

# HMMS

## Manual Motor Starter

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# Features

## HMMS Manual Motor Starter

Hyundai Manual Motor Starter, MMS series, realizes the function of molded case circuit breaker and thermal overload relay in one module. It enables perfect protection for overload, phase loss, short circuit and infrequent start control of 3-phase motors. MMS also can be used for the protection of distribution line as well as satisfied with the international standard IEC 60947-2 and IEC 60947-4-1.



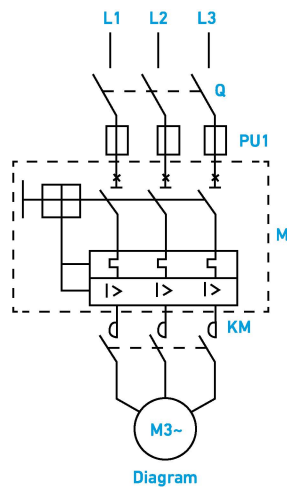


## Product Features

HYUNDAI ELECTRIC introduces the Rotary handle type of new MMS rating from 1 A to 32 A.

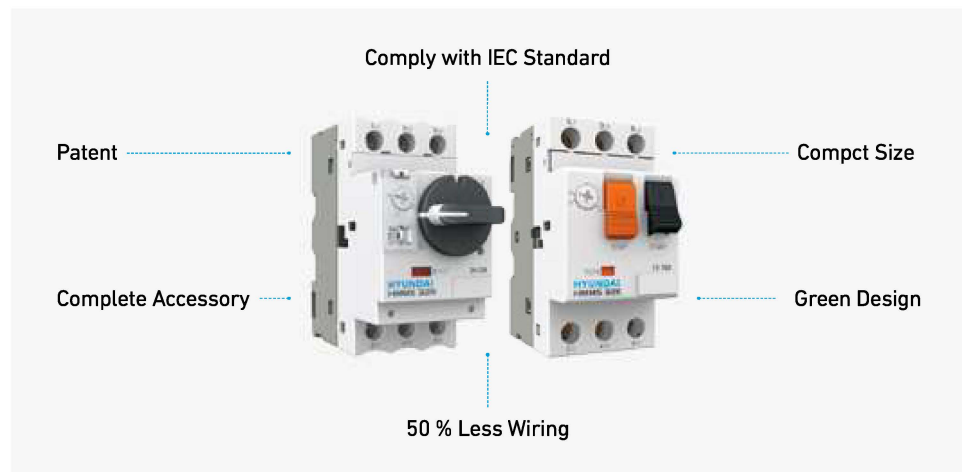
### Function

- Phase-failure protection
- Short circuit protection
- Overload protection
- Frequent operation
- Disconnect switch



### Features

- Standard: IEC 60947-2 / IEC 60947-4
- 50 % Less wiring: MCCB + Contactor + TOR -> MMS + Contactor
- Compact size: save 57 % space
- Green design: Recyclable plastic, no cadmium connection, RoHs
- Tool free installation: 35 mm Din-rail mounting



※ 44.5 mm width up to 32 AF, 61.2 mm width up to 80 AF.

# Selection Table

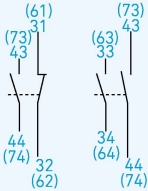
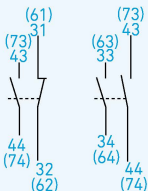
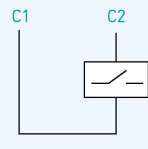
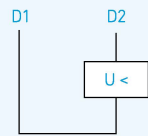
## HMMS Type

| Model                                                       |                                   |                   | HMMS32K                                                                            |     |                    |     |                    |     |                    |     |                    |      |
|-------------------------------------------------------------|-----------------------------------|-------------------|------------------------------------------------------------------------------------|-----|--------------------|-----|--------------------|-----|--------------------|-----|--------------------|------|
|                                                             |                                   |                   |  |     |                    |     |                    |     |                    |     |                    |      |
| Operation Type                                              | Push-button                       |                   |                                                                                    |     |                    |     |                    |     |                    |     |                    |      |
| No. of Poles                                                | 3                                 |                   |                                                                                    |     |                    |     |                    |     |                    |     |                    |      |
| Rated Current (In)                                          | 0.1~32 A                          |                   |                                                                                    |     |                    |     |                    |     |                    |     |                    |      |
| Rated Operational Voltage (Ue)                              | Up to 690 V                       |                   |                                                                                    |     |                    |     |                    |     |                    |     |                    |      |
| Rated Frequency (F)                                         | 50/60 Hz                          |                   |                                                                                    |     |                    |     |                    |     |                    |     |                    |      |
| Rated Insulation Voltage (Ui)                               | 690 V                             |                   |                                                                                    |     |                    |     |                    |     |                    |     |                    |      |
| Rated Impulse Voltage (Uimp)                                | 6 kV                              |                   |                                                                                    |     |                    |     |                    |     |                    |     |                    |      |
| Utilization Category                                        | IEC 60947-2 (Breaker)             |                   | Cat. A                                                                             |     |                    |     |                    |     |                    |     |                    |      |
|                                                             | IEC 60947-4 (Motor Starter)       |                   | AC 3                                                                               |     |                    |     |                    |     |                    |     |                    |      |
| Electrical/Mechanical Endurance (no. of Operations) Minimum | 100,000/100,000                   |                   |                                                                                    |     |                    |     |                    |     |                    |     |                    |      |
| Max Operating Frequency Per Hour (Ope./h)                   | 25                                |                   |                                                                                    |     |                    |     |                    |     |                    |     |                    |      |
| Temperature Compensation (Operation)                        | -20~+60 °C                        |                   |                                                                                    |     |                    |     |                    |     |                    |     |                    |      |
| Instantaneous Short Circuit Release                         | 13 × Ie max.                      |                   |                                                                                    |     |                    |     |                    |     |                    |     |                    |      |
| Humidity                                                    | 95% RH                            |                   |                                                                                    |     |                    |     |                    |     |                    |     |                    |      |
| Altitude (m)                                                | 2,000                             |                   |                                                                                    |     |                    |     |                    |     |                    |     |                    |      |
| Terminal Capacity (max)                                     | 10 mm <sup>2</sup>                |                   |                                                                                    |     |                    |     |                    |     |                    |     |                    |      |
| Tightening Torque                                           | 2.5 N·m                           |                   |                                                                                    |     |                    |     |                    |     |                    |     |                    |      |
| Function                                                    | Overload Protection               |                   | o                                                                                  |     |                    |     |                    |     |                    |     |                    |      |
|                                                             | Phase Failure Protection          |                   | o                                                                                  |     |                    |     |                    |     |                    |     |                    |      |
|                                                             | Test Button                       |                   | o                                                                                  |     |                    |     |                    |     |                    |     |                    |      |
| Weight (kg)                                                 | 0.250                             |                   |                                                                                    |     |                    |     |                    |     |                    |     |                    |      |
| Dimensions (H x D x W)                                      | 89.0 x 78.2 x 44.5                |                   |                                                                                    |     |                    |     |                    |     |                    |     |                    |      |
| Mounting                                                    | Clip in DIN Rail (35 mm x 7.5 mm) |                   |                                                                                    |     |                    |     |                    |     |                    |     |                    |      |
| Installation Position                                       | Vertical/Horizontal               |                   |                                                                                    |     |                    |     |                    |     |                    |     |                    |      |
| Options                                                     | AUX/AXT/SHT/UVT/Enclosure         |                   |                                                                                    |     |                    |     |                    |     |                    |     |                    |      |
| Rated Breaking Capacity (kA)                                | Rated Operational Current (Ie)    | Setting Range (A) | AC220 V<br>AC230 V<br>AC240 V                                                      |     | AC400 V<br>AC415 V |     | AC440 V<br>AC460 V |     | AC500 V<br>AC525 V |     | AC600 V<br>AC690 V |      |
|                                                             |                                   |                   | Icu                                                                                | Ics | Icu                | Ics | Icu                | Ics | Icu                | Ics | Icu                | Ics  |
|                                                             | 0.16                              | 0.1-0.16          | 100                                                                                | 100 | 100                | 100 | 100                | 100 | 100                | 100 | 100                | 100  |
|                                                             | 0.25                              | 0.16-0.25         | 100                                                                                | 100 | 100                | 100 | 100                | 100 | 100                | 100 | 100                | 100  |
|                                                             | 0.4                               | 0.25-0.4          | 100                                                                                | 100 | 100                | 100 | 100                | 100 | 100                | 100 | 100                | 100  |
|                                                             | 0.63                              | 0.4-0.63          | 100                                                                                | 100 | 100                | 100 | 100                | 100 | 100                | 100 | 100                | 100  |
|                                                             | 1                                 | 0.63-1            | 100                                                                                | 100 | 100                | 100 | 100                | 100 | 100                | 100 | 100                | 100  |
|                                                             | 1.6                               | 1-1.6             | 100                                                                                | 100 | 100                | 100 | 100                | 100 | 100                | 100 | 100                | 100  |
|                                                             | 2.5                               | 1.6-2.5           | 100                                                                                | 100 | 100                | 100 | 100                | 100 | 100                | 100 | 3                  | 2.25 |
|                                                             | 4                                 | 2.5-4             | 100                                                                                | 100 | 100                | 100 | 100                | 100 | 100                | 100 | 3                  | 2.25 |
|                                                             | 6.3                               | 4-6.3             | 100                                                                                | 100 | 100                | 100 | 50                 | 50  | 50                 | 50  | 3                  | 2.25 |
|                                                             | 10                                | 6-10              | 100                                                                                | 100 | 100                | 100 | 15                 | 15  | 10                 | 10  | 3                  | 2.25 |
|                                                             | 14                                | 9-14              | 100                                                                                | 100 | 15                 | 7.5 | 8                  | 4   | 6                  | 4.5 | 3                  | 2.25 |
|                                                             | 18                                | 13-18             | 100                                                                                | 100 | 15                 | 7.5 | 8                  | 4   | 6                  | 4.5 | 3                  | 2.25 |
|                                                             | 23                                | 17-23             | 50                                                                                 | 50  | 15                 | 6   | 6                  | 3   | 4                  | 3   | 3                  | 2.25 |
|                                                             | 25                                | 20-25             | 50                                                                                 | 50  | 15                 | 6   | 6                  | 3   | 4                  | 3   | 3                  | 2.25 |
|                                                             | 32                                | 24-32             | 50                                                                                 | 50  | 10                 | 5   | 6                  | 3   | 4                  | 3   | 3                  | 2.25 |
|                                                             | 40                                | 25-40             | -                                                                                  | -   | -                  | -   | -                  | -   | -                  | -   | -                  | -    |
|                                                             | 63                                | 40-63             | -                                                                                  | -   | -                  | -   | -                  | -   | -                  | -   | -                  | -    |
|                                                             | 80                                | 56-80             | -                                                                                  | -   | -                  | -   | -                  | -   | -                  | -   | -                  | -    |

[illegible]

|                                   |     |                    |     |                    |     |                    |     |                    |     |
|-----------------------------------|-----|--------------------|-----|--------------------|-----|--------------------|-----|--------------------|-----|
| Push-button                       |     |                    |     |                    |     |                    |     |                    |     |
| 3                                 |     |                    |     |                    |     |                    |     |                    |     |
| 25~80 A                           |     |                    |     |                    |     |                    |     |                    |     |
| Up to 690 V                       |     |                    |     |                    |     |                    |     |                    |     |
| 50/60 Hz                          |     |                    |     |                    |     |                    |     |                    |     |
| 690 V                             |     |                    |     |                    |     |                    |     |                    |     |
| 6 kV                              |     |                    |     |                    |     |                    |     |                    |     |
| Cat. A                            |     |                    |     |                    |     |                    |     |                    |     |
| AC 3                              |     |                    |     |                    |     |                    |     |                    |     |
| 30,000/50,000                     |     |                    |     |                    |     |                    |     |                    |     |
| 25                                |     |                    |     |                    |     |                    |     |                    |     |
| -20~+60 °C                        |     |                    |     |                    |     |                    |     |                    |     |
| 13 x le max.                      |     |                    |     |                    |     |                    |     |                    |     |
| 95% RH                            |     |                    |     |                    |     |                    |     |                    |     |
| 2,000                             |     |                    |     |                    |     |                    |     |                    |     |
| 25 mm <sup>2</sup>                |     |                    |     |                    |     |                    |     |                    |     |
| 4.5 N·m                           |     |                    |     |                    |     |                    |     |                    |     |
| o                                 |     |                    |     |                    |     |                    |     |                    |     |
| o                                 |     |                    |     |                    |     |                    |     |                    |     |
| o                                 |     |                    |     |                    |     |                    |     |                    |     |
| 0.682                             |     |                    |     |                    |     |                    |     |                    |     |
| 120.0 x 113.0 x 61.2              |     |                    |     |                    |     |                    |     |                    |     |
| Clip in DIN Rail (35 mm x 7.5 mm) |     |                    |     |                    |     |                    |     |                    |     |
| Vertical/Horizontal               |     |                    |     |                    |     |                    |     |                    |     |
| AUX                               |     |                    |     |                    |     |                    |     |                    |     |
| AC220 V<br>AC230 V<br>AC240 V     |     | AC400 V<br>AC415 V |     | AC440 V<br>AC460 V |     | AC500 V<br>AC525 V |     | AC600 V<br>AC690 V |     |
| Icu                               | Ics | Icu                | Ics | Icu                | Ics | Icu                | Ics | Icu                | Ics |
| -                                 | -   | -                  | -   | -                  | -   | -                  | -   | -                  | -   |
| -                                 | -   | -                  | -   | -                  | -   | -                  | -   | -                  | -   |
| -                                 | -   | -                  | -   | -                  | -   | -                  | -   | -                  | -   |
| -                                 | -   | -                  | -   | -                  | -   | -                  | -   | -                  | -   |
| -                                 | -   | -                  | -   | -                  | -   | -                  | -   | -                  | -   |
| -                                 | -   | -                  | -   | -                  | -   | -                  | -   | -                  | -   |
| -                                 | -   | -                  | -   | -                  | -   | -                  | -   | -                  | -   |
| -                                 | -   | -                  | -   | -                  | -   | -                  | -   | -                  | -   |
| -                                 | -   | -                  | -   | -                  | -   | -                  | -   | -                  | -   |
| -                                 | -   | -                  | -   | -                  | -   | -                  | -   | -                  | -   |
| -                                 | -   | -                  | -   | -                  | -   | -                  | -   | -                  | -   |
| -                                 | -   | -                  | -   | -                  | -   | -                  | -   | -                  | -   |
| -                                 | -   | -                  | -   | -                  | -   | -                  | -   | -                  | -   |
| -                                 | -   | -                  | -   | -                  | -   | -                  | -   | -                  | -   |
| -                                 | -   | -                  | -   | -                  | -   | -                  | -   | -                  | -   |
| -                                 | -   | -                  | -   | -                  | -   | -                  | -   | -                  | -   |
| 100                               | 100 | 50                 | 25  | 50                 | 25  | 10                 | 5   | 5                  | 3   |
| 100                               | 100 | 50                 | 25  | 50                 | 25  | 10                 | 5   | 5                  | 3   |
| 100                               | 100 | 15                 | 7.5 | 10                 | 6   | 4                  | 4   | 2                  | 2   |

# Accessories

| Accessories                        | Ordering Information | Electrical Diagram                                                                                                                                                              | Contact                                      | Category  |        |                                                 |     | Weight (g) |  |
|------------------------------------|----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------|-----------|--------|-------------------------------------------------|-----|------------|--|
|                                    |                      |                                                                                                                                                                                 |                                              | Ui (AC/V) | Ue (V) | Ie (A)                                          | VA  |            |  |
| Auxiliary Switch<br>Front Mounting | MMS32K AUX T11       | 21  22 13  14 | 1NO 1NC                                      | 250       | 240    | 2.5                                             | 120 | 16         |  |
|                                    | MMS32K AUX T20       | 23  24 13  14 | 2NO                                          |           |        |                                                 |     |            |  |
| Auxiliary Switch<br>Side Mounting  | MMS32K AUX S11       |                                                                                                | 1NO 1NC                                      | 690       | 690    | 6                                               | 720 | 40         |  |
|                                    | MMS32K AUX S20       | <br>AUX S11    AUX S20                                                                         | 2NO                                          |           |        |                                                 |     |            |  |
| Auxiliary Switch<br>Side Mounting  | MMS80K AUX S11       |                                                                                               | 1NO 1NC                                      | 690       | 690    | 6                                               | 720 | 40         |  |
|                                    | MMS80K AUX S20       | <br>AUX S11    AUX S20                                                                       | 2NO                                          |           |        |                                                 |     |            |  |
| Failure Alarm<br>Side Mounting     | MMS32K AXT 0110      |                                                                                              | Failure contact: NC<br>Auxiliary contact: NO | 690       | 240    | 2.5<br>(95-96 &<br>97-98)<br>Failure<br>contact | 72  | 40         |  |
|                                    | MMS32K AXT 0101      |                                                                                              | Failure contact: NC<br>Auxiliary contact: NC |           |        |                                                 |     |            |  |
|                                    | MMS32K AXT 1010      |                                                                                              | Failure contact: NO<br>Auxiliary contact: NO |           | 690    | 6<br>(51-52 &<br>53-54)<br>Auxiliary<br>contact | 720 |            |  |
|                                    | MMS32K AXT 1001      |                                                                                              | Failure contact: NO<br>Auxiliary contact: NC |           |        |                                                 |     |            |  |
| Shunt Trip Relay                   | MMS32K SHT 110       |                                                                                              | Uc = 110 V, 50/60 Hz                         |           |        |                                                 |     | 90         |  |
|                                    | MMS32K SHT 240       |                                                                                                                                                                                 | Uc = 220/240 V, 50/60 Hz                     |           |        |                                                 |     |            |  |
|                                    | MMS32K SHT 380       |                                                                                                                                                                                 | Uc = 380 V, 50/60 Hz                         |           |        |                                                 |     |            |  |
| Under Voltage<br>Trip Relay        | MMS32K UVT 110       |                                                                                              | Uc = 110 V, 50/60 Hz                         |           |        |                                                 |     | 90         |  |
|                                    | MMS32K UVT 240       |                                                                                                                                                                                 | Uc = 220/240 V, 50/60 Hz                     |           |        |                                                 |     |            |  |
|                                    | MMS32K UVT 380       |                                                                                                                                                                                 | Uc = 380 V, 50/60 Hz                         |           |        |                                                 |     |            |  |



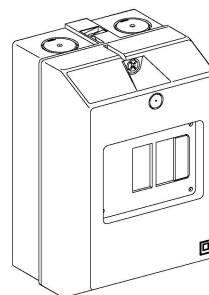
## Enclosure

### • MMS32K ENC

Case cover of MMS enclosure is specifically designed with dust-proof and corrosive-proof structure.

Therefore, it is the optimum product to sue in dusty areas such as cement plants, cotton mills as well as in the presence of corrosive gas or liquip (ex: explosive. Flammable gas) such as fertilzer, refinery, and plating plant.

- Operating temp.: -20 ~ +60 °C
- Degree of protection: IP55
- Conforming to standards: IEC 60947-2, IRC 60947-4-1
- Operational voltage Ue: 690 V
- Material: Polycarbonate



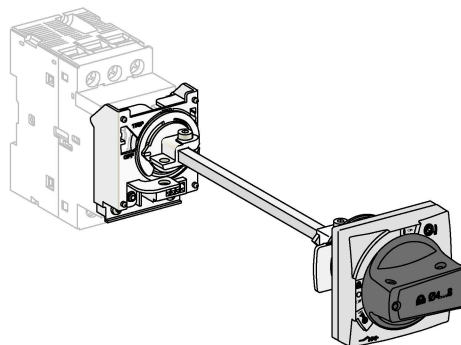
## Extension Handle (TFH)

### • TFH MMS32R

MMS extension handle is a rotary type handle accessory which can be attached to the front to control and verify the On, Trip, Off condition of manual.

Motor starters under the situation of closing panel.

- Application model: MMS32R
- Operating temp.: -20~+60 °C
- Degree of protection: IP65
- Locking device: Lockable in on/off position
- Material: PA66



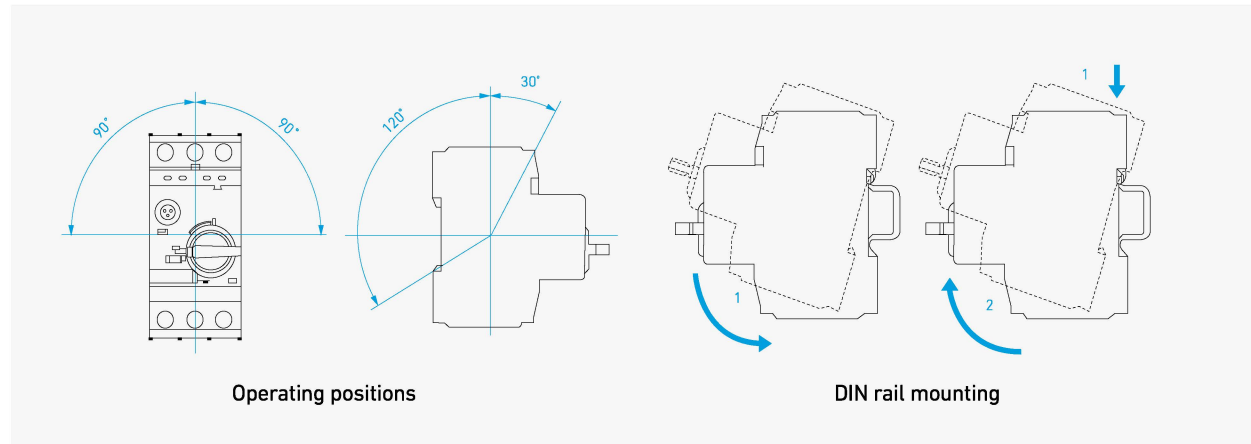
## Mounting



# Technical Data

## Mounting

35 mm Din-Rail for mounting

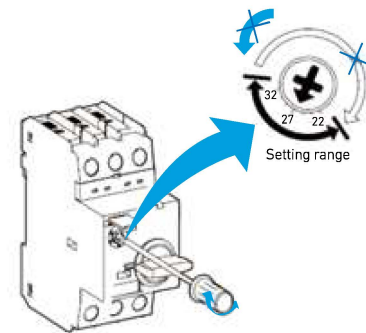


## Caution for thermal adjustments

1. Keep the setting range as shown below.
2. Moving counterclockwise out of the setting range may cause the damage of the device.
3. Calibration by ambient air temperature

|                           |                          |                            |
|---------------------------|--------------------------|----------------------------|
| A: Set to one point lower | Calibrated automatically | B: Set to one point higher |
| -20 °C                    | -5 °C                    | +40 °C                     |
|                           |                          | +60 °C                     |

In case of using out of the standard air temperature range (-5°C~ +40°C) it needs to be calibrated by one point



Dial setting method

## Environment

Ambient air temperature

storage: -50... + 80 °C

operation: -20... + 60 °C

Ambient temperature compensation: -20... + 60 °C

Maximum operating altitude: 2,000 m

Protection degree: IP20

Shock resistance: 25 g

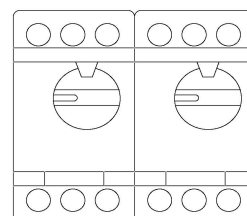
Vibration resistance: 5~150 Hz

## Product side by side

When several products MMS32K/MMS32R/MMS80K are mounted side by side, the thermal trip setting  $I_r$  maybe need to be adjusted up to 1.1  $I_{In}$ .

Don't exceed the maximum thermal setting  $I_r$ .

(ex: MMS32K 0010, thermal setting range: 6...10, don't adjust  $I_r$  above 10 A)





## Terminals

| Model       | Terminal Screw | Applicable Wire Size (mm <sup>2</sup> )                                          | Ring Tongue Terminal (mm <sup>2</sup> ) | Screwing Torque (kgf.cm) |
|-------------|----------------|----------------------------------------------------------------------------------|-----------------------------------------|--------------------------|
| 0.1-0.16 A  | M4             | 1~10 mm <sup>2</sup> (Hard cooper cable)<br>1~6 mm <sup>2</sup> (Softcable)      | Boreφ3.5, Maximum outsideφ 8.0          | 1.2 N.M                  |
| 0.16-0.25 A | M4             | 1~10 mm <sup>2</sup> (Hard cooper cable)<br>1~6 mm <sup>2</sup> (Softcable)      | Boreφ3.5, Maximum outsideφ 8.0          | 1.2 N.M                  |
| 0.25-0.4 A  | M4             | 1~10 mm <sup>2</sup> (Hard cooper cable)<br>1~6 mm <sup>2</sup> (Softcable)      | Boreφ3.5, Maximum outsideφ 8.0          | 1.2 N.M                  |
| 0.4-0.63 A  | M4             | 1~10 mm <sup>2</sup> (Hard cooper cable)<br>1~6 mm <sup>2</sup> (Softcable)      | Boreφ3.5, Maximum outsideφ 8.0          | 1.2 N.M                  |
| 0.63-1 A    | M4             | 1~10 mm <sup>2</sup> (Hard cooper cable)<br>1~6 mm <sup>2</sup> (Softcable)      | Boreφ3.5, Maximum outsideφ 8.0          | 1.2 N.M                  |
| 1-1.6 A     | M4             | 1~10 mm <sup>2</sup> (Hard cooper cable)<br>1~6 mm <sup>2</sup> (Softcable)      | Boreφ3.5, Maximum outsideφ 8.0          | 1.2 N.M                  |
| 1.6-2.5 A   | M4             | 1~10mm <sup>2</sup> (Hard cooper cable)<br>1~6mm <sup>2</sup> (Softcable)        | Boreφ3.5, Maximum outsideφ 8.0          | 1.2 N.M                  |
| 2.5-4 A     | M4             | 1~10 mm <sup>2</sup> (Hard cooper cable)<br>1~6 mm <sup>2</sup> (Softcable)      | Boreφ3.5, Maximum outsideφ 8.0          | 1.2 N.M                  |
| 4-6.3 A     | M4             | 1~10mm <sup>2</sup> (Hard cooper cable)<br>1~6mm <sup>2</sup> (Softcable)        | Boreφ3.5, Maximum outsideφ 8.0          | 1.2 N.M                  |
| 6-10 A      | M4             | 1~10 mm <sup>2</sup> (Hard Cooper Cable)<br>1~6 mm <sup>2</sup> (Softcable)      | Boreφ3.5, Maximum outsideφ 8.0          | 1.2 N.M                  |
| 9-14 A      | M4             | 1~10 mm <sup>2</sup> (Hard cooper cable)<br>1~6 mm <sup>2</sup> (Softcable)      | Boreφ3.5, Maximum outsideφ 8.0          | 1.2 N.M                  |
| 13-18 A     | M4             | 1~10 mm <sup>2</sup> (Hard cooper cable)<br>1~6 mm <sup>2</sup> (Softcable)      | Boreφ3.5, Maximum outsideφ 8.0          | 1.2 N.M                  |
| 17-23 A     | M4             | 1~10 mm <sup>2</sup> (Hard cooper cable)<br>1~6 mm <sup>2</sup> (Softcable)      | Boreφ3.5, Maximum outsideφ 8.0          | 1.2 N.M                  |
| 20-25 A     | M4             | 1~10 mm <sup>2</sup> (Hard cooper cable)<br>1~6 mm <sup>2</sup> (Softcable)      | Boreφ3.5, Maximum outsideφ 8.0          | 1.2 N.M                  |
| 24-32 A     | M4             | 1~10 mm <sup>2</sup> (Hard cooper cable)<br>1~6 mm <sup>2</sup> (Softcable)      | Boreφ3.5, Maximum outsideφ 8.0          | 1.2 N.M                  |
| 25-40 A     | M8             | 2.5~25 mm <sup>2</sup> (Hard cooper cable)<br>2.5~16 mm <sup>2</sup> (Softcable) | -                                       | 3.5 N.M                  |
| 40-63 A     | M8             | 2.5~25 mm <sup>2</sup> (Hard cooper cable)<br>2.5~16 mm <sup>2</sup> (Softcable) | -                                       | 3.5 N.M                  |
| 56-80 A     | M8             | 2.5~25 mm <sup>2</sup> (Hard cooper cable)<br>2.5~16 mm <sup>2</sup> (Softcable) | -                                       | 3.5 N.M                  |

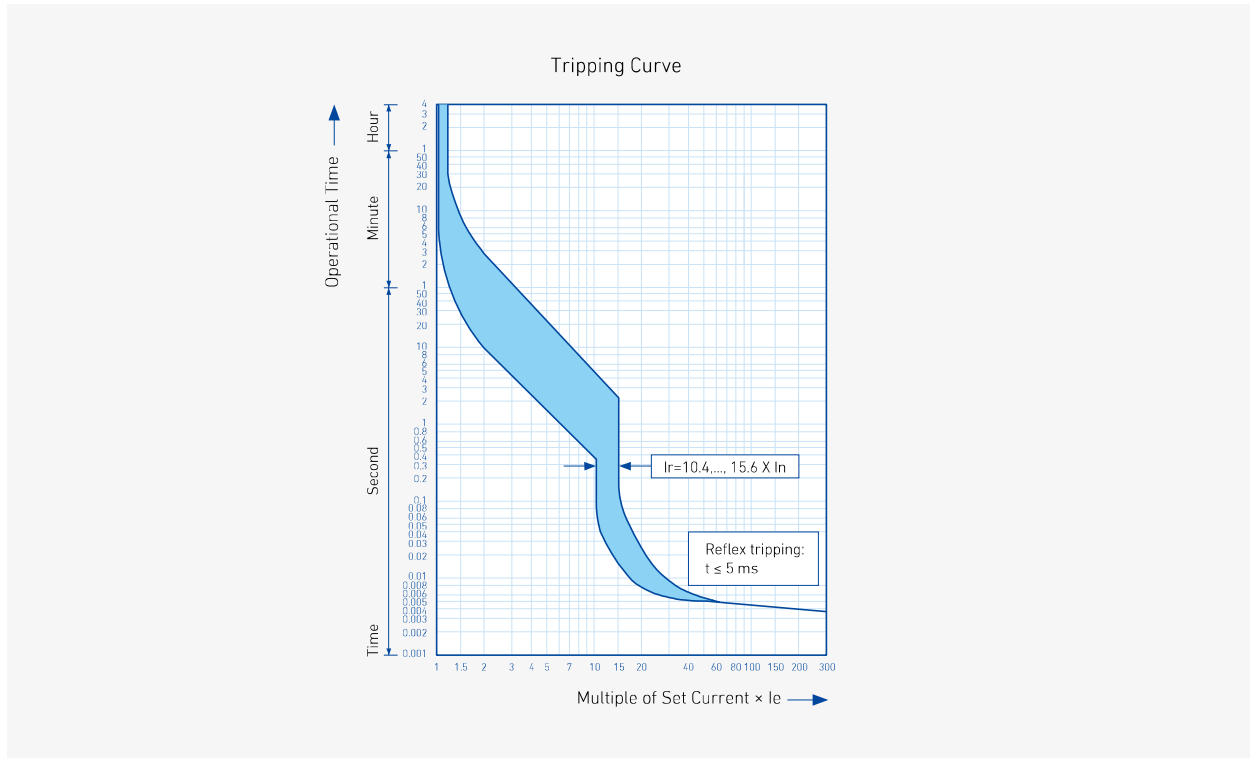
# Technical Data

## Application for-3Phase Motors, AC-3

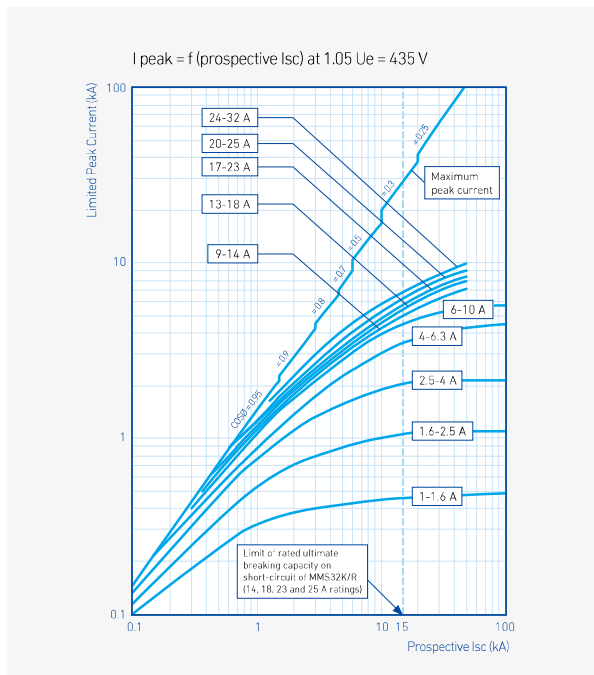
| Rated Current (A) | Setting Range (A) | 3-Phase [kW] (50/60 Hz) |       |       |       |       |       |
|-------------------|-------------------|-------------------------|-------|-------|-------|-------|-------|
|                   |                   | AC230/240 V             | 400 V | 415 V | 440 V | 500 V | 690 V |
| 0.16              | 0.1-0.16          | -                       | -     | -     | -     | -     | -     |
| 0.25              | 0.16-0.25         | -                       | 0.06  | 0.06  | -     | -     | -     |
| 0.4               | 0.25-0.4          | -                       | 0.09  | 0.09  | -     | -     | -     |
| 0.63              | 0.4-0.63          | -                       | 0.12  | 0.12  | 0.2   | 0.25  | 0.37  |
| 1                 | 0.63-1            | -                       | 0.25  | 0.25  | 0.5   | 0.5   | 0.55  |
| 1.6               | 1-1.6             | -                       | 0.37  | 0.37  | 0.55  | 0.75  | 1.1   |
| 2.5               | 1.6-2.5           | 0.5                     | 0.75  | 0.75  | 1.1   | 1.1   | 1.5   |
| 4                 | 2.5-4             | 0.5                     | 1.5   | 1.5   | 2     | 2.2   | 3     |
| 6.3               | 4-6.3             | 1.1                     | 2.2   | 2.2   | 3     | 3.7   | 4     |
| 10                | 6-10              | 2.2                     | 4     | 4     | 5     | 5.5   | 7.5   |
| 14                | 9-14              | 3                       | 5.5   | 5.5   | 7.5   | 7.5   | 9     |
| 18                | 13-18             | 5                       | 7.5   | 7.5   | 9     | 9     | 15    |
| 23                | 17-23             | 6.5                     | 11    | 11    | 11    | 11    | 18.5  |
| 25                | 20-25             | 6.5                     | 11    | 11    | 15    | 15    | 18.5  |
| 32                | 24-32             | 10                      | 15    | 15    | 18.5  | 20    | 22    |
| 40                | 25-40             | 10                      | 20    | 20    | 25    | 30    | 30    |
| 63                | 40-63             | 20                      | 30    | 35    | 40    | 50    | 60    |
| 80                | 56-80             | 25                      | 35    | 40    | 50    | 55    | 60    |

## HMMS32K/R

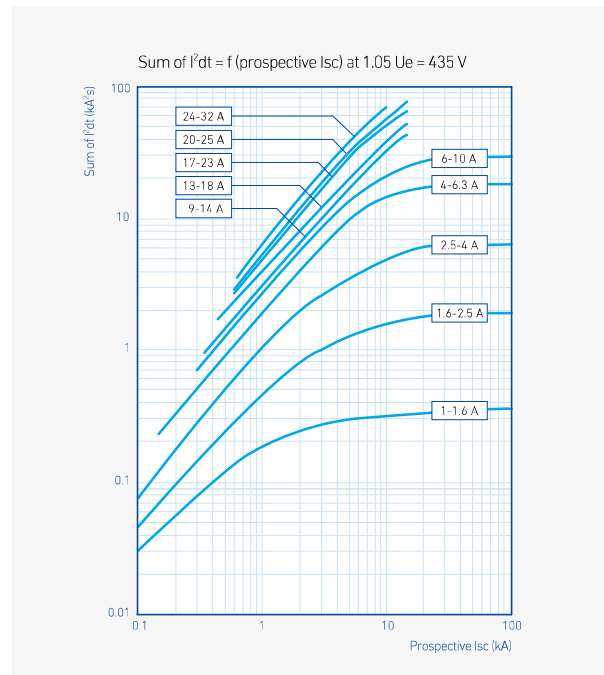
### Thermal Magnetic Tripping Curve



### Current Limitation on Short Circuit HMMS32K/R



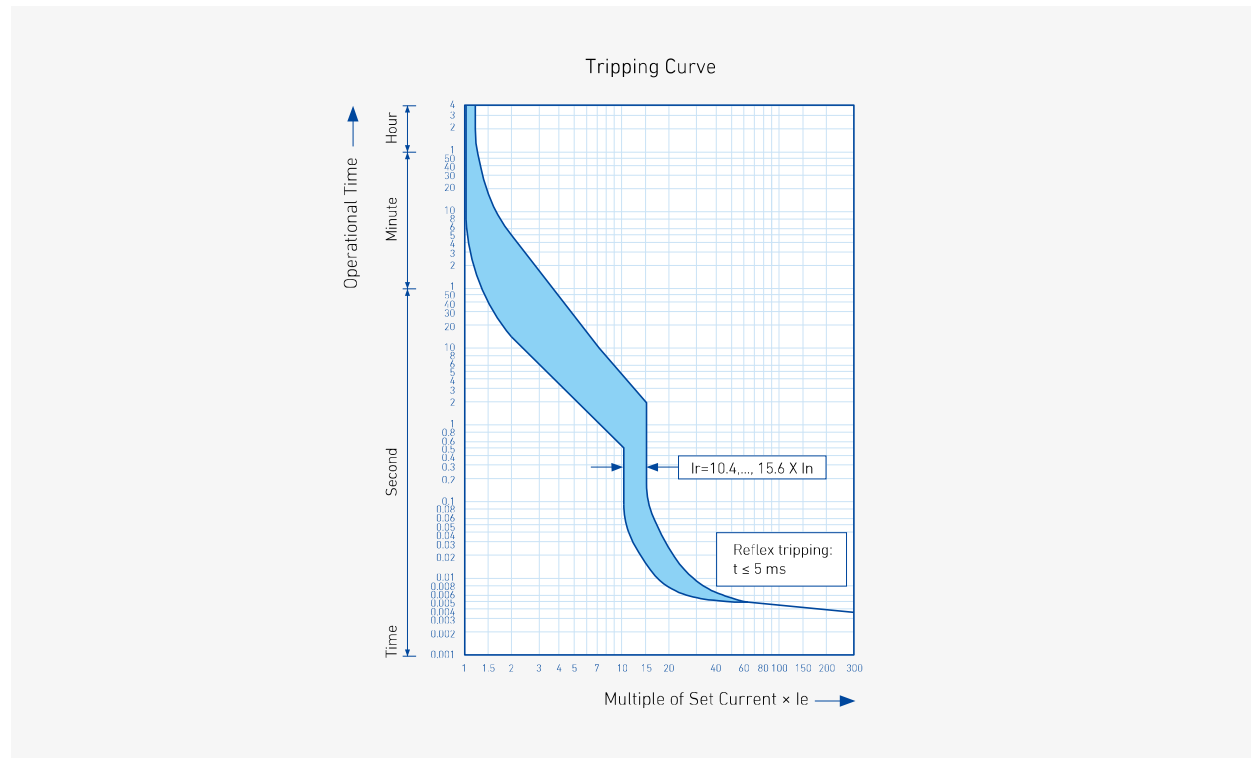
### Thermal Limit on Short Circuit HMMS32K/R



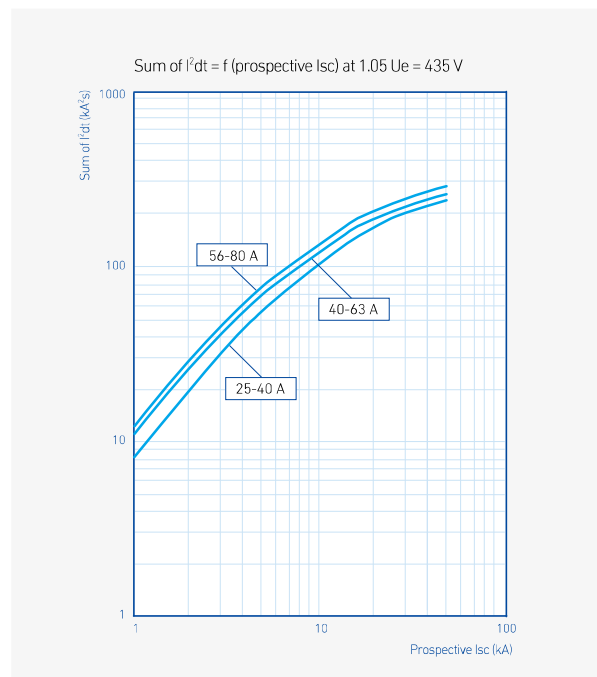
# Technical Data

## HMMS80K

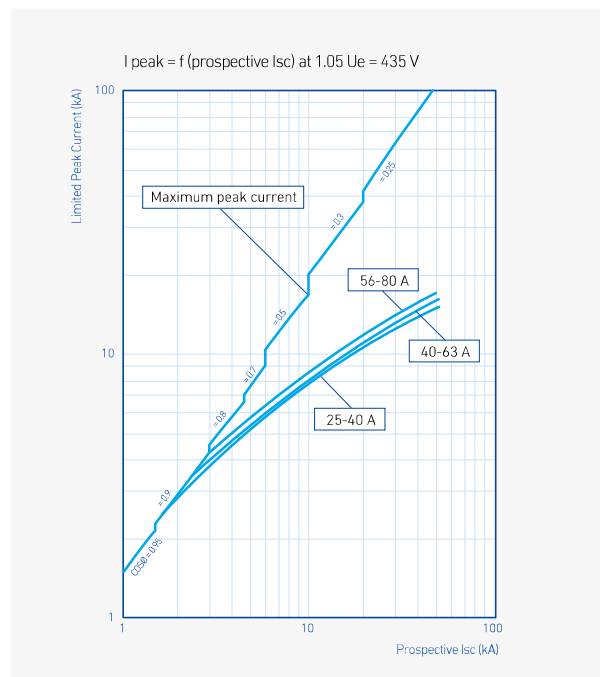
### Thermal Magnetic Tripping Curve



### Current Limitation on Short Circuit



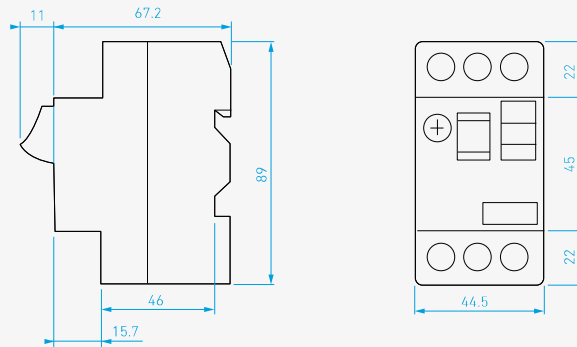
### Thermal Limit in $\text{kA}^2$ in the Magnetic Operating Zone



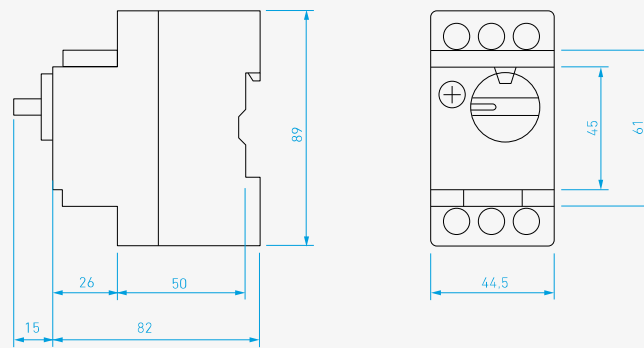
# Dimensions

## HMMS

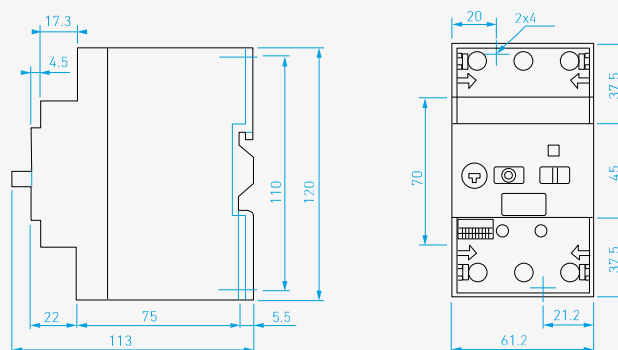
### HMMS32K



### HMMS32R



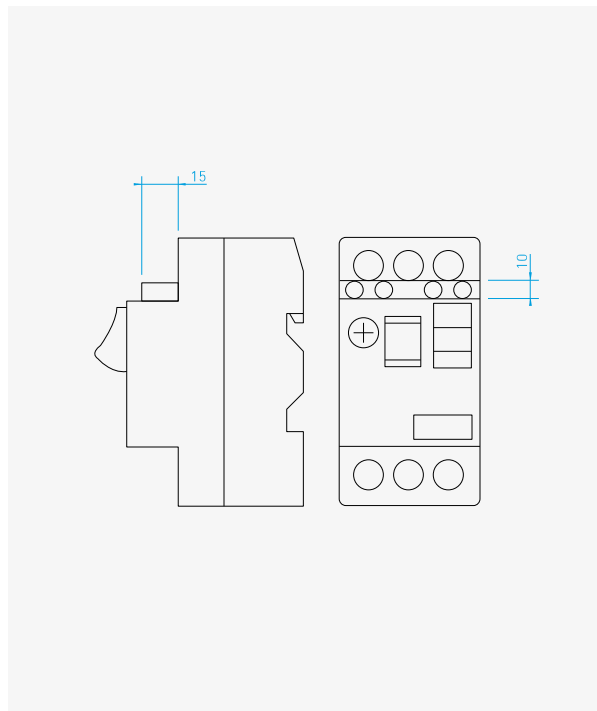
### HMMS80K



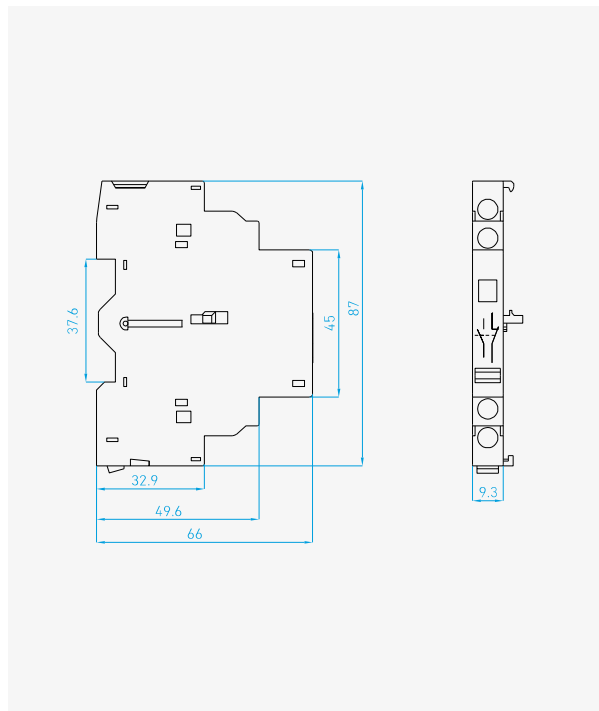
# Dimensions

## Accessories

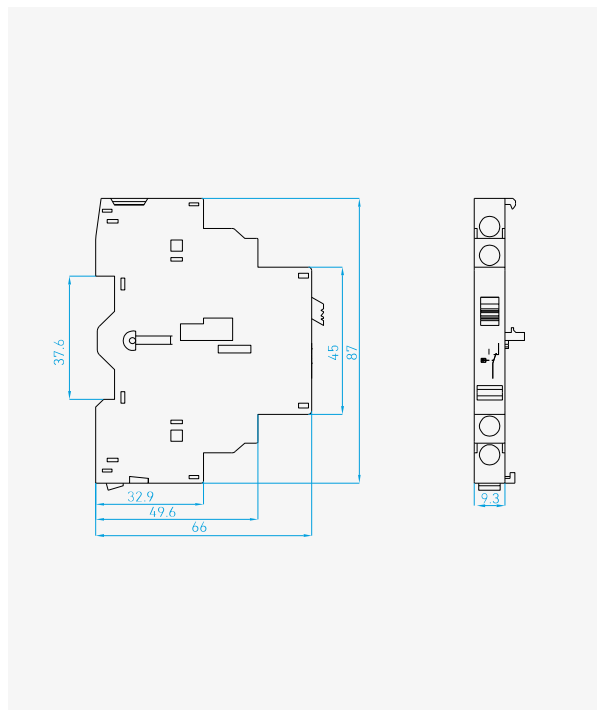
### Top Mounting: Auxiliary Switch



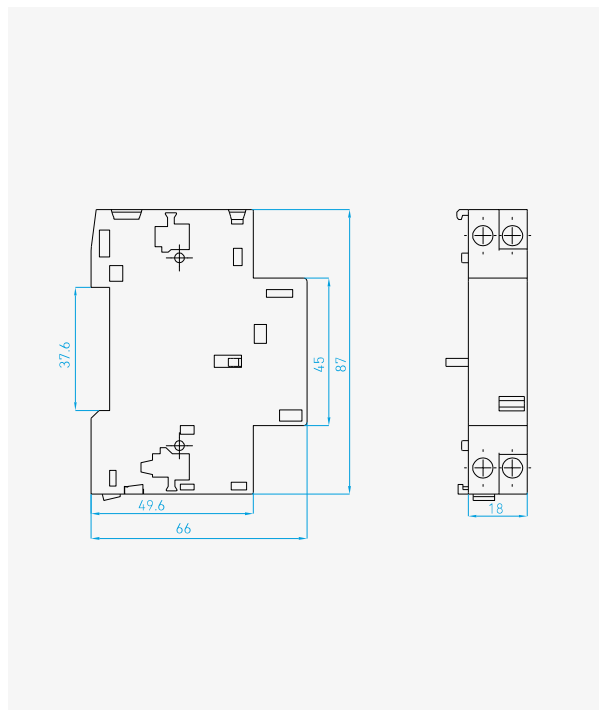
### Side Mounting: Auxiliary Switch



### Side Mounting: Alarm Switch



### Side Mounting: Shunt Trip/UVT





(1) Top face: 2 knock-outs for ISO20/25 cable glands or Pg16 or 16 mm conduits.  
Bottom face: 2 knock-outs for ISO20/25 cable glands or Pg16 or 16 mm conduits.

### Mounting

Technical drawing showing the mounting bracket and door cut-out dimensions. The mounting bracket has a height of 60 mm and a width of 43 mm. The door cut-out has a diameter of Ø22 mm and a height of 48 mm. The mounting bracket is shown in two views: a side view and a front view. The side view shows the mounting bracket with a height of 60 mm and a width of 43 mm. The front view shows the mounting bracket with a height of 60 mm and a width of 43 mm. The door cut-out has a diameter of Ø22 mm and a height of 48 mm. The mounting bracket is shown in two views: a side view and a front view. The side view shows the mounting bracket with a height of 60 mm and a width of 43 mm. The front view shows the mounting bracket with a height of 60 mm and a width of 43 mm.

a Min: 140 mm  
Max: 250 mm

### Door cut-out

Technical drawing showing the door cut-out dimensions. The door cut-out has a diameter of Ø22 mm and a height of 48 mm. The mounting bracket is shown in two views: a side view and a front view. The side view shows the mounting bracket with a height of 60 mm and a width of 43 mm. The front view shows the mounting bracket with a height of 60 mm and a width of 43 mm. The door cut-out has a diameter of Ø22 mm and a height of 48 mm. The mounting bracket is shown in two views: a side view and a front view. The side view shows the mounting bracket with a height of 60 mm and a width of 43 mm. The front view shows the mounting bracket with a height of 60 mm and a width of 43 mm.

(1) For IP65 only.

# HMMS Ordering Information

## Ordering Guidelines

| Code        | Rated Current Setting Range (A) | Unit (EA) | Handle Type |
|-------------|---------------------------------|-----------|-------------|
| MMS32K 0P16 | 0.1-0.16                        | 50        | Push button |
| MMS32K 0P25 | 0.16-0.25                       |           |             |
| MMS32K 0P40 | 0.25-0.4                        |           |             |
| MMS32K 0P63 | 0.4-0.63                        |           |             |
| MMS32K 1P00 | 0.63-1                          |           |             |
| MMS32K 01P6 | 1-1.6                           |           |             |
| MMS32K 02P5 | 1.6-2.5                         |           |             |
| MMS32K 0004 | 2.5-4                           |           |             |
| MMS32K 06P3 | 4-6.3                           |           |             |
| MMS32K 0010 | 6-10                            |           |             |
| MMS32K 0014 | 9-14                            |           |             |
| MMS32K 0018 | 13-18                           |           |             |
| MMS32K 0023 | 17-23                           |           |             |
| MMS32K 0025 | 20-25                           |           |             |
| MMS32K 0032 | 24-32                           |           |             |
| MMS32R 0P16 | 0.1-0.16                        | 50        | Rotary      |
| MMS32R 0P25 | 0.16-0.25                       |           |             |
| MMS32R 0P40 | 0.25-0.4                        |           |             |
| MMS32R 0P63 | 0.4-0.63                        |           |             |
| MMS32R 1P00 | 0.63-1                          |           |             |
| MMS32R 01P6 | 1-1.6                           |           |             |
| MMS32R 02P5 | 1.6-2.5                         |           |             |
| MMS32R 0004 | 2.5-4                           |           |             |
| MMS32R 06P3 | 4-6.3                           |           |             |
| MMS32R 0010 | 6-10                            |           |             |
| MMS32R 0014 | 9-14                            |           |             |
| MMS32R 0018 | 13-18                           |           |             |
| MMS32R 0023 | 17-23                           |           |             |
| MMS32R 0025 | 20-25                           |           |             |
| MMS32R 0032 | 24-32                           |           |             |
| MMS80K 0040 | 25-40                           | 14        | Push button |
| MMS80K 0063 | 40-63                           |           |             |
| MMS80K 0080 | 56-80                           |           |             |