

## MPCB's MPX<sup>3</sup>

Cat. N°(s) : 4 173 00...4 173 15, 4 173 20...4 173 35,  
4 173 40...4 173 55, 4 173 60...4 173 68,  
4 173 70...4 173 79

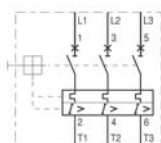


| CONTENTS                             | PAGES |
|--------------------------------------|-------|
| 1. Description - Use .....           | 1     |
| 2. Range .....                       | 1     |
| 3. Overall dimensions .....          | 1     |
| 4. Installation - Connection .....   | 2     |
| 5. General characteristics .....     | 3     |
| 6. Conformities and approvals .....  | 12    |
| 7. Curves .....                      | 13    |
| 8. Auxiliaries and accessories ..... | 21    |

### 1. DESCRIPTION - USE

Thermal-magnetic circuit breaker with positive contact indication for control, protection and isolation of electrical circuits supplying electrical motors.

**Symbol:**



### 2. RANGE

**Number of Poles:**

. Triple pole (3P).

**Rated current In:**

. 0.16A, 0.25A, 0.4A, 0.63A, 1A, 1.6A, 2.5A, 4A, 6A, 8A, 10A, 13A, 17A, 22A, 26A, 32A, 40A, 50A, 63A, 75A, 90A, 100A.

**Magnetic threshold:**

. 13 Ie Max

**Rated Voltage / Frequency:**

. 400 / 415 V ~, 50 / 60 Hz with standard tolerances.

**Operating voltage:**

. 230 / 240 V ~.  
. 400 / 415 V ~.  
. 440 / 460 V ~.  
. 500 / 525 V ~.  
. 600 / 690 V ~.

**Thermal tripping class:**

. Class 10A in accordance with IEC 60 947.

**Utilisation category:**

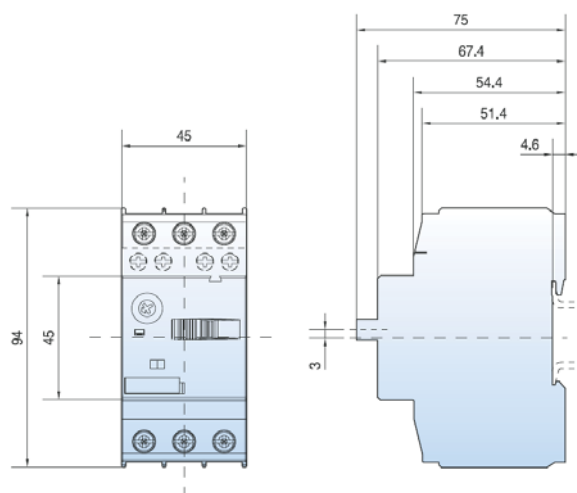
. Category A in accordance with IEC 60947-2.  
. Category A C-3 in accordance with IEC 60947-4-1.

**Suitability for isolation:**

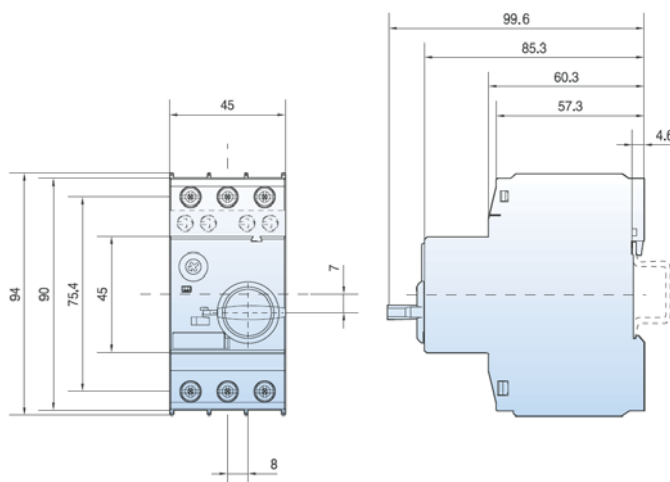
. In accordance with IEC 60947-1.

### 3. OVERALL DIMENSIONS

**MPX<sup>3</sup> 32S:**

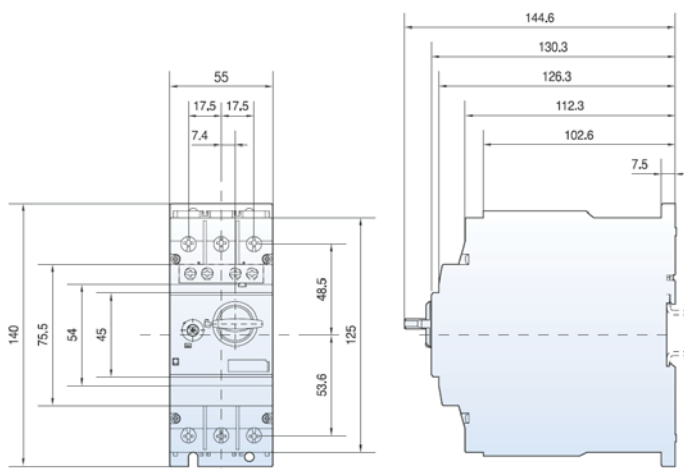


**MPX<sup>3</sup> 32H / MPX<sup>3</sup> 32MA:**

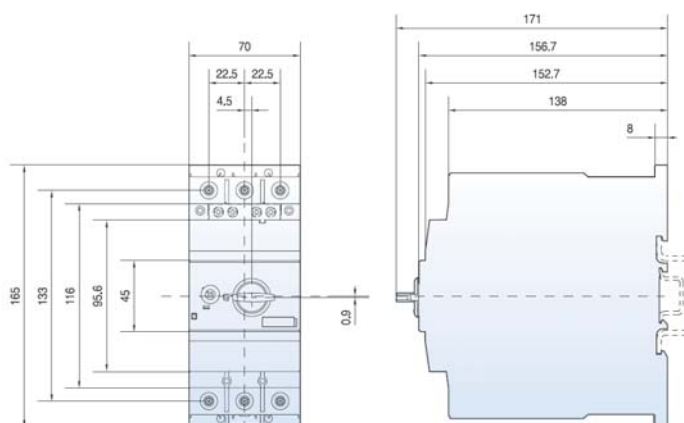


## 3. OVERALL DIMENSIONS (continued)

### MPX<sup>3</sup> 63H:



### MPX<sup>3</sup> 100H:

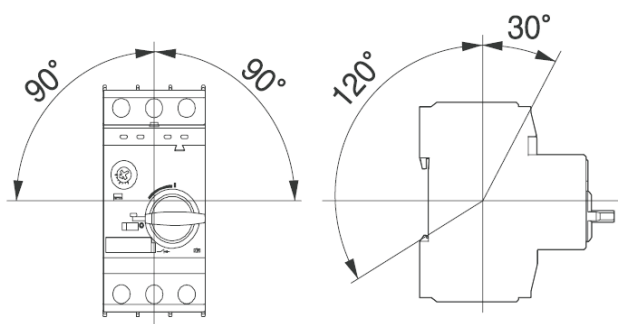


## 4. INSTALLATION - CONNECTION

### Fixing:

- 35mm DIN rail for MPX<sup>3</sup> 32S / MPX<sup>3</sup> 32H / MPX<sup>3</sup> 32MA.
- 35mm DIN rail for MPX<sup>3</sup> 63H, or with screws.
- 35mm or 75 mm DIN rail for MPX<sup>3</sup> 100H, or with screws.
- use 15 mm depth for 35 mm DIN rail

### Operating position:



## 4. INSTALLATION - CONNECTION (continued)

### Supply:

- Either from the top or the bottom.

### Type of wire:

- For MPX<sup>3</sup> 32S / MPX<sup>3</sup> 32H / MPX<sup>3</sup> 32MA

|                                       | MPX <sup>3</sup> 32S | MPX <sup>3</sup> 32H<br>MPX <sup>3</sup> 32MA |
|---------------------------------------|----------------------|-----------------------------------------------|
| Terminal parts                        |                      |                                               |
| Single-core 1.conductor [mm²] / [AWG] | 1...10 / 18...8      | 1...10 / 18...8                               |
| 2.conductor [mm²] / [AWG]             | 1...6 / 18...10      | 1...6 / 18...10                               |
| Standard 1.conductor [mm²] / [AWG]    | 1...6 / 18...10      | 1...6 / 18...10                               |
| 2.conductor [mm²] / [AWG]             | 1...6 / 18...10      | 1...6 / 18...10                               |
| Flexible 1.conductor [mm²] / [AWG]    | 1...6 / 18...10      | 1...6 / 18...10                               |
| 2.conductor [mm²] / [AWG]             | 0.75...4 / 18...10   | 0.75...4 / 18...10                            |
| Tightening torque [Nm] / [lb-in]      | 0.8...2.5 / 7...22   | 0.8...2.5 / 7...22                            |

- For MPX<sup>3</sup> 63H / MPX<sup>3</sup> 100H

|                                       | MPX <sup>3</sup> 63H | MPX <sup>3</sup> 100H |
|---------------------------------------|----------------------|-----------------------|
| Terminal parts                        |                      |                       |
| Single-core 1.conductor [mm²] / [AWG] | 0.75...35 / 18...2   | 2.5...70 / 12...2/0   |
| 2.conductor [mm²] / [AWG]             | 0.75...25 / 18...4   | 2.5...50 / 12...1/0   |
| Standard 1.conductor [mm²] / [AWG]    | 0.75...35 / 18...2   | 2.5...70 / 12...2/0   |
| 2.conductor [mm²] / [AWG]             | 0.75...25 / 18...4   | 2.5...50 / 12...1/0   |
| Flexible 1.conductor [mm²] / [AWG]    | 0.75...25 / 18...4   | 2.5...50 / 12...1/0   |
| 2.conductor [mm²] / [AWG]             | 0.75...16 / 18...6   | 2.5...35 / 10...2     |
| Tightening torque [Nm] / [lb-in]      | 3...4.5 / 26...39    | 4...6 / 35...53       |

### Connection :

- Terminals protected against direct contact (IP20).
- Terminals with release and captive screws.
- Screw head : slotted and pozidriv n°2.
- (for MPX<sup>3</sup> 32S, 32H, 32MA and MPX<sup>3</sup> 63H)
- Allen key 4 [mm] (for MPX<sup>3</sup> 100H).

### Tools required:

- Posidriv N°2 screwdriver recommended.
- Flat screwdriver Ø5 to Ø6 [mm] Maximum.

### Manual actuation:

- Ergonomic 2 positions rocker: (for MPX<sup>3</sup> 32S)
- Ergonomic 2 positions rotary handle: (for MPX<sup>3</sup> 32H / MPX<sup>3</sup> 32MA and MPX<sup>3</sup> 63H)
  - O : Device open.
  - I : Device closed.
- Ergonomic 3 positions rotary handle: (for MPX<sup>3</sup> 100H)
  - O : Device open.
  - TRIP : Device open.
  - I : Device closed.

## 4. INSTALLATION - CONNECTION *(continued)*

### Contact status display:

. For MPX<sup>3</sup> 32S / MPX<sup>3</sup> 32H / MPX<sup>3</sup> 32MA and MPX<sup>3</sup> 63H

- By permanent laser marking:

- . "O-OFF" = contacts open.
- . "I-ON" = contacts closed.

. For MPX 100H:

- By permanent laser marking:

- . "O-OFF" = contacts open.
- . "TRIP" = contacts open (indication on current fault).
- . "I-ON" = contacts closed.

### Sealing:

. With dial Cover MPX<sup>3</sup> (cat n° 4 174 79).

### Locking possibility:

. By 4.5 [mm] padlock.

### Labelling:

. Identification labelling area situated on the front of the product.

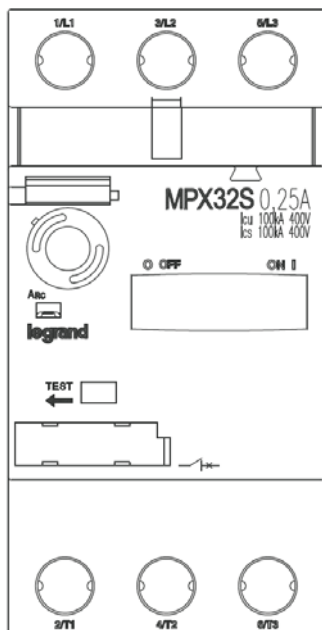
## 5. GENERAL CHARACTERISTICS

### Front side:

. By permanent laser marking:

- Brand: Legrand
- Range: MPX
- Rated current (in A)
- O Off / ON I
- TEST
- Electric diagram
- Thermal adjustment ring
- Icu / Ics
- Marking power terminals

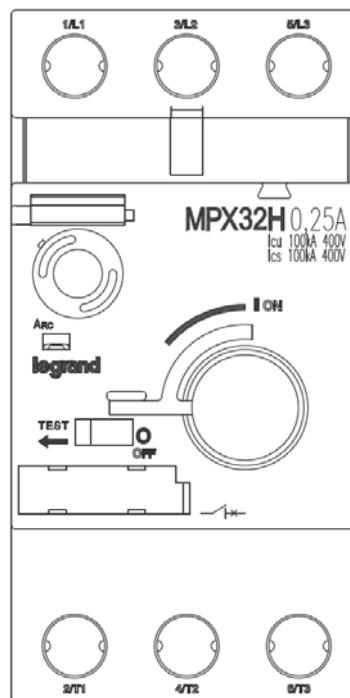
**MPX<sup>3</sup> 32S:** (Example of marking)



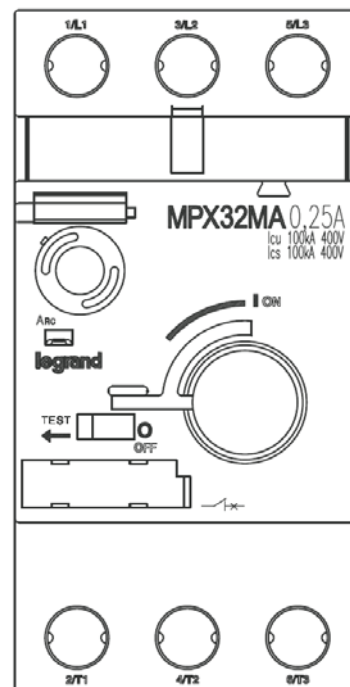
## 5. GENERAL CHARACTERISTICS *(continued)*

### Front side: *(continued)*

**MPX<sup>3</sup> 32H:** (Example of marking)



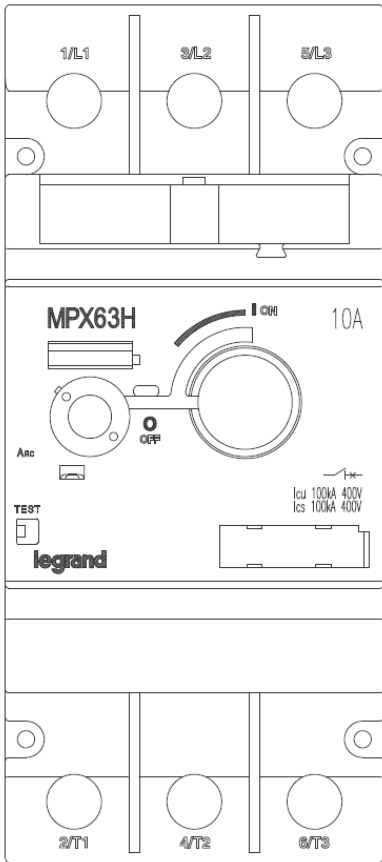
**MPX<sup>3</sup> 32MA:** (Example of marking)



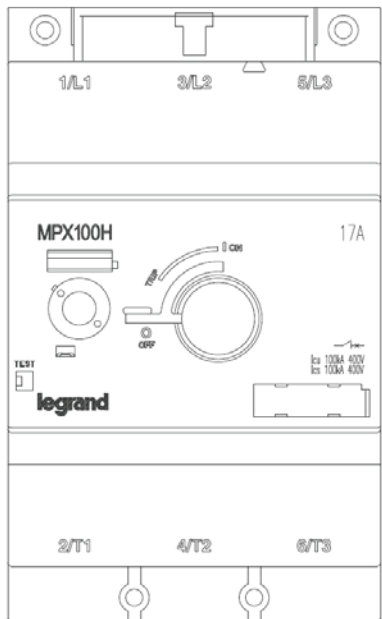
5. GENERAL CHARACTERISTICS (continued)

Front side: (continued)

MPX<sup>3</sup> 63H: (Example of marking)



MPX<sup>3</sup> 100H: (Example of marking)



5. GENERAL CHARACTERISTICS (continued)

Front side: (continued)

Left side:

. By identification label (referring to IEC standard)

**legrand** MPX<sup>3</sup> 4 173 00

Cat.A / AC-3

Ui = 690V 50/60Hz

Uimp = 6kV

Ie = 0.1~0.16A

I>>

2.1A

Trip Class 10

| Ue<br>(V) | Icu<br>(kA) | Ics<br>(kA) | Icc > Icu<br>gL / gG |
|-----------|-------------|-------------|----------------------|
| 230 / 240 | 100         | 100         | -                    |
| 400 / 415 | 100         | 100         | -                    |
| 440 / 460 | 100         | 100         | -                    |
| 500 / 525 | 100         | 100         | -                    |
| 600 / 690 | 100         | 100         | -                    |

10

1 x 1 ...10mm<sup>2</sup>

2 x 1 ... 6mm<sup>2</sup>

10

1 x 1 ...6mm<sup>2</sup>

2 x 1 ...6mm<sup>2</sup>

PZ2/ø 5...6mm

2.0Nm

IEC/EN 60947

VDE 0660

CE

140626 YS

MADE IN KOREA

Right side:

. By identification label (referring to UL standard)

MANUAL MOTOR CONTROLLER

UL

US LISTED  
6494

MAX. FUSE OR CB 500A

SHORT CIRCUIT CURRENT RATING,  
RMS, SYM: 50kA 480Y/277V, 10kA 600Y/347V

SUITABLE FOR USE WITH LOAD SIDE CONTR-  
OLLERS MARKED FOR USE WITH THIS PRODUCT.  
FOR USE WITH DESIGN E MOTORS.  
USE ALL 3 POLES  
1.0 FLA MAX; DIAL IS FLA. TRIP AMPS 125%;  
USE 75°C CU WIRE ONLY; BREAK ALL LINES

| V AC   | 115 | 200 | 230 | 460 | 575 |
|--------|-----|-----|-----|-----|-----|
| 3PH,HP | -   | -   | -   | -   | 1/2 |
| 1PH,HP | -   | -   | -   | -   | -   |

TORQUE

WIRE RANGE

|         |                |               |
|---------|----------------|---------------|
| 18LB IN | 1x18 TO 8 AWG  | 7961 1912 035 |
|         | 2x18 TO 10 AWG |               |

WARNING:

IF AN OVERLOAD OR A FAULT CURRENT INTERRUPTION OCCURS, CIRCUITS MUST BE CHECKED TO DETERMINE THE CAUSE OF THE INTERRUPTION. IF A FAULT CONDITION EXISTS, THE CURRENT-CARRYING COMPONENTS SHOULD BE EXAMINED AND REPLACED IF DAMAGED, AND THE INTEGRAL CURRENT SENSORS MUST BE REPLACED TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK. TO MAINTAIN OVERCURRENT, SHORT-CIRCUIT, AND GROUND-FAULT PROTECTION, THE MANUFACTURER'S INSTRUCTIONS FOR SELECTION OF OVERLOAD AND SHORT CIRCUIT PROTECTION MUST BE FOLLOWED TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK.

## 5. GENERAL CHARACTERISTICS (continued)

### Setting ranges:

| Rated operational current (I <sub>e</sub> ) | Thermal release adjustment range (I <sub>r</sub> ) |
|---------------------------------------------|----------------------------------------------------|
| 0.16 [A]                                    | 0.1~0.16 [A]                                       |
| 0.25 [A]                                    | 0.16~0.25 [A]                                      |
| 0.4 [A]                                     | 0.25~0.4 [A]                                       |
| 0.63 [A]                                    | 0.4~0.63 [A]                                       |
| 1 [A]                                       | 0.63~1 [A]                                         |
| 1.6 [A]                                     | 1~1.6 [A]                                          |
| 2.5 [A]                                     | 1.6~2.5 [A]                                        |
| 4 [A]                                       | 2.5~4 [A]                                          |
| 6 [A]                                       | 4~6 [A]                                            |
| 8 [A]                                       | 5~8 [A]                                            |
| 10 [A]                                      | 6~10 [A]                                           |
| 13 [A]                                      | 9~13 [A]                                           |
| 17 [A]                                      | 11~17 [A]                                          |
| 22 [A]                                      | 14~22 [A]                                          |
| 26 [A]                                      | 18~26 [A]                                          |
| 32 [A]                                      | 22~32 [A]                                          |
| 40 [A]                                      | 28~40 [A]                                          |
| 50 [A]                                      | 34~50 [A]                                          |
| 63 [A]                                      | 45~63 [A]                                          |
| 75 [A]                                      | 55~75 [A]                                          |
| 90 [A]                                      | 70~90 [A]                                          |
| 100 [A]                                     | 80~100 [A]                                         |

### Rated operational voltage:

- . U<sub>e</sub> = 690 [V] for all products conforming to IEC60947-2.
- . U<sub>e</sub> = 600 [V] for all products conforming to UL508

### Rated impulse voltage:

- . U<sub>imp</sub> = 6 kV for MPX<sup>3</sup> 32S / MPX<sup>3</sup> 32H / MPX<sup>3</sup> 32MA.
- . U<sub>imp</sub> = 8 kV for MPX<sup>3</sup> 63H / MPX<sup>3</sup> 100H.

### Rated insulation voltage:

- . U<sub>i</sub> = 690 V for MPX<sup>3</sup> 32S / MPX<sup>3</sup> 32H / MPX<sup>3</sup> 32MA.
- . U<sub>i</sub> = 1000 V for MPX<sup>3</sup> 63H / MPX<sup>3</sup> 100H.

### Mechanical endurance:

- . 100 000 operations for MPX<sup>3</sup> 32S / MPX<sup>3</sup> 32H / MPX<sup>3</sup> 32MA.
- . 50 000 operations for MPX<sup>3</sup> 63H / MPX<sup>3</sup> 100H.

### Electrical endurance:

- . 100 000 cycles for MPX<sup>3</sup> 32S / MPX<sup>3</sup> 32H / MPX<sup>3</sup> 32MA.
- . 25 000 cycles for MPX<sup>3</sup> 63H / MPX<sup>3</sup> 100H.

### Max operating frequency per hour:

- . 25 operations per hour.

## 5. GENERAL CHARACTERISTICS (continued)

### Ambient operating temperature:

- . Min. = -20°C. Max. = +60°C.

### Ambient storage temperature:

- . Min. = -50°C. Max. = +80°C.

### Overload protection:

- . No overload protection for MPX<sup>3</sup> 32MA.

### Phase failure protection:

- . All products.

### Test function:

- . All products.

### Weight:

| MPX <sup>3</sup>      | Weight    |
|-----------------------|-----------|
| MPX <sup>3</sup> 32S  | 0.32 [kg] |
| MPX <sup>3</sup> 32H  | 0.36 [kg] |
| MPX <sup>3</sup> 32MA | 0.36 [kg] |
| MPX <sup>3</sup> 63H  | 1 [kg]    |
| MPX <sup>3</sup> 100H | 2.2 [kg]  |

### Maximum operating altitude:

- . 2000 [m].

### Protection degree:

- . IP20.

### Flame resistance:

- . Conforming to UL = V0.
- . Conforming to IEC 695-2-1 = 960 [°C].

### Shock resistance:

- . 25 [g].

### Vibration resistance:

- . 5~150 [Hz].

### Power consumption:

|                                                                                              | MPX <sup>3</sup> 32S                     | MPX <sup>3</sup> 32H / MA                |
|----------------------------------------------------------------------------------------------|------------------------------------------|------------------------------------------|
| Total power loss P <sub>v</sub><br>Circuit breaker at rated<br>load<br>operating temperature | I <sub>n</sub> = 0.16~1.6 [A]<br>4.4 [W] | I <sub>n</sub> = 0.16~1.6 [A]<br>4.4 [W] |
|                                                                                              | I <sub>n</sub> = 2.5~26 [A]<br>7.4 [W]   | I <sub>n</sub> = 2.5~26 [A]<br>7.4 [W]   |
|                                                                                              | I <sub>n</sub> = 32 [A]<br>4 [W]         | I <sub>n</sub> = 32 [A]<br>4 [W]         |
|                                                                                              | MPX <sup>3</sup> 63H                     | MPX <sup>3</sup> 100H                    |
| Total power loss P <sub>v</sub><br>Circuit breaker at rated<br>load<br>operating temperature | I <sub>n</sub> = 10~22 [A]<br>10.2 [W]   | I <sub>n</sub> = 17~32 [A]<br>15 [W]     |
|                                                                                              | I <sub>n</sub> = 26~63 [A]<br>9.7 [W]    | I <sub>n</sub> = 40~63 [A]<br>21.8 [W]   |
|                                                                                              | -                                        | I <sub>n</sub> = 75~100 [A]<br>17.8 [W]  |

## 5. GENERAL CHARACTERISTICS (continued)

**Breaking capacity:** In accordance with IEC 60 947-2 standard

. For MPX<sup>3</sup> 32S

| Rated operational current - I <sub>e</sub> [A]                    |               |      | 0.16 | 0.25 | 0.4  | 0.63 | 1             | 1.6           | 2.5  | 4             | 6           | 8   | 10    | 13  | 17    | 22  | 26   | 32   |
|-------------------------------------------------------------------|---------------|------|------|------|------|------|---------------|---------------|------|---------------|-------------|-----|-------|-----|-------|-----|------|------|
| Switching of standard three-phase motors AC-2, AC-3               | 230 / 240 [V] | [kW] | -    | 0.03 | 0.06 | 0.09 | 0.12          | 0.18/<br>0.25 | 0.37 | 0.55/<br>0.75 | 1.1/<br>1.5 | 1.5 | 2.2/3 | 3   | 3.7/4 | 4   | 5.5  | 7.5  |
|                                                                   | 400 / 415 [V] | [kW] | 0.02 | 0.06 | 0.09 | 0.12 | 0.18/<br>0.25 | 0.37/<br>0.55 | 0.75 | 1.1/<br>1.5   | 2.2         | 3   | 3.7/4 | 5.5 | 7.5   | 7.5 | 11   | 15   |
|                                                                   | 500 [V]       | [kW] | -    | -    | -    | 0.25 | 0.37          | 0.55/<br>0.75 | 1.1  | 1.5/<br>2.2   | 3           | 3.7 | 4/5.5 | 7.5 | 11    | 11  | 15   | 18.5 |
|                                                                   | 690 [V]       | [kW] | -    | -    | -    | 0.25 | 0.37/<br>0.55 | 0.75/<br>1.1  | 1.5  | 2.2/3         | 3.7/4       | 5.5 | 7.5   | 11  | 11    | 15  | 18.5 | 22   |
| Ultimate short-circuit breaking capacity (I <sub>cu</sub> )       | 230 / 240 [V] | [kA] | 100  | 100  | 100  | 100  | 100           | 100           | 100  | 100           | 100         | 100 | 100   | 100 | 50    | 40  | 40   | 30   |
|                                                                   | 400 / 415 [V] | [kA] | 100  | 100  | 100  | 100  | 100           | 100           | 100  | 100           | 100         | 100 | 50    | 50  | 20    | 15  | 15   | 15   |
|                                                                   | 440 / 460[V]  | [kA] | 100  | 100  | 100  | 100  | 100           | 100           | 100  | 50            | 15          | 15  | 15    | 10  | 10    | 8   | 8    | 6    |
|                                                                   | 500 [V]       | [kA] | 100  | 100  | 100  | 100  | 100           | 100           | 50   | 15            | 10          | 10  | 6     | 6   | 6     | 6   | 5    | 5    |
|                                                                   | 690 [V]       | [kA] | 100  | 100  | 100  | 100  | 100           | 3             | 3    | 3             | 3           | 3   | 3     | 3   | 3     | 3   | 3    | 3    |
| 4Rated service short-circuit breaking capacity (I <sub>cs</sub> ) | 230 / 240 [V] | [kA] | 100  | 100  | 100  | 100  | 100           | 100           | 100  | 100           | 100         | 100 | 100   | 100 | 38    | 30  | 30   | 22   |
|                                                                   | 400 / 415 [V] | [kA] | 100  | 100  | 100  | 100  | 100           | 100           | 100  | 100           | 100         | 100 | 38    | 38  | 15    | 11  | 11   | 11   |
|                                                                   | 440 / 460[V]  | [kA] | 100  | 100  | 100  | 100  | 100           | 100           | 100  | 38            | 11          | 11  | 11    | 8   | 8     | 6   | 6    | 4    |
|                                                                   | 500 [V]       | [kA] | 100  | 100  | 100  | 100  | 100           | 100           | 38   | 11            | 8           | 8   | 5     | 5   | 5     | 5   | 4    | 4    |
|                                                                   | 690 [V]       | [kA] | 100  | 100  | 100  | 100  | 100           | 3             | 3    | 3             | 3           | 3   | 3     | 3   | 3     | 3   | 3    | 3    |

. In accordance with UL 508 certification

| Rated operational current - I <sub>e</sub> [A] |         |      | 0.16 | 0.25 | 0.4 | 0.63 | 1   | 1.6  | 2.5   | 4   | 6     | 8   | 10    | 13    | 17 | 22    | 26    | 32    |
|------------------------------------------------|---------|------|------|------|-----|------|-----|------|-------|-----|-------|-----|-------|-------|----|-------|-------|-------|
| Max. short-circuit current                     |         |      |      |      |     |      |     |      |       |     |       |     |       |       |    |       |       |       |
|                                                | 240 [V] | [kA] | 100  | 100  | 100 | 100  | 100 | 100  | 100   | 100 | 100   | 100 | 50    | 50    | 40 | 30    | 30    | 20    |
|                                                | 480 [V] | [kA] | 50   | 50   | 50  | 50   | 50  | 50   | 50    | 50  | 25    | 25  | 10    | 10    | 10 | 10    | 7.5   | 7.5   |
|                                                | 600 [V] | [kA] | 10   | 10   | 10  | 10   | 10  | 10   | 10    | 5   | 5     | 5   | 5     | 5     | 5  | 5     | 5     | 5     |
| Motor load                                     |         |      |      |      |     |      |     |      |       |     |       |     |       |       |    |       |       |       |
| 1 Phase                                        | 115 [V] | [HP] | -    | -    | -   | -    | -   | -    | -     | 1/8 | 1/4   | 1/3 | 1/2   | 1/2   | 1  | 1 1/2 | 2     | 2     |
|                                                | 230 [V] | [HP] | -    | -    | -   | -    | -   | 1/10 | 1/6   | 1/3 | 1/2   | 1   | 1 1/2 | 2     | 3  | 3     | 3     | 5     |
| 3 Phase                                        | 200 [V] | [HP] | -    | -    | -   | -    | -   | -    | 1/2   | 3/4 | 1     | 2   | 2     | 3     | 3  | 5     | 7 1/2 | 7 1/2 |
|                                                | 230 [V] | [HP] | -    | -    | -   | -    | -   | -    | 1/2   | 3/4 | 1 1/2 | 2   | 3     | 3     | 5  | 7 1/2 | 7 1/2 | 10    |
|                                                | 460 [V] | [HP] | -    | -    | -   | -    | -   | 3/4  | 1     | 2   | 3     | 5   | 5     | 7 1/2 | 10 | 15    | 15    | 20    |
|                                                | 575 [V] | [HP] | -    | -    | -   | -    | 1/2 | 3/4  | 1 1/2 | 3   | 5     | 5   | 7 1/2 | 10    | 15 | 20    | 20    | 30    |
| Max. Fuse size                                 |         | [A]  | 1    | 1    | 1   | 1    | 3   | 6    | 10    | 15  | 20    | 30  | 40    | 50    | 60 | 80    | 100   | 125   |
| Max. Breaker size                              |         | [A]  | 15   | 15   | 15  | 15   | 15  | 15   | 15    | 15  | 20    | 30  | 40    | 50    | 60 | 80    | 100   | 125   |

## 5. GENERAL CHARACTERISTICS *(continued)*

**Breaking capacity:** In accordance with IEC 60 947-2 standard

. For MPX<sup>3</sup> 32H and 32MA

| Rated operational current - I <sub>e</sub> [A]                   |               |      | 0.16 | 0.25 | 0.4  | 0.63 | 1             | 1.6           | 2.5  | 4             | 6           | 8   | 10    | 13  | 17    | 22  | 26   | 32   |
|------------------------------------------------------------------|---------------|------|------|------|------|------|---------------|---------------|------|---------------|-------------|-----|-------|-----|-------|-----|------|------|
| Switching of standard three-phase motors AC-2, AC-3              | 230 / 240 [V] | [kW] | -    | 0.03 | 0.06 | 0.09 | 0.12          | 0.18/<br>0.25 | 0.37 | 0.55/<br>0.75 | 1.1/<br>1.5 | 1.5 | 2.2/3 | 3   | 3.7/4 | 4   | 5.5  | 7.5  |
|                                                                  | 400 / 415 [V] | [kW] | 0.02 | 0.06 | 0.09 | 0.12 | 0.18/<br>0.25 | 0.37/<br>0.55 | 0.75 | 1.1/<br>1.5   | 2.2         | 3   | 3.7/4 | 5.5 | 7.5   | 7.5 | 11   | 15   |
|                                                                  | 500 [V]       | [kW] | -    | -    | -    | 0.25 | 0.37          | 0.55/<br>0.75 | 1.1  | 1.5/<br>2.2   | 3           | 3.7 | 4/5.5 | 7.5 | 11    | 11  | 15   | 18.5 |
|                                                                  | 690 [V]       | [kW] | -    | -    | -    | 0.25 | 0.37/<br>0.55 | 0.75/<br>1.1  | 1.5  | 2.2/3         | 3.7/4       | 5.5 | 7.5   | 11  | 11    | 15  | 18.5 | 22   |
| Ultimate short-circuit breaking capacity (I <sub>cu</sub> )      | 230 / 240 [V] | [kA] | 100  | 100  | 100  | 100  | 100           | 100           | 100  | 100           | 100         | 100 | 100   | 100 | 100   | 100 | 100  | 100  |
|                                                                  | 400 / 415 [V] | [kA] | 100  | 100  | 100  | 100  | 100           | 100           | 100  | 100           | 100         | 100 | 100   | 100 | 50    | 50  | 50   | 50   |
|                                                                  | 440 / 460[V]  | [kA] | 100  | 100  | 100  | 100  | 100           | 100           | 100  | 100           | 100         | 50  | 50    | 50  | 20    | 20  | 20   | 20   |
|                                                                  | 500 [V]       | [kA] | 100  | 100  | 100  | 100  | 100           | 100           | 100  | 100           | 100         | 50  | 50    | 42  | 10    | 10  | 10   | 10   |
|                                                                  | 690 [V]       | [kA] | 100  | 100  | 100  | 100  | 100           | 100           | 8    | 8             | 6           | 6   | 6     | 6   | 4     | 4   | 4    | 4    |
| Rated service short-circuit breaking capacity (I <sub>cs</sub> ) | 230 / 240 [V] | [kA] | 100  | 100  | 100  | 100  | 100           | 100           | 100  | 100           | 100         | 100 | 100   | 100 | 100   | 100 | 100  | 100  |
|                                                                  | 400 / 415 [V] | [kA] | 100  | 100  | 100  | 100  | 100           | 100           | 100  | 100           | 100         | 100 | 100   | 100 | 38    | 38  | 38   | 38   |
|                                                                  | 440 / 460[V]  | [kA] | 100  | 100  | 100  | 100  | 100           | 100           | 100  | 100           | 100         | 38  | 38    | 38  | 15    | 15  | 15   | 15   |
|                                                                  | 500 [V]       | [kA] | 100  | 100  | 100  | 100  | 100           | 100           | 100  | 100           | 100         | 38  | 38    | 32  | 8     | 8   | 8    | 8    |
|                                                                  | 690 [V]       | [kA] | 100  | 100  | 100  | 100  | 100           | 100           | 8    | 8             | 6           | 6   | 6     | 6   | 4     | 4   | 4    | 4    |

. In accordance with UL 508 certification

| Rated operational current - I <sub>e</sub> [A] |         |      | 0.16 | 0.25 | 0.4 | 0.63 | 1   | 1.6  | 2.5   | 4   | 6     | 8   | 10    | 13    | 17  | 22    | 26    | 32    |
|------------------------------------------------|---------|------|------|------|-----|------|-----|------|-------|-----|-------|-----|-------|-------|-----|-------|-------|-------|
| Max. short-circuit current                     |         |      |      |      |     |      |     |      |       |     |       |     |       |       |     |       |       |       |
|                                                | 240 [V] | [kA] | 100  | 100  | 100 | 100  | 100 | 100  | 100   | 100 | 100   | 100 | 100   | 100   | 100 | 100   | 100   | 100   |
|                                                | 480 [V] | [kA] | 50   | 50   | 50  | 50   | 50  | 50   | 50    | 50  | 50    | 50  | 50    | 50    | 30  | 30    | 30    | 30    |
|                                                | 600 [V] | [kA] | 10   | 10   | 10  | 10   | 10  | 10   | 10    | 10  | 10    | 10  | 10    | 10    | 10  | 10    | 10    | 10    |
| Motor load                                     |         |      |      |      |     |      |     |      |       |     |       |     |       |       |     |       |       |       |
| 1 Phase                                        | 115 [V] | [HP] | -    | -    | -   | -    | -   | -    | -     | 1/8 | 1/4   | 1/3 | 1/2   | 1/2   | 1   | 1 1/2 | 2     | 2     |
|                                                | 230 [V] | [HP] | -    | -    | -   | -    | -   | 1/10 | 1/6   | 1/3 | 1/2   | 1   | 1 1/2 | 2     | 3   | 3     | 3     | 5     |
| 3 Phase                                        | 200 [V] | [HP] | -    | -    | -   | -    | -   | -    | 1/2   | 3/4 | 1     | 2   | 2     | 3     | 3   | 5     | 7 1/2 | 7 1/2 |
|                                                | 230 [V] | [HP] | -    | -    | -   | -    | -   | -    | 1/2   | 3/4 | 1 1/2 | 2   | 3     | 3     | 5   | 7 1/2 | 7 1/2 | 10    |
|                                                | 460 [V] | [HP] | -    | -    | -   | -    | -   | 3/4  | 1     | 2   | 3     | 5   | 5     | 7 1/2 | 10  | 15    | 15    | 20    |
|                                                | 575 [V] | [HP] | -    | -    | -   | -    | 1/2 | 3/4  | 1 1/2 | 3   | 5     | 5   | 7 1/2 | 10    | 15  | 20    | 20    | 30    |
| Max. Fuse size                                 |         |      | [A]  | 1    | 1   | 1    | 1   | 3    | 6     | 10  | 15    | 20  | 30    | 40    | 50  | 60    | 80    | 125   |
| Max. Breaker size                              |         |      | [A]  | 15   | 15  | 15   | 15  | 15   | 15    | 15  | 20    | 30  | 40    | 50    | 60  | 80    | 100   | 125   |

**5. GENERAL CHARACTERISTICS** *(continued)***Breaking capacity:** *(continued)*. For MPX<sup>3</sup> 63H

| Rated operational current - I <sub>e</sub> [A]                   |               |      | 10    | 13  | 17    | 22  | 26   | 32   | 40   | 50  | 63  |
|------------------------------------------------------------------|---------------|------|-------|-----|-------|-----|------|------|------|-----|-----|
| Switching of standard three-phase motors AC-2, AC-3              | 230 / 240 [V] | [kW] | 2.2/3 | 3   | 3.7/4 | 4   | 5.5  | 7.5  | 7.5  | 11  | 15  |
|                                                                  | 400 / 415 [V] | [kW] | 3.7/4 | 5.5 | 7.5   | 7.5 | 11   | 15   | 18.5 | 22  | 30  |
|                                                                  | 500 [V]       | [kW] | 4/5.5 | 7.5 | 11    | 11  | 15   | 18.5 | 22   | 30  | 37  |
|                                                                  | 690 [V]       | [kW] | 7.5   | 11  | 11    | 15  | 18.5 | 22   | 30   | 45  | 55  |
| Ultimate short-circuit breaking capacity (I <sub>cu</sub> )      | 230 / 240 [V] | [kA] | 100   | 100 | 100   | 100 | 100  | 100  | 100  | 100 | 100 |
|                                                                  | 400 / 415 [V] | [kA] | 100   | 100 | 50    | 50  | 50   | 50   | 50   | 50  | 50  |
|                                                                  | 440 / 460[V]  | [kA] | 50    | 50  | 50    | 50  | 35   | 35   | 35   | 35  | 35  |
|                                                                  | 500 [V]       | [kA] | 50    | 42  | 12    | 12  | 12   | 10   | 10   | 10  | 10  |
|                                                                  | 690 [V]       | [kA] | 6     | 6   | 5     | 5   | 5    | 5    | 5    | 5   | 5   |
| Rated service short-circuit breaking capacity (I <sub>cs</sub> ) | 230 / 240 [V] | [kA] | 100   | 100 | 100   | 100 | 100  | 100  | 100  | 100 | 100 |
|                                                                  | 400 / 415 [V] | [kA] | 100   | 100 | 50    | 50  | 50   | 50   | 50   | 50  | 50  |
|                                                                  | 440 / 460[V]  | [kA] | 38    | 38  | 38    | 38  | 27   | 27   | 27   | 27  | 27  |
|                                                                  | 500 [V]       | [kA] | 38    | 32  | 9     | 9   | 9    | 8    | 8    | 8   | 8   |
|                                                                  | 690 [V]       | [kA] | 5     | 5   | 5     | 5   | 5    | 5    | 5    | 5   | 5   |

. In accordance with UL 508 certification

| Rated operational current - I <sub>e</sub> [A] |         |      | 10  | 13  | 17  | 22  | 26  | 32  | 40  | 50  | 63  |
|------------------------------------------------|---------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Max. short-circuit current                     |         |      |     |     |     |     |     |     |     |     |     |
|                                                | 240 [V] | [kA] | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
|                                                | 480 [V] | [kA] | 50  | 50  | 50  | 50  | 50  | 50  | 50  | 50  | 50  |
|                                                | 600 [V] | [kA] | 10  | 10  | 10  | 10  | 10  | 10  | 10  | 10  | 10  |
| Motor load                                     |         |      |     |     |     |     |     |     |     |     |     |
| 1 Phase                                        | 115 [V] | [HP] | 1/2 | 1/2 | 1   | 1½  | 2   | 2   | 3   | 3   | 5   |
|                                                | 230 [V] | [HP] | 1½  | 2   | 3   | 3   | 3   | 5   | 7½  | 10  | 10  |
| 3 Phase                                        | 200 [V] | [HP] | 2   | 3   | 3   | 5   | 7½  | 7½  | 10  | 15  | 20  |
|                                                | 230 [V] | [HP] | 3   | 3   | 5   | 7½  | 7½  | 10  | 10  | 15  | 20  |
|                                                | 460 [V] | [HP] | 5   | 7½  | 10  | 15  | 15  | 20  | 30  | 30  | 40  |
|                                                | 575 [V] | [HP] | 7½  | 10  | 15  | 20  | 20  | 30  | 30  | 40  | 60  |
| Max. Fuse size                                 |         | [A]  | 40  | 50  | 60  | 80  | 100 | 125 | 150 | 200 | 250 |
| Max. Breaker size                              |         | [A]  | 40  | 50  | 60  | 80  | 100 | 125 | 150 | 200 | 250 |

## 5. GENERAL CHARACTERISTICS (continued)

## Breaking capacity: (continued)

. For MPX<sup>3</sup> 100H

| Rated operational current - I <sub>e</sub> [A]                   |               |      | 17    | 22  | 26   | 32   | 40   | 50  | 63  | 75  | 90  | 100 |
|------------------------------------------------------------------|---------------|------|-------|-----|------|------|------|-----|-----|-----|-----|-----|
| Switching of standard three-phase motors AC-2, AC-3              | 230 / 240 [V] | [kW] | 3.7/4 | 4   | 5.5  | 7.5  | 7.5  | 11  | 15  | 22  | 30  | 30  |
|                                                                  | 400 / 415 [V] | [kW] | 7.5   | 7.5 | 11   | 15   | 18.5 | 22  | 30  | 37  | 45  | 45  |
|                                                                  | 500 [V]       | [kW] | 11    | 11  | 15   | 18.5 | 22   | 30  | 37  | 45  | 55  | 63  |
|                                                                  | 690 [V]       | [kW] | 11    | 15  | 18.5 | 22   | 30   | 45  | 55  | 63  | 75  | 90  |
| Ultimate short-circuit breaking capacity (I <sub>cu</sub> )      | 230 / 240 [V] | [kA] | 100   | 100 | 100  | 100  | 100  | 100 | 100 | 100 | 100 | 100 |
|                                                                  | 400 / 415 [V] | [kA] | 100   | 100 | 100  | 100  | 100  | 100 | 100 | 75  | 75  | 75  |
|                                                                  | 440 / 460[V]  | [kA] | 50    | 50  | 50   | 50   | 50   | 50  | 50  | 50  | 50  | 50  |
|                                                                  | 500 [V]       | [kA] | 35    | 35  | 35   | 25   | 20   | 15  | 15  | 12  | 12  | 12  |
|                                                                  | 690 [V]       | [kA] | 12    | 12  | 12   | 12   | 12   | 10  | 8   | 6   | 6   | 6   |
| Rated service short-circuit breaking capacity (I <sub>cs</sub> ) | 230 / 240 [V] | [kA] | 100   | 100 | 100  | 100  | 100  | 100 | 100 | 100 | 100 | 100 |
|                                                                  | 400 / 415 [V] | [kA] | 100   | 50  | 50   | 50   | 50   | 50  | 50  | 50  | 50  | 50  |
|                                                                  | 440 / 460[V]  | [kA] | 38    | 38  | 38   | 38   | 38   | 38  | 38  | 38  | 38  | 38  |
|                                                                  | 500 [V]       | [kA] | 27    | 27  | 27   | 19   | 15   | 11  | 11  | 9   | 9   | 9   |
|                                                                  | 690 [V]       | [kA] | 9     | 9   | 9    | 9    | 9    | 8   | 6   | 6   | 6   | 6   |

. In accordance with UL 508 certification

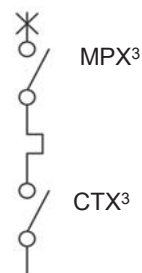
| Rated operational current - I <sub>e</sub> [A] |         |      | 17  | 22  | 26  | 32  | 40  | 50  | 63  | 75  | 90  | 100 |
|------------------------------------------------|---------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Max. short-circuit current                     |         |      |     |     |     |     |     |     |     |     |     |     |
|                                                | 240 [V] | [kA] | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
|                                                | 480 [V] | [kA] | 50  | 50  | 50  | 50  | 50  | 50  | 50  | 50  | 50  | 50  |
|                                                | 600 [V] | [kA] | 10  | 10  | 10  | 10  | 10  | 10  | 10  | 10  | 10  | 10  |
| Motor load                                     |         |      |     |     |     |     |     |     |     |     |     |     |
| 1 Phase                                        | 115 [V] | [HP] | 1   | 1½  | 2   | 2   | 3   | 3   | 5   | 5   | 7½  | 10  |
|                                                | 230 [V] | [HP] | 3   | 3   | 3   | 5   | 7½  | 10  | 10  | 15  | 20  | 20  |
| 3 Phase                                        | 200 [V] | [HP] | 3   | 5   | 7½  | 7½  | 10  | 15  | 20  | 20  | 25  | 30  |
|                                                | 230 [V] | [HP] | 5   | 7½  | 7½  | 10  | 10  | 15  | 20  | 25  | 30  | 30  |
|                                                | 460 [V] | [HP] | 10  | 15  | 15  | 20  | 30  | 30  | 40  | 50  | 60  | 75  |
|                                                | 575 [V] | [HP] | 15  | 20  | 20  | 30  | 30  | 40  | 60  | 60  | 75  | 100 |
| Max. Fuse size                                 |         | [A]  | 60  | 80  | 100 | 125 | 150 | 200 | 250 | 300 | 350 | 400 |
| Max. Breaker size                              |         | [A]  | 60  | 80  | 100 | 125 | 150 | 200 | 250 | 300 | 350 | 400 |

## 5. GENERAL CHARACTERISTICS *(continued)*

**Coordination:** Type 2

. According to IEC 60947-4-1

- Short circuit current : I<sub>q</sub> = 50 [kA]
- Voltage : 230/240 [V~]
- Frequency : 50/60 [Hz]



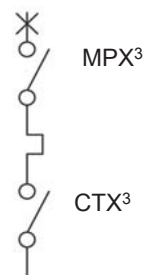
| Motor |      | MPX <sup>3</sup>      |               | CTX <sup>3</sup>              |
|-------|------|-----------------------|---------------|-------------------------------|
| [kW]  | [A]  | Type                  | Rating In [A] | Type                          |
| 0.37  | 1.8  | MPX <sup>3</sup> 32H  | 2.5           | CTX <sup>3</sup> 22 - 9 [A]   |
| 0.55  | 2.75 | MPX <sup>3</sup> 32H  | 4             | CTX <sup>3</sup> 40 - 32 [A]  |
| 0.75  | 3.5  | MPX <sup>3</sup> 32H  | 4             |                               |
| 1.1   | 4.4  | MPX <sup>3</sup> 63H  | 10            | CTX <sup>3</sup> 40 - 40 [A]  |
| 1.5   | 6.1  | MPX <sup>3</sup> 63H  | 10            |                               |
| 2.2   | 8.7  | MPX <sup>3</sup> 63H  | 13            |                               |
| 3     | 11.5 | MPX <sup>3</sup> 63H  | 13            |                               |
| 3.7   | 13.5 | MPX <sup>3</sup> 63H  | 18            |                               |
| 4     | 14.5 | MPX <sup>3</sup> 63H  | 18            |                               |
| 5.5   | 20   | MPX <sup>3</sup> 63H  | 22            |                               |
| 7.5   | 27   | MPX <sup>3</sup> 63H  | 32            |                               |
| 9     | 32   | MPX <sup>3</sup> 100H | 32            |                               |
| 10    | 35   | MPX <sup>3</sup> 100H | 40            |                               |
| 11    | 39   | MPX <sup>3</sup> 100H | 40            | CTX <sup>3</sup> 100 - 85 [A] |
| 15    | 52   | MPX <sup>3</sup> 100H | 63            |                               |
| 18.5  | 64   | MPX <sup>3</sup> 100H | 75            |                               |
| 22    | 75   | MPX <sup>3</sup> 100H | 75            |                               |
| 25    | 85   | MPX <sup>3</sup> 100H | 90            |                               |

## 5. GENERAL CHARACTERISTICS *(continued)*

**Coordination:** Type 2 *(continued)*

. According to IEC 60947-4-1

- Short circuit current : I<sub>q</sub> = 50 [kA]
- Voltage : 400/415 [V~]
- Frequency : 50/60 [Hz]



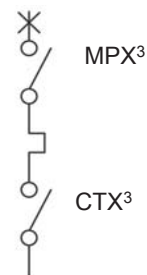
| Motor |      | MPX <sup>3</sup>      |               | CTX <sup>3</sup>              |
|-------|------|-----------------------|---------------|-------------------------------|
| [kW]  | [A]  | Type                  | Rating In [A] | Type                          |
| 0.37  | 1.1  | MPX <sup>3</sup> 32S  | 1.6           | CTX <sup>3</sup> 22 - 9 [A]   |
| 0.55  | 1.5  | MPX <sup>3</sup> 32S  | 1.6           |                               |
| 0.75  | 1.9  | MPX <sup>3</sup> 32S  | 2.5           | CTX <sup>3</sup> 22 - 12 [A]  |
| 1.1   | 2.7  | MPX <sup>3</sup> 32S  | 4             | CTX <sup>3</sup> 22 - 18 [A]  |
| 1.5   | 3.6  | MPX <sup>3</sup> 32S  | 4             |                               |
| 2.2   | 5.2  | MPX <sup>3</sup> 32S  | 6             |                               |
| 3     | 6.8  | MPX <sup>3</sup> 32S  | 8             |                               |
| 4     | 9    | MPX <sup>3</sup> 32S  | 10            |                               |
| 5.5   | 11.5 | MPX <sup>3</sup> 32H  | 13            | CTX <sup>3</sup> 22 - 22 [A]  |
| 7.5   | 15.5 | MPX <sup>3</sup> 32H  | 17            |                               |
| 10    | 20   | MPX <sup>3</sup> 32H  | 22            | CTX <sup>3</sup> 40 - 32 [A]  |
| 11    | 22   | MPX <sup>3</sup> 32H  | 26            |                               |
| 15    | 29   | MPX <sup>3</sup> 32H  | 32            |                               |
| 18.5  | 35   | MPX <sup>3</sup> 63H  | 40            | CTX <sup>3</sup> 40 - 40 [A]  |
| 22    | 41   | MPX <sup>3</sup> 63H  | 50            | CTX <sup>3</sup> 65 - 50 [A]  |
| 30    | 55   | MPX <sup>3</sup> 63H  | 63            | CTX <sup>3</sup> 65 - 65 [A]  |
| 37    | 67   | MPX <sup>3</sup> 100H | 75            | CTX <sup>3</sup> 100 - 75 [A] |
| 45    | 80   | MPX <sup>3</sup> 100H | 100           | CTX <sup>3</sup> 100 - 85 [A] |

## 5. GENERAL CHARACTERISTICS *(continued)*

### Coordination: Type 2 *(continued)*

. According to IEC 60947-4-1

- Short circuit current : I<sub>q</sub> = 50 [kA]
- Voltage : 440 [V~]
- Frequency : 50/60 [Hz]



| Motor |      | MPX <sup>3</sup>      |               | CTX <sup>3</sup>              |
|-------|------|-----------------------|---------------|-------------------------------|
| [kW]  | [A]  | Type                  | Rating In [A] | Type                          |
| 0.37  | 0.99 | MPX <sup>3</sup> 32S  | 1             | CTX <sup>3</sup> 22 - 9 [A]   |
| 0.55  | 1.36 | MPX <sup>3</sup> 32S  | 1.6           |                               |
| 0.75  | 1.68 | MPX <sup>3</sup> 32S  | 2.5           |                               |
| 1.1   | 2.37 | MPX <sup>3</sup> 32S  | 2.5           |                               |
| 1.5   | 3.06 | MPX <sup>3</sup> 32S  | 4             | CTX <sup>3</sup> 22 - 18 [A]  |
| 2.2   | 4.42 | MPX <sup>3</sup> 32H  | 6             | CTX <sup>3</sup> 22 - 22 [A]  |
| 3     | 5.57 | MPX <sup>3</sup> 32H  | 6             |                               |
| 3.7   | 7.1  | MPX <sup>3</sup> 32H  | 8             | CTX <sup>3</sup> 40 - 32 [A]  |
| 4     | 7.9  | MPX <sup>3</sup> 32H  | 8             |                               |
| 5.5   | 10.4 | MPX <sup>3</sup> 32H  | 13            |                               |
| 9     | 16.9 | MPX <sup>3</sup> 63H  | 17            | CTX <sup>3</sup> 40 - 40 [A]  |
| 11    | 20.1 | MPX <sup>3</sup> 63H  | 22            |                               |
| 15    | 26.5 | MPX <sup>3</sup> 63H  | 32            |                               |
| 18.5  | 32.8 | MPX <sup>3</sup> 63H  | 40            | CTX <sup>3</sup> 65 - 50 [A]  |
| 22    | 39   | MPX <sup>3</sup> 63H  | 40            |                               |
| 25    | 45.3 | MPX <sup>3</sup> 63H  | 50            |                               |
| 30    | 51.5 | MPX <sup>3</sup> 100H | 63            | CTX <sup>3</sup> 65 - 65 [A]  |
| 33    | 58   | MPX <sup>3</sup> 100H | 63            |                               |
| 37    | 64   | MPX <sup>3</sup> 100H | 63            |                               |
| 40    | 67   | MPX <sup>3</sup> 100H | 75            | CTX <sup>3</sup> 100 - 85 [A] |
| 45    | 76   | MPX <sup>3</sup> 100H | 75            |                               |

## 6. CONFORMITIES AND APPROVALS

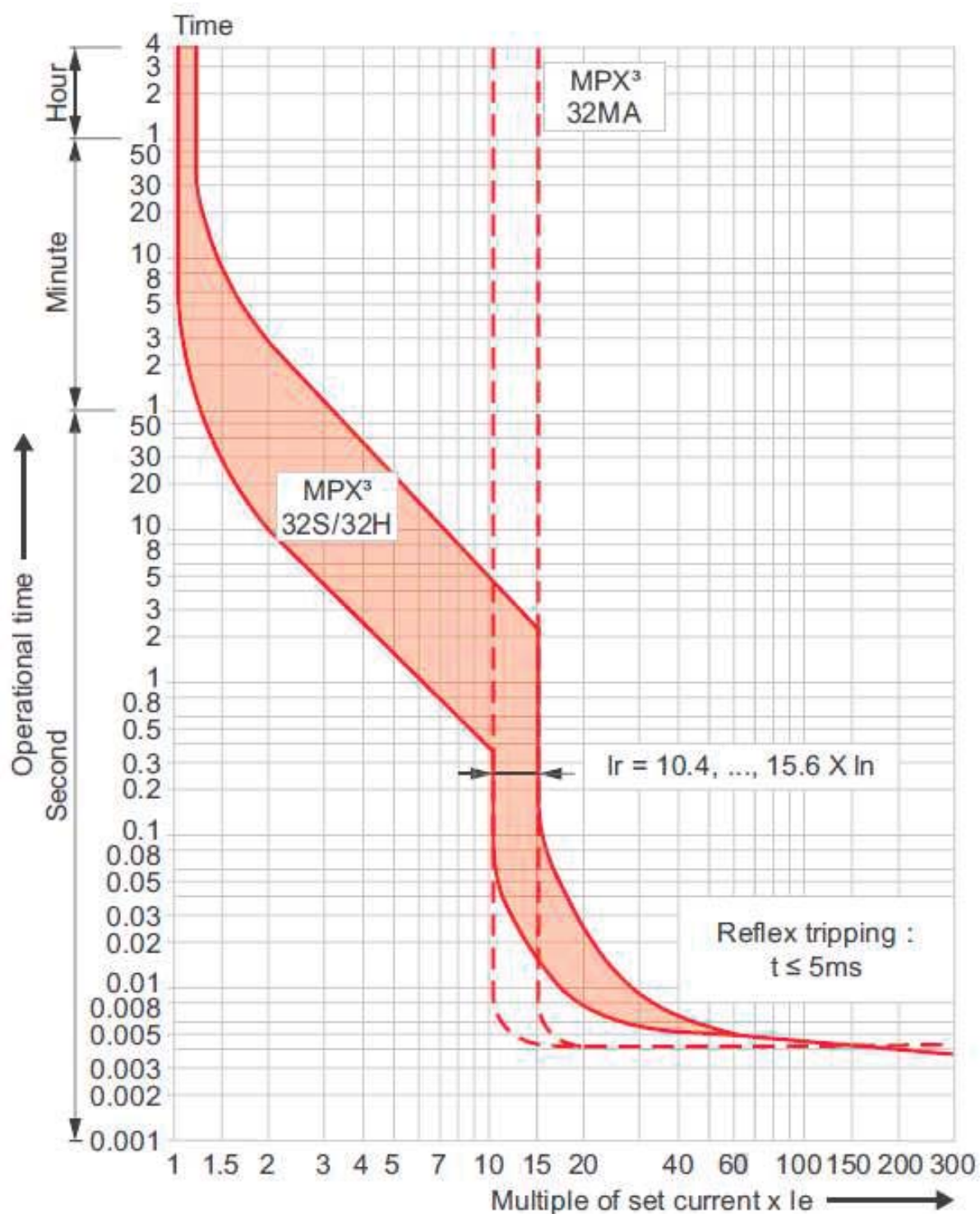
### Compliance to standards:

- . Standard reference: IEC/EN 60 947-2 (Breaker).
- . Standard reference: IEC/EN 60 947-4 (Motor starter).
- . Certificate of compliance with UL 508 standard.

## 7. CURVES

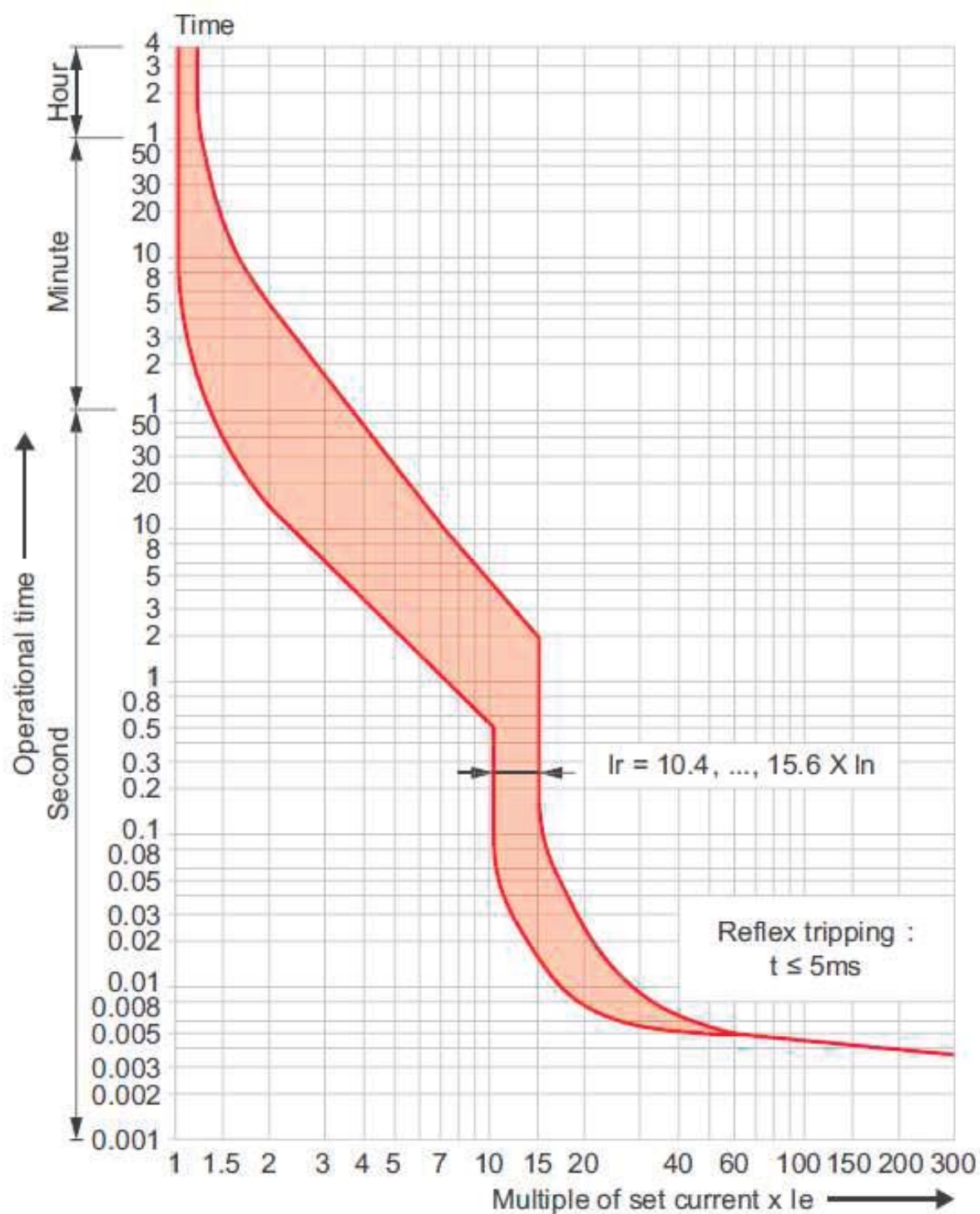
Time / Current tripping curve:

. For MPX<sup>3</sup> 32S / MPX<sup>3</sup> 32H / MPX<sup>3</sup> 32MA



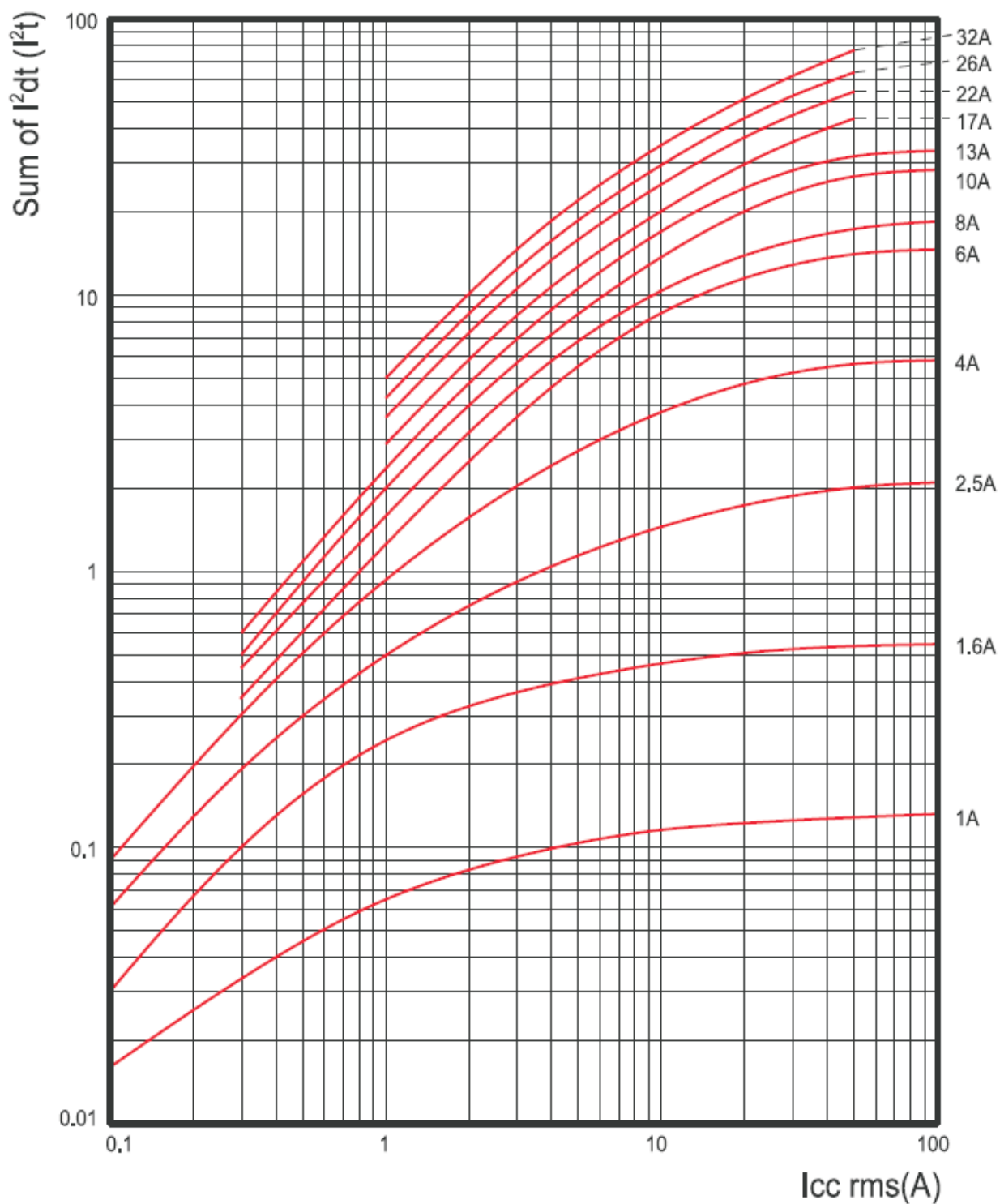
## 7. CURVES (continued)

Time / Current tripping curve:

. For MPX<sup>3</sup> 63H / MPX<sup>3</sup> 100H

## 7. CURVES (continued)

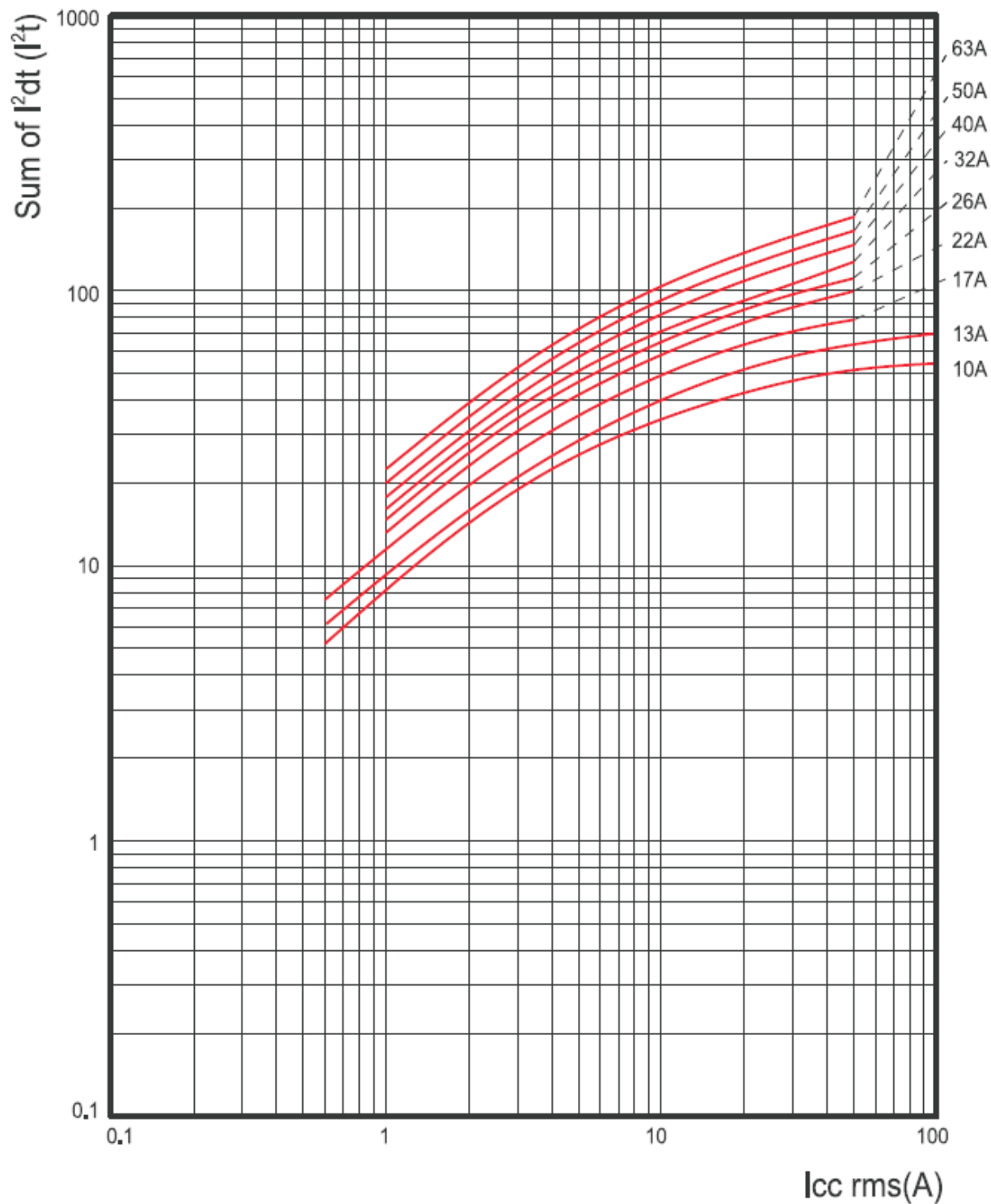
Thermal limit on short circuit :

. For MPX<sup>3</sup> 32S / MPX<sup>3</sup> 32H / MPX<sup>3</sup> 32MA.  $I_{cc}$  = Square value of symmetric component of the short circuit current (A)..  $I^2t$  = Thermal energy limited (A<sup>2</sup>s).

7. CURVES (continued)

Thermal limit on short circuit :

. For MPX<sup>3</sup> 63H

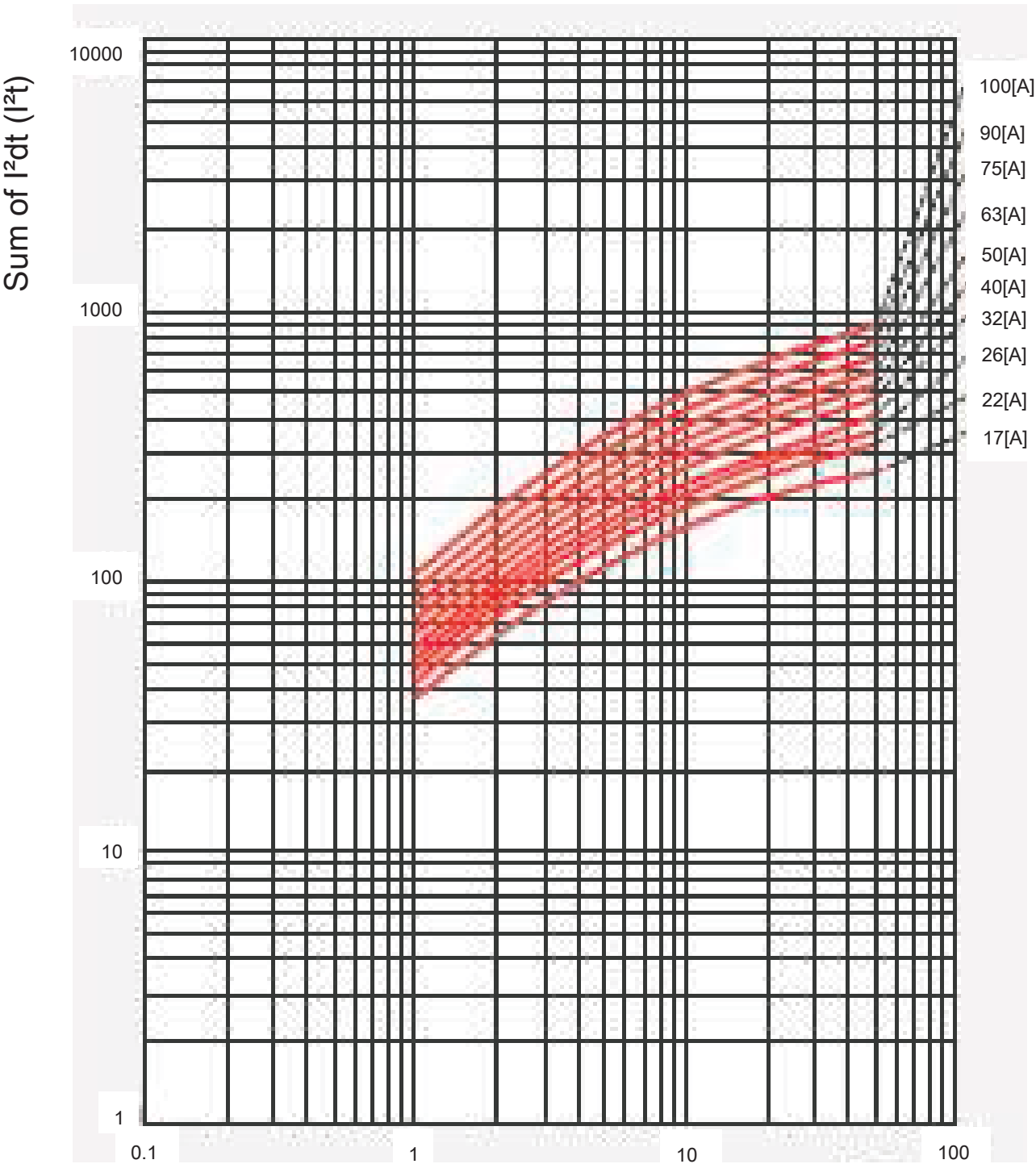


.  $I_{cc}$  = Square value of symmetric component of the short circuit current (A).

.  $I^2t$  = Thermal energy limited ( $A^2s$ ).

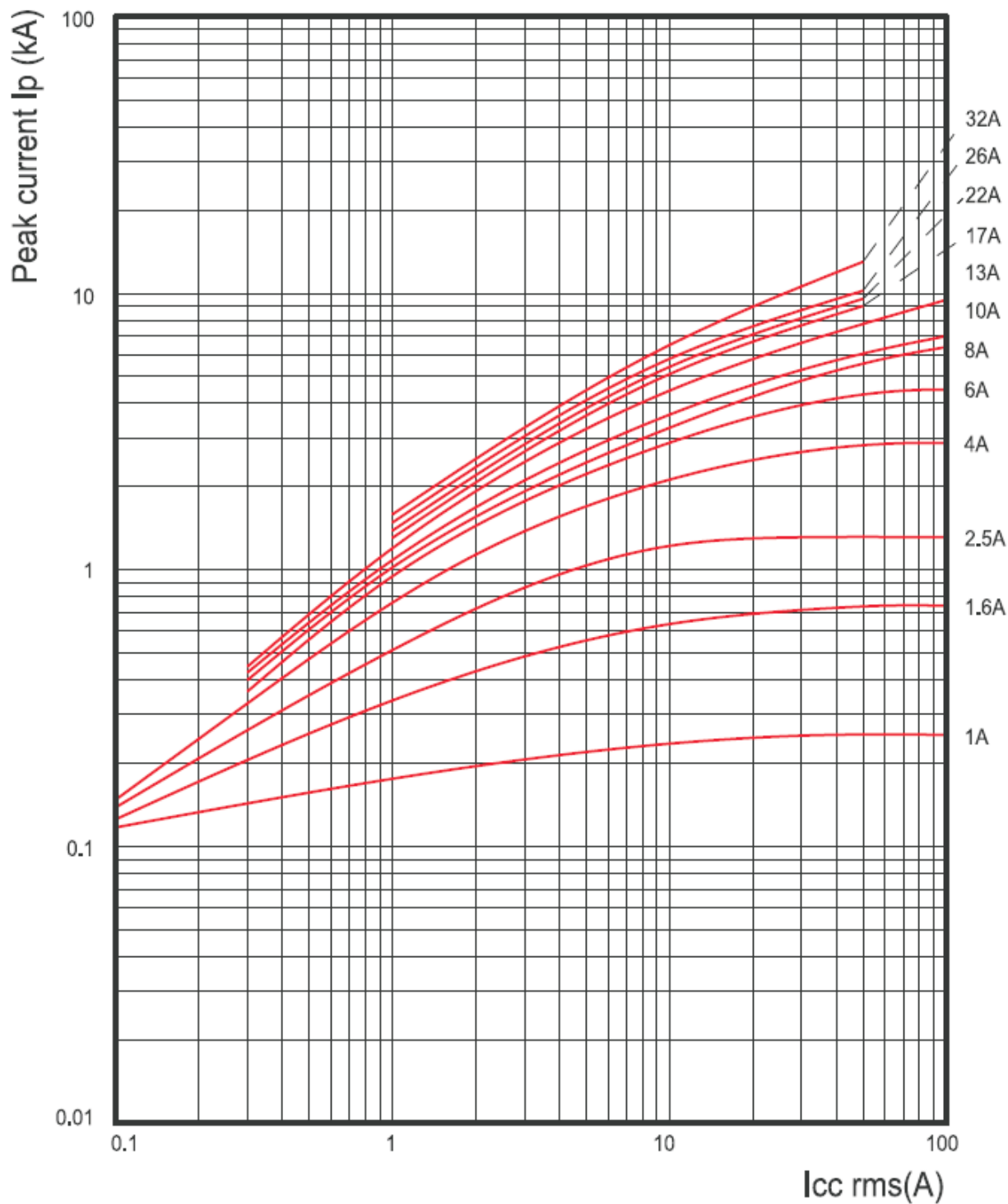
7. CURVES (continued)

Thermal limit on short circuit :  
. For MPX<sup>3</sup> 100H



.  $I_{cc}$  = Square value of symmetric component of the short circuit current (A).  
.  $I^2t$  = Thermal energy limited ( $A^2s$ ).

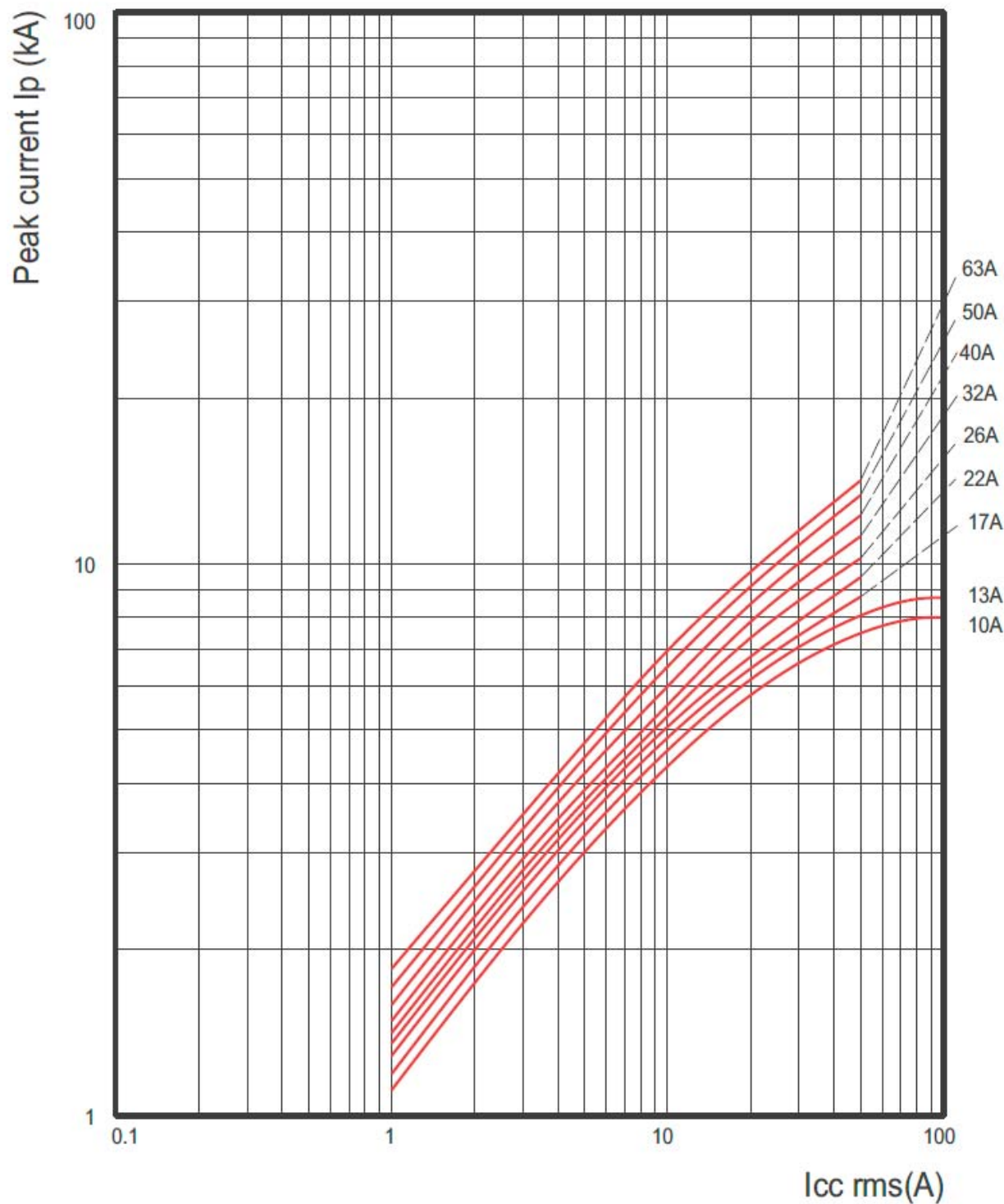
## 7. CURVES (continued)

Thermal limit in kA<sup>2</sup>s in the magnetic operating zone (U<sub>e</sub> = 415V) :. For MPX<sup>3</sup> 32S / MPX<sup>3</sup> 32H / MPX<sup>3</sup> 32MA.  $I_{cc}$  = Square value of symmetric component of the short circuit current (A)..  $I_p$  = Peak current (kA).

7. CURVES (continued)

Thermal limit in kA<sup>2</sup>s in the magnetic operating zone (U<sub>e</sub> = 415V) :

. For MPX<sup>3</sup> 63H

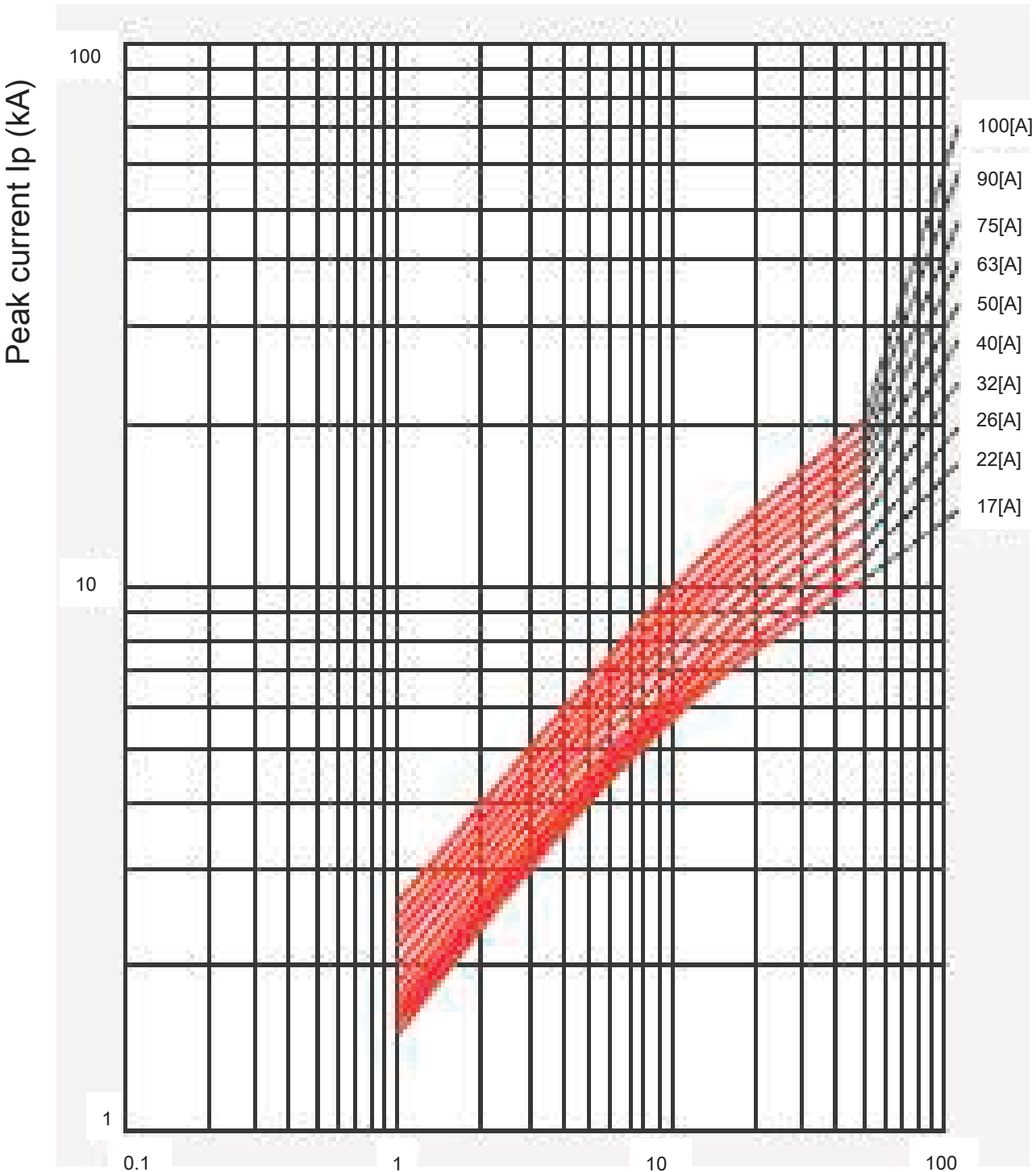


.  $I_{cc}$  = Square value of symmetric component of the short circuit current (A).

.  $I_p$  = Peak current (kA).

7. CURVES (continued)

Thermal limit in kA<sup>2</sup>s in the magnetic operating zone (Ue = 415V) :  
. For MPX<sup>3</sup> 100H



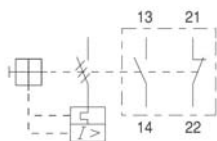
.  $I_{cc}$  = Square value of symmetric component of the short circuit current (A).  
.  $I_p$  = Peak current (kA).

## 8. AUXILIARIES AND ACCESSORIES

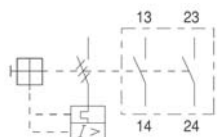
**Auxiliaries:** (maximum 2 auxiliary switches per MPX<sup>3</sup>)

. Auxiliary switch: (front mounting)

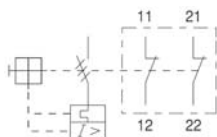
- Auxiliary switch NO + NC (cat n° 4 174 03).



- Auxiliary switch 2NO (cat n° 4 174 04).

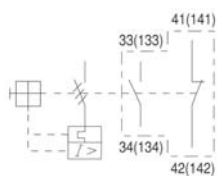


- Auxiliary switch 2NC (cat n° 4 174 05).

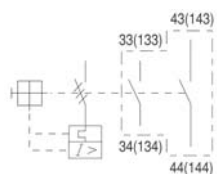


. Auxiliary switch: (side mounting on the left)

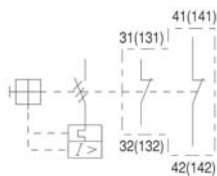
- Auxiliary switch NO + NC (cat n° 4 174 00).



- Auxiliary switch 2NO (cat n° 4 174 01).



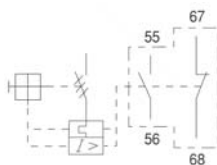
- Auxiliary switch 2NC (cat n° 4 174 02).



. Any trip alarm switch: (side mounting on the left)

- Any trip alarm switch NO + NC (cat n° 4 174 06).

- Any trip alarm switch NO + NC 63/100A (cat n° 4 174 08).

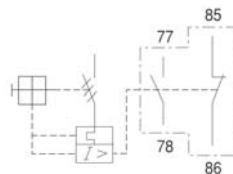


## 8. AUXILIARIES AND ACCESSORIES (continued)

**Auxiliaries:** (continued)

. Magnetic trip alarm switch: (side mounting on the left)

- Magnetic trip alarm switch NO + NC (cat n° 4 174 07).



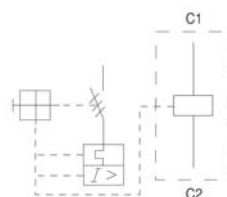
. Shunt release: (side mounting on the right)

- Shunt release 24V AC (cat n° 4 174 10).

- Shunt release 110V AC (cat n° 4 174 11).

- Shunt release 230V AC (cat n° 4 174 12).

- Shunt release 400V AC (cat n° 4 174 13).



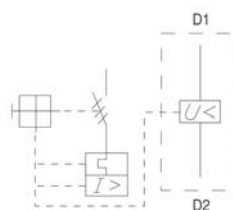
. Undervoltage release: (side mounting on the right)

- Undervoltage release 24V AC (cat n° 4 174 20).

- Undervoltage release 110V AC (cat n° 4 174 21).

- Undervoltage release 230V AC (cat n° 4 174 22).

- Undervoltage release 400V AC (cat n° 4 174 23).



. Undervoltage release with switch: (side mounting on the right)

- Undervoltage release with switch 2NO 24V AC.

(cat n° 4 174 30)

- Undervoltage release with switch 2NO 110V AC.

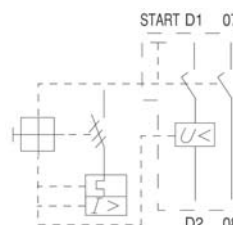
(cat n° 4 174 31)

- Undervoltage release with switch 2NO 230V AC.

(cat n° 4 174 32)

- Undervoltage release with switch 2NO 400V AC.

(cat n° 4 174 33)



## 8. AUXILIARIES AND ACCESSORIES (continued)

### Auxiliaries: (continued)

. Possible combinations of auxiliaries:

| Auxiliaries                        |                |          | MPX <sup>3</sup> 32S |      | MPX <sup>3</sup> 32H / MA |      | MPX <sup>3</sup> 63H |                  |                  | MPX <sup>3</sup> 100H |                  |
|------------------------------------|----------------|----------|----------------------|------|---------------------------|------|----------------------|------------------|------------------|-----------------------|------------------|
| Auxiliary contacts                 | Front mounting | Max. No. | 0                    | 1 or | 0                         | 1 or | 0                    | 1 or             | 1                | 0                     | 1 or             |
|                                    | Side mounting  | Max. No. | 2                    | 1    | 2                         | 1    | 2                    | 1                | 0                | 2                     | 1                |
| Fault signal contact               |                | Max. No. | 0                    | 1    | 0                         | 1    | 0                    | 1 <sup>(1)</sup> | 1 <sup>(2)</sup> | 0                     | 1 <sup>(2)</sup> |
| Shunt trip or undervoltage release |                | Max. No. | 1                    | 1    | 1                         | 1    | 1                    | 1                | 1                | 1                     | 1                |

(1) : cat n° 4 174 07

(2) : cat n° 4 174 08

### General characteristics auxiliaries:

|                                                                                                      |                           | Auxiliary contacts for front mounting |     | Auxiliary contacts for left side mounting |      | Alarm switch for left side mounting                                                   |      |
|------------------------------------------------------------------------------------------------------|---------------------------|---------------------------------------|-----|-------------------------------------------|------|---------------------------------------------------------------------------------------|------|
| Rated thermal current / I <sub>n</sub><br>at 40°C ambient temperature<br>at 60°C ambient temperature | [A]                       | 5                                     |     | 10                                        |      | 10                                                                                    |      |
|                                                                                                      | [A]                       | 3                                     |     | 6                                         |      | 6                                                                                     |      |
| Contact class coordination<br>according to NEMA<br>(UL/CSA-Standards)                                | AC<br>DC                  | A600<br>Q300                          |     | A600<br>Q300                              |      | A600<br>Q300                                                                          |      |
| Back-up fuses gG, gL                                                                                 | [A]                       | 16                                    |     | 16                                        |      | 16                                                                                    |      |
| Rated supply current                                                                                 | [V]                       | -                                     | 240 | 24                                        | 240  | 24                                                                                    | 240  |
|                                                                                                      | AC-15: [A]                | -                                     | 3   | 6                                         | 4    | 6                                                                                     | 4    |
|                                                                                                      | DC-13: [V]                | 24                                    | 220 | 24                                        | 220  | 24                                                                                    | 220  |
|                                                                                                      | [A]                       | 1                                     | 0.1 | 2                                         | 0.25 | 2                                                                                     | 0.25 |
| Weight (g)                                                                                           |                           | 18                                    |     | 30                                        |      | 40                                                                                    |      |
| Terminal parts                                                                                       |                           |                                       |     |                                           |      |  |      |
| Wire                                                                                                 |                           |                                       |     |                                           |      | Pozidriv size 2                                                                       |      |
| Single-core                                                                                          | 1 conductor [mm²] / [AWG] | 0.5...2.5 / 20...14                   |     |                                           |      | 0.5...2.5 / 20...14                                                                   |      |
|                                                                                                      | 2 conductor [mm²] / [AWG] | -                                     |     |                                           |      | 0.5...2.5 / 20...14                                                                   |      |
| Stranded                                                                                             | 1 conductor [mm²] / [AWG] | 0.5...4 / 20...10                     |     |                                           |      | 0.5...4 / 20...10                                                                     |      |
|                                                                                                      | 2 conductor [mm²] / [AWG] | 0.75...2.5 / 18...14                  |     |                                           |      | 0.75...2.5 / 18...14                                                                  |      |
| Tightening torque [Nm] / [lb-in]                                                                     |                           | 0.8...1.2 / 7...10                    |     |                                           |      | 0.8...1.2 / 7...10                                                                    |      |

|                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Undervoltage release<br>for right side mounting | Undervoltage release with 2 auxiliary<br>contacts for right side mounting | Shunt release<br>for right side mounting |      |  |  |                     |             |             |                            |                     |             |                            |                   |          |             |                            |                      |             |                            |                    |                   |  |                |  |
|-----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------|---------------------------------------------------------------------------|------------------------------------------|------|--|--|---------------------|-------------|-------------|----------------------------|---------------------|-------------|----------------------------|-------------------|----------|-------------|----------------------------|----------------------|-------------|----------------------------|--------------------|-------------------|--|----------------|--|
| Actuating voltage     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                 |                                                                           |                                          |      |  |  |                     |             |             |                            |                     |             |                            |                   |          |             |                            |                      |             |                            |                    |                   |  |                |  |
| Pull-in               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 0.7...1.1× U <sub>s</sub>                       | 0.85...1.1× U <sub>s</sub>                                                | 0.85...1.1× U <sub>s</sub>               |      |  |  |                     |             |             |                            |                     |             |                            |                   |          |             |                            |                      |             |                            |                    |                   |  |                |  |
| Drop-out              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                 | 0.7...0.35× U <sub>s</sub>                                                | 0.7...0.35× U <sub>s</sub>               |      |  |  |                     |             |             |                            |                     |             |                            |                   |          |             |                            |                      |             |                            |                    |                   |  |                |  |
| Rated control voltage |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                 |                                                                           |                                          |      |  |  |                     |             |             |                            |                     |             |                            |                   |          |             |                            |                      |             |                            |                    |                   |  |                |  |
| min.:                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 24V 50Hz / 28V 60Hz                             | 24V 50Hz / 28V 60Hz                                                       | 24V 50Hz / 28V 60Hz                      |      |  |  |                     |             |             |                            |                     |             |                            |                   |          |             |                            |                      |             |                            |                    |                   |  |                |  |
| max.:                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 415~440V 50Hz / 460~480V 60Hz                   | 415~440V 50Hz / 460~480V 60Hz                                             | 415~440V 50Hz / 460~480V 60Hz            |      |  |  |                     |             |             |                            |                     |             |                            |                   |          |             |                            |                      |             |                            |                    |                   |  |                |  |
| Coil rating           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                 |                                                                           |                                          |      |  |  |                     |             |             |                            |                     |             |                            |                   |          |             |                            |                      |             |                            |                    |                   |  |                |  |
| Pull-in               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 8.5VA, 6W                                       | 8.5VA, 6W                                                                 | 8.5VA, 6W                                |      |  |  |                     |             |             |                            |                     |             |                            |                   |          |             |                            |                      |             |                            |                    |                   |  |                |  |
| Hold                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 3VA, 1.2W                                       | 3VA, 1.2W                                                                 | 3VA, 1.2W                                |      |  |  |                     |             |             |                            |                     |             |                            |                   |          |             |                            |                      |             |                            |                    |                   |  |                |  |
| Opening time (ms)     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | -                                               | 20                                                                        | 20                                       |      |  |  |                     |             |             |                            |                     |             |                            |                   |          |             |                            |                      |             |                            |                    |                   |  |                |  |
| Weight (g)            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 18                                              | 30                                                                        | 40                                       |      |  |  |                     |             |             |                            |                     |             |                            |                   |          |             |                            |                      |             |                            |                    |                   |  |                |  |
| Terminal parts        | <div></div> <div>Pozidriv size 2</div> <table><tr><td>Wire</td><td></td><td></td><td>0.5...2.5 / 20...14</td></tr><tr><td rowspan="2">Single-core</td><td>1 conductor</td><td>[mm<sup>2</sup>] / [AWG]</td><td>0.5...2.5 / 20...14</td></tr><tr><td>2 conductor</td><td>[mm<sup>2</sup>] / [AWG]</td><td>0.5...4 / 20...10</td></tr><tr><td rowspan="2">Stranded</td><td>1 conductor</td><td>[mm<sup>2</sup>] / [AWG]</td><td>0.75...2.5 / 18...14</td></tr><tr><td>2 conductor</td><td>[mm<sup>2</sup>] / [AWG]</td><td>0.8...1.2 / 7...10</td></tr><tr><td colspan="2">Tightening torque</td><td>[Nm] / [lb-in]</td><td></td></tr></table> |                                                 |                                                                           |                                          | Wire |  |  | 0.5...2.5 / 20...14 | Single-core | 1 conductor | [mm <sup>2</sup> ] / [AWG] | 0.5...2.5 / 20...14 | 2 conductor | [mm <sup>2</sup> ] / [AWG] | 0.5...4 / 20...10 | Stranded | 1 conductor | [mm <sup>2</sup> ] / [AWG] | 0.75...2.5 / 18...14 | 2 conductor | [mm <sup>2</sup> ] / [AWG] | 0.8...1.2 / 7...10 | Tightening torque |  | [Nm] / [lb-in] |  |
| Wire                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                 | 0.5...2.5 / 20...14                                                       |                                          |      |  |  |                     |             |             |                            |                     |             |                            |                   |          |             |                            |                      |             |                            |                    |                   |  |                |  |
| Single-core           | 1 conductor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | [mm <sup>2</sup> ] / [AWG]                      | 0.5...2.5 / 20...14                                                       |                                          |      |  |  |                     |             |             |                            |                     |             |                            |                   |          |             |                            |                      |             |                            |                    |                   |  |                |  |
|                       | 2 conductor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | [mm <sup>2</sup> ] / [AWG]                      | 0.5...4 / 20...10                                                         |                                          |      |  |  |                     |             |             |                            |                     |             |                            |                   |          |             |                            |                      |             |                            |                    |                   |  |                |  |
| Stranded              | 1 conductor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | [mm <sup>2</sup> ] / [AWG]                      | 0.75...2.5 / 18...14                                                      |                                          |      |  |  |                     |             |             |                            |                     |             |                            |                   |          |             |                            |                      |             |                            |                    |                   |  |                |  |
|                       | 2 conductor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | [mm <sup>2</sup> ] / [AWG]                      | 0.8...1.2 / 7...10                                                        |                                          |      |  |  |                     |             |             |                            |                     |             |                            |                   |          |             |                            |                      |             |                            |                    |                   |  |                |  |
| Tightening torque     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | [Nm] / [lb-in]                                  |                                                                           |                                          |      |  |  |                     |             |             |                            |                     |             |                            |                   |          |             |                            |                      |             |                            |                    |                   |  |                |  |

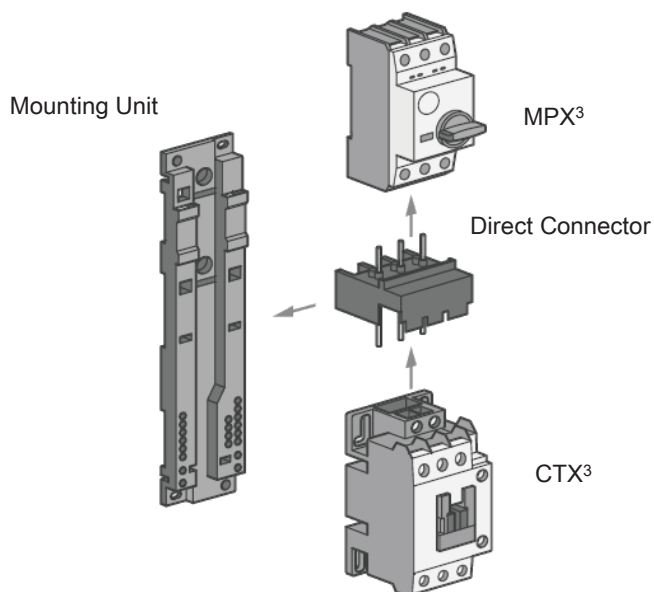
## 8. AUXILIARIES AND ACCESSORIES (continued)

### Auxiliaries: (continued)

. Direct connector and Mounting unit

| Type             |                                                                   | Combined devices                  |                          |
|------------------|-------------------------------------------------------------------|-----------------------------------|--------------------------|
| Direct connector | Mounting Unit                                                     | MPX <sup>3</sup>                  | CTX <sup>3</sup>         |
| 4 174 40         | Mounting Unit<br>MPX <sup>3</sup> 32S /<br>32H / 32MA<br>4 174 60 | MPX <sup>3</sup><br>32S           | CTX <sup>3</sup> mini AC |
| 4 174 41         |                                                                   |                                   | CTX <sup>3</sup> mini DC |
| 4 174 48         |                                                                   |                                   | CTX <sup>3</sup> 22 AC   |
| 4 174 49         |                                                                   |                                   | CTX <sup>3</sup> 22 DC   |
| 4 174 52         |                                                                   |                                   | CTX <sup>3</sup> 40 AC   |
| 4 174 53         |                                                                   |                                   | CTX <sup>3</sup> 40 DC   |
| 4 174 42         |                                                                   | MPX <sup>3</sup><br>32H /<br>32MA | CTX <sup>3</sup> mini AC |
| 4 174 43         |                                                                   |                                   | CTX <sup>3</sup> mini DC |
| 4 174 50         |                                                                   |                                   | CTX <sup>3</sup> 22 AC   |
| 4 174 51         |                                                                   |                                   | CTX <sup>3</sup> 22 DC   |
| 4 174 54         |                                                                   |                                   | CTX <sup>3</sup> 40 AC   |
| 4 174 55         |                                                                   |                                   | CTX <sup>3</sup> 40 DC   |
| 4 174 56         | Mounting Unit<br>MPX <sup>3</sup> 63H<br>4 174 61                 | MPX <sup>3</sup><br>63H           | CTX <sup>3</sup> 65 AC   |
| 4 174 57         |                                                                   |                                   | CTX <sup>3</sup> 65 DC   |
| 4 174 58         | Mounting Unit<br>MPX <sup>3</sup> 100H<br>4 174 62                | MPX <sup>3</sup><br>100H          | CTX <sup>3</sup> 100 AC  |
| 4 174 59         |                                                                   |                                   | CTX <sup>3</sup> 100 DC  |

. Installation principle:



## 8. AUXILIARIES AND ACCESSORIES (continued)

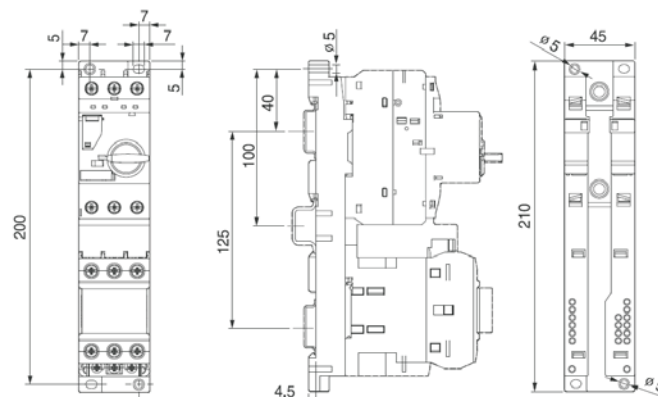
### Auxiliaries: (continued)

. Direct connector:

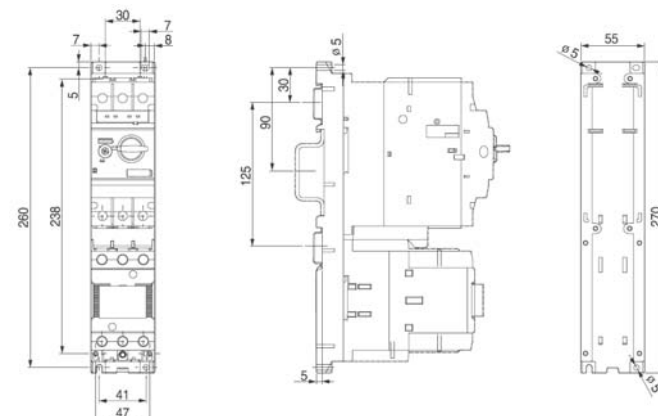


### Overall dimensions Mounting unit:

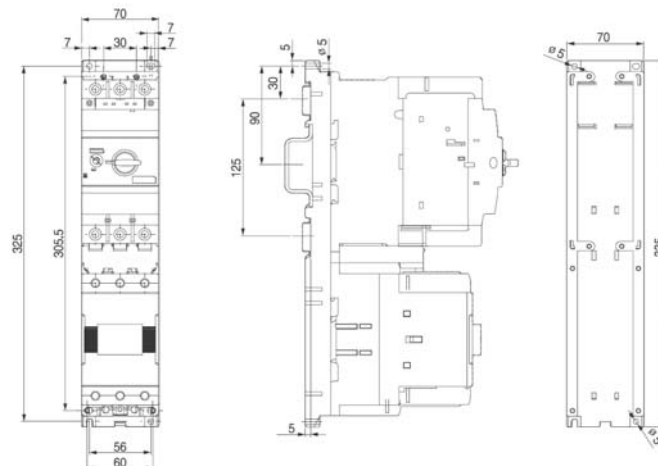
. Mounting Unit MPX<sup>3</sup> 32S / 32H / 32MA (cat n° 4 174 60)



. Mounting Unit MPX<sup>3</sup> 63H (cat n° 4 174 61)



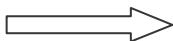
. Mounting Unit MPX<sup>3</sup> 100H (cat n° 4 174 62)



## 8. AUXILIARIES AND ACCESSORIES (continued)

### Accessories: (continued)

. Dial Cover MPX<sup>3</sup> (cat n° 4 174 79).



. Phase Busbar MPX<sup>3</sup>:

| References | Application MPX <sup>3</sup>      | Number of breakers | Rated current |
|------------|-----------------------------------|--------------------|---------------|
| 4 174 71   | MPX <sup>3</sup> 32S / 32H / 32MA | 2                  | 63 [A]        |
| 4 174 73   |                                   | 3                  |               |
| 4 174 75   |                                   | 4                  |               |
| 4 174 76   |                                   | 5                  |               |
| 4 174 72   | MPX <sup>3</sup> 63H              | 2                  | 108 [A]       |
| 4 174 74   |                                   | 3                  |               |



. Feeder 32A phase busbar for MPX<sup>3</sup> 32S / 32H / 32 MA (cat n° 4 174 77).

| Pole                           | 3P                                |
|--------------------------------|-----------------------------------|
| Mounting location              | Upstream                          |
| IP degree of protection        | IP20 according to IEC 60 529      |
| Rated insulation voltage (Ui)  | 690 [V] according to IEC 60 947-1 |
| Rated operational current (Ie) | 63 [A]                            |
| Terminal torque                | 1.7 [Nm] on screw clamp terminals |

### Installation software:

. XL PRO<sup>3</sup>.

## 8. AUXILIARIES AND ACCESSORIES (continued)

### Accessories: (continued)

. Enclosure IP 65:

- Enclosure yellow red rotary handle MPX<sup>3</sup> 32H / 32MA. (cat n° 4 174 80)
- Enclosure rotary handle MPX<sup>3</sup> 32H / 32MA. (cat n° 4 174 81)



. Rotary handle:

- Rotary handle MPX<sup>3</sup> 32H / 32MA (cat n° 4 174 63).
- Rotary handle MPX<sup>3</sup> 63H (cat n° 4 174 64).
- Rotary handle MPX<sup>3</sup> 100H (cat n° 4 174 65).



| References | Application MPX <sup>3</sup> | Shaft / Length |
|------------|------------------------------|----------------|
| 4 174 63   | MPX <sup>3</sup> 32H / 32MA  | 315 [mm]       |
| 4 174 64   | MPX <sup>3</sup> 63H         |                |
| 4 174 65   | MPX <sup>3</sup> 100H        |                |

- . Operation temperature : Min. = -20°C. Max. = +60°C.
- . Degree of protection : IP65 or UL50 Type 3R (separately).
- . Locking device : Lockable in ON / OFF position.
- . Material of insulation : Plastic (PA66).