

# Megatiker M3 125 thermal magnetic circuit breakers and MS3 125 switch disconnectors

Reference(s) :

T7303F16/20/25/32/40/50/63/80/100/125; T7304F16/20/25/32/40/50/63/80/100/125;  
T7303N16/20/25/32/40/50/63/80/100/125; T7304N16/20/25/32/40/50/63/80/100/125;  
T7303H16/20/25/32/40/50/63/80/100/125; T7304H16/20/25/32/40/50/63/80/100/125;  
T7303L16/20/25/32/40/50/63/80/100/125; T7304L16/20/25/32/40/50/63/80/100/125;  
T7303S125; T7304S125



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## 1. USE

Megatiker M3 platform has been developed to give a new solution of protection devices for a more precise approach in power installations in order to offer the correct answer for different project needs.

Megatiker M3 platform provide a complete project approach in premium market segment, offering a range completely suitable for high power application with high performance breakers in compact dimensions and at a competitive costs.

## 2. RANGE

### Circuit breakers

| Megatiker M3 125   |           |           |           |           |           |           |           |           |
|--------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 36 kA              |           | 50 kA     |           | 70 kA     |           | 100 kA    |           |           |
| I <sub>n</sub> (A) | 3P        | 4P        | 3P        | 4P        | 3P        | 4P        | 3P        | 4P        |
| 16                 | T7303F16  | T7304F16  | T7303N16  | T7304N16  | T7303H16  | T7304H16  | T7303L16  | T7304L16  |
| 20                 | T7303F20  | T7304F20  | T7303N20  | T7304N20  | T7303H20  | T7304H20  | T7303L20  | T7304L20  |
| 25                 | T7303F25  | T7304F25  | T7303N25  | T7304N25  | T7303H25  | T7304H25  | T7303L25  | T7304L25  |
| 32                 | T7303F32  | T7304F32  | T7303N32  | T7304N32  | T7303H32  | T7304H32  | T7303L32  | T7304L32  |
| 40                 | T7303F40  | T7304F40  | T7303N40  | T7304N40  | T7303H40  | T7304H40  | T7303L40  | T7304L40  |
| 50                 | T7303F50  | T7304F50  | T7303N50  | T7304N50  | T7303H50  | T7304H50  | T7303L50  | T7304L50  |
| 63                 | T7303F63  | T7304F63  | T7303N63  | T7304N63  | T7303H63  | T7304H63  | T7303L63  | T7304L63  |
| 80                 | T7303F80  | T7304F80  | T7303N80  | T7304N80  | T7303H80  | T7304H80  | T7303L80  | T7304L80  |
| 100                | T7303F100 | T7304F100 | T7303N100 | T7304N100 | T7303H100 | T7304H100 | T7303L100 | T7304L100 |
| 125                | T7303F125 | T7304F125 | T7303N125 | T7304N125 | T7303H125 | T7304H125 | T7303L125 | T7304L125 |

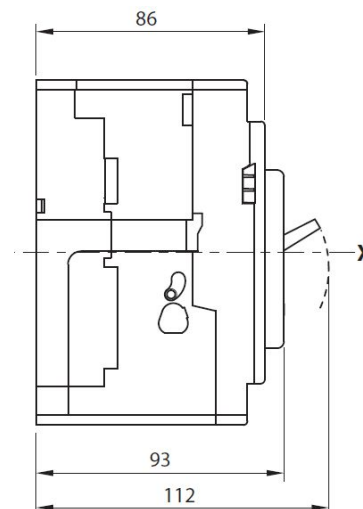
### Switch disconnectors

| Megatiker MS3 125  |           |           |
|--------------------|-----------|-----------|
| I <sub>n</sub> (A) | 3P        | 4P        |
| 125                | T7303S125 | T7304S125 |

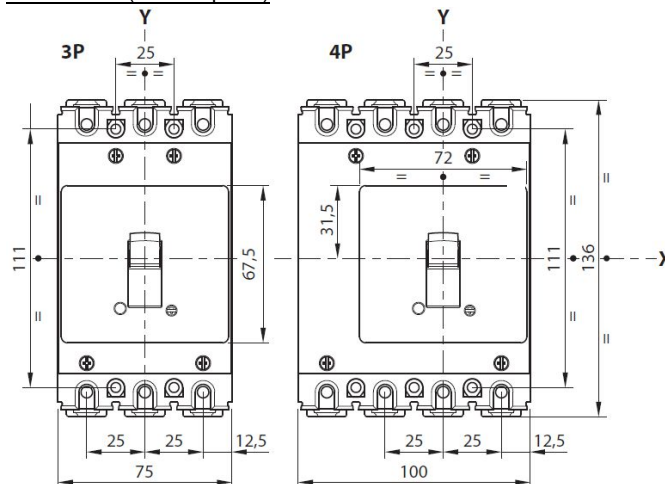
## 3. DIMENSIONS AND WEIGHTS

### 3.1 Dimensions

#### Lateral view



#### Frontal view (3 and 4 poles)



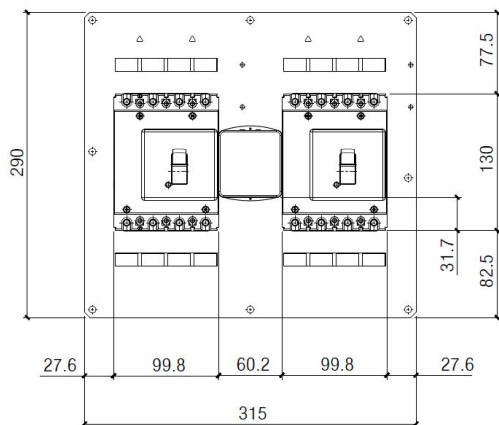
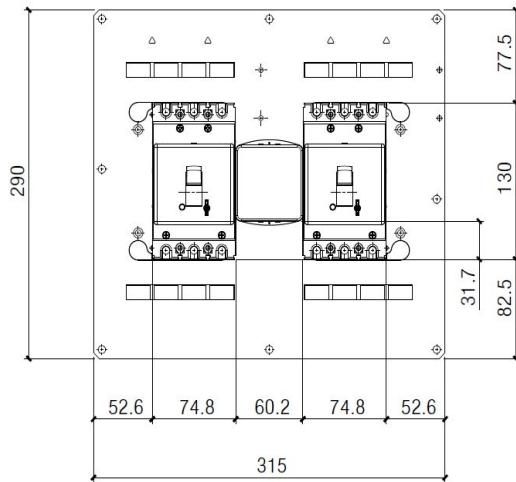
# Megatiker M3 125 thermal magnetic circuit breakers and MS3 125 switch disconnectors

Reference(s) :

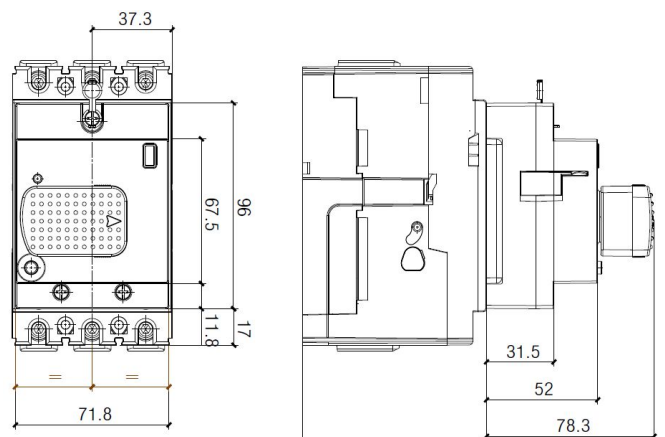
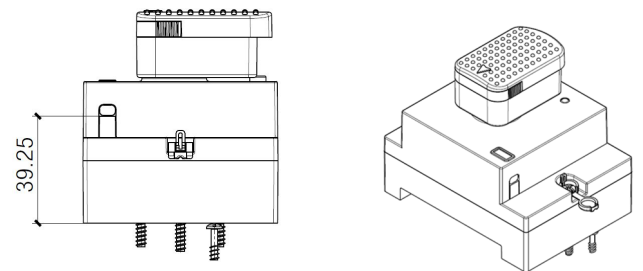
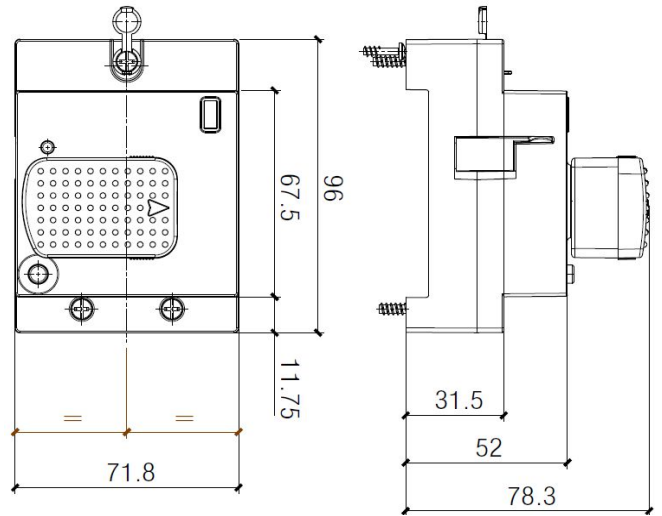
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T7303N16/20/25/32/40/50/63/80/100/125; T7304N16/20/25/32/40/50/63/80/100/125;  
T7303H16/20/25/32/40/50/63/80/100/125; T7304H16/20/25/32/40/50/63/80/100/125;  
T7303L16/20/25/32/40/50/63/80/100/125; T7304L16/20/25/32/40/50/63/80/100/125;  
T7303S125; T7304S125

## Interlock

(for rear plate interlock dimension, see relative instruction sheet)



## Direct rotary handle

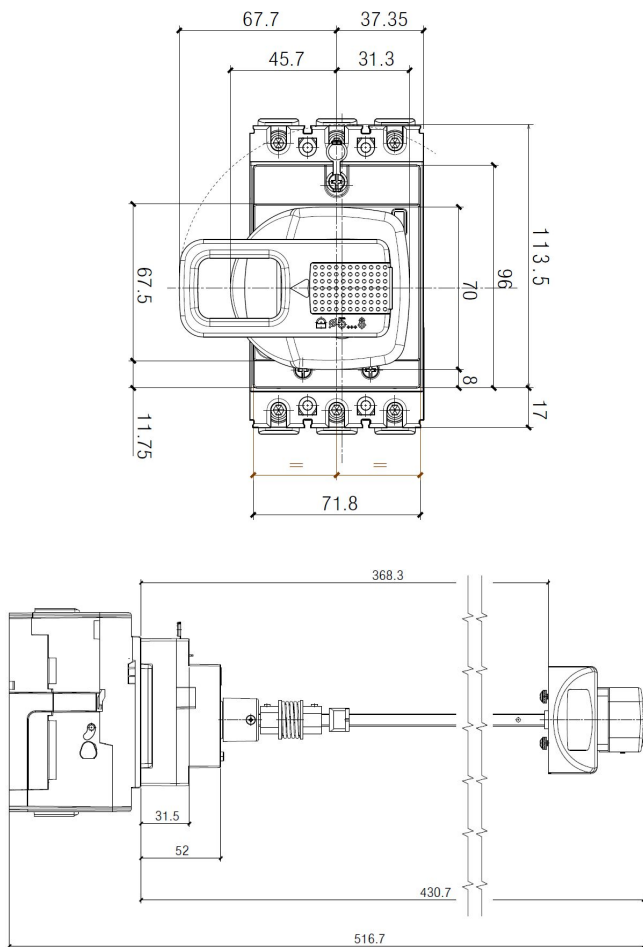


# Megatiker M3 125 thermal magnetic circuit breakers and MS3 125 switch disconnectors

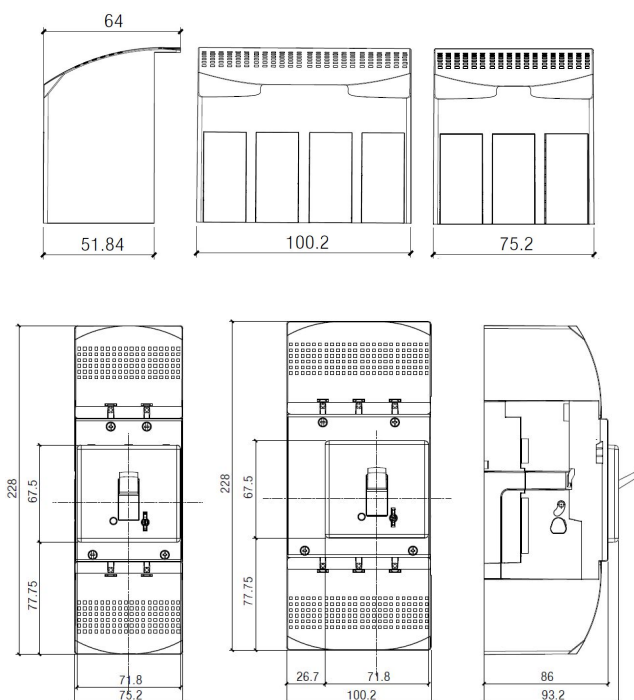
Reference(s) :

T7303F16/20/25/32/40/50/63/80/100/125; T7304F16/20/25/32/40/50/63/80/100/125;  
T7303N16/20/25/32/40/50/63/80/100/125; T7304N16/20/25/32/40/50/63/80/100/125;  
T7303H16/20/25/32/40/50/63/80/100/125; T7304H16/20/25/32/40/50/63/80/100/125;  
T7303L16/20/25/32/40/50/63/80/100/125; T7304L16/20/25/32/40/50/63/80/100/125;  
T7303S125; T7304S125

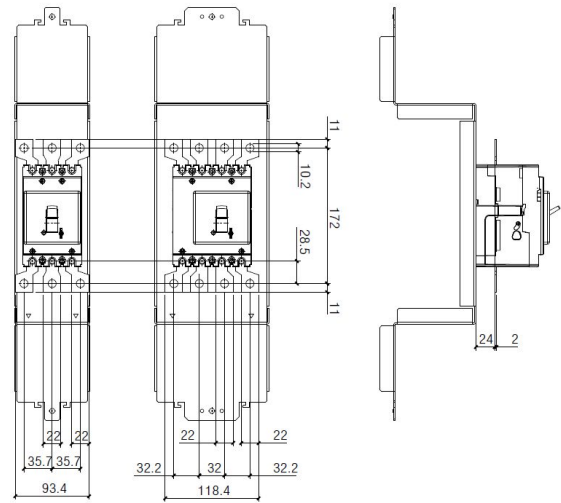
## Vari-depth rotary handle



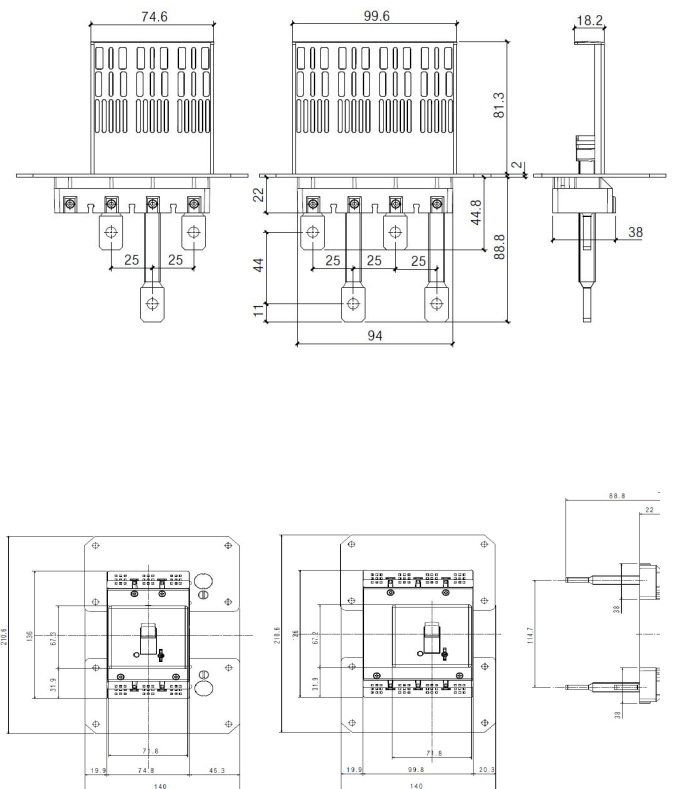
## Sealable terminal shields



## Spreaders



## Rear terminals



# Megatiker M3 125 thermal magnetic circuit breakers and MS3 125 switch disconnectors

Reference(s) :  
T7303F16/20/25/32/40/50/63/80/100/125; T7304F16/20/25/32/40/50/63/80/100/125;  
T7303N16/20/25/32/40/50/63/80/100/125; T7304N16/20/25/32/40/50/63/80/100/125;  
T7303H16/20/25/32/40/50/63/80/100/125; T7304H16/20/25/32/40/50/63/80/100/125;  
T7303L16/20/25/32/40/50/63/80/100/125; T7304L16/20/25/32/40/50/63/80/100/125;  
T7303S125; T7304S125

### 3.2 Weights

| Configuration                       | Weights (Kg) |       |
|-------------------------------------|--------------|-------|
|                                     | 3P           | 4P    |
| Circuit breaker/switch disconnector | 0.95         | 1.2   |
| Direct rotary handle*               | 0.18         |       |
| Vari depth rotary handle*           | 0.55         |       |
| Interlock*                          | 0.35         |       |
| Spreader*                           | 0.135        | 0.175 |

*\* to add to device weight*

### 4. OVERVIEW

#### 4.1 Supplied with:

- fixing screws (2 for 3P and 4 for 4P)
- screws for connections (6 for 3P and 8 for 4P)
- phase insulators (2 for 3P and 3 for 4P)

### 5. ELECTRICAL CONNECTIONS

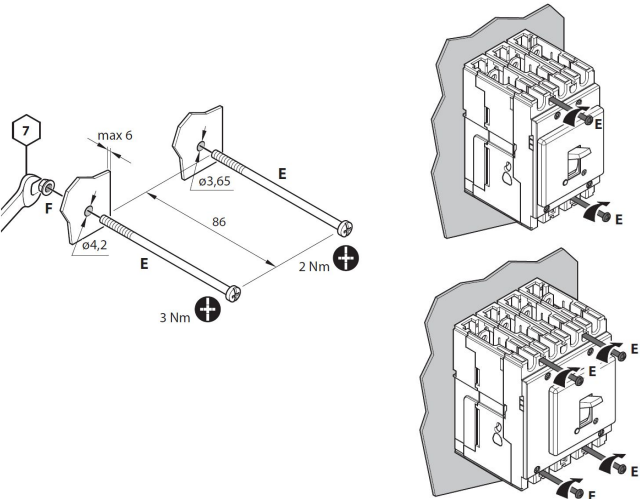
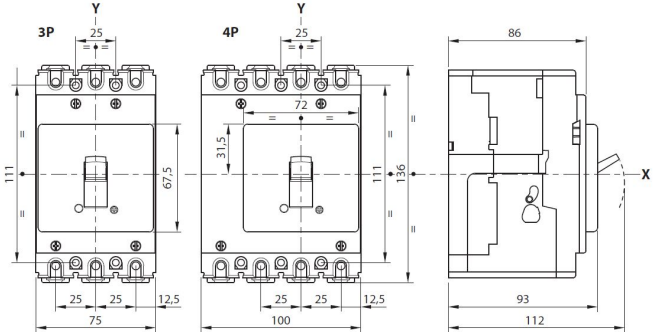
#### 5.1 Mounting possibilities

On plate:

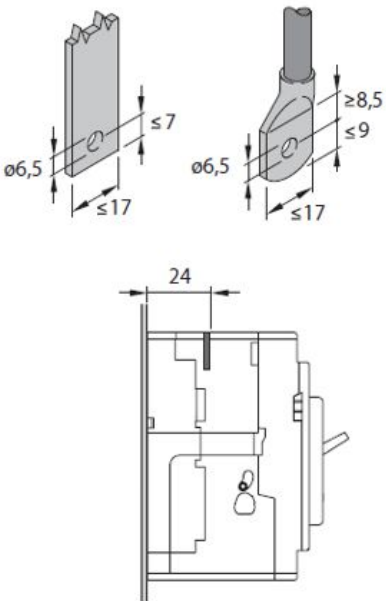
- Vertical
- Horizontal
- Supply inverter type

### 5.2 Mounting

(see instruction sheet for detailed mounting procedures)

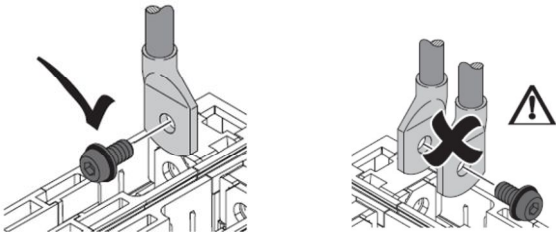
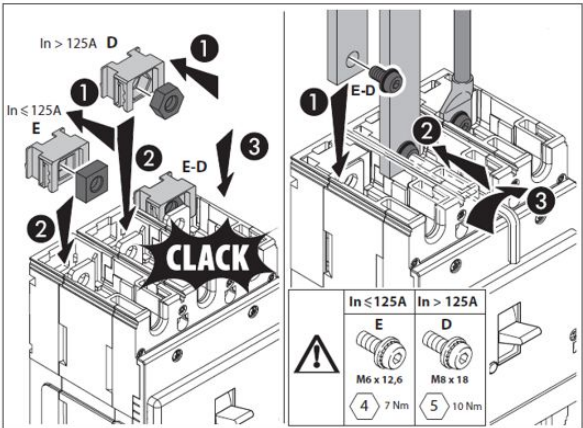


Busbars/cable lugs:

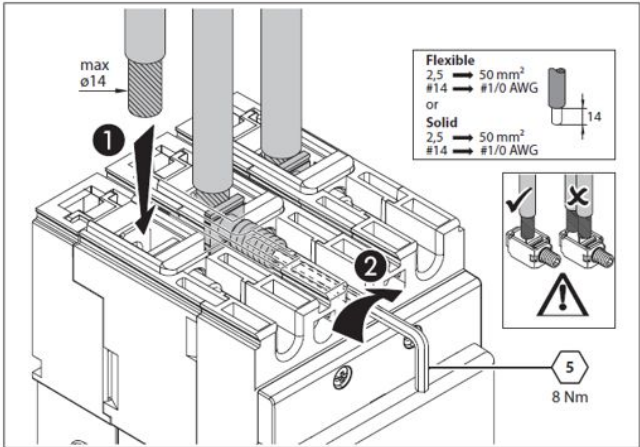
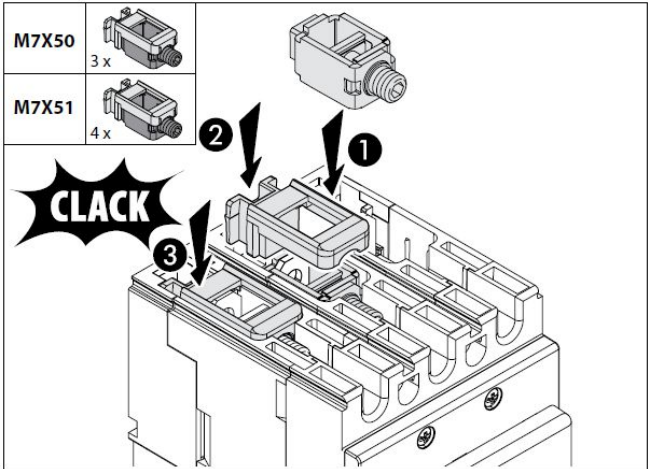


Megatiker M3 125 thermal magnetic circuit breakers and MS3 125 switch disconnectors

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T7303F16/20/25/32/40/50/63/80/100/125; T7304F16/20/25/32/40/50/63/80/100/125;  
T7303N16/20/25/32/40/50/63/80/100/125; T7304N16/20/25/32/40/50/63/80/100/125;  
T7303H16/20/25/32/40/50/63/80/100/125; T7304H16/20/25/32/40/50/63/80/100/125;  
T7303L16/20/25/32/40/50/63/80/100/125; T7304L16/20/25/32/40/50/63/80/100/125;  
T7303S125; T7304S125



Cables:





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T7303F16/20/25/32/40/50/63/80/100/125; T7304F16/20/25/32/40/50/63/80/100/125;  
T7303N16/20/25/32/40/50/63/80/100/125; T7304N16/20/25/32/40/50/63/80/100/125;  
T7303H16/20/25/32/40/50/63/80/100/125; T7304H16/20/25/32/40/50/63/80/100/125;  
T7303L16/20/25/32/40/50/63/80/100/125; T7304L16/20/25/32/40/50/63/80/100/125;  
T7303S125; T7304S125

## 6. ELECTRICAL AND MECHANICAL CHARACTERISTICS

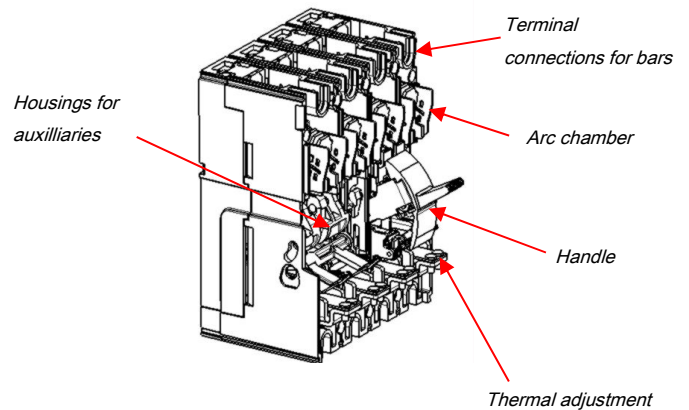
### Circuit breaker

| Circuit Breaker                                      | Megatiker M3 125 F/N/H/L (38kA, 50kA, 70kA, 100kA)                                     |
|------------------------------------------------------|----------------------------------------------------------------------------------------|
| Rated current (A)                                    | 16-20-25-32-40-50-63-80-100-125                                                        |
| Poles                                                | 3 - 4                                                                                  |
| Pole pitch (mm)                                      | 25                                                                                     |
| Rated insulation voltage (50/60Hz) $U_i$ (V)         | 800                                                                                    |
| Rated operating voltage (50/60Hz) $U_o$ (V)          | 690                                                                                    |
| Rated impulse withstand current $U_{imp}$ (kV)       | 8                                                                                      |
| Rated frequency (Hz)                                 | 50 - 60                                                                                |
| Reference ambient temperature (°C)                   | 40 - 50                                                                                |
| Operating temperature (°C)                           | -25 ÷ 70                                                                               |
| Mechanical endurance (cycles)                        | 20000                                                                                  |
| Electrical endurance at $I_n$ (cycles)               | 8000                                                                                   |
| Utilization category                                 | A                                                                                      |
| Suitable for isolation                               | Yes                                                                                    |
| Type of protection                                   | Thermal-magnetic                                                                       |
| Thermal adjustment $I_r$                             | 0.8 - 0.9 × $I_n$                                                                      |
| Magnetic adjustment $I_d$ (A)                        | 400 A up to $I_n=40A$ (not adjustable)<br>10 × $I_n$ up to $I_n=125A$ (not adjustable) |
| Neutral protection for 4P (% $I_{th}$ of phase pole) | 100                                                                                    |
| Dimensions (W x H x D) (mm)                          | 75 x 135 x 86 (3P)<br>100 x 135 x 86 (4P)                                              |

### Switch disconnectors

| Switch                                            | Megatiker MS3 125                         |
|---------------------------------------------------|-------------------------------------------|
| Uninterrupted nominal current $I_n$ (A)           | 125                                       |
| Short-time relative current $I_{sr}(kA)$ for 1s   | 1.5                                       |
| Rated short-circuit making capacity $I_{sm}$ (kA) | 2.5                                       |
| Rated insulation voltage $U_i$ (V AC)             | 800                                       |
| Maximum rated operating voltage $U_o$ (V AC)      | 690                                       |
| Rated impulse withstand voltage $U_{imp}$ (kV)    | 8                                         |
| Utilization category                              | AC23A                                     |
| Suitable for isolation                            | Yes                                       |
| Nominal frequency (Hz)                            | 50-60                                     |
| Operating temperature (°C)                        | -25 ÷ 70                                  |
| Mechanical endurance (cycles)                     | 20000                                     |
| Electrical endurance at $I_n$ (cycles)            | 8000                                      |
| Dimensions (W x H x D) (mm)                       | 75 x 135 x 86 (3P)<br>100 x 135 x 86 (4P) |

## 6.1 Main parts constituting the circuit breaker



## 6.2 Breaking capacity (kA)

|             |                                                    | Breaking capacity (kA) & $I_{cs}$ |          |          |           |
|-------------|----------------------------------------------------|-----------------------------------|----------|----------|-----------|
|             |                                                    | 3P-4P                             |          |          |           |
| IEC 60947-2 | $U_e/I_{cu}$ ( $I_{cu}$ letter)                    | 36kA (F)                          | 50kA (N) | 70kA (H) | 100kA (L) |
|             | 240 V AC                                           | 70                                | 90       | 100      | 150       |
|             | 415 V AC                                           | 36                                | 50       | 70       | 100       |
|             | 500 V AC                                           | 12                                | 16       | 20       | 25        |
|             | 690V AC                                            | 5                                 | 6        | 10       | 12        |
|             | 250 V DC                                           | 10                                | 10       | 10       | 10        |
|             | $I_{cs}$ (% $I_{cu}$ )                             | 100                               | 100      | 100      | 100       |
|             | Rated making capacity under short circuit $I_{cm}$ |                                   |          |          |           |
| NEMA AB-1   | $I_{cm}$ (kA) at 415V                              | 76.5                              | 105      | 154      | 220       |
|             | 240 V AC                                           | 70                                | 90       | 100      | 150       |
|             | 500 V AC                                           | 12                                | 16       | 20       | 25        |
|             | 690 V AC                                           | 5                                 | 6        | 10       | 12        |

## 6.3 Rated current ( $I_n$ ) at 40°C / 50°C

| $I_n$ (A) | Phases limit trip current |           |                    |      |
|-----------|---------------------------|-----------|--------------------|------|
|           | thermal ( $I_r$ )         |           | magnetic ( $I_d$ ) |      |
|           | 0.8 × $I_n$               | 1 × $I_n$ | min                | max  |
| 16        | 13                        | 16        | 400                | 400  |
| 20        | 16                        | 20        | 400                | 400  |
| 25        | 20                        | 25        | 400                | 400  |
| 32        | 26                        | 32        | 400                | 400  |
| 40        | 32                        | 40        | 400                | 400  |
| 50        | 40                        | 50        | 500                | 500  |
| 63        | 51                        | 63        | 630                | 630  |
| 80        | 64                        | 80        | 800                | 800  |
| 100       | 80                        | 100       | 1000               | 1000 |
| 125       | 100                       | 125       | 1250               | 1250 |

## 6.3 Load operations

| Force on handle   | N  |
|-------------------|----|
| Opening operation | 40 |
| Closing operation | 40 |
| Restore operation | 53 |

## 6.4 Electrodynamic forces

The table below shows an indication of suggested distances to keep between the breaker and the first fixing point of the conductor and bars in order to reduce the effects of the electrodynamic stresses that may be created during a short circuit. In the realization of anchorage system it is recommend the use of isolators suitable for the type of conductor used and the operating voltage.

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T7303N16/20/25/32/40/50/63/80/100/125; T7304N16/20/25/32/40/50/63/80/100/125;  
T7303H16/20/25/32/40/50/63/80/100/125; T7304H16/20/25/32/40/50/63/80/100/125;  
T7303L16/20/25/32/40/50/63/80/100/125; T7304L16/20/25/32/40/50/63/80/100/125;  
T7303S125; T7304S125

| I <sub>cc</sub> (kA) | Maximum Distance (mm) |
|----------------------|-----------------------|
| 36                   | 350                   |
| 50                   | 300                   |
| 70                   | 250                   |
| 100                  | 200                   |

According to conductor type and bar system (except Legrand bar kits), the choice of the distance to keep is to be calibrated by the installer.

Also installer must take into account the weight of the conductors so that this does not affect the electrical junction between the conductor itself and the connection point.

## 6.5 Power losses per pole under I<sub>n</sub>

Circuit breaker (I<sub>cu</sub> ≤ 50kA)

|                    | Power losses per pole (W) |      |      |      |      |      |      |      |       |       |
|--------------------|---------------------------|------|------|------|------|------|------|------|-------|-------|
| I <sub>n</sub> (A) | 16                        | 20   | 25   | 32   | 40   | 50   | 63   | 80   | 100   | 125   |
| Lugs               | 3.46                      | 4.80 | 7.50 | 2.92 | 4.32 | 6.75 | 6.37 | 6.02 | 9.40  | 9.69  |
| Spreaders          | 3.48                      | 4.84 | 7.56 | 3.02 | 4.48 | 7.00 | 6.77 | 6.66 | 10.40 | 11.25 |
| Rear terminals     | 3.55                      | 4.94 | 7.72 | 3.28 | 4.88 | 7.63 | 7.76 | 8.26 | 12.90 | 15.16 |

Circuit breaker (I<sub>cu</sub> > 50kA)

|                    | Power losses per pole (W) |      |      |      |      |      |      |      |       |       |
|--------------------|---------------------------|------|------|------|------|------|------|------|-------|-------|
| I <sub>n</sub> (A) | 16                        | 20   | 25   | 32   | 40   | 50   | 63   | 80   | 100   | 125   |
| Lugs               | 3.51                      | 4.89 | 7.64 | 3.15 | 4.69 | 7.33 | 7.28 | 7.49 | 11.70 | 13.28 |
| Spreaders          | 3.54                      | 4.93 | 7.71 | 3.26 | 4.85 | 7.58 | 7.68 | 8.13 | 12.70 | 14.84 |
| Rear terminals     | 3.60                      | 5.03 | 7.86 | 3.51 | 5.25 | 8.20 | 8.67 | 9.73 | 15.20 | 18.75 |

Note: power losses in the table above are referred and measured as described in the standard IEC 60947-2 (Annex G) for circuit-breakers. Values in the table are referred to a single phase.

Switch disconnectors

|                    | Power losses per pole (W) |
|--------------------|---------------------------|
| I <sub>n</sub> (A) |                           |
| 125                |                           |
| Lugs               | 7.81                      |
| Spreaders          | 9.38                      |
| Rear terminals     | 13.28                     |

Note: power loss in the table above are referred and measured as described in the standard IEC 60947-3 for switches. Values in the table are referred to a single phase.

## 6.6 DERATINGS

according to IEC/EN 60947-1

### 6.6.1 Temperature

Rated current and his adjustment has to be considered relating to a rise or fall of ambient temperature and to a different version or installation conditions. The table below indicates the maximum long-time (LT) protection setting depending on the ambient temperature.

|                    | Temperature Ta (°C) |     |     |     |     |     |     |     |     |     |     |
|--------------------|---------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| I <sub>n</sub> (A) | -20                 | -10 | -5  | 0   | 10  | 20  | 30  | 40  | 50  | 60  | 70  |
| 16                 | 20                  | 20  | 19  | 19  | 18  | 17  | 17  | 16  | 16  | 15  | 14  |
| 20                 | 25                  | 24  | 24  | 23  | 23  | 21  | 21  | 20  | 20  | 18  | 17  |
| 25                 | 31                  | 30  | 30  | 29  | 28  | 27  | 26  | 25  | 25  | 23  | 22  |
| 32                 | 40                  | 39  | 38  | 37  | 36  | 35  | 33  | 32  | 32  | 29  | 28  |
| 40                 | 50                  | 49  | 48  | 47  | 45  | 43  | 42  | 40  | 40  | 37  | 35  |
| 50                 | 62                  | 61  | 59  | 58  | 56  | 54  | 52  | 50  | 50  | 45  | 43  |
| 63                 | 79                  | 77  | 75  | 74  | 71  | 68  | 65  | 63  | 63  | 57  | 54  |
| 80                 | 100                 | 97  | 95  | 93  | 90  | 86  | 83  | 80  | 80  | 73  | 69  |
| 100                | 125                 | 121 | 119 | 117 | 112 | 108 | 104 | 100 | 100 | 91  | 86  |
| 125                | 157                 | 151 | 148 | 146 | 140 | 135 | 130 | 125 | 125 | 114 | 108 |

For derating temperature with other configurations, see table A.

### 6.6.2 Specific condition use

Climatic conditions

according to IEC/EN 60947-1 Annex Q, Cat. F subject to temperature, humidity, vibration, shock and salt mist.

Pollution degree

for Megatiker M3 125 circuit breakers, degree 3, according to IEC/EN 60947-2

### 6.6.3 Altitude

Altitude derating for Megatiker M3 circuit breakers and switch disconnectors

| Altitude (m)                                    | 2000               | 3000                  | 4000                  | 5000                 |
|-------------------------------------------------|--------------------|-----------------------|-----------------------|----------------------|
| U <sub>e</sub> (V)                              | 690                | 590                   | 520                   | 460                  |
| I <sub>n</sub> (A) (T <sub>a</sub> = 40°C/50°C) | 1 x I <sub>n</sub> | 0.98 x I <sub>n</sub> | 0.93 x I <sub>n</sub> | 0.9 x I <sub>n</sub> |

### 6.6.4 Use in DC

See table B.

## Megatiker M3 125 thermal magnetic circuit breakers and MS3 125 switch disconnectors

Reference(s) :

T7303F16/20/25/32/40/50/63/80/100/125; T7304F16/20/25/32/40/50/63/80/100/125;  
T7303N16/20/25/32/40/50/63/80/100/125; T7304N16/20/25/32/40/50/63/80/100/125;  
T7303H16/20/25/32/40/50/63/80/100/125; T7304H16/20/25/32/40/50/63/80/100/125;  
T7303L16/20/25/32/40/50/63/80/100/125; T7304L16/20/25/32/40/50/63/80/100/125;  
T7303S125; T7304S125

## 7. CONFORMITY

Megtikler M3 range of product concerning circuit-breakers and switch-disconnectors exceed compliance with the IEC/EN standard 60947-2 and 60947-3 respectively. Certification available by IECEE CB-scheme or LOVAG Compliance scheme.

Megtiker M3 respect the European Directives REACH, RoHS, RAEE.

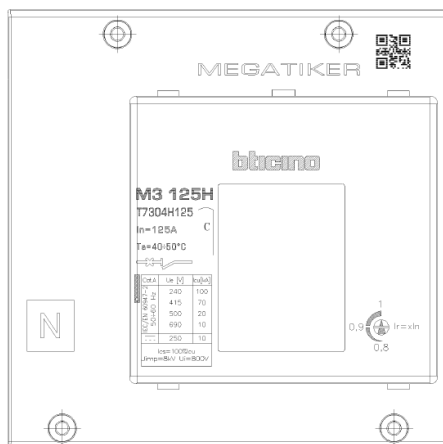
*For specific information, please contact Legrand support.*

## 7.1 Marking

Product (both circuit breakers and switch disconnectors) are provided with labelling in full conformity to the referred standard and directives requirements by laser or sticker labels (for illustrative purposes only) as:

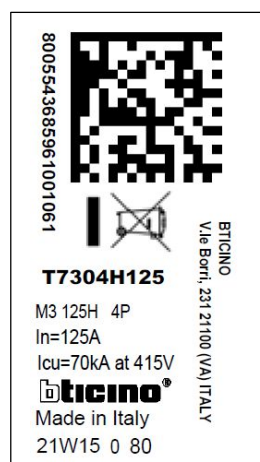
**Product laser label on front**

- Manufacturer responsible
- Denomination, type product, code
- Standard conformity
- Standard characteristics declared
- Coloured identification of  $I_{cu}$  at 415V



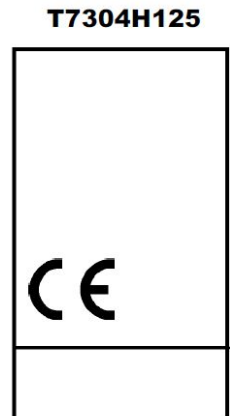
**Product sticker label on side**

- Manufacturer responsible
- Denomination and type product
- Standard conformity
- Mark/Licence (if any)
- Directive requirements
- Bar code identification product
- Manufacturing Country



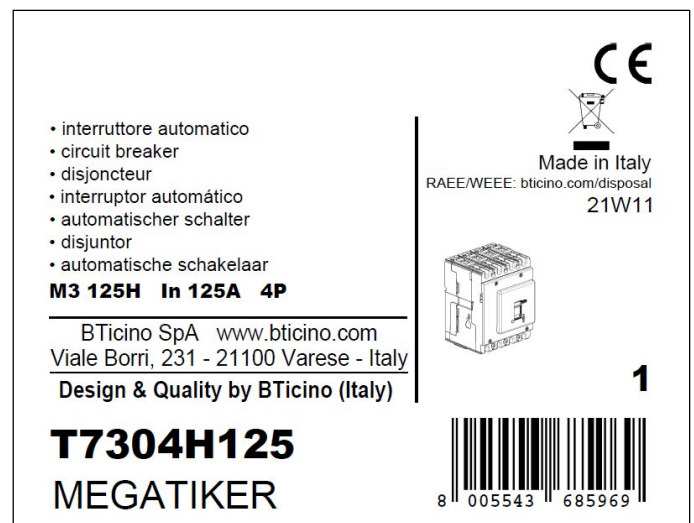
**Mark sticker label on side**

- Product code
- Mark/Licence (if any)
- Country deviation, if any



### Packaging sticker label

- Manufacturer responsible
- Denomination and type product
- Mark/Licence (if any)
- Directive requirements
- Bar code identification product





# Megatiker M3 125 thermal magnetic circuit breakers and MS3 125 switch disconnectors

Reference(s) :

T7303F16/20/25/32/40/50/63/80/100/125; T7304F16/20/25/32/40/50/63/80/100/125;  
T7303N16/20/25/32/40/50/63/80/100/125; T7304N16/20/25/32/40/50/63/80/100/125;  
T7303H16/20/25/32/40/50/63/80/100/125; T7304H16/20/25/32/40/50/63/80/100/125;  
T7303L16/20/25/32/40/50/63/80/100/125; T7304L16/20/25/32/40/50/63/80/100/125;  
T7303S125; T7304S125

## 8. EQUIPMENTS AND ACCESSORIES

### 8.1 Releases (for Megatiker M3 125/250, M1 and M2)

- shunt releases with voltage:

12 Vac and dc  
24 Vac and dc  
48 Vac and dc  
110÷130 Vac  
220÷277 Vac  
380÷480 Vac

ref. M7S012  
ref. M7S024  
ref. M7S048  
ref. M7S110  
ref. M7S230  
ref. M7S415

Maximum power = 400 VA / W

- undervoltage releases with voltage:

12 Vac and dc  
24 Vac and dc  
48 Vac and dc  
110÷130 Vac and dc  
220÷240 Vac  
277 Vac  
380÷415 Vac  
440÷480 Vac

ref. M7U012  
ref. M7U024  
ref. M7U048  
ref. M7U110  
ref. M7U230  
ref. M7U277  
ref. M7U415  
ref. M7U480

Maximum power = 4 VA

Circuit breaker opening time < 50 ms

UVR releases can be used on Megatiker M3 125/250 starting from batch 19W15

- time-lag undervoltage releases (800 ms)

Time-lag modules with voltage:

230 V ac  
400 V ac

ref. M7000MR/230  
ref. M7000MR/400

Release

ref. M7UEM

(to be equipped with a time-lag module M7000MR/230 and M7000MR/400)

### 8.2 Auxiliary contacts

(for Megatiker M3 125/250, M1 and M2)

Changeover switch 3A – 250 VAC

ref. M7X01

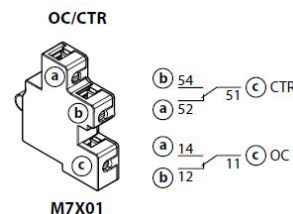
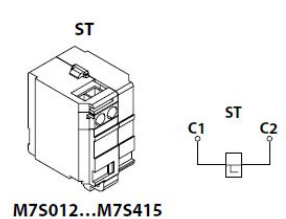
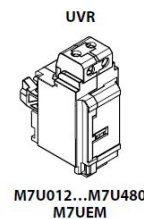
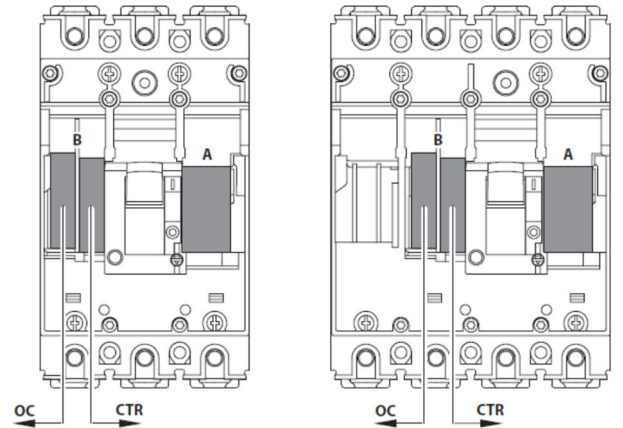
To show the state of the contacts or opening of the Megatiker M1/M2 and Megatiker M3 125/250 on a fault:

- Auxiliary contact (standard) OC
- Fault signal CTR

| Auxiliary contact electrical characteristics |              |           |
|----------------------------------------------|--------------|-----------|
| Rated voltage (V <sub>n</sub> )              | V (ac or dc) | 24 to 250 |
| Intensity (A)                                | 24 V dc      | 5         |
|                                              | 48 V dc      | 1.7       |
|                                              | 110 V dc     | 0.5       |
|                                              | 230 V dc     | 0.25      |
|                                              | 110 V ac     | 4         |
|                                              | 230/250 V ac | 3         |

Configurations:

Megatiker M3 125 → 1 auxiliary contacts + 1 fault signal



|        | B | A |
|--------|---|---|
| UVR    | ✗ | ✓ |
| ST     | ✗ | ✓ |
| OC/CTR | ✓ | ✗ |

To get more information on auxiliary mounting procedures, please refer to product instruction sheet.

### 8.3 Universal keylocks

These keylocks must be used for all the accessories that can be locked:

- rotary handle

For each of these, a specific accessory (indicated in the specific section of this datasheet) must be added in order to get the complete locking kits for the specific application.

- 1 lock + 1 flat key with random mapping ref. M7R24
- 1 lock + 1 flat key with fixed mapping (EL43525) ref. M7R25
- 1 lock + 1 flat key with fixed mapping (EL43363) ref. M7R26
- 1 lock + 1 star key with random mapping ref. M7R27

# Megatiker M3 125 thermal magnetic circuit breakers and MS3 125 switch disconnectors

Reference(s) :

T7303F16/20/25/32/40/50/63/80/100/125; T7304F16/20/25/32/40/50/63/80/100/125;  
T7303N16/20/25/32/40/50/63/80/100/125; T7304N16/20/25/32/40/50/63/80/100/125;  
T7303H16/20/25/32/40/50/63/80/100/125; T7304H16/20/25/32/40/50/63/80/100/125;  
T7303L16/20/25/32/40/50/63/80/100/125; T7304L16/20/25/32/40/50/63/80/100/125;  
T7303S125; T7304S125

## 8.4 Rotary handles

*Direct on DPX<sup>3</sup>*

- Standard (black) *ref. M7R20*
- For emergency use (red / yellow) *ref. M7R21*

*Vari-depth handle IP55 (with auxiliary option)*

- Standard (black) *ref. M7R22*
- For emergency use (red / yellow) *ref. M7R24*

*Locking accessories (for rotary handle)*

- Key lock accessory for vari-depth rotary handle *ref. M7R31*  
(*ref. M7R31 is compatible with Megatiker M3 250 also*)

*Ref. M7R31 must be used with universal keylocks to get the complete locking kit for rotary handle*

## 8.5 Mechanical accessories

- Padlock (for locking in "OPEN" position) *ref. M7X02*  
(*ref. M7X02 is compatible with Megatiker M1/M2 and M3 250*)
- Sealable terminal shields:
  - Set of 2 (for 3P) *ref. M7C20*
  - Set of 3 (for 4P) *ref. M7C21*
- Insulated shields:
  - Set of 2 (for 3P) *ref. M7F01*
  - Set of 3 (for 4P) *ref. M7F02*(*ref. M7F01 AND M7F02 are compatible with Megatiker M3 250*)

## 8.6 Connection accessories

### **Cage terminals**

- Set of 3 terminals for cables 50 mm<sup>2</sup> max (solid) *ref. M7X50*  
or 50 mm<sup>2</sup> max (flexible) Cu/Al
- Set of 4 terminals for cables 50 mm<sup>2</sup> max (rigid) *ref. M7X51*  
or 50 mm<sup>2</sup> max (flexible) Cu/Al
- Set of 3 terminals (high capacity) *ref. M7X52*  
for cables 70 mm<sup>2</sup> max for Cu and 95 mm<sup>2</sup> max for Al  
*Section relative to maximum current is 70 mm<sup>2</sup> (for Al)*
- Set of 4 terminals (high capacity) *ref. M7X53*  
for cables 70 mm<sup>2</sup> max for Cu and 95 mm<sup>2</sup> max for Al  
*Section relative to maximum current is 70 mm<sup>2</sup> (for Al)*

**Spreaders** (*incoming or outcoming*):

- Set of 3 (for 3P) *ref. M7A50*
- Set of 4 (for 4P) *ref. M7A51*

**Rear terminals** (*incoming or outcoming*):

- Set of 3 (for 3P) *ref. M7A54*
- Set of 4 (for 4P) *ref. M7A55*

## 8.7 Interlock mechanism

(for interlocking 2 Megatiker M3 125 HP or 2 Megatiker M3 250)

No frame mixing in interlock mechanism

- Interlock mechanism – standard version *ref. M7I01*  
(for fixed version Megatiker M3 125 and 250)
- Interlock mechanism – for electronic module *ref. M7I02*  
(for fixed version Megatiker M3 125 and 250)
- Interlock plate for Megatiker M3 125 *ref. M7I04*

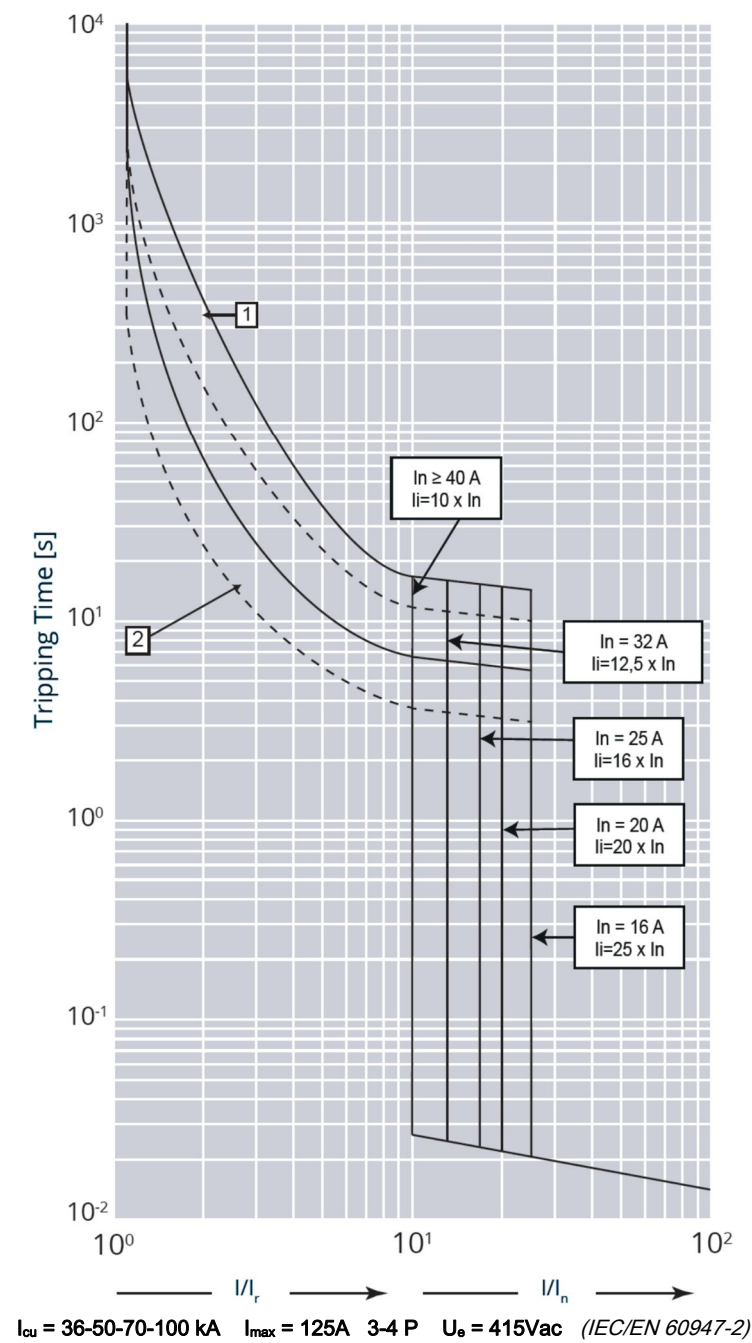
Megatiker M3 125 thermal magnetic circuit breakers and MS3 125 switch disconnectors

Reference(s) :  
T7303F16/20/25/32/40/50/63/80/100/125; T7304F16/20/25/32/40/50/63/80/100/125;  
T7303N16/20/25/32/40/50/63/80/100/125; T7304N16/20/25/32/40/50/63/80/100/125;  
T7303H16/20/25/32/40/50/63/80/100/125; T7304H16/20/25/32/40/50/63/80/100/125;  
T7303L16/20/25/32/40/50/63/80/100/125; T7304L16/20/25/32/40/50/63/80/100/125;  
T7303S125; T7304S125

9. CURVES

9.1.1 Thermal magnetic tripping curve (rated current  $I_n \leq 80A$ )

Update: 11/06/2019

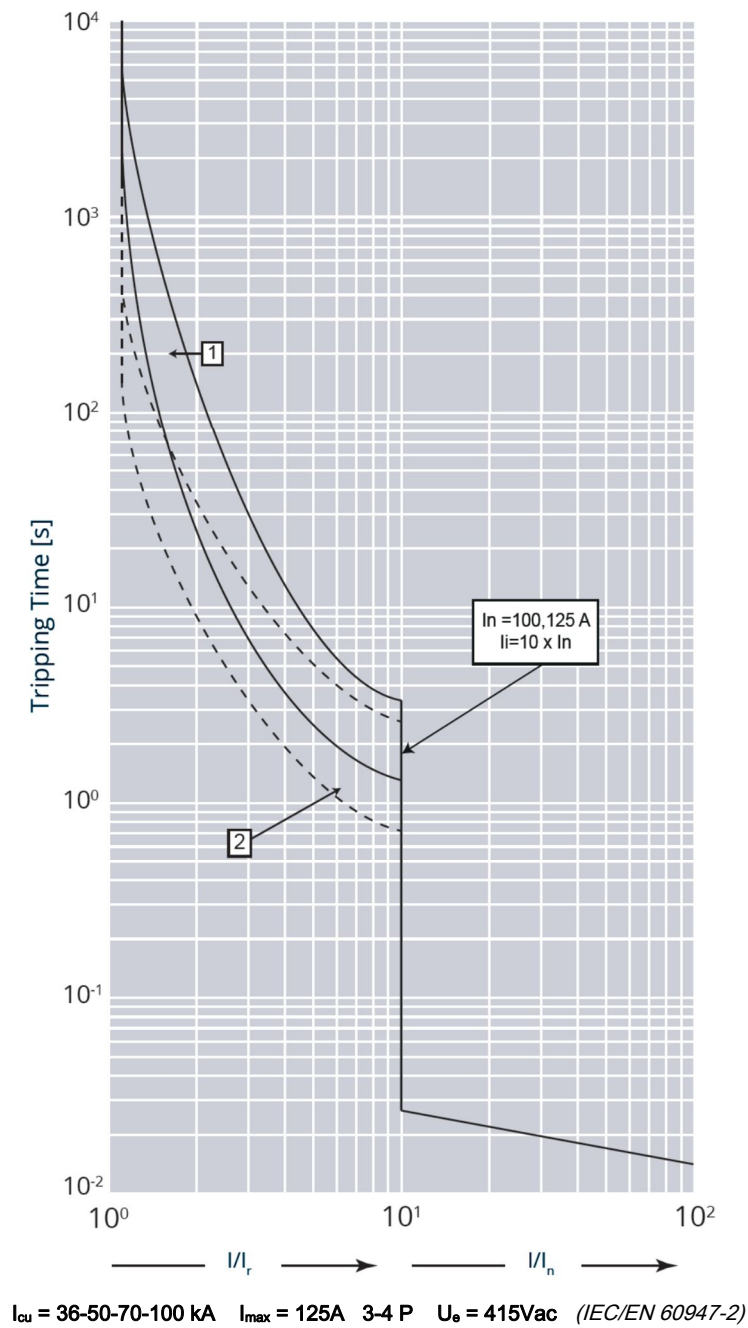


| Value   | Description                    |
|---------|--------------------------------|
| t       | time                           |
| I       | current                        |
| $I_n$   | rated current                  |
| $I_r$   | long time setting current      |
| curve 1 | characteristic with cold start |
| curve 2 | characteristic with hot start  |

Megatiker M3 125 thermal magnetic circuit breakers and MS3 125 switch disconnectors

Reference(s) :  
T7303F16/20/25/32/40/50/63/80/100/125; T7304F16/20/25/32/40/50/63/80/100/125;  
T7303N16/20/25/32/40/50/63/80/100/125; T7304N16/20/25/32/40/50/63/80/100/125;  
T7303H16/20/25/32/40/50/63/80/100/125; T7304H16/20/25/32/40/50/63/80/100/125;  
T7303L16/20/25/32/40/50/63/80/100/125; T7304L16/20/25/32/40/50/63/80/100/125;  
T7303S125; T7304S125

9.1.2 Thermal magnetic tripping curve (rated current  $I_n > 80A$ )



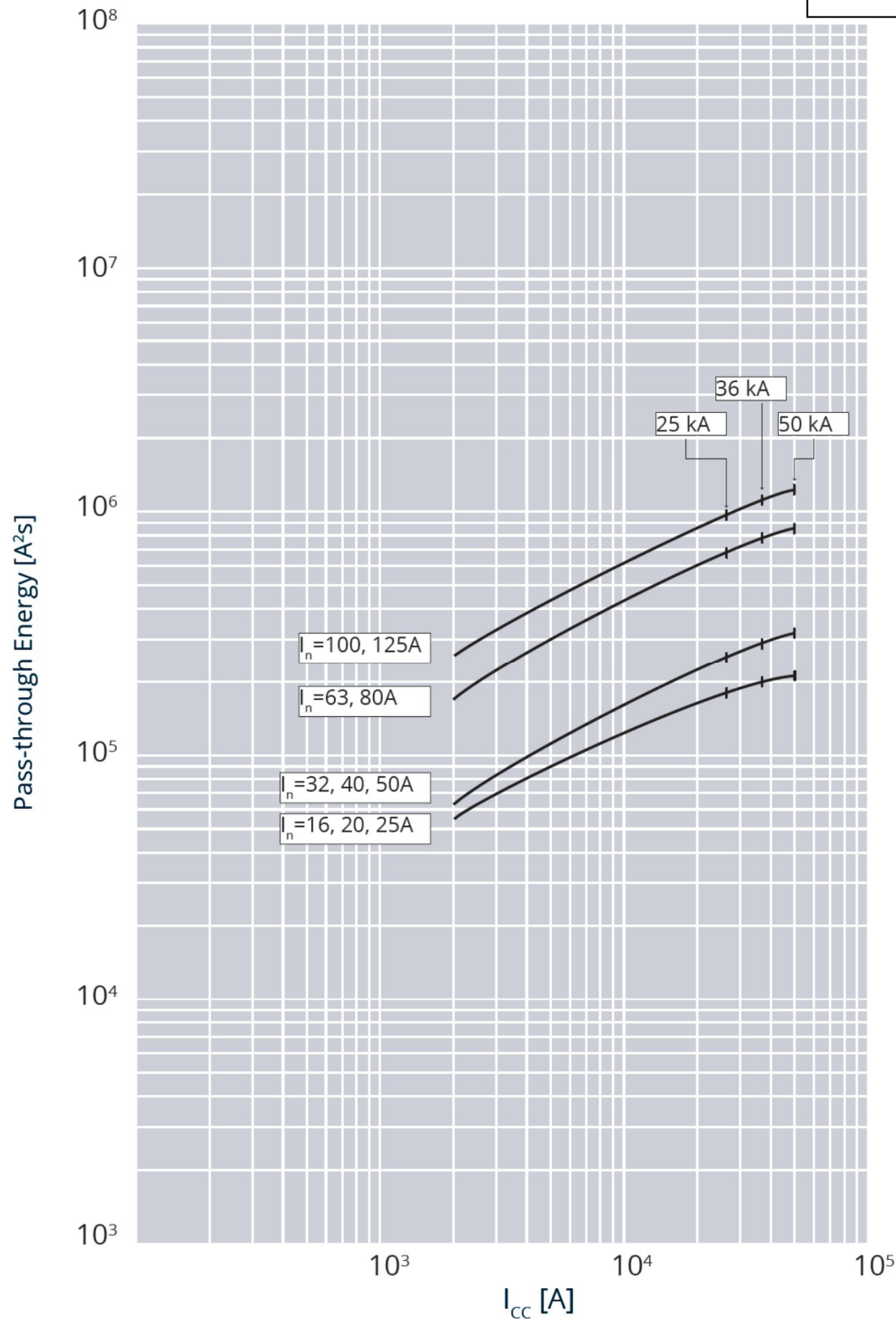
| Value   | Description                    |
|---------|--------------------------------|
| t       | time                           |
| I       | current                        |
| $I_n$   | rated current                  |
| $I_r$   | long time setting current      |
| curve 1 | characteristic with cold start |
| curve 2 | characteristic with hot start  |

Megatiker M3 125 thermal magnetic circuit breakers and MS3 125 switch disconnectors

Reference(s) :  
T7303F16/20/25/32/40/50/63/80/100/125; T7304F16/20/25/32/40/50/63/80/100/125;  
T7303N16/20/25/32/40/50/63/80/100/125; T7304N16/20/25/32/40/50/63/80/100/125;  
T7303H16/20/25/32/40/50/63/80/100/125; T7304H16/20/25/32/40/50/63/80/100/125;  
T7303L16/20/25/32/40/50/63/80/100/125; T7304L16/20/25/32/40/50/63/80/100/125;  
T7303S125; T7304S125

9.2.1 Pass-through specific energy characteristic curve (breaking capacity  $I_{cu} \leq 50 \text{ kA}$ )

Update: 04/09/2019



$I_{cu} = 36\text{-}50\text{-}70\text{-}100 \text{ kA}$   $I_{max} = 125\text{A}$  3-4 P  $U_o = 415\text{Vac}$  (IEC/EN 60947-2)

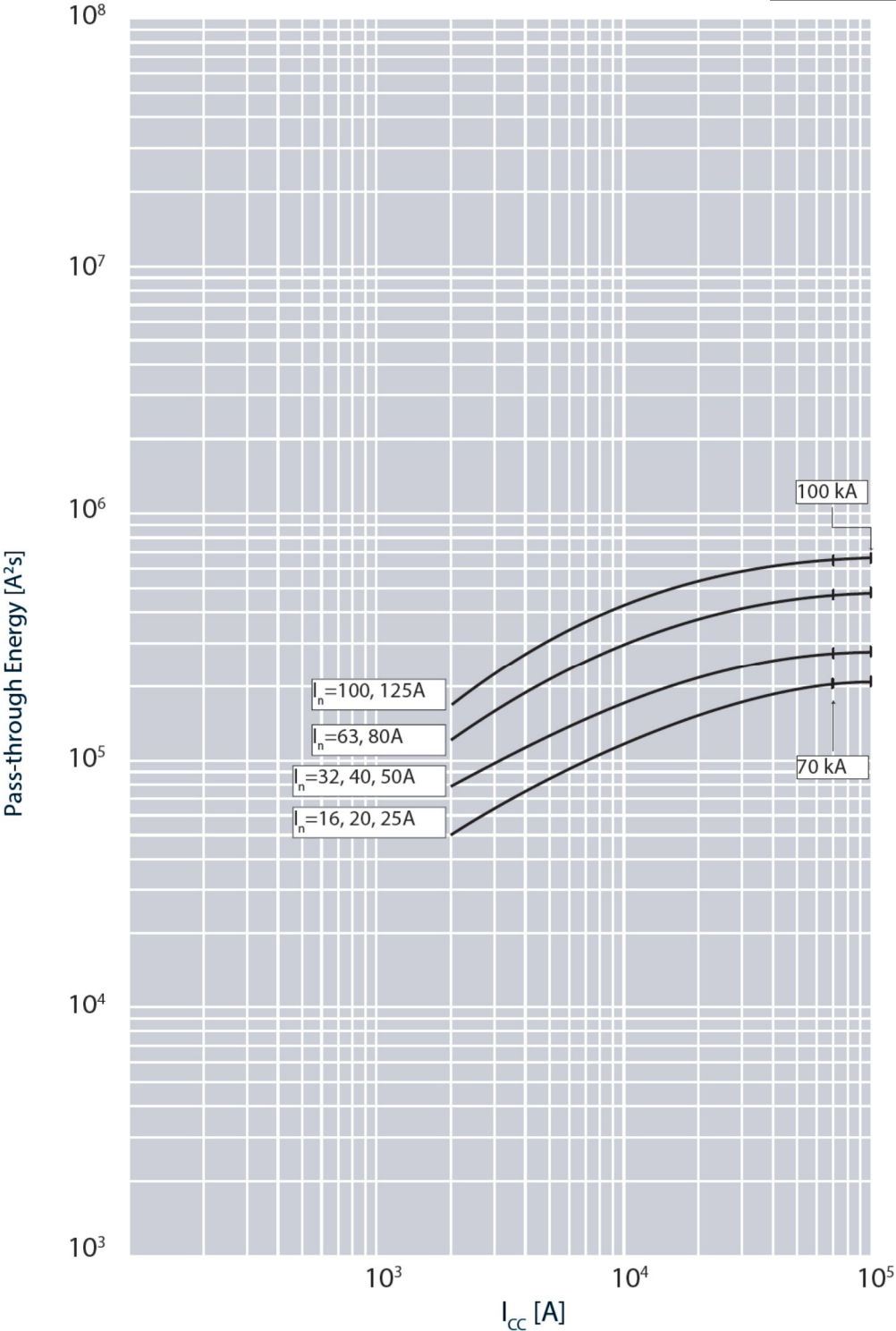
| Value                        | Description                  |
|------------------------------|------------------------------|
| $I_{cc}$                     | short circuit current        |
| $I^2t \text{ (A}^2\text{s)}$ | pass-through specific energy |

Megatiker M3 125 thermal magnetic circuit breakers and MS3 125 switch disconnectors

Reference(s) :  
T7303F16/20/25/32/40/50/63/80/100/125; T7304F16/20/25/32/40/50/63/80/100/125;  
T7303N16/20/25/32/40/50/63/80/100/125; T7304N16/20/25/32/40/50/63/80/100/125;  
T7303H16/20/25/32/40/50/63/80/100/125; T7304H16/20/25/32/40/50/63/80/100/125;  
T7303L16/20/25/32/40/50/63/80/100/125; T7304L16/20/25/32/40/50/63/80/100/125;  
T7303S125; T7304S125

9.2.2 Pass-through specific energy characteristic curve (breaking capacity  $I_{cu} > 50\text{kA}$ )

Update: 04/09/2019



$I_{cu} = 36\text{-}50\text{-}70\text{-}100\text{ kA}$   $I_{max} = 125\text{A}$  3-4 P  $U_s = 415\text{Vac}$  (IEC/EN 60947-2)

| Value                       | Description                  |
|-----------------------------|------------------------------|
| $I_{cc}$                    | short circuit current        |
| $I^2t\text{ (A}^2\text{s)}$ | pass-through specific energy |

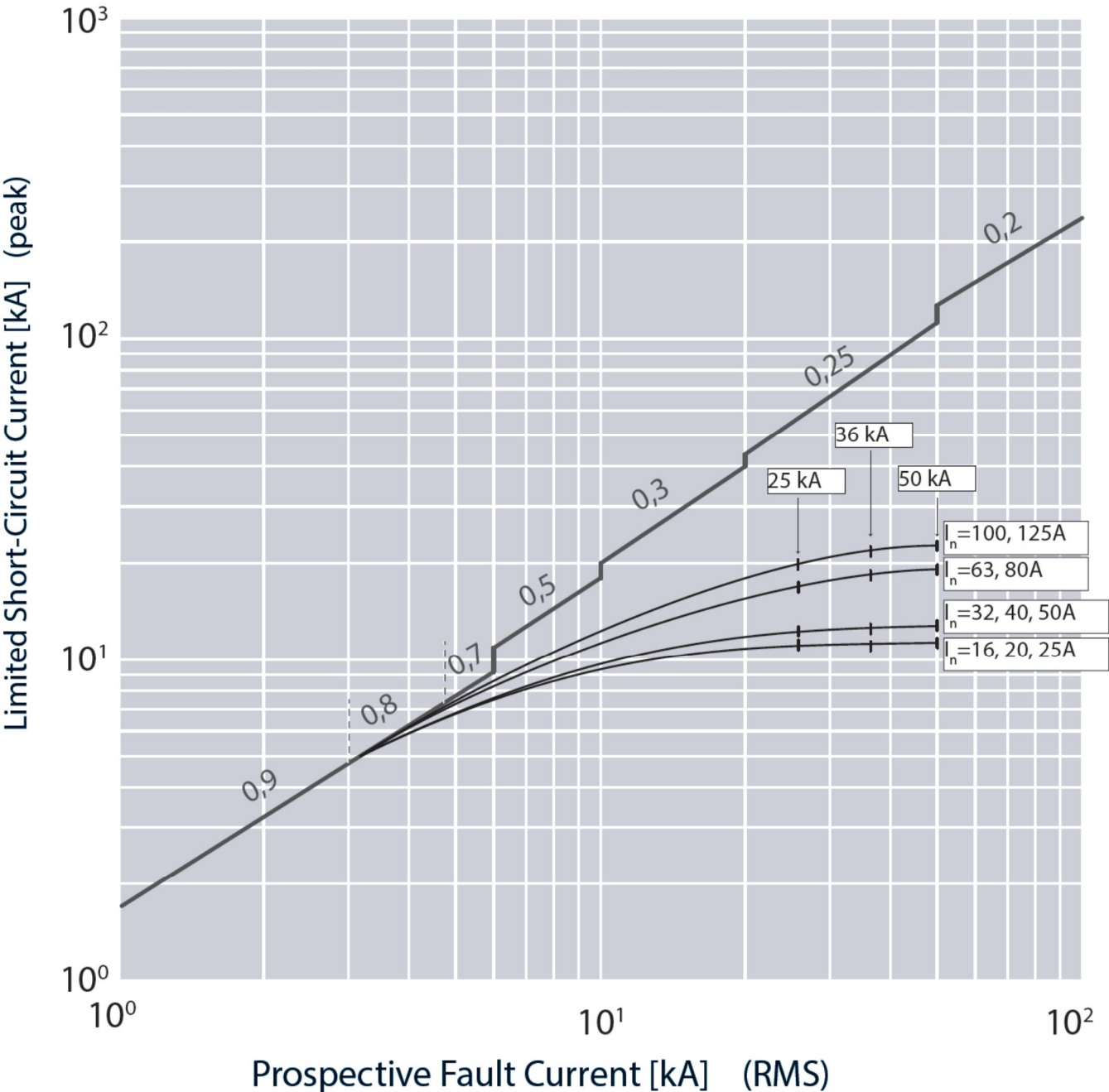


Megatiker M3 125 thermal magnetic circuit breakers and MS3 125 switch disconnectors

Reference(s) :  
T7303F16/20/25/32/40/50/63/80/100/125; T7304F16/20/25/32/40/50/63/80/100/125;  
T7303N16/20/25/32/40/50/63/80/100/125; T7304N16/20/25/32/40/50/63/80/100/125;  
T7303H16/20/25/32/40/50/63/80/100/125; T7304H16/20/25/32/40/50/63/80/100/125;  
T7303L16/20/25/32/40/50/63/80/100/125; T7304L16/20/25/32/40/50/63/80/100/125;  
T7303S125; T7304S125

9.3.1 Cut-off peak current characteristic curve (kA) (breaking capacity  $I_{cu} \leq 50\text{kA}$ )

Update: 04/02/2020



$I_{cu} = 36\text{-}50\text{-}70\text{-}100\text{ kA}$   $I_{max} = 125\text{A}$  3-4 P  $U_o = 415\text{Vac}$  (IEC/EN 60947-2)

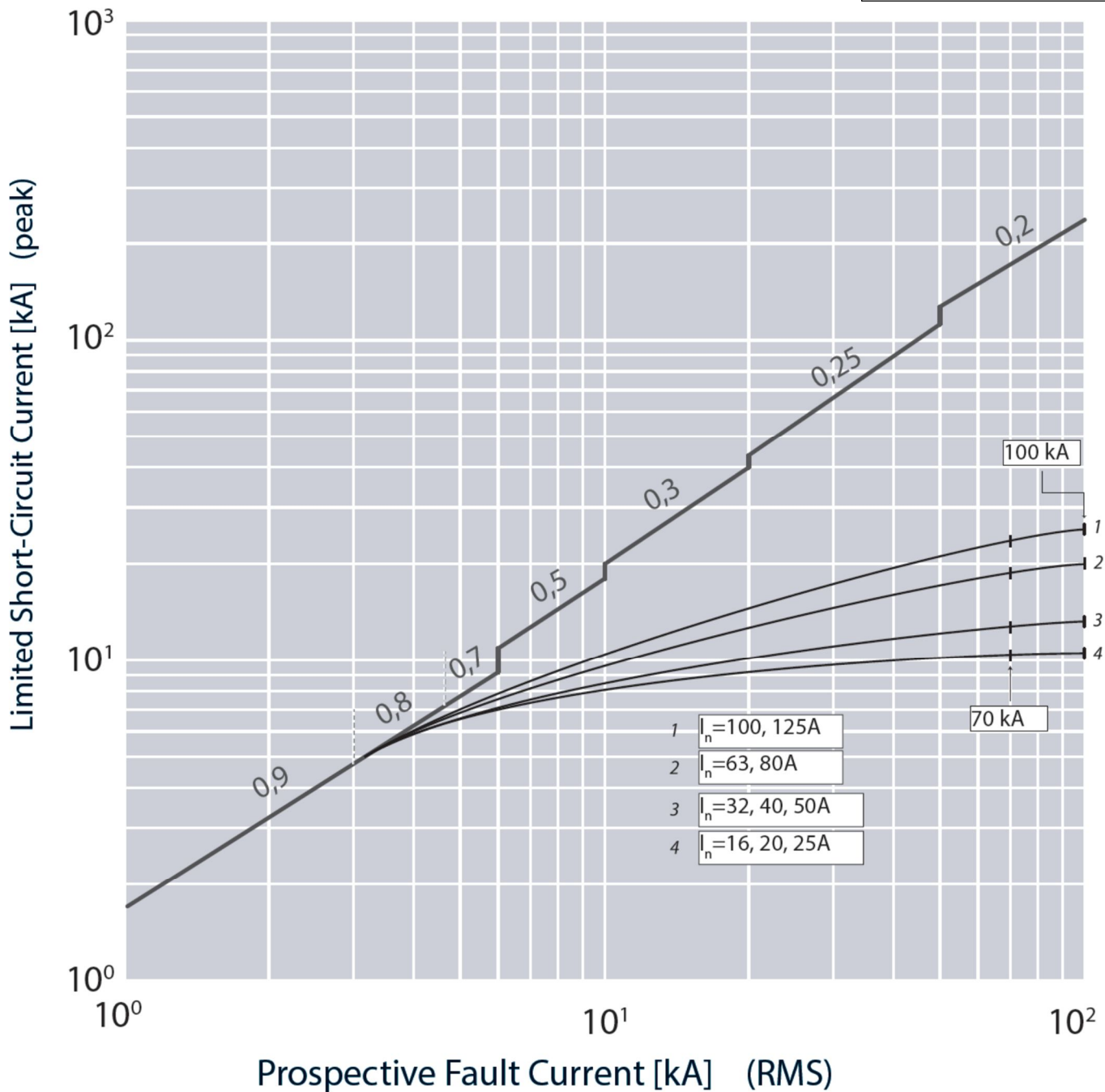
| Value    | Description                                                                      |
|----------|----------------------------------------------------------------------------------|
| $I_{cc}$ | estimated short circuit symmetrical current (RMS value)                          |
| $I_p$    | maximum short circuit peak current                                               |
|          | maximum prospective short circuit peak current corresponding at the power factor |
|          | maximum real peak short circuit current                                          |

Megatiker M3 125 thermal magnetic circuit breakers and MS3 125 switch disconnectors

Reference(s) :  
T7303F16/20/25/32/40/50/63/80/100/125; T7304F16/20/25/32/40/50/63/80/100/125;  
T7303N16/20/25/32/40/50/63/80/100/125; T7304N16/20/25/32/40/50/63/80/100/125;  
T7303H16/20/25/32/40/50/63/80/100/125; T7304H16/20/25/32/40/50/63/80/100/125;  
T7303L16/20/25/32/40/50/63/80/100/125; T7304L16/20/25/32/40/50/63/80/100/125;  
T7303S125; T7304S125

9.3.2 Cut-off peak current characteristic curve (kA) (breaking capacity  $I_{cu} > 50\text{kA}$ )

Update: 04/02/2020



$I_{cu} = 36\text{-}50\text{-}70\text{-}100\text{ kA}$   $I_{max} = 125\text{ 3-4 P}$   $U_e = 415\text{Vac}$  (IEC/EN 60947-2)

| Value    | Description                                             |
|----------|---------------------------------------------------------|
| $I_{cc}$ | estimated short circuit symmetrical current (RMS value) |
| $I_p$    | maximum short circuit peak current                      |
|          | maximum prospective short circuit peak current          |
|          | corresponding at the power factor                       |
|          | maximum real peak short circuit current                 |

# Megatiker M3 125 thermal magnetic circuit breakers and MS3 125 switch disconnectors

Reference(s) :

T7303F16/20/25/32/40/50/63/80/100/125; T7304F16/20/25/32/40/50/63/80/100/125;  
T7303N16/20/25/32/40/50/63/80/100/125; T7304N16/20/25/32/40/50/63/80/100/125;  
T7303H16/20/25/32/40/50/63/80/100/125; T7304H16/20/25/32/40/50/63/80/100/125;  
T7303L16/20/25/32/40/50/63/80/100/125; T7304L16/20/25/32/40/50/63/80/100/125;  
T7303S125; T7304S125

## A) Derating Temperature and configurations

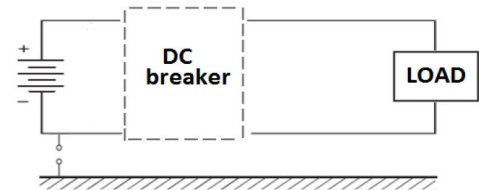
|                                     | Ambient temperature |             |               |             |               |             |               |             |               |             |
|-------------------------------------|---------------------|-------------|---------------|-------------|---------------|-------------|---------------|-------------|---------------|-------------|
|                                     | 30 °C               |             | 40 °C         |             | 50 °C         |             | 60 °C         |             | 70 °C         |             |
| Fixed version                       | $I_{max}$ (A)       | $I_r / I_n$ | $I_{max}$ (A) | $I_r / I_n$ | $I_{max}$ (A) | $I_r / I_n$ | $I_{max}$ (A) | $I_r / I_n$ | $I_{max}$ (A) | $I_r / I_n$ |
| Cage terminals, flexible cable      | 130                 | 1.04        | 125           | 1           | 125           | 1           | 114           | 0.91        | 108           | 0.86        |
| Cage terminals, rigid cable         | 130                 | 1.04        | 125           | 1           | 125           | 1           | 114           | 0.91        | 108           | 0.86        |
| Lugs, flexible cable                | 130                 | 1.04        | 125           | 1           | 125           | 1           | 114           | 0.91        | 108           | 0.86        |
| Lugs, rigid cable                   | 130                 | 1.04        | 125           | 1           | 125           | 1           | 114           | 0.91        | 108           | 0.86        |
| Spreaders, flexible cable           | 130                 | 1.04        | 125           | 1           | 125           | 1           | 114           | 0.91        | 108           | 0.86        |
| Spreaders, rigid cable              | 130                 | 1.04        | 125           | 1           | 125           | 1           | 114           | 0.91        | 108           | 0.86        |
| Rear flat terminals, flexible cable | 130                 | 1.04        | 125           | 1           | 125           | 1           | 114           | 0.91        | 108           | 0.86        |

For further technical information, please contact Legrand technical support.

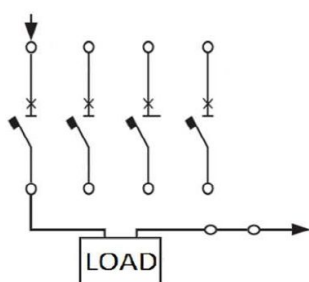
## B) Breaking capacity in DC (kA)

| $I_{cu}$ (kA) | $I_n$ (A) | 1 pole * | 2 poles in series * |       |       |       | 3 poles in series * |       |  |
|---------------|-----------|----------|---------------------|-------|-------|-------|---------------------|-------|--|
|               |           | 60 V     | 60 V                | 110 V | 250 V | 110 V | 250 V               | 500 V |  |
| 36            | 16 ÷ 125  | 35       | 36                  | 35    | 10    | 35    | 10                  | 10    |  |
| 50            | 16 ÷ 125  | 35       | 50                  | 35    | 10    | 35    | 10                  | 10    |  |
| 70            | 16 ÷ 125  | 35       | 50                  | 35    | 10    | 35    | 10                  | 10    |  |
| 100           | 16 ÷ 125  | 35       | 50                  | 35    | 10    | 35    | 10                  | 10    |  |

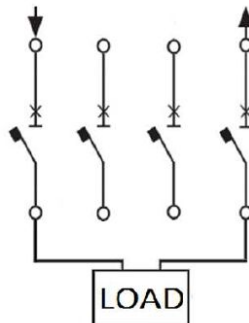
These values are applied to DC networks insulated from the ground (*this diagram applies to both 3P and 4P circuit breakers*):



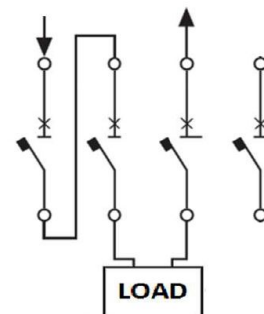
\* Connection modality of the DC breaker:



1 pole



2 poles in series



3 poles in series