



Page 13-2

#### MINIATURE CIRCUIT BREAKERS UP TO 63A

- 1P, 1P+N, 2P, 3P and 4P versions
- IEC rated current  $I_n$ : 1-63A
- IEC short-circuit capacity  $I_{cn}$ : 10kA (6kA for 1P+N)
- Trip characteristic curve: Type B, C, D.



Page 13-6

#### MINIATURE CIRCUIT BREAKERS 80-125A

- 1P, 2P, 3P and 4P versions
- IEC rated current  $I_n$ : 80-125A
- IEC short-circuit capacity  $I_{cn}$ : 10kA
- Trip characteristic curve: Type C, D.



Page 13-7

#### ADD-ON BLOCKS AND ACCESSORIES FOR MINIATURE CIRCUIT BREAKERS

- Auxiliary and indicator contacts
- Shunt trip releases
- Connection elements.



Page 13-8

#### RESIDUAL CURRENT OPERATED CIRCUIT BREAKERS 25-63A

- 2P and 4P versions
- IEC rated current  $I_n$ : 25A, 40A and 63A
- IEC rated residual operating current  $I_{\Delta n}$ : 30mA and 300mA
- Residual current operating characteristic: Type A and AC.



Page 13-9

#### RESIDUAL CURRENT OPERATED CIRCUIT BREAKERS WITH OVERCURRENT PROTECTION UP TO 40A

- 1P+N version
- IEC rated current  $I_n$ : 6-40A
- IEC rated short-circuit capacity  $I_{cn}$ : 10kA 30mA
- Trip characteristic curve: Type C
- Residual current operating characteristic: Type A and AC.



- High breaking capacity
- Various trip characteristic curves: Type B, C and D
- Wide 1 to 125A current range
- Accessories available
- UL approved versions.

	SEC. - PAGE
<b>Miniature circuit breakers 1-63A</b>	
1P – 10kA, 1 module, curve type B, C and D / Supplementary Protectors per UL1077 .....	13 - 2
1P+N – 6kA, 1 module, curve type C .....	13 - 2
1P+N – 6kA, 2 module, curve type C .....	13 - 3
2P – 10kA, 2 module, curve type B, C and D / Supplementary Protectors per UL1077 .....	13 - 3
3P – 10kA, 3 module, curve type B, C and D / Supplementary Protectors per UL1077 .....	13 - 4
4P – 10kA, 4 module, curve type B, C and D / Supplementary Protectors per UL1077 .....	13 - 5
<b>Miniature circuit breakers 80-125A</b>	
1P, 2P, 3P and 4P – 10kA, curve type C / Supplementary Protectors per UL1077 .....	13 - 6
3P and 4P – 10kA, curve type D / Supplementary Protectors per UL1077 .....	13 - 6
<b>Add-on blocks and accessories</b> .....	13 - 7
<b>Residual current operated circuit breakers</b> .....	13 - 8
<b>Residual current operated circuit breakers with overcurrent protection</b> .....	13 - 9
<b>Dimensions</b> .....	13 - 10
<b>Wiring diagrams</b> .....	13 - 10
<b>Technical characteristics</b> .....	13 - 11

### 1P - 10kA 1 module



P1 MB 1P...



Order code	Curve	IEC In	IEC Icn	N° of DIN modules	Qty per pkg	Wt
	Type	[A]	[kA]		n°	[kg]

Single pole, thermal and magnetic trip type, B-type characteristic.

P1 MB 1P B01	B	1	10	1	12	0.115
P1 MB 1P B02	B	2	10	1	12	0.115
P1 MB 1P B04	B	4	10	1	12	0.115
P1 MB 1P B06	B	6	10	1	12	0.115
P1 MB 1P B10	B	10	10	1	12	0.115
P1 MB 1P B16	B	16	10	1	12	0.115
P1 MB 1P B20	B	20	10	1	12	0.115
P1 MB 1P B25	B	25	10	1	12	0.115
P1 MB 1P B32	B	32	10	1	12	0.115
P1 MB 1P B40	B	40	10	1	12	0.115
P1 MB 1P B50	B	50	10	1	12	0.115
P1 MB 1P B63	B	63	10	1	12	0.115

Single pole, thermal and magnetic trip type, C-type characteristic.

P1 MB 1P C01	C	1	10	1	12	0.115
P1 MB 1P C02	C	2	10	1	12	0.115
P1 MB 1P C04	C	4	10	1	12	0.115
P1 MB 1P C06	C	6	10	1	12	0.115
P1 MB 1P C10	C	10	10	1	12	0.115
P1 MB 1P C16	C	16	10	1	12	0.115
P1 MB 1P C20	C	20	10	1	12	0.115
P1 MB 1P C25	C	25	10	1	12	0.115
P1 MB 1P C32	C	32	10	1	12	0.115
P1 MB 1P C40	C	40	10	1	12	0.115
P1 MB 1P C50	C	50	10	1	12	0.115
P1 MB 1P C63	C	63	10	1	12	0.115

Single pole, thermal and magnetic trip type, D-type characteristic.

P1 MB 1P D01	D	1	10	1	12	0.115
P1 MB 1P D02	D	2	10	1	12	0.115
P1 MB 1P D04	D	4	10	1	12	0.115
P1 MB 1P D06	D	6	10	1	12	0.115
P1 MB 1P D10	D	10	10	1	12	0.115
P1 MB 1P D16	D	16	10	1	12	0.115
P1 MB 1P D20	D	20	10	1	12	0.115
P1 MB 1P D25	D	25	10	1	12	0.115
P1 MB 1P D32	D	32	10	1	12	0.115
P1 MB 1P D40	D	40	10	1	12	0.115
P1 MB 1P D50	D	50	10	1	12	0.115
P1 MB 1P D63	D	63	10	1	12	0.115

NOTE: Supplementary Protectors per UL1077 / CSA C22-2 n°235.

#### General characteristics

These devices are used to protect against short circuits and overloads of wiring installations and loads in panel boards, office buildings, stores, and similar applications. Their purpose is circuit protection, circuit isolation and load operation controls. They have instantaneous trip characteristics defined as follows:

- **B-type:** Instantaneous trip 3-5 times In  
For non-inductive or low inductive loads (heating resistors, generators, very long wire lines)
- **C-type:** Instantaneous trip 5-10 times In  
For inductive loads (mixed loads, resistive and inductive with low inrush current)
- **D-type:** Instantaneous trip 10-14 times In  
For highly inductive loads (loads with high inrush and current such as motors).

Main features include:

- IEC rated current In: 1-63A
- Pole width: 17.5mm / 0.69"
- Contact status with flag indicator
- Trip characteristic: Curve type B, C and D
- Auxiliary contacts and trip releases mounted on MCB left side
- Fixing on 35mm DIN rail (IEC/EN 60715).

#### Operational characteristics

- Dissipation per pole: 3-13W
- IEC rated insulation voltage: 440V
- IEC rated impulse voltage: 4kV
- IEC rated operational voltage Ue: 230/440VAC.

#### Certifications and compliance

Certifications obtained: TÜV – Rheinland; UL Recognized for USA and Canada (cURus – File E359585) as "Supplementary Protectors", designated as Overcurrent type, for general industrial use, suitable for factory wiring only with 125-135% tripping current of amp rating. Products having this type of marking are intended for use as components of complete workshop- assembled equipment.

Compliant with standards: IEC/EN 60898-1, IEC/EN 60947-2, UL 1077, CSA C22-2 n°235.

### 1P+N - 6kA 1 module



P1 MB 1M...



Order code	Curve	IEC In	IEC Icn	N° of DIN modules	Qty per pkg	Wt
	Type	[A]	[kA]		n°	[kg]

Single pole + neutral, thermal and magnetic trip type, C-type characteristic.

P1 MB 1M C02	C	2	6	1	12	0.115
P1 MB 1M C04	C	4	6	1	12	0.115
P1 MB 1M C06	C	6	6	1	12	0.115
P1 MB 1M C10	C	10	6	1	12	0.115
P1 MB 1M C16	C	16	6	1	12	0.115
P1 MB 1M C20	C	20	6	1	12	0.115
P1 MB 1M C25	C	25	6	1	12	0.115
P1 MB 1M C32	C	32	6	1	12	0.115
P1 MB 1M C40	C	40	6	1	12	0.115

#### General characteristics

- IEC rated current In: 2-40A
- Pole width: 9mm / 0.35"
- Contact status with flag indicator
- Trip characteristic: Curve type C
- Auxiliary contacts and trip releases mounted on MCB left side
- Fixing on 35mm DIN rail (IEC/EN 60715).

#### Operational characteristics

- Dissipation per pole: 3-7.5W
- IEC rated insulation voltage: 440V
- IEC rated impulse voltage: 4kV
- IEC rated operational voltage Ue: 230VAC.

#### Certifications and compliance

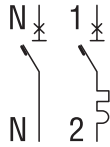
Certifications obtained: TÜV – Rheinland. Compliant with standards: IEC/EN 60898-1, IEC/EN 60947-2.

### 1P+N - 6kA 2 module



P1 MB 1N...

**new**



Order code	Curve	IEC In	IEC Icn	N° of DIN modules	Qty per pkg	Wt
	Type	[A]	[kA]		n°	[kg]

Single pole + neutral, thermal and magnetic trip type, C-type characteristic.

P1 MB 1N C01	C	1	6	2	6	0.190
P1 MB 1N C02	C	2	6	2	6	0.190
P1 MB 1N C04	C	4	6	2	6	0.190
P1 MB 1N C06	C	6	6	2	6	0.190
P1 MB 1N C10	C	10	6	2	6	0.190
P1 MB 1N C16	C	16	6	2	6	0.190
P1 MB 1N C20	C	20	6	2	6	0.190
P1 MB 1N C25	C	25	6	2	6	0.190
P1 MB 1N C32	C	32	6	2	6	0.190
P1 MB 1N C40	C	40	6	2	6	0.190
P1 MB 1N C50	C	50	6	2	6	0.190
P1 MB 1N C63	C	63	6	2	6	0.190

#### General characteristics

- IEC rated current In: 1-63A
- Pole width: 17.5mm / 0.69"
- Contact status with flag indicator
- Trip characteristic: Curve type C
- Auxiliary contacts and trip releases mounted on MCB left side
- Fixing on 35mm DIN rail (IEC/EN 60715).

#### Operational characteristics

- Dissipation per pole: 3-13W
- IEC rated insulation voltage: 440V
- IEC rated impulse voltage: 4kV
- IEC rated operational voltage Ue: 230/440VAC.

#### Certifications and compliance

Certifications obtained: TÜV – Rheinland.  
Compliant with standards: IEC/EN 60898-1, IEC/EN 60947-2.

### 2P - 10kA 2 module



P1 MB 2P...

**new**

Order code	Curve	IEC In	IEC Icn	N° of DIN modules	Qty per pkg	Wt
	Type	[A]	[kA]		n°	[kg]

Two pole, thermal and magnetic trip type, B-type characteristic.

P1 MB 2P B01	B	1	10	2	6	0.230
P1 MB 2P B02	B	2	10	2	6	0.230
P1 MB 2P B04	B	4	10	2	6	0.230
P1 MB 2P B06	B	6	10	2	6	0.230
P1 MB 2P B10	B	10	10	2	6	0.230
P1 MB 2P B16	B	16	10	2	6	0.230
P1 MB 2P B20	B	20	10	2	6	0.230
P1 MB 2P B25	B	25	10	2	6	0.230
P1 MB 2P B32	B	32	10	2	6	0.230
P1 MB 2P B40	B	40	10	2	6	0.230
P1 MB 2P B50	B	50	10	2	6	0.230
P1 MB 2P B63	B	63	10	2	6	0.230

Two pole, thermal and magnetic trip type, C-type characteristic.

P1 MB 2P C01	C	1	10	2	6	0.230
P1 MB 2P C02	C	2	10	2	6	0.230
P1 MB 2P C04	C	4	10	2	6	0.230
P1 MB 2P C06	C	6	10	2	6	0.230
P1 MB 2P C10	C	10	10	2	6	0.230
P1 MB 2P C16	C	16	10	2	6	0.230
P1 MB 2P C20	C	20	10	2	6	0.230
P1 MB 2P C25	C	25	10	2	6	0.230
P1 MB 2P C32	C	32	10	2	6	0.230
P1 MB 2P C40	C	40	10	2	6	0.230
P1 MB 2P C50	C	50	10	2	6	0.230
P1 MB 2P C63	C	63	10	2	6	0.230

Two pole, thermal and magnetic trip type, D-type characteristic.

P1 MB 2P D01	D	1	10	2	6	0.230
P1 MB 2P D02	D	2	10	2	6	0.230
P1 MB 2P D04	D	4	10	2	6	0.230
P1 MB 2P D06	D	6	10	2	6	0.230
P1 MB 2P D10	D	10	10	2	6	0.230
P1 MB 2P D16	D	16	10	2	6	0.230
P1 MB 2P D20	D	20	10	2	6	0.230
P1 MB 2P D25	D	25	10	2	6	0.230
P1 MB 2P D32	D	32	10	2	6	0.230
P1 MB 2P D40	D	40	10	2	6	0.230
P1 MB 2P D50	D	50	10	2	6	0.230
P1 MB 2P D63	D	63	10	2	6	0.230

NOTE: Supplementary Protectors per UL1077 / CSA C22-2 n°235.

#### General characteristics

- IEC rated current In: 1-63A
- Pole width: 17.5mm / 0.69"
- Contact status with flag indicator
- Trip characteristic: Curve type B, C and D
- Auxiliary contacts and trip releases mounted on MCB left side
- Fixing on 35mm DIN rail (IEC/EN 60715).

#### Operational characteristics

- Dissipation per pole: 3-13W
- IEC rated insulation voltage: 440V
- IEC rated impulse voltage: 4kV
- IEC rated operational voltage Ue: 230/440VAC.

#### Certifications and compliance

Certifications obtained: TÜV – Rheinland; UL Recognized for USA and Canada (cURus – File E359585) as "Supplementary Protectors", designated as Overcurrent type, for general industrial use, suitable for factory wiring only with 125-135% tripping current of amp rating. Products having this type of marking are intended for use as components of complete workshop- assembled equipment.

Compliant with standards: IEC/EN 60898-1, IEC/EN 60947-2, UL 1077, CSA C22-2 n°235.

### 3P - 10kA 3 module



P1 MB 3P...



Order code	Curve	IEC In	IEC Icn	N° of DIN modules	Qty per pkg	Wt
	Type	[A]	[kA]		n°	[kg]

Three pole, thermal and magnetic trip type, B-type characteristic.

P1 MB 3P B01	B	1	10	3	4	0.345
P1 MB 3P B02	B	2	10	3	4	0.345
P1 MB 3P B04	B	4	10	3	4	0.345
P1 MB 3P B06	B	6	10	3	4	0.345
P1 MB 3P B10	B	10	10	3	4	0.345
P1 MB 3P B16	B	16	10	3	4	0.345
P1 MB 3P B20	B	20	10	3	4	0.345
P1 MB 3P B25	B	25	10	3	4	0.345
P1 MB 3P B32	B	32	10	3	4	0.345
P1 MB 3P B40	B	40	10	3	4	0.345
P1 MB 3P B50	B	50	10	3	4	0.345
P1 MB 3P B63	B	63	10	3	4	0.345

Three pole, thermal and magnetic trip type, C-type characteristic.

P1 MB 3P C01	C	1	10	3	4	0.345
P1 MB 3P C02	C	2	10	3	4	0.345
P1 MB 3P C04	C	4	10	3	4	0.345
P1 MB 3P C06	C	6	10	3	4	0.345
P1 MB 3P C10	C	10	10	3	4	0.345
P1 MB 3P C16	C	16	10	3	4	0.345
P1 MB 3P C20	C	20	10	3	4	0.345
P1 MB 3P C25	C	25	10	3	4	0.345
P1 MB 3P C32	C	32	10	3	4	0.345
P1 MB 3P C40	C	40	10	3	4	0.345
P1 MB 3P C50	C	50	10	3	4	0.345
P1 MB 3P C63	C	63	10	3	4	0.345

Three pole, thermal and magnetic trip type, D-type characteristic.

P1 MB 3P D01	D	1	10	3	4	0.345
P1 MB 3P D02	D	2	10	3	4	0.345
P1 MB 3P D04	D	4	10	3	4	0.345
P1 MB 3P D06	D	6	10	3	4	0.345
P1 MB 3P D10	D	10	10	3	4	0.345
P1 MB 3P D16	D	16	10	3	4	0.345
P1 MB 3P D20	D	20	10	3	4	0.345
P1 MB 3P D25	D	25	10	3	4	0.345
P1 MB 3P D32	D	32	10	3	4	0.345
P1 MB 3P D40	D	40	10	3	4	0.345
P1 MB 3P D50	D	50	10	3	4	0.345
P1 MB 3P D63	D	63	10	3	4	0.345

NOTE: Supplementary Protectors per UL1077 / CSA C22-2 n°235.

#### General characteristics

- IEC rated current In: 1-63A
- Pole width: 17.5mm / 0.69"
- Contact status with flag indicator
- Trip characteristic: Curve type B, C and D
- Auxiliary contacts and trip releases mounted on MCB left side
- Fixing on 35mm DIN rail (IEC/EN 60715).

#### Operational characteristics

- Dissipation per pole: 3-13W
- IEC rated insulation voltage: 440V
- IEC rated impulse voltage: 4kV
- IEC rated operational voltage Ue: 230/440VAC.

#### Certifications and compliance

Certifications obtained: TÜV – Rheinland; UL Recognized for USA and Canada (cURus – File E359585) as "Supplementary Protectors", designated as Overcurrent type, for general industrial use, suitable for factory wiring only with 125-135% tripping current of amp rating. Products having this type of marking are intended for use as components of complete workshop- assembled equipment.

Compliant with standards: IEC/EN 60898-1, IEC/EN 60947-2, UL 1077, CSA C22.2 n°235.

### 4P - 10kA 4 module



P1 MB 4P...



Order code	Curve	IEC In	IEC Icn	N° of DIN modules	Qty per pkg	Wt
	Type	[A]	[kA]		n°	[kg]

Four pole, thermal and magnetic trip type, B-type characteristic.

P1 MB 4P B01	B	1	10	4	3	0.460
P1 MB 4P B02	B	2	10	4	3	0.460
P1 MB 4P B04	B	4	10	4	3	0.460
P1 MB 4P B06	B	6	10	4	3	0.460
P1 MB 4P B10	B	10	10	4	3	0.460
P1 MB 4P B16	B	16	10	4	3	0.460
P1 MB 4P B20	B	20	10	4	3	0.460
P1 MB 4P B25	B	25	10	4	3	0.460
P1 MB 4P B32	B	32	10	4	3	0.460
P1 MB 4P B40	B	40	10	4	3	0.460
P1 MB 4P B50	B	50	10	4	3	0.460
P1 MB 4P B63	B	63	10	4	3	0.460

Four pole, thermal and magnetic trip type, C-type characteristic.

P1 MB 4P C01	C	1	10	4	3	0.460
P1 MB 4P C02	C	2	10	4	3	0.460
P1 MB 4P C04	C	4	10	4	3	0.460
P1 MB 4P C06	C	6	10	4	3	0.460
P1 MB 4P C10	C	10	10	4	3	0.460
P1 MB 4P C16	C	16	10	4	3	0.460
P1 MB 4P C20	C	20	10	4	3	0.460
P1 MB 4P C25	C	25	10	4	3	0.460
P1 MB 4P C32	C	32	10	4	3	0.460
P1 MB 4P C40	C	40	10	4	3	0.460
P1 MB 4P C50	C	50	10	4	3	0.460
P1 MB 4P C63	C	63	10	4	3	0.460

Four pole, thermal and magnetic trip type, D-type characteristic.

P1 MB 4P D01	D	1	10	4	3	0.460
P1 MB 4P D02	D	2	10	4	3	0.460
P1 MB 4P D04	D	4	10	4	3	0.460
P1 MB 4P D06	D	6	10	4	3	0.460
P1 MB 4P D10	D	10	10	4	3	0.460
P1 MB 4P D16	D	16	10	4	3	0.460
P1 MB 4P D20	D	20	10	4	3	0.460
P1 MB 4P D25	D	25	10	4	3	0.460
P1 MB 4P D32	D	32	10	4	3	0.460
P1 MB 4P D40	D	40	10	4	3	0.460
P1 MB 4P D50	D	50	10	4	3	0.460
P1 MB 4P D63	D	63	10	4	3	0.460

NOTE: Supplementary Protectors per UL1077 / CSA C22-2 n°235.

#### General characteristics

- IEC rated current In: 1-63A
- Pole width: 17.5mm / 0.69"
- Contact status with flag indicator
- Trip characteristic: Curve type B, C and D
- Auxiliary contacts and trip releases mounted on MCB left side
- Fixing on 35mm DIN rail (IEC/EN 60715).

#### Operational characteristics

- Dissipation per pole: 3-13W
- IEC rated insulation voltage: 440V
- IEC rated impulse voltage: 4kV
- IEC rated operational voltage Ue: 230/440VAC.

#### Certifications and compliance

Certifications obtained: TÜV – Rheinland; UL Recognized for USA and Canada (cURus – File E359585) as “Supplementary Protectors”, designated as Overcurrent type, for general industrial use, suitable for factory wiring only with 125-135% tripping current of amp rating. Products having this type of marking are intended for use as components of complete workshop- assembled equipment. Compliant with standards: IEC/EN 60898-1, IEC/EN 60947-2, UL 1077, CSA C22.2 n°235.



### 1, 2, 3, 4P - 10kA



new

P2 MB 1P...



P2 MB 2P...



P2 MB 3P...



P2 MB 4P...

Order code	Curve	IEC In	IEC Icn	N° of DIN modules	Qty per pkg	Wt
	Type	[A]	[kA]		n°	[kg]

One pole, thermal and magnetic trip type, C-type characteristic.

P2 MB 1P C080	C	80	10 <sup>Ⓢ</sup>	1.5	8	0.166
P2 MB 1P C100	C	100	10 <sup>Ⓢ</sup>	1.5	8	0.166
P2 MB 1P C125	C	125	10 <sup>Ⓢ</sup>	1.5	8	0.166

Two pole, thermal and magnetic trip type, C-type characteristic.

P2 MB 2P C080	C	80	10	3	4	0.340
P2 MB 2P C100	C	100	10	3	4	0.340
P2 MB 2P C125	C	125	10	3	4	0.340

Three pole, thermal and magnetic trip type, C-type characteristic.

P2 MB 3P C080	C	80	10	4.5	3	0.510
P2 MB 3P C100	C	100	10	4.5	3	0.510
P2 MB 3P C125	C	125	10	4.5	3	0.510

Four pole, thermal and magnetic trip type, C-type characteristic.

P2 MB 4P C080	C	80	10	6	2	0.680
P2 MB 4P C100	C	100	10	6	2	0.680
P2 MB 4P C125	C	125	10	6	2	0.680

Three pole, thermal and magnetic trip type, D-type characteristic.

P2 MB 3P D080	D	80	10	4.5	10	0.510
P2 MB 3P D100	D	100	10	4.5	10	0.510
P2 MB 3P D125	D	125	10	4.5	10	0.510

Four pole, thermal and magnetic trip type, D-type characteristic.

P2 MB 4P D080	D	80	10	6	10	0.510
P2 MB 4P D100	D	100	10	6	10	0.510
P2 MB 4P D125	D	125	10	6	10	0.510

<sup>Ⓢ</sup> IEC current Icn at 230V.

NOTE: Supplementary Protectors per UL1077 / CSA C22-2 n°235.

#### General characteristics

These types are always used to protect against short circuits and overloads of wiring installations and loads in industrial applications.

Their purpose is always circuit protection, circuit isolation and load operation controls. They have instantaneous trip characteristics defined as follows:

- **C-type:** Instantaneous trip 5-10 times In  
For inductive loads (mixed loads, resistive and inductive with low inrush current)
- **D-type:** Instantaneous trip 10-14 times In  
For highly inductive loads (loads with high inrush and current such as motors).

Main features include:

- IEC rated current In: 80-125A
- Pole width: 17.5mm / 0.69"
- Contact status with flag indicator
- Trip characteristic: Curve type C and D
- Auxiliary contacts and trip releases mounted on MCB left side
- Fixing on 35mm DIN rail (IEC/EN 60715).

#### Operational characteristics

- Dissipation per pole: 15-20W
- IEC rated insulation voltage: 440V
- IEC rated impulse voltage: 4kV
- IEC rated operational voltage Ue: 230/440VAC<sup>Ⓢ</sup>.

#### Certifications and compliance

Certifications obtained: TÜV – Rheinland; UL Recognized for USA and Canada (cURus – File E359585) as "Supplementary Protectors", designated as Overcurrent type, for general industrial use, suitable for factory wiring only with more than 135% tripping current of amp rating. Products having this type of marking are intended for use as components of complete workshop- assembled equipment.

Compliant with standards: IEC/EN 60898-1, IEC/EN 60947-2, UL 1077, CSA C22.2 n°235.

### 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 <sup>2</sup> max conductor	25	0.011
P1X 92 02	1-pole terminal for busbar supply, 50mm <sup>2</sup> 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: 10mm<sup>2</sup>
- 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: 10mm<sup>2</sup>
- 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]
	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 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).

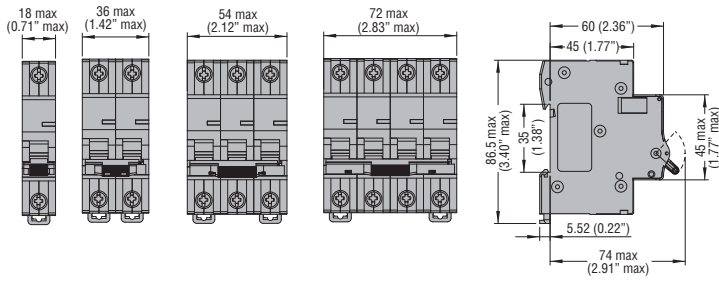
#### Operational characteristics

- 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.

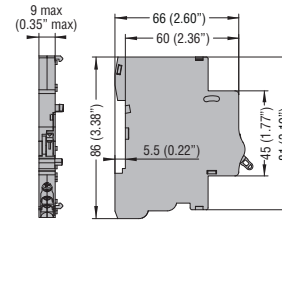
#### Certifications and compliance

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

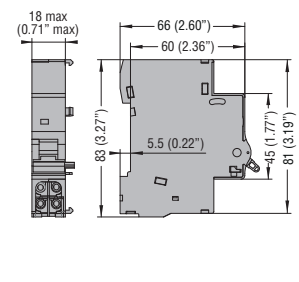
### MINIATURE CIRCUIT BREAKERS P1 MB...



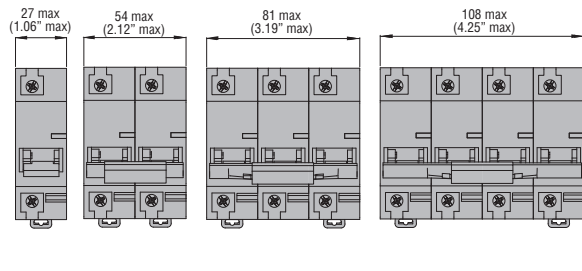
### ACCESSORIES Add-on contacts P1X 1011 P1X 1311



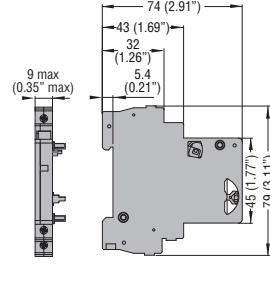
### Undervoltage and shunt releases P1X 14230 P1X 16230



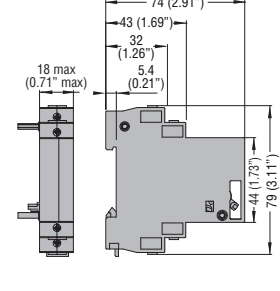
### MINIATURE CIRCUIT BREAKERS P2 MB...



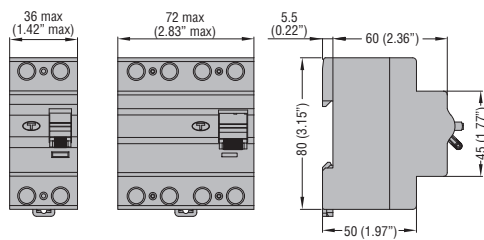
### ACCESSORIES Add-on contacts P2X 1011 P2X 1311



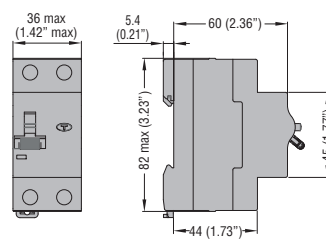
### Undervoltage and shunt releases P2X 14230



### RESIDUAL CURRENT OPERATED CIRCUIT BREAKERS P1 RC...

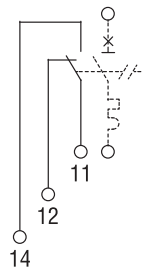


### RESIDUAL CURRENT OPERATED CIRCUIT BREAKERS WITH OVERCURRENT PROTECTION P1 RB...

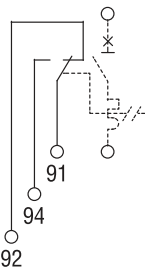


## Wiring diagrams

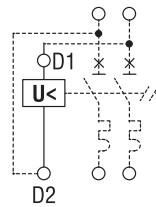
### P1X 1011 P2X 1011



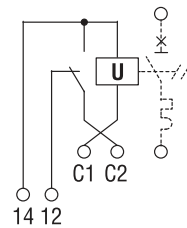
### P1X 1311 P2X 1311



### 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 <sup>2</sup>	1-16	2.5-50	1-35	1-25
	AWG	14-6	14-1/0	16-2	16-3

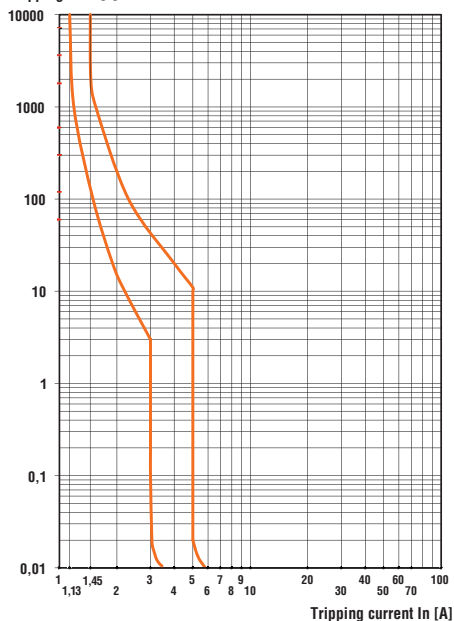
### AMBIENT CONDITIONS

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)

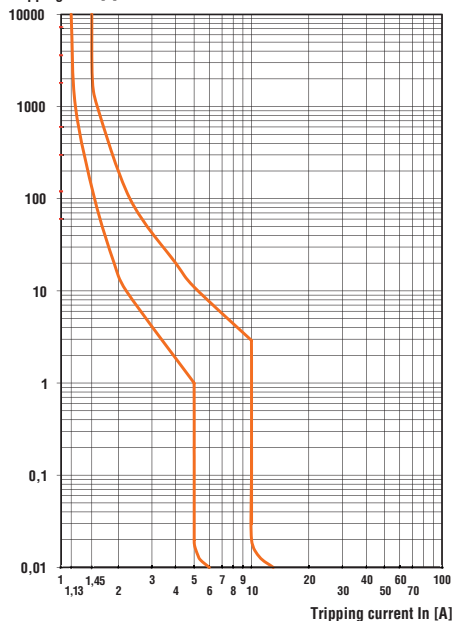
Curve B

Tripping time [s]



Curve C

Tripping time [s]



Curve D

Tripping time [s]

