Certifications and compliance

Certifications obtained: TÜV SÜD (types AC and A); VDE (type B).  
Compliant with standards: IEC/EN 61008-1 (all types); IEC/EN 62423 (type B).

### 1P+N - 10kA 2 modules



P1 RB 1N...



Order code	Curve	IEC In	IEC Icn	IEC IΔn	DIN n°	Qty per pkg	Wt [kg]
	Type	[A]	[kA]	[mA]	n°	n°	[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 C13 A030	C	13	10	30	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 devices both detect and trip in the event of residual current and protect circuits in the case of short circuits and overcurrent. From a practical point of view, they 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 13-12.

Its main features are:

- IEC rated current  $I_n$ : 6...40A
- Version: 1P+N
- Contact status with flag indicator
- Trip characteristic: Curve type C
- Fixing on 35mm DIN rail (IEC/EN 60715).

#### Operational characteristics

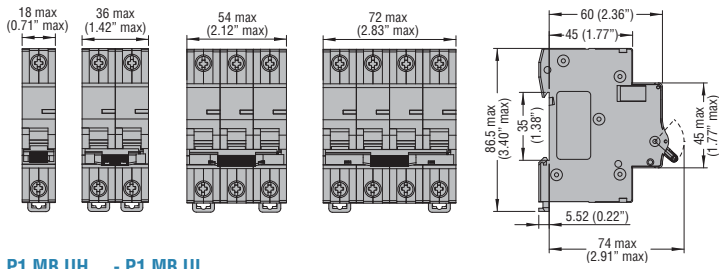
- Dissipation per pole: 3...13W
- Rated insulation voltage  $U_i$ : 400V
- Rated impulse voltage  $U_{imp}$ : 4kV
- Operating frequency: 50/60Hz
- Rated operational voltage  $U_e$ : 230VAC
- Rated residual operating voltage  $I_{\Delta n}$ : 30mA; 300mA
- IEC short-circuit breaking capacity  $I_{cn}$ : 10kA

#### Certifications and compliance

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

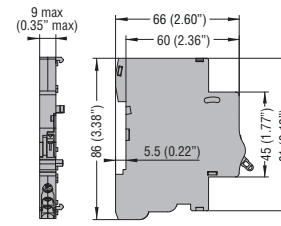
### MINIATURE CIRCUIT BREAKERS

#### P1 MB...

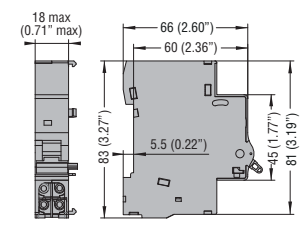


### ACCESSORIES

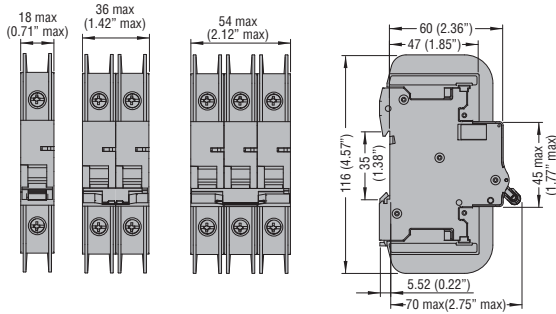
#### Add-on contacts P1X 1011 - P1X 1011 UH - P1X 1311



#### Undervoltage and shunt releases P1X 14230 - P1X 16230

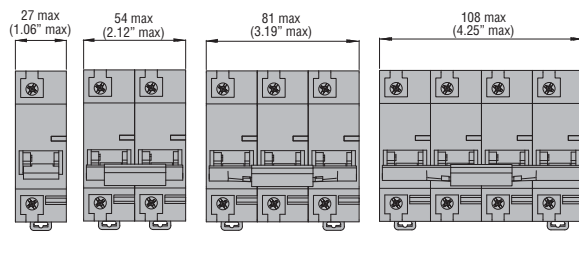


#### P1 MB UH... - P1 MB UL....



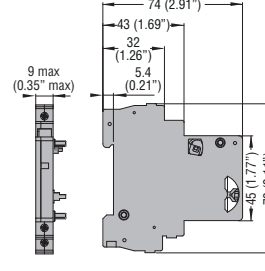
### MINIATURE CIRCUIT BREAKERS

#### P2 MB...

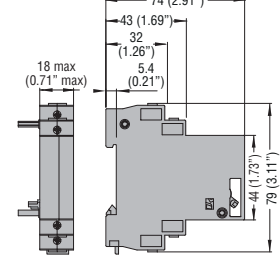


### ACCESSORIES

#### Add-on contacts P2X 1011 - P2X 1311

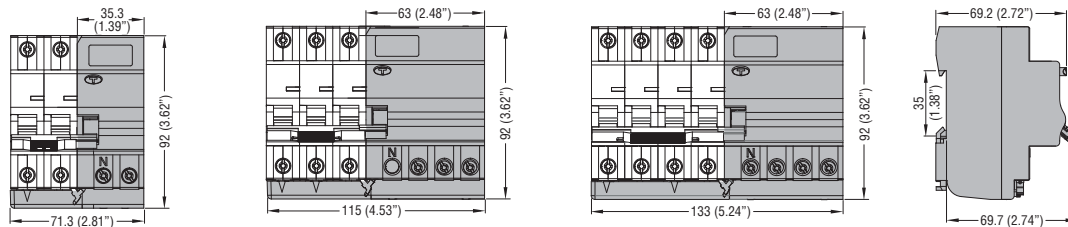


#### Shunt release P2X 16230



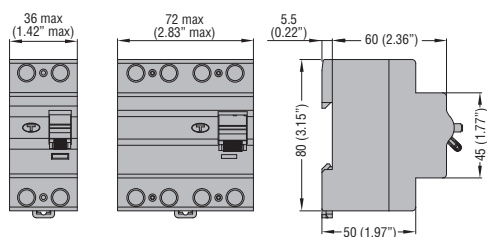
### RESIDUAL BLOCKS

#### P1 RA



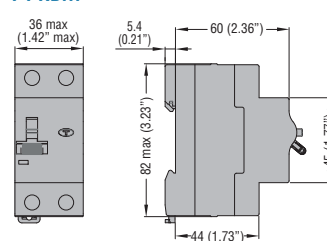
### RESIDUAL CURRENT OPERATED CIRCUIT BREAKERS

#### P1 RC...



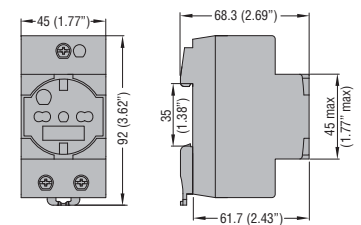
### RESIDUAL CURRENT OPERATED CIRCUIT BREAKERS WITH OVERCURRENT PROTECTION

#### P1 RB...



### MODULAR SOCKET

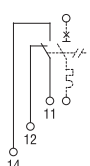
#### P1X7



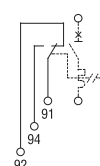
① 72mm for type-B residual current breakers.

## Wiring diagrams

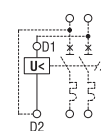
#### P1X 1011 - P1X 1011UH - P2X 1011



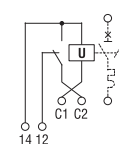
#### P1X 1311 - P2X 1311



#### P1X 14230



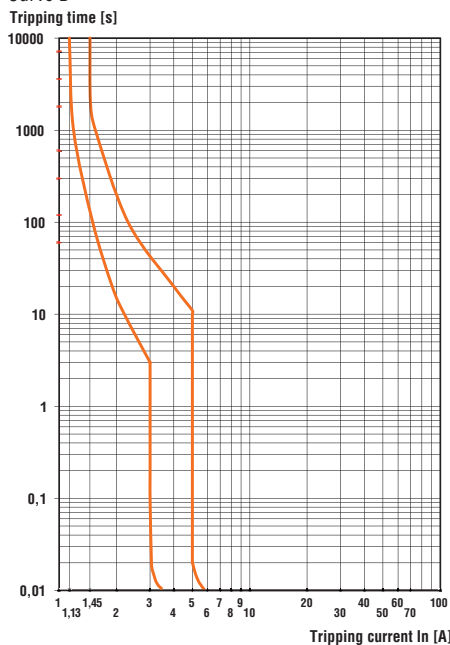
#### P1X 16230 - P2X 16230



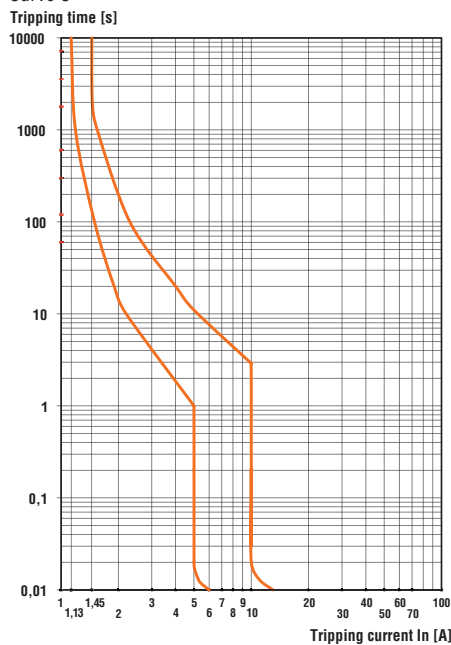
TYPE		P1 MB	P2 MB	P1 RA	P1 RC	P1 RB	
Description		Circuit breaker	Circuit breaker	Residual blocks	Residual current operated circuit breakers	Residual current operated circuit breakers w/ overcurrent prot.	
Standards		IEC/EN 60898, IEC/EN 60947-2 UL 1077 UL 489 <sup>①</sup>	IEC/EN 60947-2	IEC/EN 61008-1	IEC/EN 61008-1	IEC/EN 61009-1	
IEC rated insulation voltage $U_i$	V	440	400	400	400	400	
IEC rated impulse withstand voltage $U_{imp}$	kV	4	6	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)	230/400V	230 (2P) / 230/400(4P)	230	
	in DC	60 (1P) / 80 (2P)	60	—	—	—	
Rated frequency	Hz	50/60	50/60	50/60	50/60	50/60	
Maximum rated current	A	63	125	63	40	40	
Available rated current for types	A	1, 2, 4, 6, 10, 13, 16, 20, 25, 32, 40, 50, 63 <sup>②</sup>	80, 100, 125	40, 63	25, 40, 63 (80A only type B)	6, 10, 16, 20, 25, 32, 40	
Versions		1P, 1P+N, 2P, 3P, 4P	1P, 2P, 3P, 4P	2P, 3P, 4P	2P, 4P	1P+N	
Tripping characteristic	curve	B-C-D	C-D	—	—	C	
Instantaneous tripping		Curve B: 3...5I <sub>n</sub> Curve C: 5...10I <sub>n</sub> Curve D: 10...14I <sub>n</sub>	Curve C: 5...10I <sub>n</sub> Curve D: 10...14I <sub>n</sub>	—	—	Curve C: 5...10I <sub>n</sub>	
Residual operation characteristic	type	—	—	A	AC, A, B	AC, A	
Rated residual current $I_{\Delta n}$	mA	—	—	30, 300	30, 300	30, 300	
Short circuit capacity	kA	10 (6kA 1P+N)	10	—	10 (Inc)	10	
Mechanical life	cycle	20,000	10,000	20,000	20,000	20,000	
Maximum tightening torque of terminals	Nm	2	3	2	2	2	
	lbin	15	26	15	15	15	
	Tool	Pz2	Pz2	Pz2	Pz2	Pz2	
Conductor section min...max.	mm <sup>2</sup>	1...16	2.5...50	1...16	2.5...35	1...25	
	AWG	14...6	14...1/0	14...6	14...2	16...3	
<b>AMBIENT CONDITIONS</b>							
Temperature	Operating	°C	-35...+70	-35...+75	-25...+55	-25...+55	-25...+40
	Storage	°C	-40...+80	-40...+80	-35...+60	-35...+60	-35...+60
Max. altitude	m	2,000	2,000	2,000	2,000	2,000	
Pollution degree		2	3	2	2	2	
Mounting		35mm DIN rail (IEC/EN 60715)					

### TRIP CHARACTERISTICS

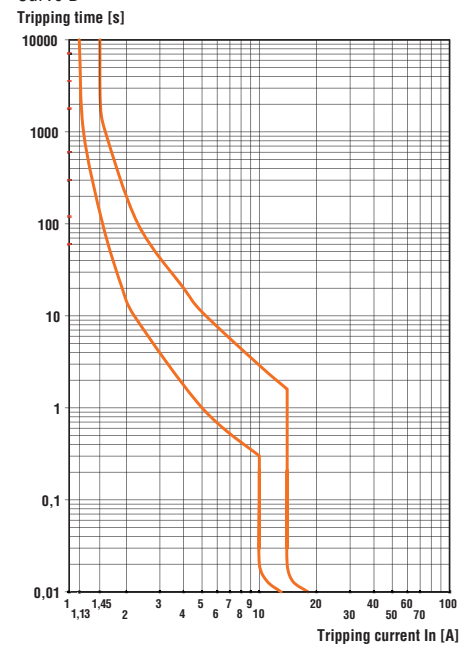
Curve B



Curve C



Curve D



① UL489 only P1MBU... version for the operational voltages for these devices refer to the pages for the chosen product.

② For the UL489, P1MBU... versions, the following rated current currents are also available: 1.6, 3, 5, 7, 8, 12, 15, 30, 35, 60 A