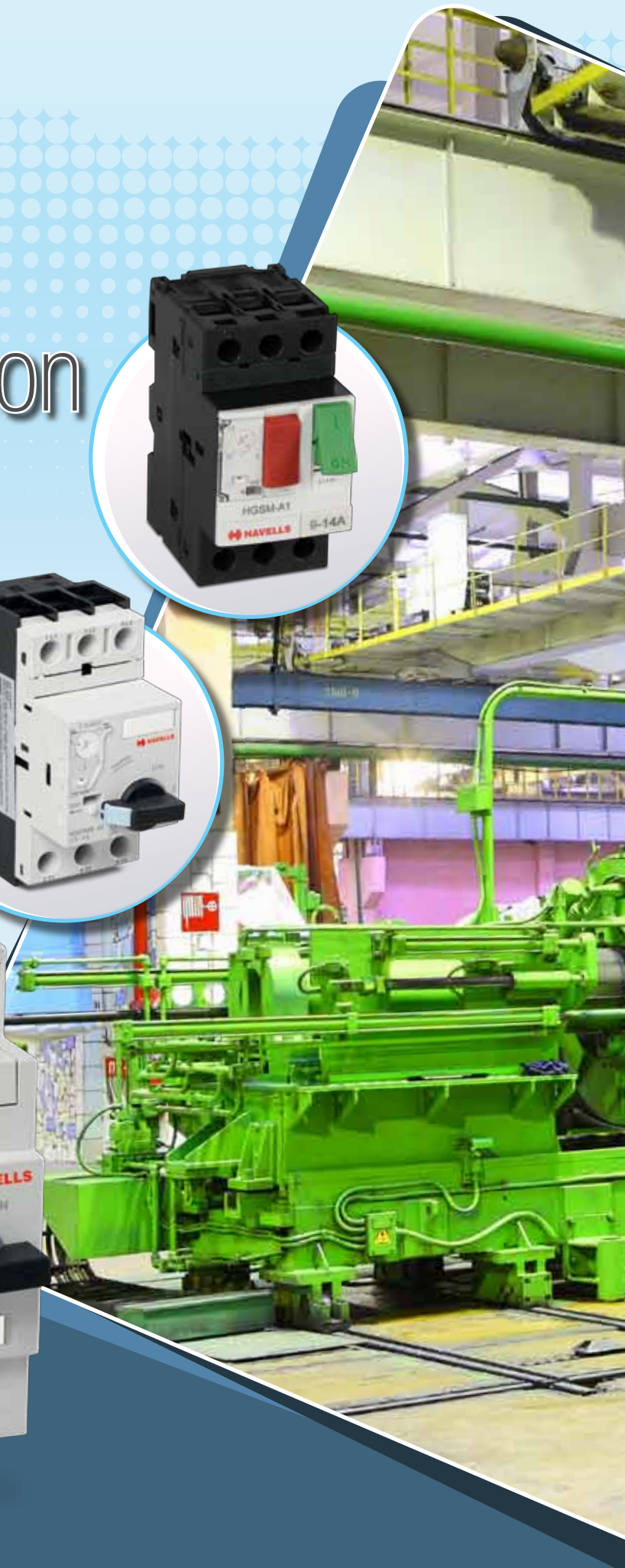




HAVELLS

Motor Protection Circuit Breaker



Introduction:

“Motor Protection Circuit Breaker” is dedicated protection device whose protection characteristics is matched with Motor protection requirements.

It is also known as MPSD – Motor Protective Switching Device

Manually operated motor starter (Switching + Overload Protection) additionally providing resettable short-circuit protection to the motor and the circuit

Applicable IEC Standards : IEC 60947-4-1, IEC 60947-2

Versatile Functionality of MPCB

All in one
Switching + Protection +
Disconnection + Isolation



Switching



Overload & Single
Phasing Protection



Short Circuit Protection,
Disconnection, Isolation



Motor Protection Circuit Breaker (MPCB) from Havells is a unique solution for all in one functions like Switching Motors ON and OFF, Overload Protection, Short Circuit Protection, Protection under Single Phasing Conditions, Under Voltage Protection when UVR is use.

This improves reliability and availability of applications leading to lower downtime and quick restart of process preventing motor damage, Installation damage and ensuring the human safety at the same time due to **in-built Type-2 Co-ordination**

Havells MPCB is thus a reliable, cost effective solution for all your motor protection needs, for typical application examples in:

- General engineering and plants
- Industries
- Conveyor systems
- Chemical industries including process engineering
- Pharmaceutical industries
- HVAC
- Environmental plants
- Power stations
- Water and Waste Water treatment plants
- Sewage plants
- Mining Industries, Metal Industries
- Machine tools

MPCB provides protection against:

- Overload
- Short circuit
- Phase failure
- Undervoltage

Fuseless protection not only saves costs but also provides for quick disconnection under short circuit condition by switching the motor off within less than 5 ms when in Current limiting Range.

It is easy to handle for Plant Maintenance teams when used in Motor Feeders which ensures availability, Safety and Reliability.

Range & Switching Capabilities

| Type | Operating Method | Version | Protections Offered | Frame & Size | Ratings and Braking Capacity | | |
|-------|------------------|------------------|------------------------|---------------|------------------------------|-----------------------|----------------------|
| | | | | | | | |
| HGSM | Push-Button | Thermal Magnetic | OL, SC, Single Phasing | Fr-1 45 mm | 0.1 A - 10 A 100 kA | 9 A - 25 A 15 kA | 24 A - 32 A 10 kA |
| | | | | | | | |
| HGSTM | Rotary | Thermal Magnetic | OL, SC, Single Phasing | Fr-1 45 mm | 0.1 A - 6.3 A 100 kA | 6.3 A - 32 A 50 kA | |
| | | | | Fr-2 55 mm | | 11 A - 63 A 50 kA | |
| | | | | | | | |
| HGSMR | Rotary | Magnetic | SC | Fr-1 45 mm | 0.16 A - 6.3 A 100 kA | 10 A - 32 A 50 kA | |
| | | | | Fr-2 55 mm | | 16 A - 63 A 50 kA | |
| | | | | | | | |

Technical Specifications



| Type | | HGSM | |
|--|--------------------|--|--|
| Standards / Approval | | | |
| Operating Method | | Push Button (PB) | |
| Number of poles | | | |
| Tripping device | | Thermal - Magnetic | |
| Frame size | | 32 A | |
| Rated insulation voltage (Ui) | | | |
| Rated operational voltage (Ue) | | | |
| Rated impulse withstand voltage (Uimp) | | 6 kV | |
| Rated frequency | | | |
| Trip Class | | 10 A | |
| Utilization category | IEC947-4-1 | | |
| | IEC60947-2 | | |
| Electrical Durability (AC-3) (No. of ON Load Operations) | | 100000 | |
| Mechanical Durability (No. of OFF Load Operations) | | 100000 | |
| Max. Operating Rate (No. of Operations / Hour) | | 25 | |
| Ambient temperature compensation | | -5 °C to + 40 °C | |
| Storage Temperature | | | |
| Overload withstand Capability | | | |
| Phase loss protection (Current based Single Phasing Protection) | | | |
| Trip indication | | - | |
| Test trip function | | | |
| Instantaneous trip current | | | |
| Terminal type | | Screw terminal, M4 slotted & Philips head n° 2 | |
| Wire size | Solid | 1...6 mm ² x 2 | |
| | Stranded | 1.5... 6 mm ² X 2 | |
| Tightening Torque Nm | | 1.7 Nm | |
| Product weight (g) | | 35 g | |
| Dimensions (mm) W x H x D | | (45 x 90 x 67) mm | |
| Standard Service Condition | Relative humidity | | |
| | Operation altitude | | |



| HGSTMR | | HGSMR | |
|--|--|--|--|
| IEC 60947-1, IEC 60947 -2, IEC 60947-4-1 | | | |
| Rotary | | | |
| 3 | | | |
| Thermal - Magnetic | | Magnetic | |
| 32 A | 63 A | 32 A | 63 A |
| 690 V | | | |
| 230 V, 400 V / 415 V, 500 V & 690 V | | | |
| 6 kV | 8 kV | 6 kV | 8 kV |
| 50 Hz / 60 Hz | | | |
| 10 A | | | |
| AC-3 | | | |
| Cat A | | | |
| 100000 | 50000 | 100000 | 50000 |
| 100000 | 100000 | 100000 | 100000 |
| 25 | 40 | 25 | 40 |
| -5 °C to + 55 °C | | | |
| -40 °C to 65 °C | | | |
| According to IEC60947 - 4 - 1, For given AC-3 Utilisation Category | | | |
| Yes | | | |
| Yes | | | |
| Yes | | | |
| 13 x le max | | | |
| Screw terminal, M4 slotted & Philips head n° 2 | Box terminal, M6 slotted & Philips head n° 2 | Screw terminal, M4 slotted & Philips head n° 2 | Box terminal, M6 slotted & Philips head n° 2 |
| 1...6 mm ² x 2 | 25...35 mm ² x 1 | 1...6 mm ² x 2 | 1...6 mm ² x 2 |
| 1.5... 6 mm ² X 2 | 25...35 mm ² x 1 | 1.5... 6 mm ² X 2 | 1.5... 6 mm ² X 2 |
| 2.5 Nm | 5 Nm | 2.5 Nm | 5 Nm |
| 33 g | 1.05 kg | 0.33 g | 1.05 kg |
| (45 x 97 x 96) mm | (55 x 140 x 149) mm | (45 x 97 x 96) mm | (55 x 140 x 149) mm |
| 15...95 % without condensation | | | |
| Upto 2000 m | | | |



Push Button Version MPCB

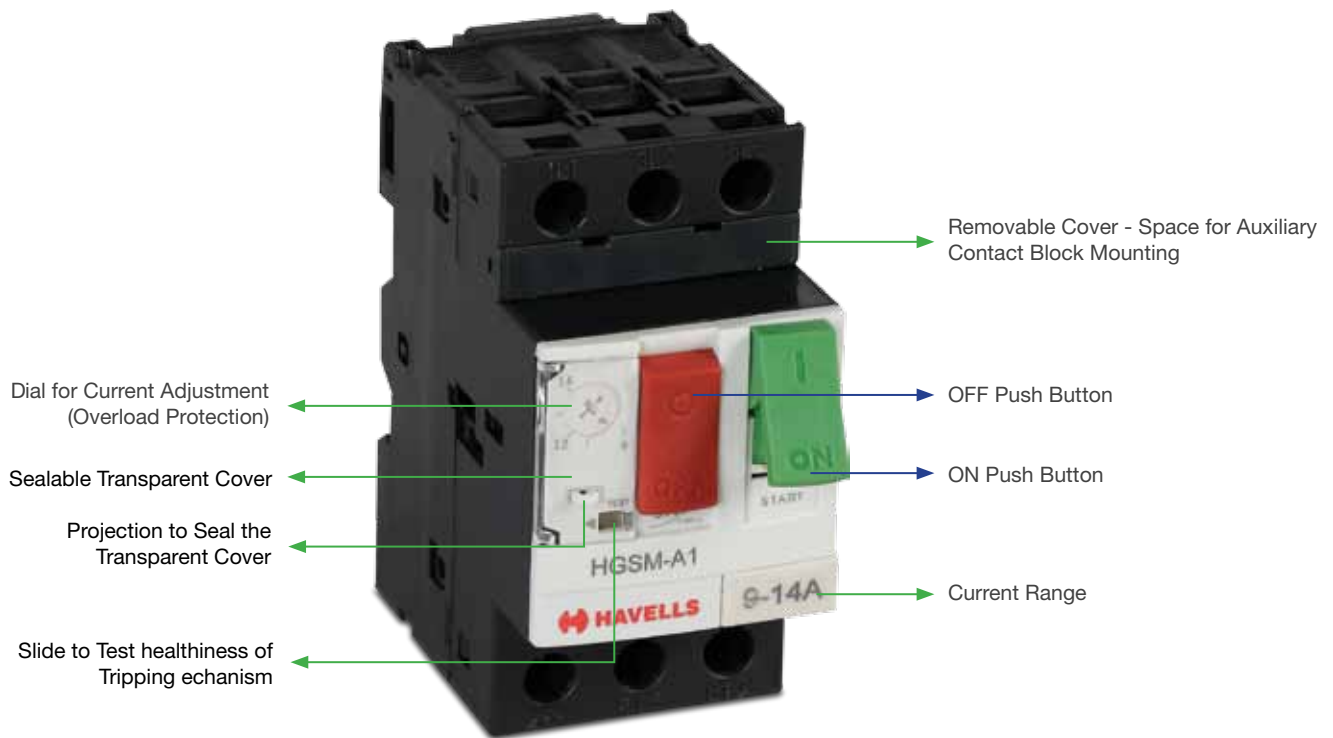
Salient Features:

- Push Button version - 1 Frame size – 45 mm Width
- Ratings from 0.1 A - 32 A, Trip Class 10 A
- Rated Operation Voltage $U_i = 690$ V
- **High Magnetic Setting - Makes it suitable for IE2, IE3 & IE4 Motors**
- Compliance to IEC 60947-2, IEC 60947-4-1
- In-built “**Type-2 Co-ordination**” even when used standalone
- Finger proof IP20 Terminals
- Lockable in OFF Position
- Suitable for DIN channel mounting
- CE Marking

Wide range of Accessories

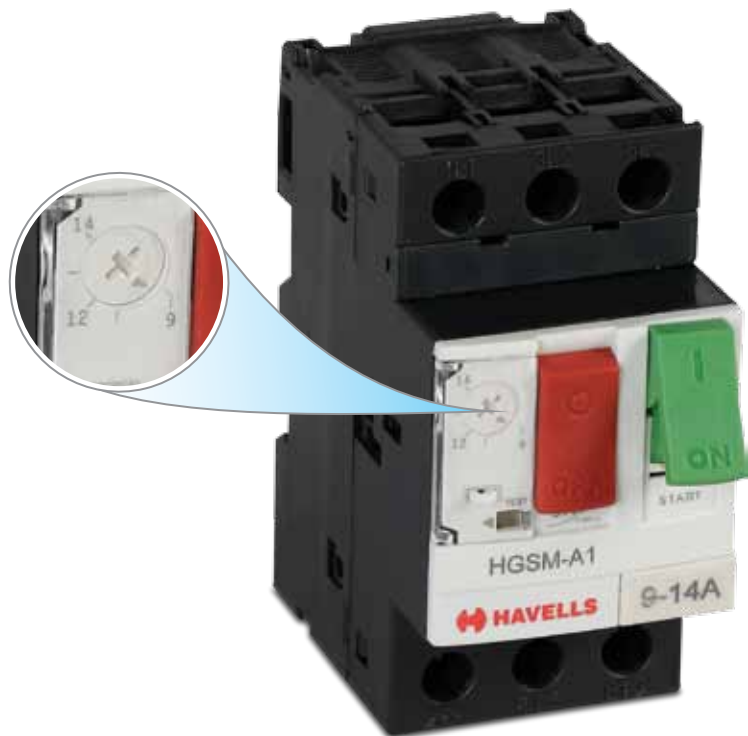
- UV Release
- Shunt Release
- Auxiliary Contact Blocks – Top Mounted
- Auxiliary Contact Blocks – Side Mounted
- **Fault Alarm Contacts (With additional Aux. Contact)**
- Box for IP55 – Enclosure
- Box for IP55 with Emergency PB - Enclosure

Front Interface : Push Button MPCB



Overload Protection - Adjustment Dial

- Stepless Adjustment
- Adjustment range : 9 A - 14 A
- Set the Current on Dial - Basis Motor Full Load Current
- Rated Current (In) A : 14 A
- Magnetic Protection - Fixed Basis 14 A (170 A - @ 13 In)

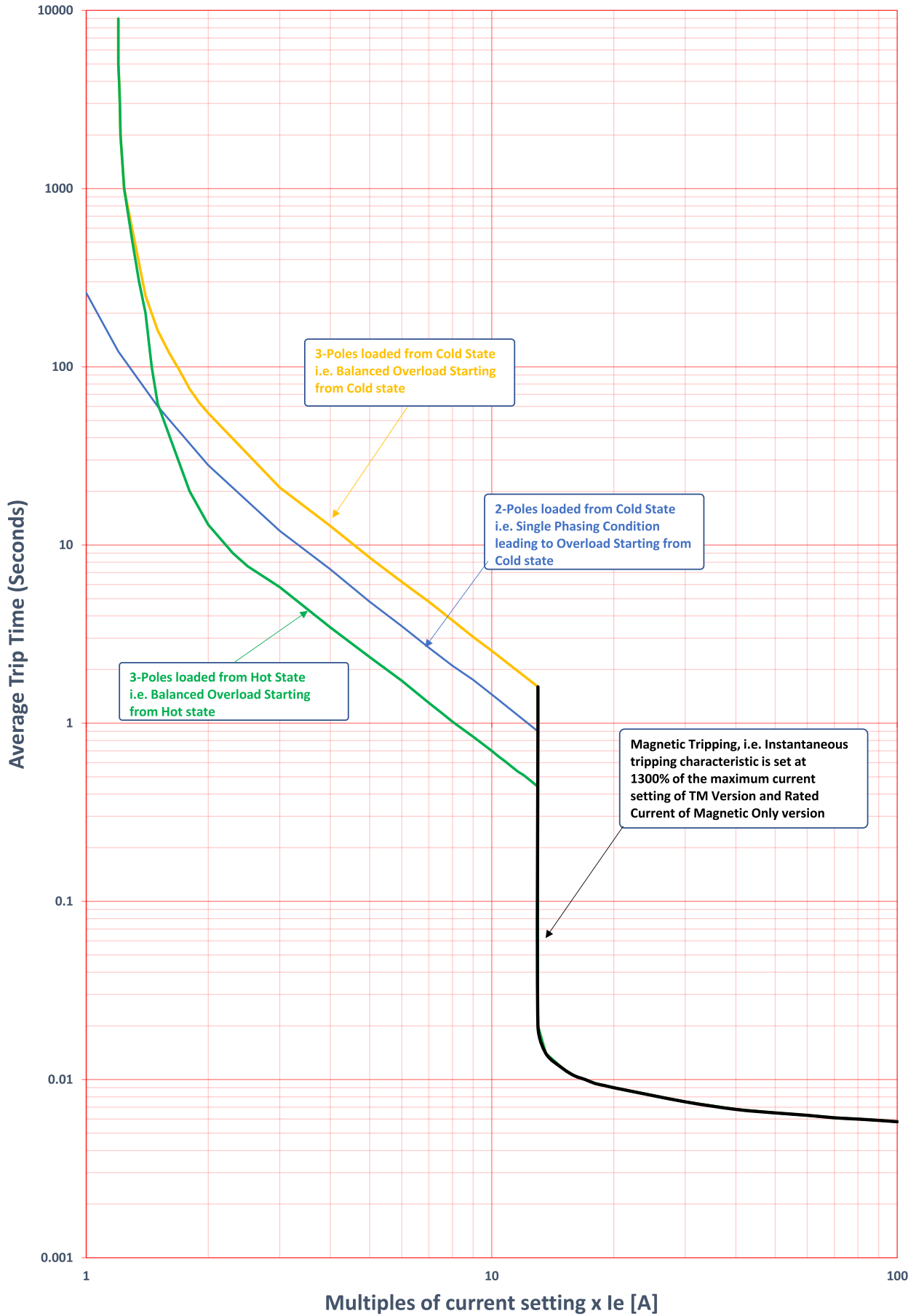


Short Circuit Breaking Capacity : Push Button MPCB

| | | | | | Short Circuit Breaking Capacity kA | | | | | |
|---------------------------|---------------|-------------------------------------|---------------------------|--------------------------------|------------------------------------|-----|-----------|-----|-------|------|
| | | | | | 230/240 V | | 400/415 V | | 690 V | |
| Model | Rated Current | Thermal Protection adjustment Range | Suitable for Motor kW AC3 | Instantaneous Trip Current (A) | Icu | Ics | Icu | Ics | Icu | Ics |
| HGSM- A1 32 A Frame | 0.16 | 0.1 A - 0.16 A | 0.02 | 1.5 | 100 | 100 | 100 | 100 | 100 | 100 |
| | 0.25 | 0.16 A - 0.25 A | 0.06 | 2.4 | 100 | 100 | 100 | 100 | 100 | 100 |
| | 0.4 | 0.25 A - 0.4 A | 0.09 | 5 | 100 | 100 | 100 | 100 | 100 | 100 |
| | 0.63 | 0.4 A - 0.63 A | 0.18 | 8 | 100 | 100 | 100 | 100 | 100 | 100 |
| | 1 | 0.63 A - 1 A | 0.37 | 13 | 100 | 100 | 100 | 100 | 100 | 100 |
| | 1.6 | 1 A - 1.6 A | 0.55 | 22.5 | 100 | 100 | 100 | 100 | 100 | 100 |
| | 2.5 | 1.6 A - 2.5 A | 0.75 | 33.5 | 100 | 100 | 100 | 100 | 3 | 2.25 |
| | 4 | 2.5 A - 4 A | 1.1 | 51 | 100 | 100 | 100 | 100 | 3 | 2.25 |
| | 6.3 | 4 A - 6.3 A | 2.2 | 78 | 100 | 100 | 100 | 100 | 3 | 2.25 |
| | 10 | 6.3 A - 10 A | 3 | 138 | 100 | 100 | 100 | 100 | 3 | 2.25 |
| | 14 | 9 A - 14 A | 5.5 | 170 | 100 | 100 | 15 | 7.5 | 3 | 2.25 |
| | 18 | 13 A - 18 A | 7.5 | 223 | 100 | 100 | 15 | 7.5 | 3 | 2.25 |
| | 23 | 17 A - 23 A | 9 | 327 | 50 | 50 | 15 | 6 | 3 | 2.25 |
| | 25 | 20 A - 25 A | 11 | 327 | 50 | 50 | 15 | 6 | 3 | 2.25 |
| 32 | 24 A - 32 A | 15 | 416 | 50 | 50 | 10 | 5 | 3 | 2.25 | |

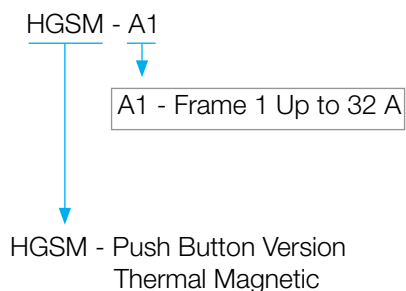
Trip Time Characteristics : Push Button MPCB

Average Operating Times at 20 °C related to multiples of the setting current

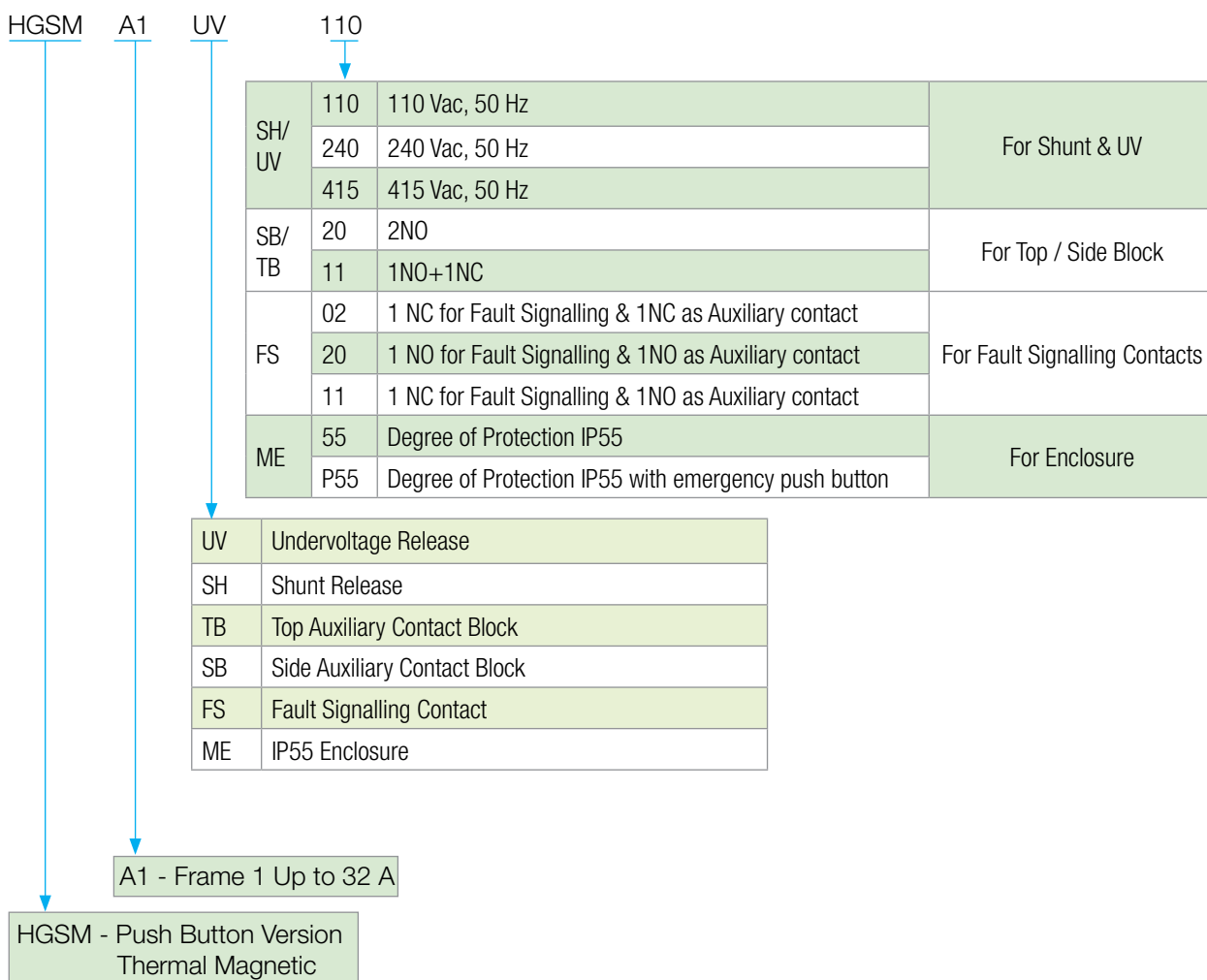


Model Logic : Push Button MPCB

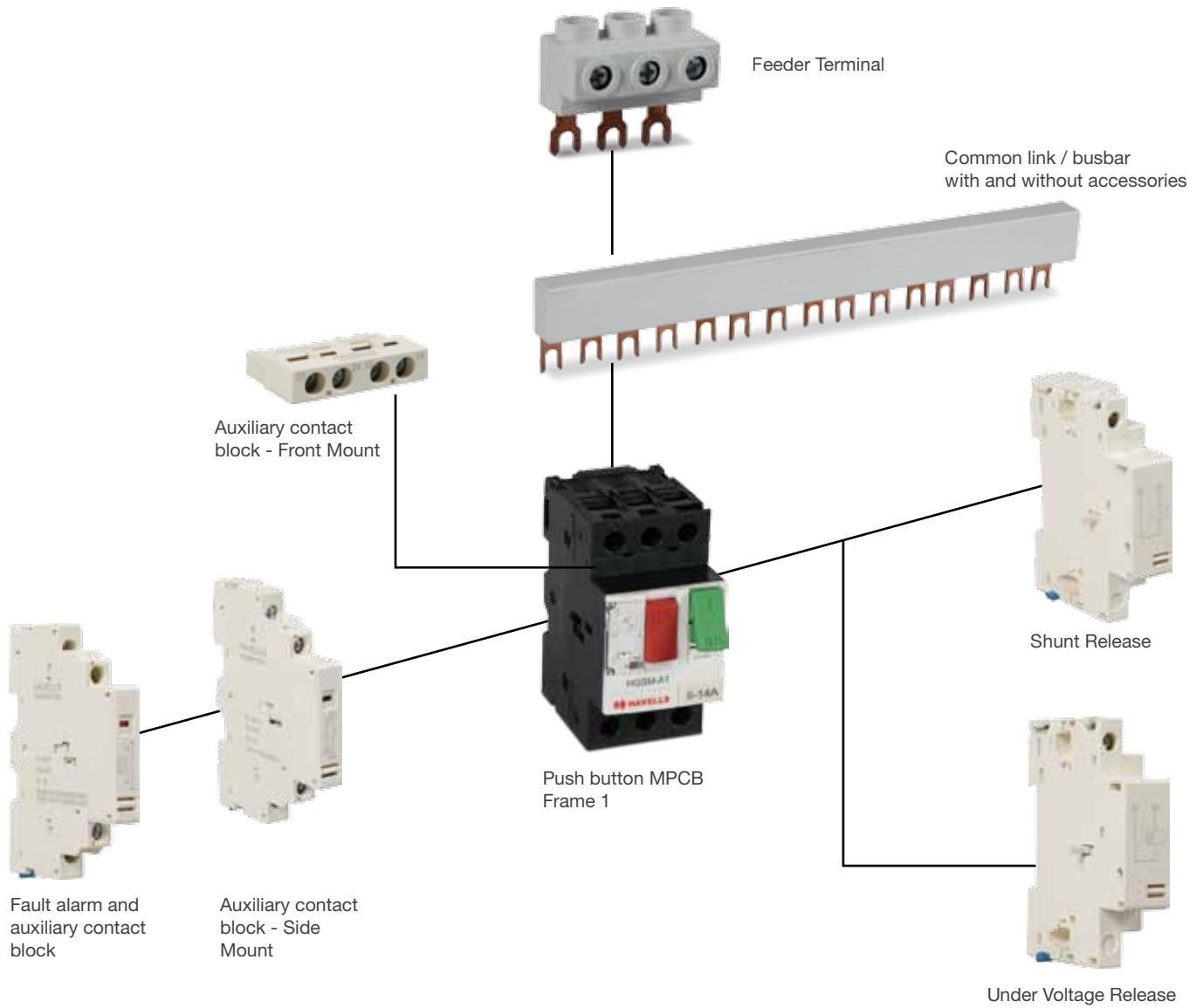
MPCB Logic



MPCB Accessories Logic



Accessories Overview : Push Button MPCB



Enclosure Details : Push Button MPCB

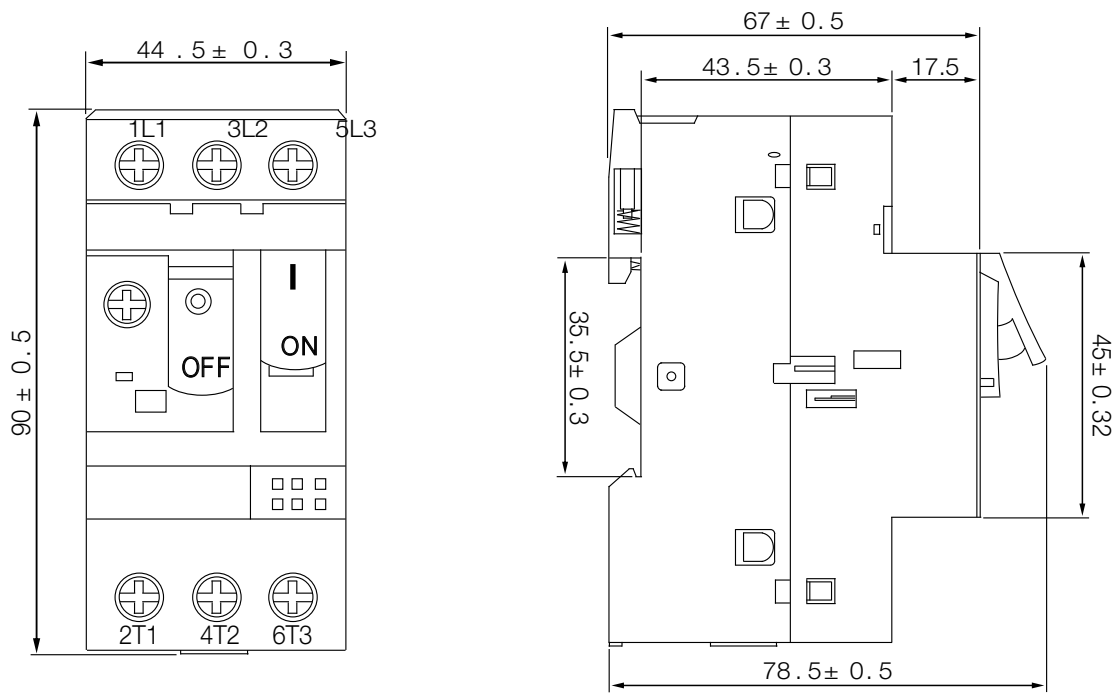


Accessories Details : Push Button MPCB

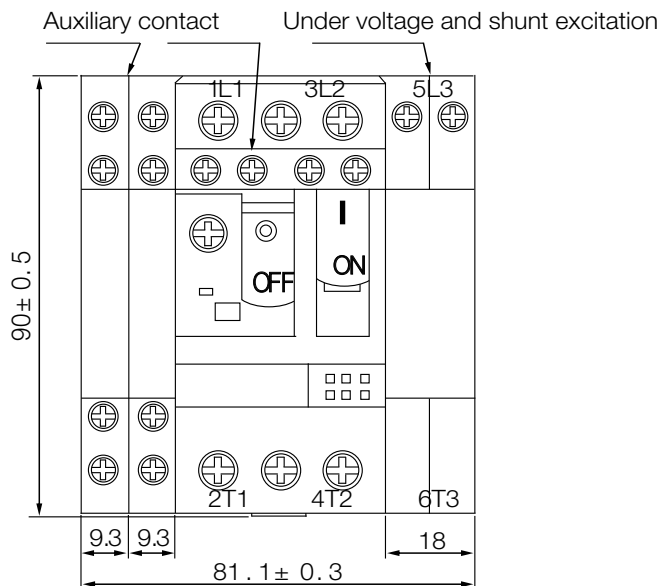
| Accessory | Picture of Accessory | Description | SKU | Model Name |
|---|---|---|------------|--------------|
| Under Voltage Release |  | UV RELEASE MPCB HGSM 110 VAC 50 Hz | ISSPCU2406 | HGSMA1UV110 |
| | | UV RELEASE MPCB HGSM 240 VAC 50 Hz | ISSPCU2407 | HGSMA1UV240 |
| | | UV RELEASE MPCB HGSM 415 VAC 50 Hz | ISSPCU2408 | HGSMA1UV415 |
| Shunt Release |  | SHUNT RELEASE MPCB HGSM 110 VAC 50 Hz | ISSPCU2409 | HGSMA1SH110 |
| | | SHUNT RELEASE MPCB HGSM 240 VAC 50 Hz | ISSPCU2410 | HGSMA1SH240 |
| | | SHUNT RELEASE MPCB HGSM 415 VAC 50 Hz | ISSPCU2411 | HGSMA1SH415 |
| Aux. Contact Block - Top Mount |  | AUX BLOCK TOP MOUNT 2NO MPCB HGSM | ISSPCU2412 | HGSMA1TB20 |
| | | AUX BLOCK TOP MOUNT 1NO1NC MPCB HGSM | ISSPCU2413 | HGSMA1TB11 |
| Aux. Contact Block - Side Mount |  | AUX BLOCK SIDE MOUNT 2NO MPCB HGSM | ISSPCU2414 | HGSMA1SB20 |
| | | AUX BLOCK SIDE MOUNT 1NO1NC MPCB HGSM | ISSPCU2415 | HGSMA1SB11 |
| Fault Alarm and Auxiliary Contact Block |  | FAULT ALARM AUX 1NC 1NO MPCB HGSM | ISSPCU2416 | HGSMA1FS11 |
| | | FAULT ALARM AUX 1NC 1NC MPCB HGSM | ISSPCU2417 | HGSMA1FS02 |
| | | FAULT ALARM AUX 1NO 1NO MPCB HGSM | ISSPCU2418 | HGSMA1FS20 |
| Enclosure |  | BOX WATERPROOF IP55 MPCB HGSM | ISSPCU2419 | HGSMA1ME55 |
| | | EMERG-EN-CY BOX WATERPROOF IP55 MPCB HGSM | ISSPCU2420 | HGSMA-1MEP55 |
| Feeder terminal - Fr-1 |  | HGSRFT-A1 3P Feeder terminals | ISSPDU0079 | HGSRFT |
| Busbar, Fr-1, without Accessories |  | HGSRCL-A1 452 mm common link | ISSPDU0081 | HGSRCL |
| | | HGSRCL-A1 453 mm common link | ISSPDU0082 | HGSRCL |
| | | HGSRCL-A1 454 mm common link | ISSPDU0083 | HGSRCL |
| | | HGSRCL-A1 455 mm common link | ISSPDU0084 | HGSRCL |
| Busbar, Fr-1, with Accessories |  | HGSRCL-A1 542 mm common link | ISSPDU0085 | HGSRCL |
| | | HGSRCL-A1 543 mm common link | ISSPDU0086 | HGSRCL |
| | | HGSRCL-A1 544 mm common link | ISSPDU0087 | HGSRCL |
| | | HGSRCL-A1 545 mm common link | ISSPDU0088 | HGSRCL |

Dimensions : Push Button MPCB

MPCB

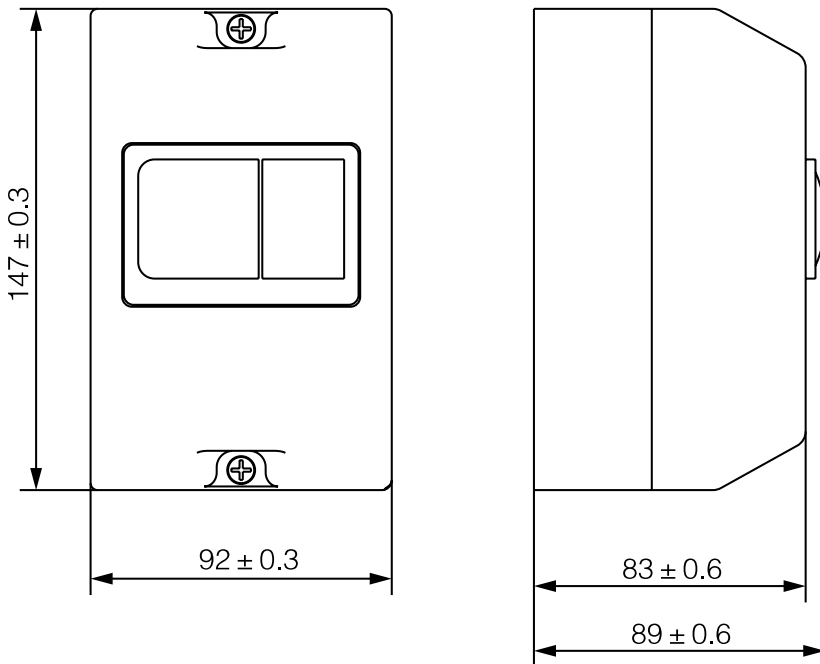


MPCB with Accessories

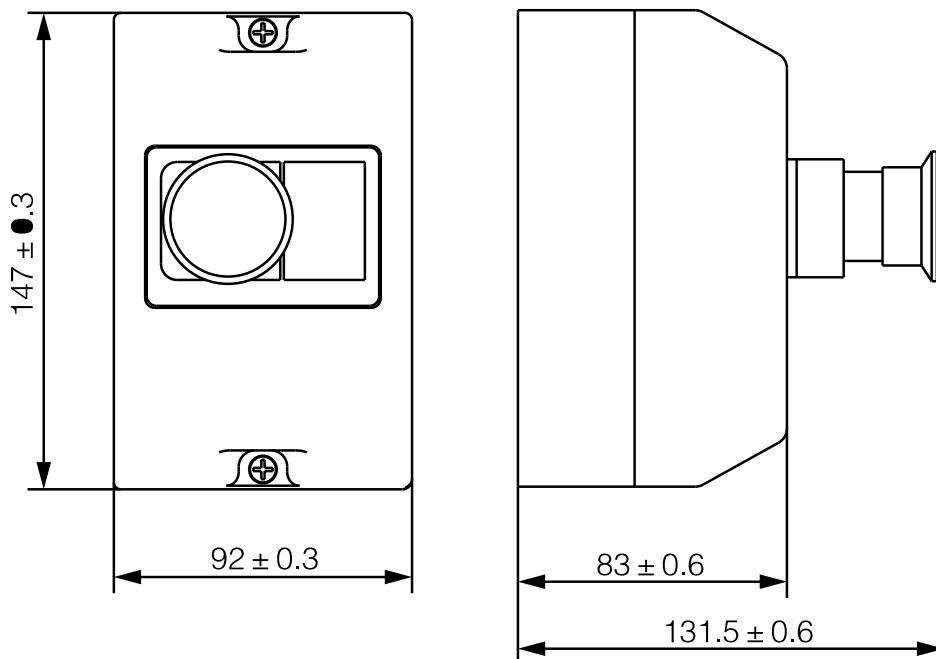


Dimensions Enclosures : Push Button MPCB

IP 55 Enclosure for Push Button MPCB



IP 55 Enclosure with Emergency Push Button for Push button MPCB



Ordering Codes : Push Button MPCB and Accessories

| SKU | Range | Description |
|------------|-----------------|---------------------------|
| IHHMPBA2A0 | 0.1 A - 0.16 A | MPCB HGSM 0.1 A - 0.16 A |
| IHHMPBB2B0 | 0.16 A - 0.25 A | MPCB HGSM 0.16 A - 0.25 A |
| IHHMPBC2D0 | 0.25 A - 0.4 A | MPCB HGSM 0.25 A - 0.4 A |
| IHHMPBD2E0 | 0.4 A - 0.63 A | MPCB HGSM 0.4 A - 0.63 A |
| IHHMPBE2F0 | 0.63 A - 1 A | MPCB HGSM 0.63 A - 1 A |
| IHHMPBF2G0 | 1 A - 1.6 A | MPCB HGSM 1 A - 1.6 A |
| IHHMPBG2R0 | 1.6 A - 2.5 A | MPCB HGSM 1.6 A - 2.5 A |
| IHHMPBH2I0 | 2.5 A - 4 A | MPCB HGSM 2.5 A - 4 A |
| IHHMPBJ2J0 | 4 A - 6.3 A | MPCB HGSM 4 A - 6.3 A |
| IHHMPBK2K0 | 6.3 A - 10 A | MPCB HGSM 6.3 A - 10 A |
| IHHMPBL2L0 | 9 A - 14 A | MPCB HGSM 9 A - 14 A |
| IHHMPBN2M0 | 13 A - 18 A | MPCB HGSM 13 A - 18 A |
| IHHMPBQ2T0 | 17 A - 23 A | MPCB HGSM 17 A - 23 A |
| IHHMPBS2N0 | 20 A - 25 A | MPCB HGSM 20 A - 25 A |
| IHHMPBT2P0 | 24 A - 32 A | MPCB HGSM 24 A - 32 A |

| SKU | Product | Description |
|------------|---|---|
| ISSPCU2406 | Under voltage Release | UV RELEASE MPCB HGSM 110 V AC 50 Hz |
| ISSPCU2407 | | UV RELEASE MPCB HGSM 240 V AC 50 Hz |
| ISSPCU2408 | | UV RELEASE MPCB HGSM 415 V AC 50 Hz |
| ISSPCU2409 | Shunt Release | SHUNT RELEASE MPCB HGSM 110 V AC 50 Hz |
| ISSPCU2410 | | SHUNT RELEASE MPCB HGSM 240 V AC 50 Hz |
| ISSPCU2411 | | SHUNT RELEASE MPCB HGSM 415 V AC 50 Hz |
| ISSPCU2412 | Aux. Contact Block - Top Mount | AUX BLOCK TOP MOUNT 2NO MPCB HGSM |
| ISSPCU2413 | | AUX BLOCK TOP MOUNT 1NO1NC MPCB HGSM |
| ISSPCU2414 | Aux. Contact Block - Side Mount | AUX BLOCK SIDE MOUNT 2NO MPCB HGSM |
| ISSPCU2415 | | AUX BLOCK SIDE MOUNT 1NO1NC MPCB HGSM |
| ISSPCU2416 | Fault Alarm and Auxiliary Contact Block | FAULT ALARM AUX 1NC 1NO MPCB HGSM |
| ISSPCU2417 | | FAULT ALARM AUX 1NC 1NC MPCB HGSM |
| ISSPCU2418 | | FAULT ALARM AUX 1NO 1NO MPCB HGSM |
| ISSPCU2419 | Enclosure | BOX WATERPROOF IP55 MPCB HGSM |
| ISSPCU2420 | | EMERGENCY BOX WATERPROOF IP55 MPCB HGSM |



Rotary Version MPCB

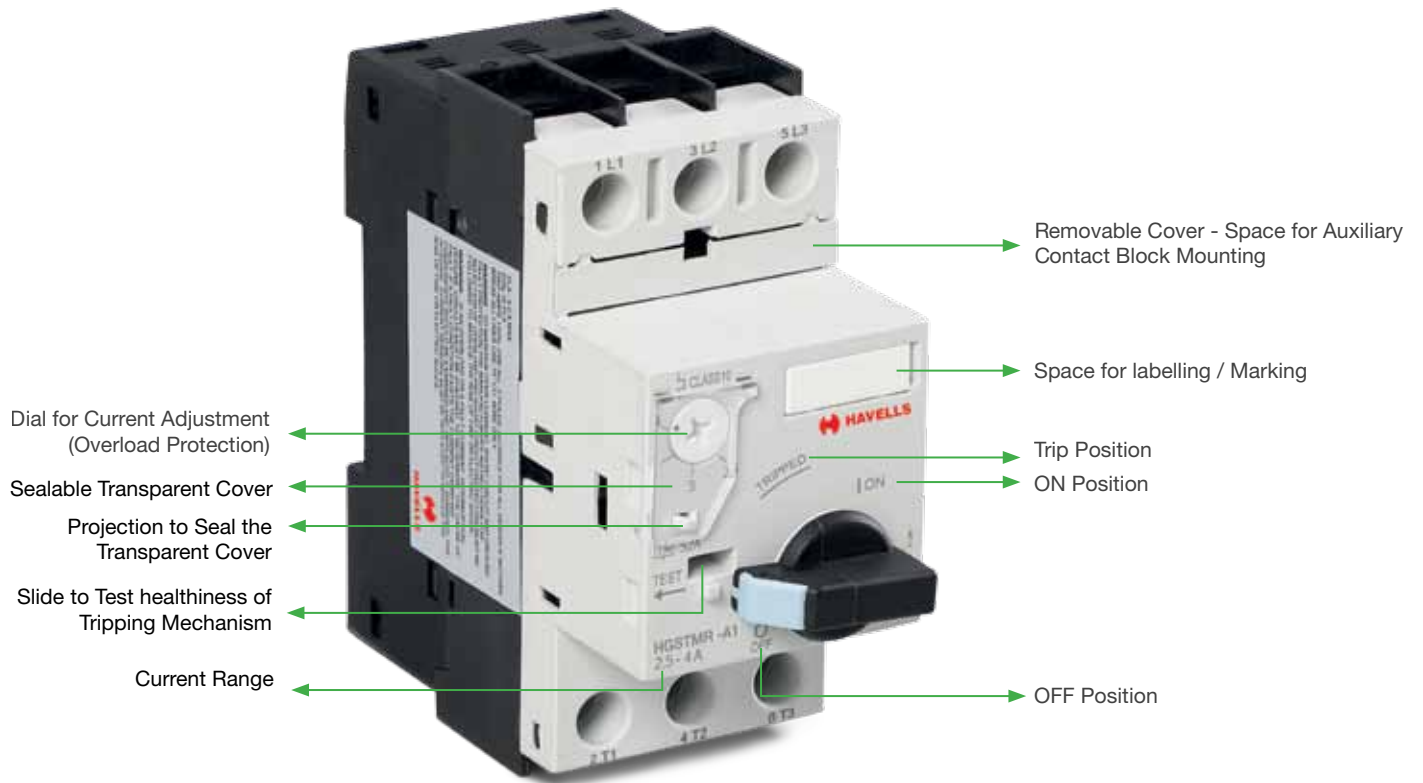
Salient Features:

- Rotary Version - 2 Frame Sizes, 45 mm and 55 mm width
- Thermal magnetic version - Range from 0.1 -63 A, Trip class 10
- Magnetic Only version - Range from 0.16 A - 63 A
- Rated Operational Voltage U_i : 690 V
- High Magnetic Setting - Makes it suitable for IE2, IE3 and IE4 Motors
- Compliance to IEC 60947-2 and IEC 60947-4-1
- In-built Type-2 Co-ordination even when used standalone (Applicable for Thermal Magnetic Version)
- Finger proof IP20 Terminals
- Lockable in OFF Position
- Suitable for DIN channel and Base Mounting both
- CE Marking

Wide range of Accessories

- UV Release
- Shunt Release
- Auxiliary contact blocks - Top Mounted
- Auxiliary contact blocks - Side Mounted
- Fault Alarm Contacts (1NO+1NC for Fault alarm and 1NO+1NC as Auxiliary Contacts)
- Enclosures suitable for mounting only MPCB and MCPB with Accessories
- Rotary Operating handles (Choice of Colour Red+Yellow or Black+Grey)

Front Interface : Rotary MPCB



Overload Protection - Adjustment Dial

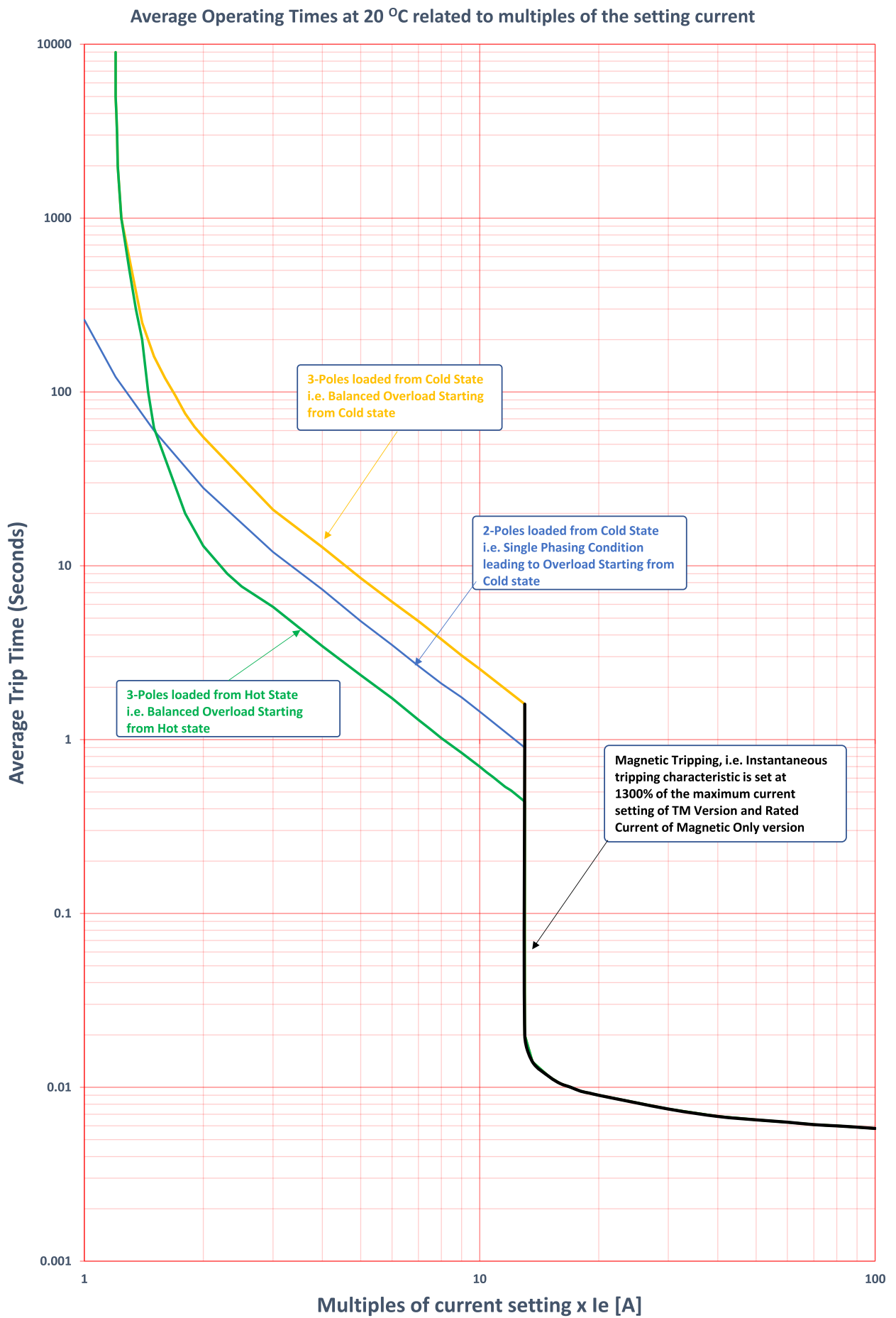
- Stepless Adjustment
- Adjustment range : 2.5 A - 4 A
- Set the Current on Dial - Basis Motor Full Load Current
- Rated Current (In) A : 4 A
- Magnetic Protection - Fixed Basis 4 A (54 A - @ 13 In)



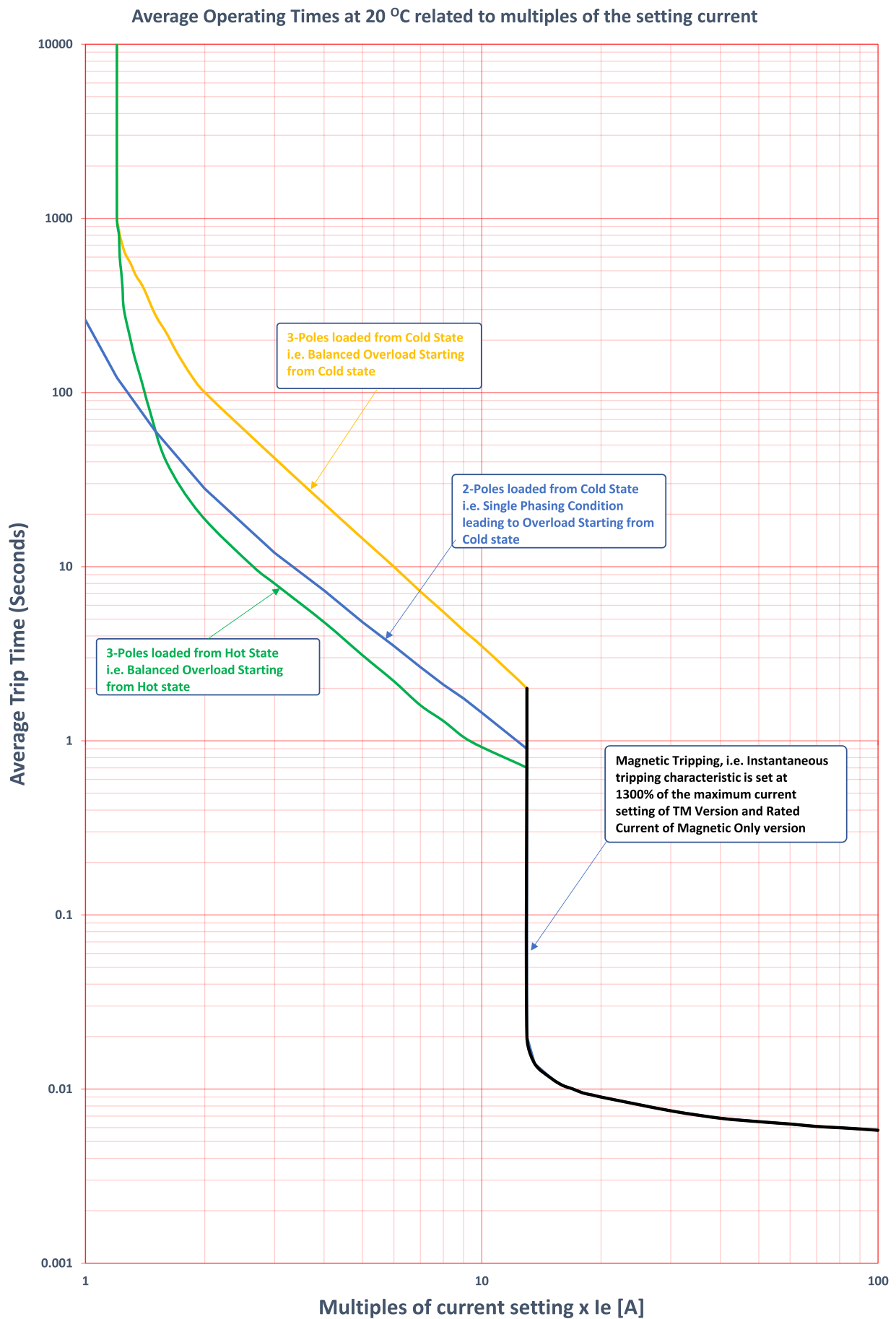
Short Circuit Breaking Capacity : Rotary MPCB

| | | | | | Short Circuit Breaking Capacity kA | | | | | | | |
|--|---------------|-------------------------------------|---------------------------|----------------------------|------------------------------------|--------|---------------|--------|---------------|--------|--------|--------|
| | | | | | 230 V / 240 V | | 400 V / 415 V | | 440 V / 460 V | | 500 V | |
| Model | Rated Current | Thermal Protection Adjustment Range | Suitable for Motor kW AC3 | Instantaneous Trip Current | Icu | Ics | Icu | Ics | Icu | Ics | Icu | Ics |
| HGSTMR-A1 for Thermal- Magnetic HGSMR-A1 for Magnetic 32 A Frame | 0.16 | 0.1 A - 0.16 A | 0.02 | 2.08 | 100 kA | 100 kA | 100 kA | 100 kA | 100 kA | 100 kA | 100 kA | 100 kA |
| | 0.25 | 0.16 A - 0.25 A | 0.06 | 3.25 | 100 kA | 100 kA | 100 kA | 100 kA | 100 kA | 100 kA | 100 kA | 100 kA |
| | 0.4 | 0.25 A - 0.4 A | 0.09 | 5.2 | 100 kA | 100 kA | 100 kA | 100 kA | 100 kA | 100 kA | 100 kA | 100 kA |
| | 0.63 | 0.4 A - 0.63 A | 0.18 | 8.19 | 100 kA | 100 kA | 100 kA | 100 kA | 100 kA | 100 kA | 100 kA | 100 kA |
| | 1 | 0.63 A - 1 A | 0.37 | 13 | 100 kA | 100 kA | 100 kA | 100 kA | 100 kA | 100 kA | 100 kA | 100 kA |
| | 1.6 | 1.0 A - 1.6 A | 0.55 | 20.8 | 100 kA | 100 kA | 100 kA | 100 kA | 100 kA | 100 kA | 100 kA | 100 kA |
| | 2.5 | 1.6 A - 2.5 A | 0.75 | 32.5 | 100 kA | 100 kA | 100 kA | 100 kA | 100 kA | 100 kA | 100 kA | 100 kA |
| | 4 | 2.5 A - 4 A | 1.1 | 52 | 100 kA | 100 kA | 100 kA | 100 kA | 100 kA | 100 kA | 100 kA | 100 kA |
| | 6.3 | 4.0 A - 6.3 A | 2.2 | 81.9 | 100 kA | 100 kA | 100 kA | 100 kA | 100 kA | 100 kA | 100 kA | 100 kA |
| | 10 | 6.3 A - 10 A | 3 | 130 | 100 kA | 100 kA | 100 kA | 100 kA | 50 kA | 38 kA | 50 kA | 38 kA |
| | 16 | 10.0 A - 16 A | 7.5 | 208 | 100 kA | 100 kA | 50 kA | 38 kA | 35 kA | 25 kA | 10 kA | 8 kA |
| | 20 | 16 A - 20 A | 9 | 260 | 100 kA | 100 kA | 50 kA | 38 kA | 35 kA | 25 kA | 10 kA | 8 kA |
| | 25 | 20 A - 25 A | 11 | 325 | 100 kA | 100 kA | 50 kA | 38 kA | 35 kA | 25 kA | 10 kA | 8 kA |
| 32 | 25 A - 32 A | 15 | 416 | 100 kA | 100 kA | 50 kA | 38 kA | 35 kA | 25 kA | 10 kA | 8 kA | |
| HGSTMR-A2 for Thermal- Magnetic HGSMR-A2 for Magnetic 63 A Frame | 16 | 11.0 A - 16 A | 7.5 | 208 | 100 kA | 100 kA | 50 kA | 38 kA | 35 kA | 27 kA | 10 kA | 8 kA |
| | 20 | 14 A - 20 A | 9 | 260 | 100 kA | 100 kA | 50 kA | 38 kA | 35 kA | 27 kA | 10 kA | 8 kA |
| | 25 | 18 A - 25 A | 11 | 325 | 100 kA | 100 kA | 50 kA | 38 kA | 35 kA | 27 kA | 10 kA | 8 kA |
| | 32 | 22 A - 32 A | 15 | 416 | 100 kA | 100 kA | 50 kA | 38 kA | 35 kA | 27 kA | 10 kA | 8 kA |
| | 40 | 28 A - 40 A | 18.5 | 520 | 100 kA | 100 kA | 50 kA | 38 kA | 35 kA | 27 kA | 10 kA | 8 kA |
| | 45 | 36 A - 45 A | 22 | 585 | 100 kA | 100 kA | 50 kA | 38 kA | 35 kA | 27 kA | 10 kA | 8 kA |
| | 50 | 40 A - 50 A | 22 | 650 | 100 kA | 100 kA | 50 kA | 38 kA | 35 kA | 27 kA | 10 kA | 8 kA |
| | 63 | 52 A - 63 A | 30 | 819 | 100 kA | 100 kA | 50 kA | 38 kA | 35 kA | 27 kA | 10 kA | 8 kA |

Trip Time Characteristic : Rotary MPCB- Fr 1

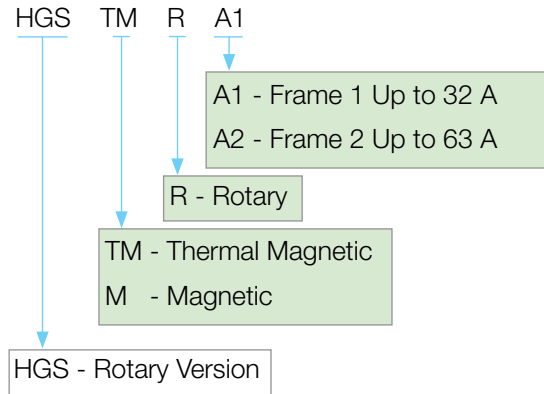


Trip Time Characteristic : Rotary MPCB- Fr 2



Model Logic : Rotary MPCB

MPCB Logic



MPCB Accessories Logic

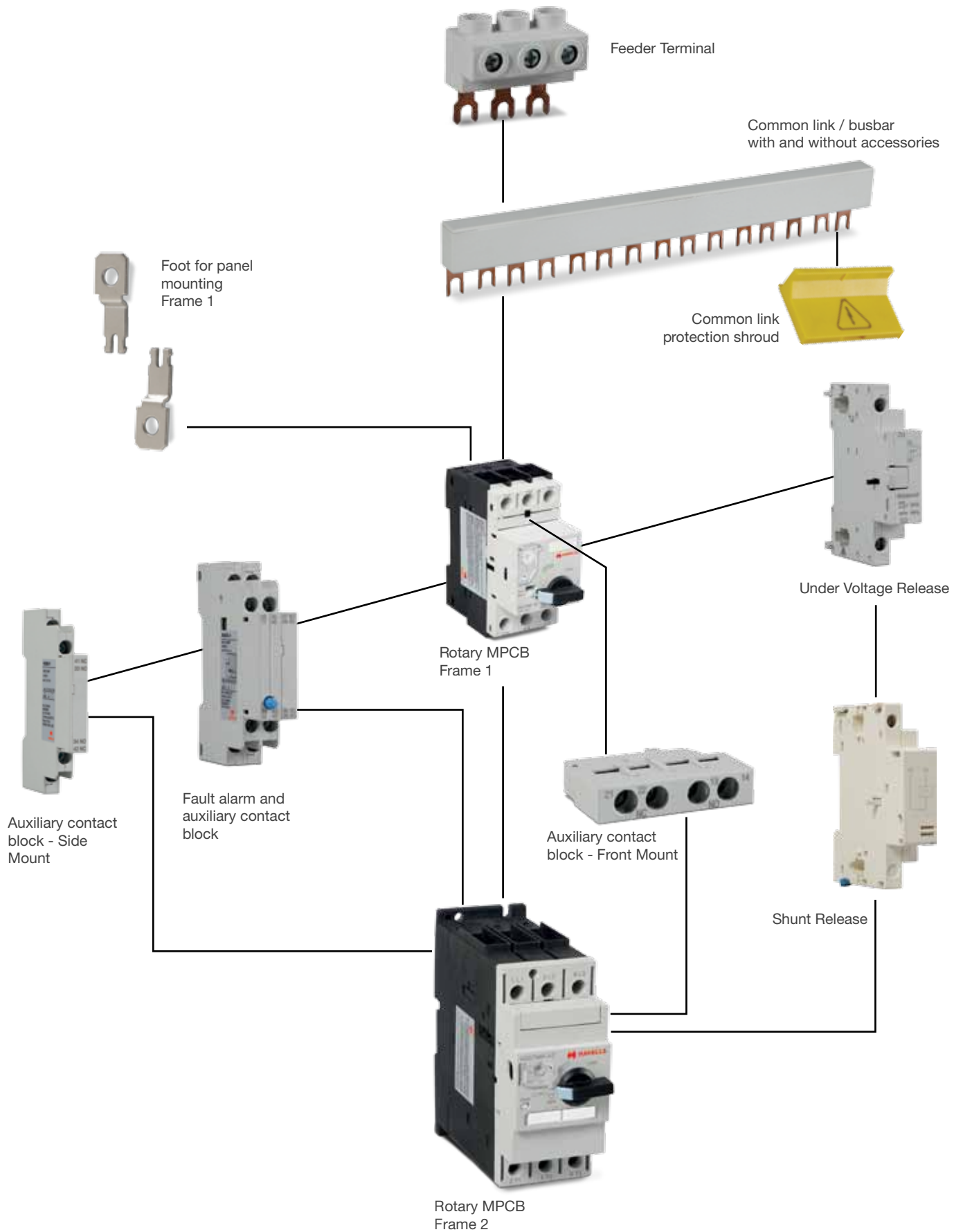
HGSR UVR 115

| | | | |
|-----|----------|---|---|
| FB | 11 | 1NO+1NC | For Top / Side Block |
| | 02 | 2NC | |
| SB | 20 | 2NO | Aux. Contact Block - Side Mount |
| | 11 | 1NO+1NC | |
| UVR | 240F | 240 V, 50 Hz / 277 V, 60 Hz | Under Voltage Release |
| | 110F | 110 V, 50 Hz / 120 V, 60 Hz | |
| | 180F | 180 V, 50 Hz / 208 V, 60 Hz | |
| | 208F | 208 V, 50 Hz / 240 V, 60 Hz | |
| | 415F | 415 V, 50 Hz / 480 V, 60 Hz | |
| | 024B | 24/28 V, 50 Hz / 60 Hz | |
| SR | 024B | 20-24 V, 50 Hz / 60 Hz | Shunt Release |
| | 127B | 100-127 V, 50 Hz / 60 Hz | |
| | 240B | 200-240 V, 50 Hz / 60 Hz | |
| ST | 11 | 1NO+1NC for Fault Alarm and 1NO+1NC for Auxiliary | Trip Signalling Contact |
| E | BGA1 | Enclosure with Black and Grey Rotary Handle | Enclosure for Fr-1, Black and Grey - Only for MPCB |
| | RYA1 | Enclosure with Red and Yellow Rotary Handle | Enclosure for Fr-1, Red and Yellow - Only for MPCB |
| | BGA1A | Enclosure with Black and Grey Rotary Handle | Enclosure for Fr-1, Black and Grey - With Accessories |
| | RYA1A | Enclosure with Red and Yellow Rotary Handle | Enclosure for Fr-1, Red and Yellow - With Accessories |
| CL | CLA1 452 | Busbar, Fr-1, without Accessories | Busbar for 2 MPCBs |
| | CLA1 453 | | Busbar for 3 MPCBs |
| | CLA1 454 | | Busbar for 4 MPCBs |
| | CLA1 455 | | Busbar for 5 MPCBs |
| | CLA1 542 | Busbar, Fr-1, with Accessories | Busbar for 2 MPCBs |
| | CLA1 543 | | Busbar for 3 MPCBs |
| | CLA1 544 | | Busbar for 4 MPCBs |
| | CLA1 545 | | Busbar for 5 MPCBs |
| H | HBGA1 | Rotary Operating Handle in Black and Grey | For Fr-1 |
| | HRYA1 | Rotary Operating Handle in Red and Yellow | |
| | HBGA2 | Rotary Operating Handle in Black and Grey | For Fr-2 |
| | HRYA2 | Rotary Operating Handle in Red and Yellow | |

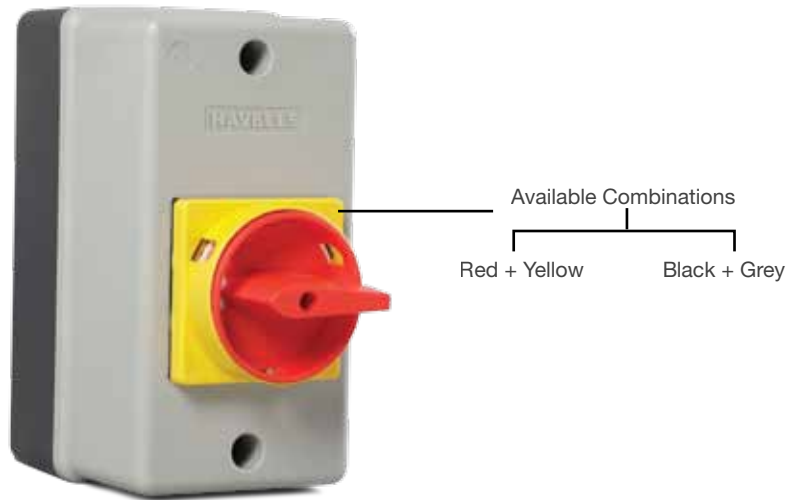
| | |
|-----|------------------------------|
| UVR | Undervoltage Release |
| SR | Shunt Release |
| FB | Top Auxiliary Contact Block |
| SB | Side Auxiliary Contact Block |
| ST | Trip Signalling Contact |
| E | IP65 Enclosure |
| FT | Feeder Terminal |
| TB | Terminal Barrier |
| CL | Common Link |
| H | Handle Rotary |

HGSR - Rotary Version MPCB

Accessories Overview : Rotary MPCB



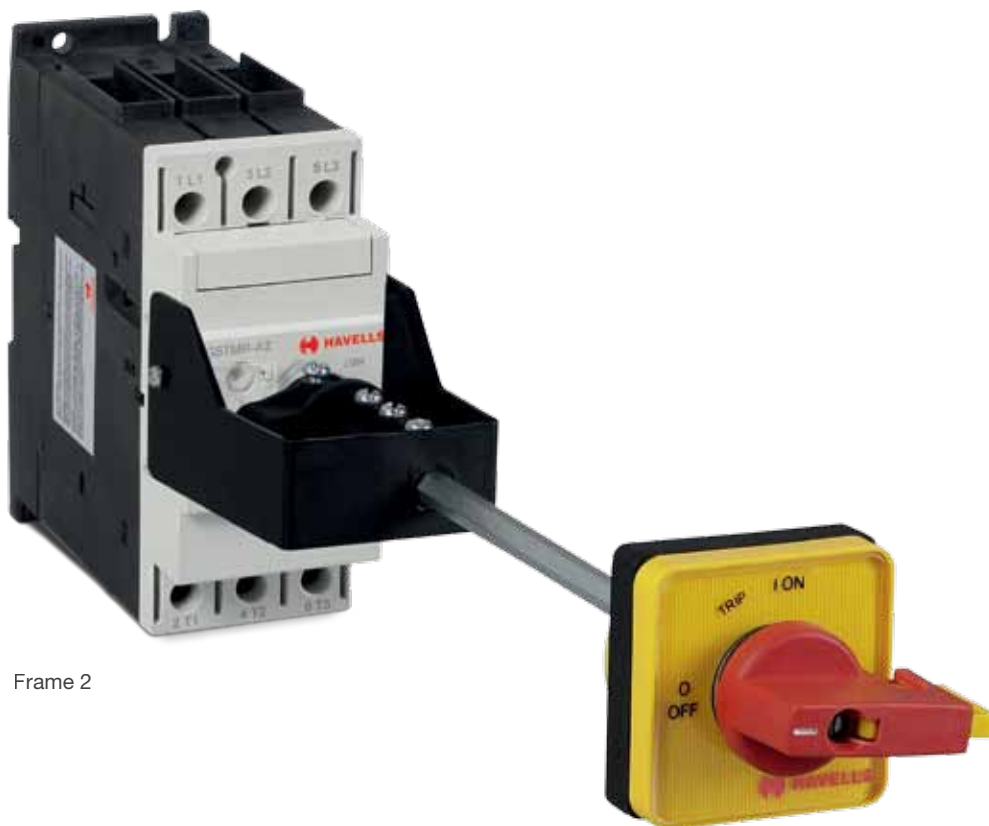
Enclosures : Rotary MPCB



Rotary Operating Handle : Rotary MPCB

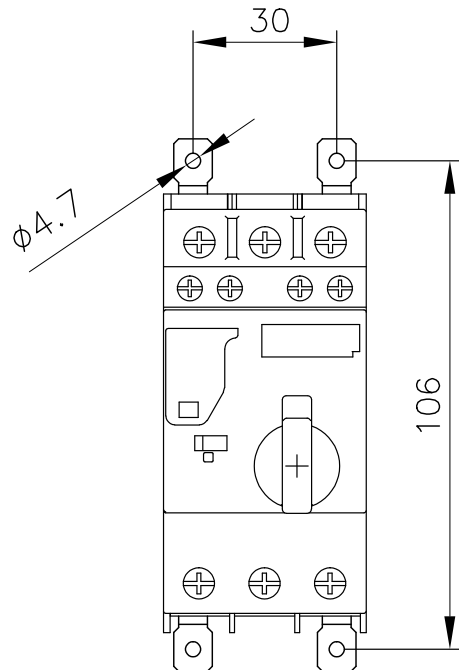
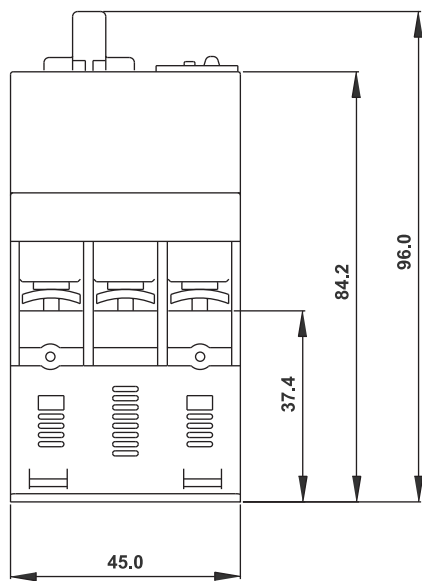
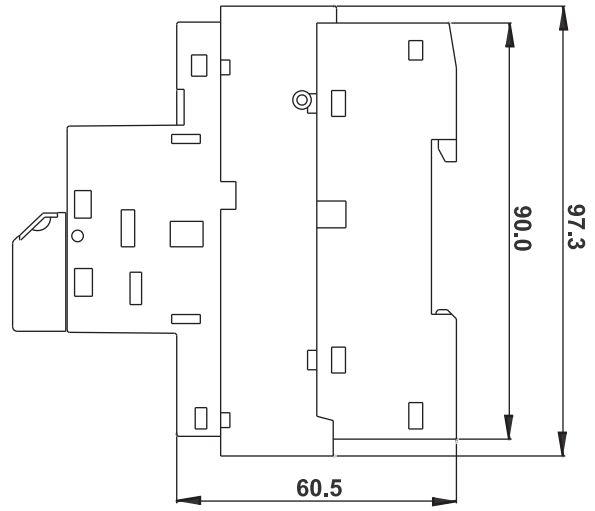
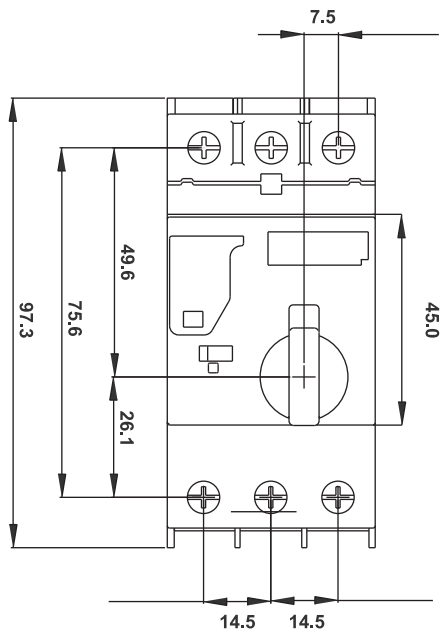


Frame 1

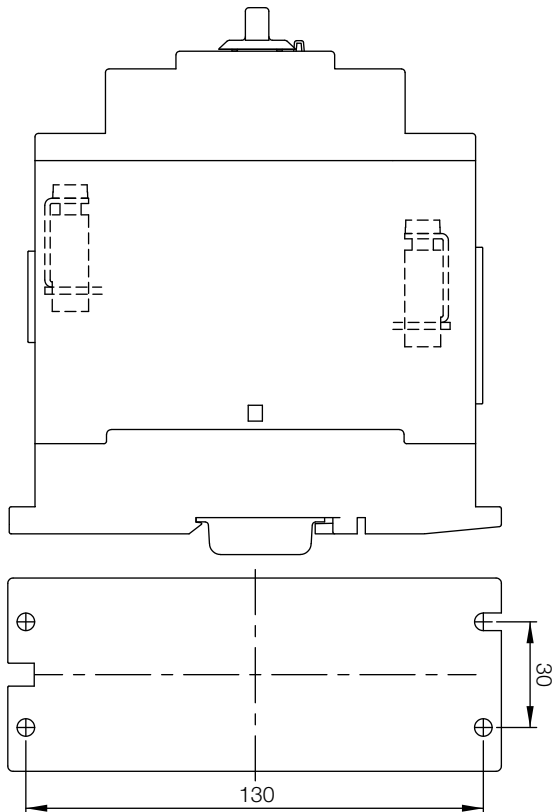
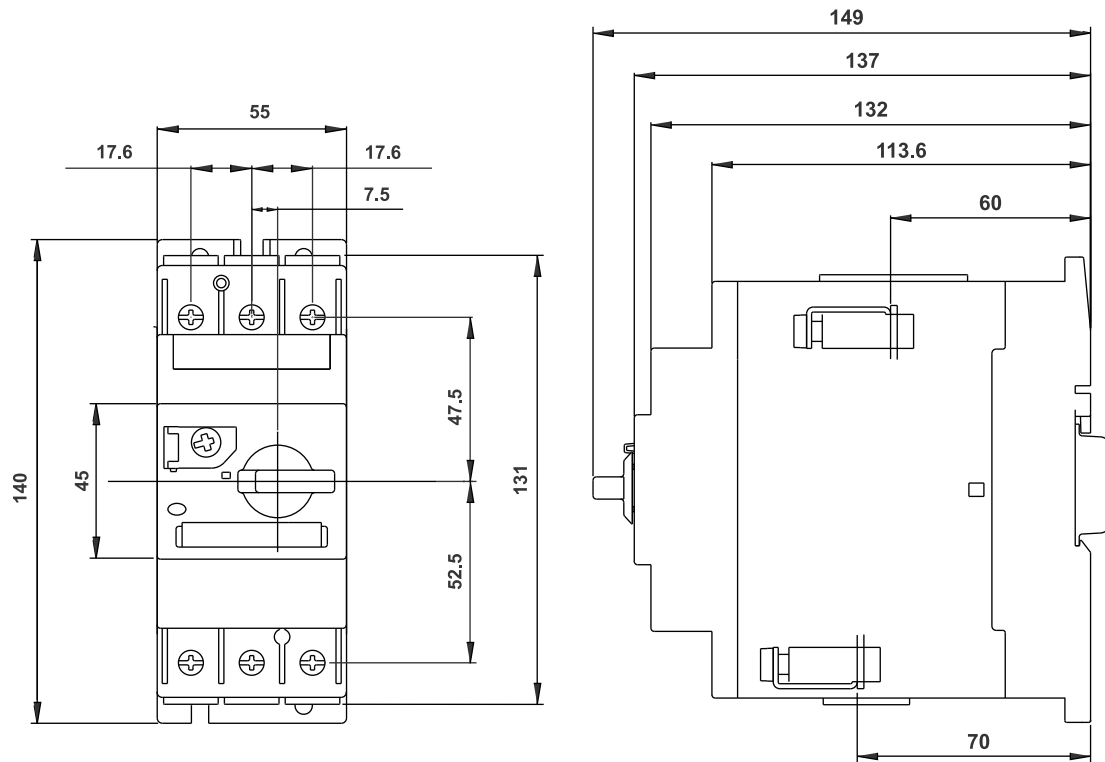


Frame 2

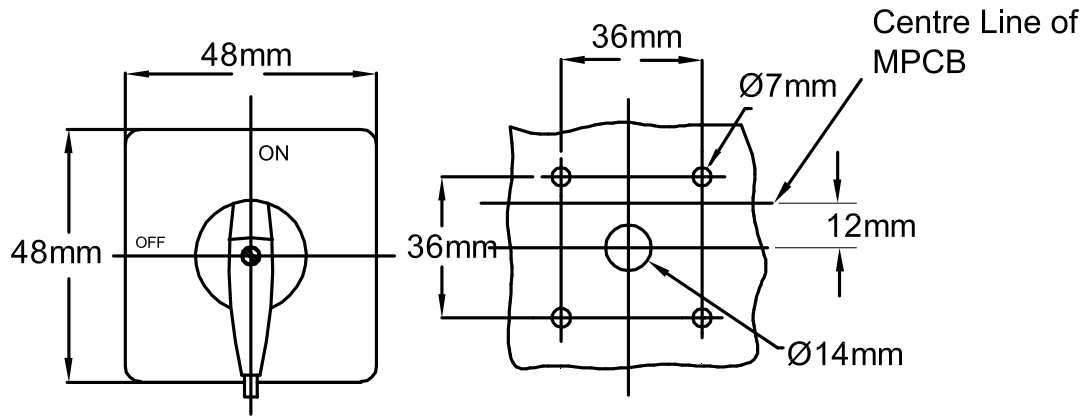
Dimensions - Rotary MPCB Frame-1



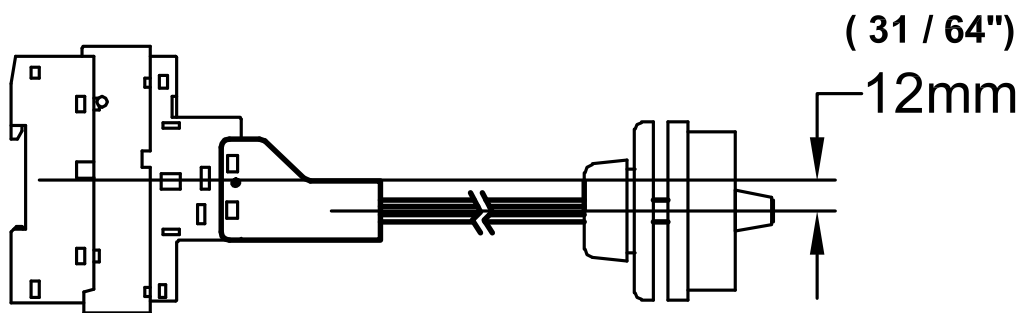
Dimensions - Rotary MPCB Frame-2



Door Cut-out : Rotary Handle



Door Cutout



Refer Instruction Manual for step by step guide

Accessories Details : Rotary MPCB

| Accessory | Picture of Accessory | Description | SKU | Model Name |
|---|---|--|------------|-------------|
| Aux. Contact Block - Top Mount |  | HGSRFB11-Top Aux block 1NO1NC-ROT | ISSPDU0060 | HGSRFB11 |
| Aux. Contact Block - Side Mount |  | HGSRSB02-LHS Aux Block 2NC-ROT | ISSPDU0061 | HGSRSB02 |
| | | HGSRSB20-LHS Aux Block 2NO-ROT | ISSPDU0062 | HGSRSB20 |
| | | HGSRSB11-LHS Aux Block 1NO1NC-ROT | ISSPDU0063 | HGSRSB11 |
| Under Voltage Release |  | HGSRUVR-RHS-UVR-240V,50Hz/277V,60Hz-ROT | ISSPDU0064 | HGSRUVR240F |
| | | HGSRUVR-RHS-UVR-110V,50Hz/120V,60Hz-ROT | ISSPDU0065 | HGSRUVR110F |
| | | HGSRUVR-RHS-UVR-180V,50Hz/208V,60Hz-ROT | ISSPDU0066 | HGSRUVR180F |
| | | HGSRUVR-RHS-UVR-208V,50Hz/240V,60Hz-ROT | ISSPDU0067 | HGSRUVR208F |
| | | HGSRUVR-RHS-UVR-415V,50Hz/480V,60Hz-ROT | ISSPDU0068 | HGSRUVR415F |
| | | HGSRUVR-RHS-UVR-24/28V,50/60Hz-ROT | ISSPDU0069 | HGSRUVR024B |
| Shunt Release |  | HGSRSR-RHS-SHUNT-20-24V,50/60Hz-ROT | ISSPDU0070 | HGSRSR024B |
| | | HGSRSR-RHS-SHUNT-100-127V,50/60Hz-ROT | ISSPDU0071 | HGSRSR127B |
| | | HGSRSR-RHS-SHUNT-200-240V,50/60Hz-ROT | ISSPDU0072 | HGSRSR240B |
| Fault Alarm and Auxiliary Contact Block |  | HGSRST-LHS-Trip ind Aux Cont 2NC+2NO-ROT | ISSPDU0073 | HGSRST11 |
| Enclosure for Fr-1, Black and Grey - Only for MPCB |  | HGSREBG-A1 IP65/S Enclosure-ROT | ISSPDU0074 | HGSREBG |
| Enclosure for Fr-1, Red and Yellow - Only for MPCB |  | HGSRERY-A1 IP65/S Enclosure-ROT | ISSPDU0075 | HGSRERY |
| Enclosure for Fr-1, Black and Grey - With Accessories |  | HGSREBG-A1 IP65/L Enclosure-ROT | ISSPDU0076 | HGSREBG |

Accessories Details : Rotary MPCB

| | | | | |
|---|---|---------------------------------|------------|---------|
| Enclosure for Fr-1, Red and Yellow - With Accessories |  | HGSRERY-A1 IP65/L Enclosure-ROT | ISSPDU0077 | HGSRERY |
| Feeder terminal - Fr-1 |  | HGSRFT-A1 3P Feeder terminals | ISSPDU0079 | HGSRFT |
| Busbar, Fr-1, without Accessories |  | HGSRCL-A1 452mm common link | ISSPDU0081 | HGSRCL |
| | | HGSRCL-A1 453mm common link | ISSPDU0082 | HGSRCL |
| | | HGSRCL-A1 454mm common link | ISSPDU0083 | HGSRCL |
| | | HGSRCL-A1 455mm common link | ISSPDU0084 | HGSRCL |
| Busbar, Fr-1, with Accessories |  | HGSRCL-A1 542mm common link | ISSPDU0085 | HGSRCL |
| | | HGSRCL-A1 543mm common link | ISSPDU0086 | HGSRCL |
| | | HGSRCL-A1 544mm common link | ISSPDU0087 | HGSRCL |
| | | HGSRCL-A1 545mm common link | ISSPDU0088 | HGSRCL |
| Rotary Operating Handle -Fr-1 in Black and Grey |  | HGSRHBG-A1 operating handle-ROT | ISSPDU0089 | HGSRHBG |
| Rotary Operating Handle -Fr-1 in Red and Yellow |  | HGSRHRY-A1 operating handle-ROT | ISSPDU0090 | HGSRHRY |
| Rotary Operating Handle -Fr-2 in Black and Grey |  | HGSRHBG-A2 operating handle-ROT | ISSPDU0091 | HGSRHBG |
| Rotary Operating Handle -Fr-2 in Red and Yellow |  | HGSRHRY-A2 operating handle-ROT | ISSPDU0092 | HGSRHRY |

Ordering Codes : Rotary MPCB and Accessories

| Model Name | SKU | Thermal Protection Adjustment Range | Item Description |
|------------|------------|-------------------------------------|---|
| HGSTMR-A1 | IHHMROA1AT | 0.1 A - 0.16 A | MPCB HGS ROT A1 100 kA TM (0.1 - 0.16 A) |
| | IHHMROB1BT | 0.16 A - 0.25 A | MPCB HGS ROT A1 100 kA TM (0.16 - 0.25 A) |
| | IHHMROC1DT | 0.25 A - 0.4 A | MPCB HGS ROT A1 100 kA TM (0.25 - 0.4 A) |
| | IHHMROD1ET | 0.4 A - 0.63 A | MPCB HGS ROT A1 100 kA TM (0.4 - 0.63 A) |
| | IHHMROE1FT | 0.63 A - 1 A | MPCB HGS ROT A1 100 kA TM (0.63 - 1 A) |
| | IHHMROF1GT | 1.0 A - 1.6 A | MPCB HGS ROT A1 100 kA TM (1 - 1.6 A) |
| | IHHMROG1RT | 1.6 A - 2.5 A | MPCB HGS ROT A1 100 kA TM (1.6 - 2.5 A) |
| | IHHMROH1IT | 2.5 A - 4 A | MPCB HGS ROT A1 100 kA TM (2.5 - 4 A) |
| | IHHMROJ1JT | 4.0 A - 6.3 A | MPCB HGS ROT A1 100 kA TM (4 - 6.3 A) |
| | IHHMROK1KT | 6.3 A - 10 A | MPCB HGS ROT A1 50 kA TM (6.3 - 10 A) |
| | IHHMROM1MT | 10.0 A - 16 A | MPCB HGS ROT A1 50 kA TM (10 - 16 A) |
| | IHHMROP1TT | 16 A - 20 A | MPCB HGS ROT A1 50 kA TM (16 - 20 A) |
| | IHHMROS1NT | 20 A - 25 A | MPCB HGS ROT A1 50 kA TM (20 - 25 A) |
| | IHHMROT1PT | 25 A - 32 A | MPCB HGS ROT A1 50 kA TM (25 - 32 A) |
| HGSTMR-A2 | IHHMROM3MT | 11.0 A - 16 A | MPCB HGS ROT A2 50 kA TM (11 - 16 A) |
| | IHHMROP3TT | 14 A - 20 A | MPCB HGS ROT A2 50 kA TM (14 - 20 A) |
| | IHHMROS3NT | 18 A - 25 A | MPCB HGS ROT A2 50 kA TM (18 - 25 A) |
| | IHHMROT3PT | 22 A - 32 A | MPCB HGS ROT A2 50 kA TM (22 - 32 A) |
| | IHHMROU3QT | 28 A - 40 A | MPCB HGS ROT A2 50 kA TM (28 - 40 A) |
| | IHHMROV3ST | 36 A - 45 A | MPCB HGS ROT A2 50 kA TM (36 - 45 A) |
| | IHHMROW3ST | 40 A - 50 A | MPCB HGS ROT A2 50 kA TM (40 - 50 A) |
| | IHHMROX3XT | 52 A - 63 A | MPCB HGS ROT A2 50 kA TM (45 - 63 A) |

| Model Name | Item Code | Rated Current | Item Description |
|------------|------------|------------------------------|---------------------------------|
| HGSMR-A1 | IHHMROA1AM | 0.16 A | MPCB HGS ROT A1 100 kA M 0.16 A |
| | IHHMROB1BM | 0.25 A | MPCB HGS ROT A1 100 kA M 0.25 A |
| | IHHMROC1DM | 0.4 A | MPCB HGS ROT A1 100 kA M 0.4 A |
| | IHHMROD1EM | 0.63 A | MPCB HGS ROT A1 100 kA M 0.63 A |
| | IHHMROE1FM | 1 A | MPCB HGS ROT A1 100 kA M 1.0 A |
| | IHHMROF1GM | 1.6 A | MPCB HGS ROT A1 100 kA M 1.6 A |
| | IHHMROG1MR | 2.5 A | MPCB HGS ROT A1 100 kA M 2.5 A |
| | IHHMROH1IM | 4 A | MPCB HGS ROT A1 100 kA M 4.0 A |
| | IHHMROJ1JM | 6.3 A | MPCB HGS ROT A1 100 kA M 6.3 A |
| | IHHMROK1KM | 10 A | MPCB HGS ROT A1 50 kA M 10 A |
| | IHHMROM1MM | 16 A | MPCB HGS ROT A1 50 kA M 16 A |
| | IHHMROP1TM | 20 A | MPCB HGS ROT A1 50 kA M 20 A |
| | IHHMROS1NM | 25 A | MPCB HGS ROT A1 50 kA M 25 A |
| | IHHMROT1PM | 32 A | MPCB HGS ROT A1 50 kA M 32 A |
| HGSMR-A2 | IHHMROM3MM | 16 A | MPCB HGS ROT A2 50 kA M 16 A |
| | IHHMROP3TM | 20 A | MPCB HGS ROT A2 50 kA M 20 A |
| | IHHMROS3NM | 25 A | MPCB HGS ROT A2 50 kA M 25 A |
| | IHHMROT3PM | 32 A | MPCB HGS ROT A2 50 kA M 32 A |
| | IHHMROU3QM | 40 A | MPCB HGS ROT A2 50 kA M 40 A |
| | IHHMROV3SM | 45 A | MPCB HGS ROT A2 50 kA M 45 A |
| | IHHMROW3SM | 50 A | MPCB HGS ROT A2 50 kA M 50 A |
| IHHMROX3XM | 63 A | MPCB HGS ROT A2 50 kA M 63 A | |

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