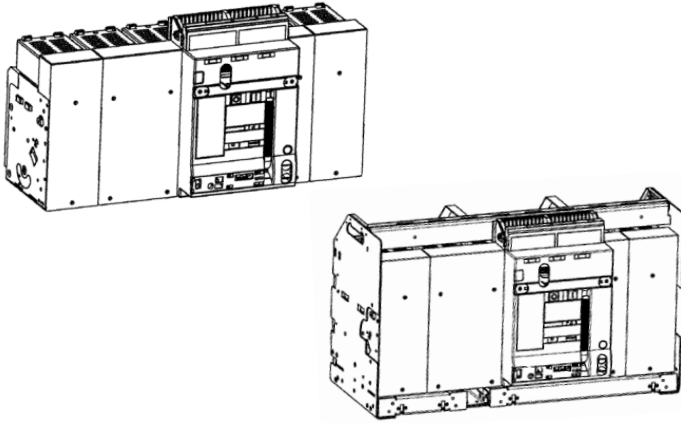


DMX³ 6300 circuit breakers

DMX³-I 6300 switch disconnectors

References: 0 289 50 / 51 / 52 / 53 / 60 / 61 / 62 / 63 / 70 / 71 / 77 / 78



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1. USE

DMX³ air circuit breakers offer optimal solutions to answer to protection requirements on the origin of the low voltage electrical installation (IEC/EN 60364-1) up to 6300A. Their electric and mechanical robustness, in addition to breaking capacity, maintenance and chances of accessorizing, are perfectly suited for these requirements.

2. RANGE

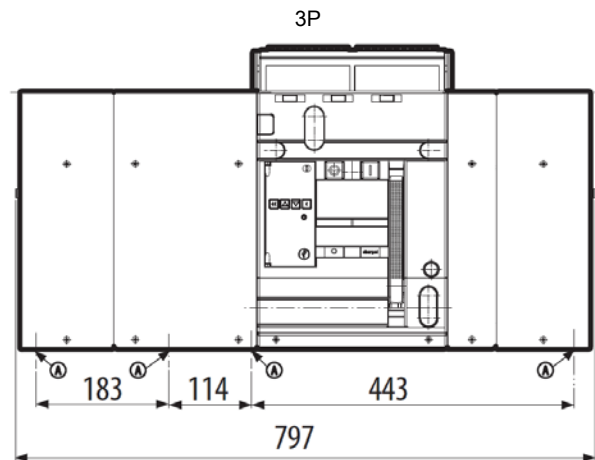
| DMX ³ 6300 circuit breakers | | |
|--|----------|----------|
| Fixed version | | |
| 100kA | | |
| I _n (A) | 3P | 4P |
| 5000 | 0 289 50 | 0 289 60 |
| 6300 | 0 289 51 | 0 289 61 |
| Draw-out version | | |
| 100kA | | |
| I _n (A) | 3P | 4P |
| 5000 | 0 289 70 | 0 289 77 |
| 6300 | 0 289 71 | 0 289 78 |

| DMX ³ -I 6300 switch disconnectors | | | | |
|---|----------|------------------|----------|----------|
| Fixed version | | Draw-out version | | |
| I _n (A) | 3P | 4P | 3P | 4P |
| 6300 | 0 289 70 | 0 289 71 | 0 289 77 | 0 289 78 |

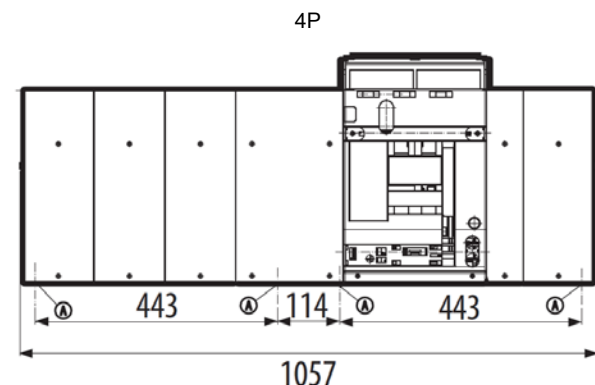
3. DIMENSIONS

3.1 Fixed version

Frontal view



A = fixing point on plate of enclosure



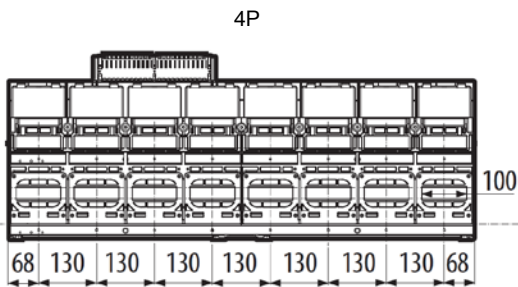
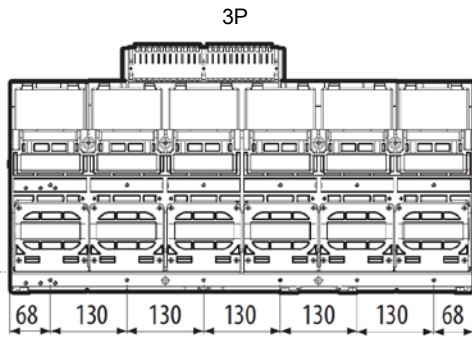
A = fixing point on plate of enclosure

DMX³ 6300 circuit breakers

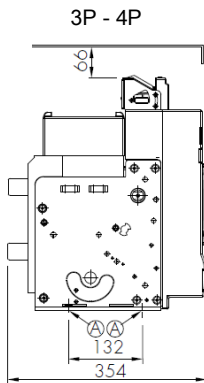
DMX³-I 6300 switch disconnectors

References: 0 289 50 / 51 / 52 / 53 / 60 / 61 / 62 / 63 / 70/
71/ 77/ 78

Rear view



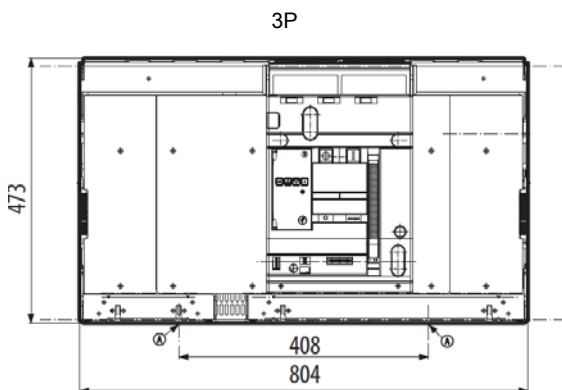
Lateral view



A = fixing point on plate of enclosure

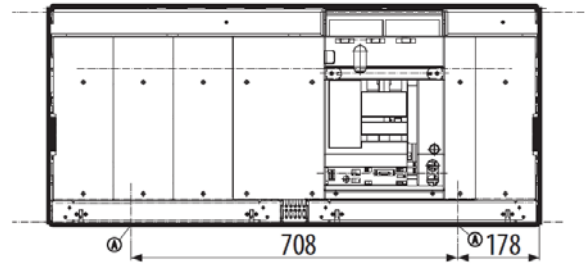
3.2 Draw-out version

Frontal view



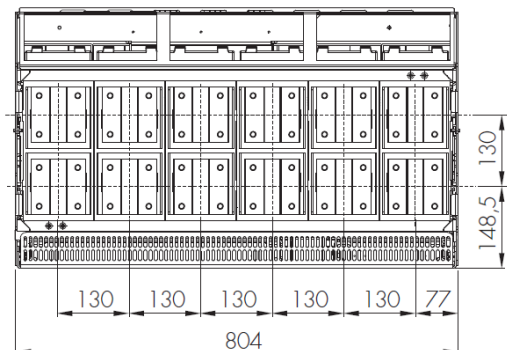
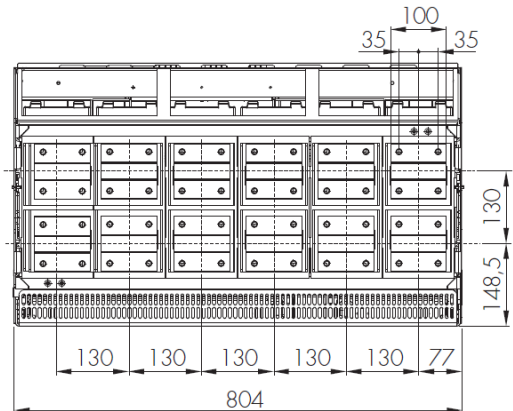
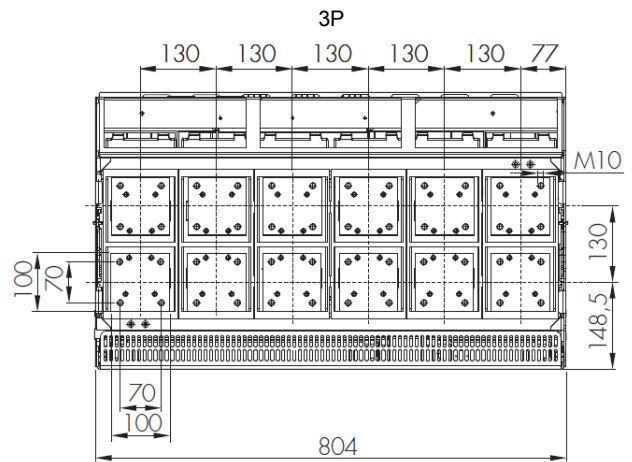
A = fixing point on plate of enclosure

4P



A = fixing point on plate of enclosure

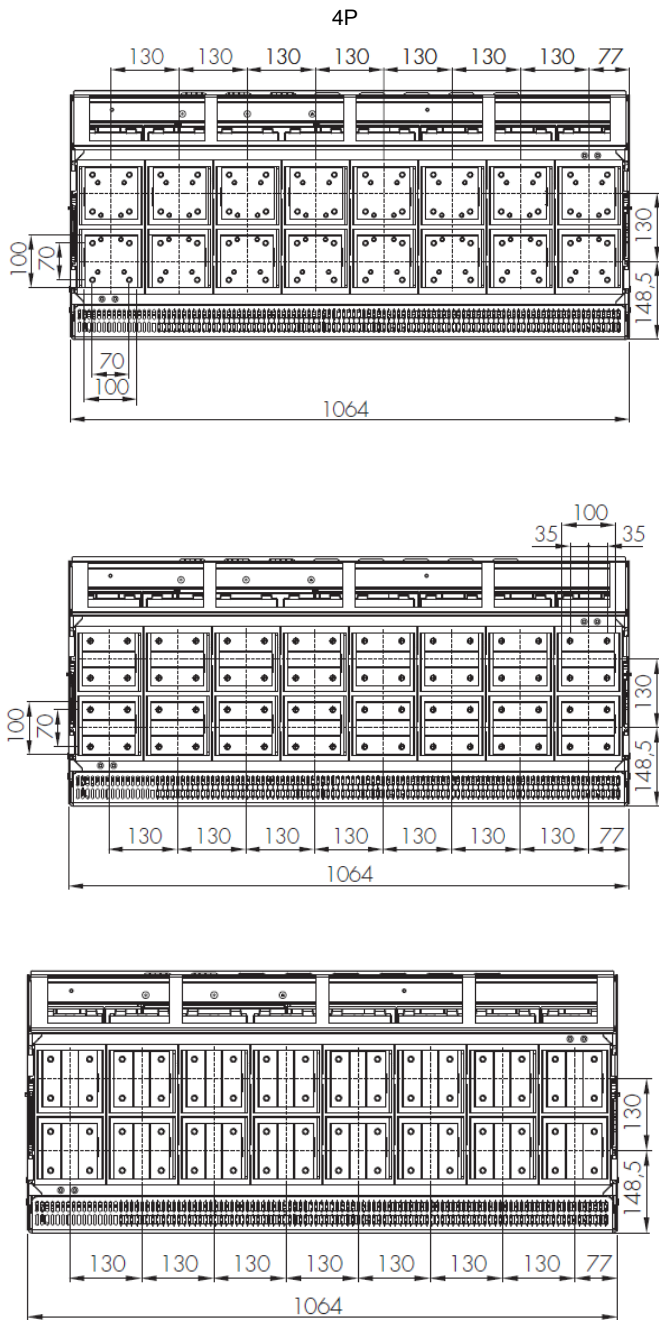
Rear view



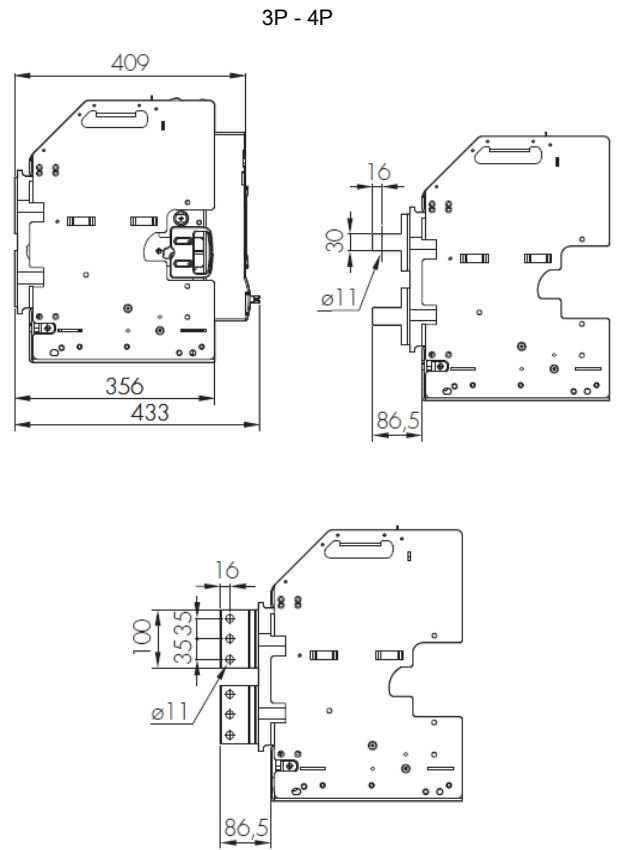
DMX³ 6300 circuit breakers

DMX³-I 6300 switch disconnectors

References: 0 289 50 / 51 / 52 / 53 / 60 / 61 / 62 / 63 / 70/
71 / 77 / 78

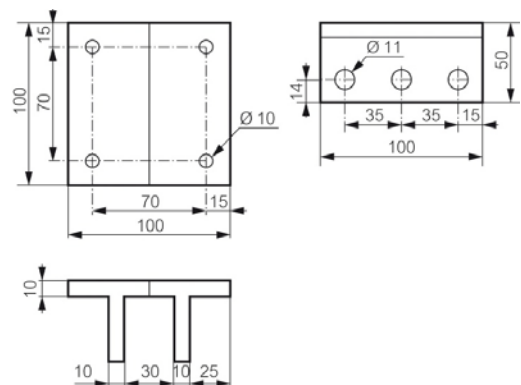
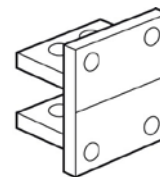


Lateral view



3.3 Rear terminals for fixed version – Flat connection

| References | |
|------------|----------|
| 3P | 4P |
| 0 288 92 | 0 288 93 |

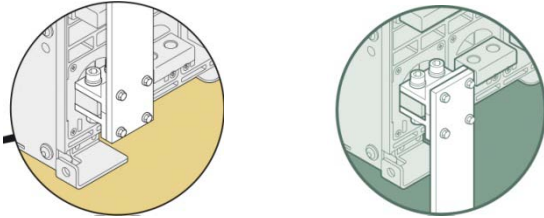


DMX³ 6300 circuit breakers

DMX³-I 6300 switch disconnectors

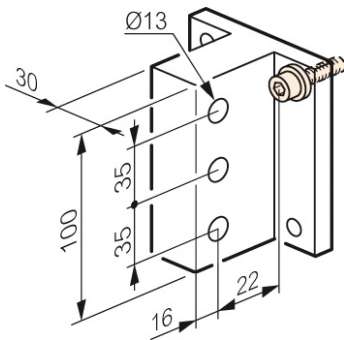
References: 0 289 50 / 51 / 52 / 53 / 60 / 61 / 62 / 63 / 70 / 71 / 77 / 78

Mounting examples:

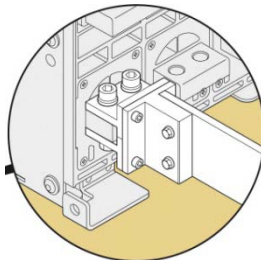


3.4 Rear terminals for fixed version – Vertical connection

| References | |
|------------|----------|
| 3P | 4P |
| 0 288 94 | 0 288 95 |

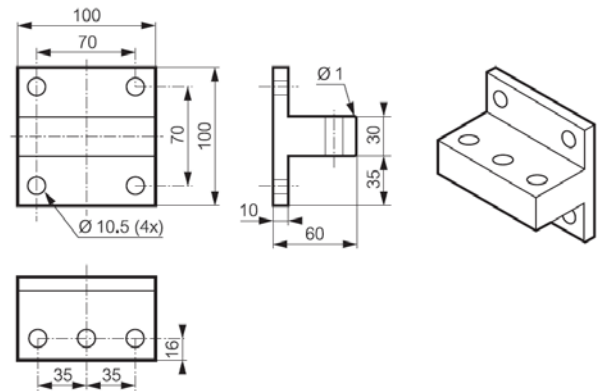


Mounting example:

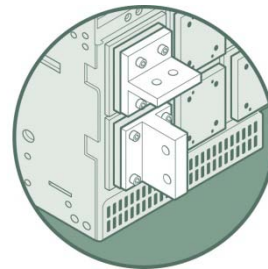


3.5 Rear terminals for Draw-out version – Flat/vertical connection

| References | |
|------------|----------|
| 3P | 4P |
| 0 288 94 | 0 288 95 |



Mounting example:



DMX³ 6300 circuit breakers

DMX³-I 6300 switch disconnectors

References: 0 289 50 / 51 / 52 / 53 / 60 / 61 / 62 / 63 / 70/
71 / 77 / 78

4. OVERVIEW

4.1 Supplied with

ACBs are equipped with auxiliary contacts (4 NO/NC, expandable up to 10) and doorframe; besides:

- Fixed version: equipped with rear terminals for horizontal connections with bars.
- Draw-out version: equipped with flat rear terminals for connections with bars and delivered with base equipped with extraction crank and isolating components.
- Door sealing.

5. CONNECTIONS

Note: use only as a general guideline to select products. Due to extensive variety of switchgear constructions shapes and conditions that can affect the behaviour of the apparatus, the solution used must always be verified.

Minimum recommended dimensions of COPPER busbars per pole:

. Fixed and draw-out versions

| I _n (A) | Vertical bars (mm) | Horizontal bars (mm) |
|--------------------|--------------------|----------------------|
| 5000 | 6 bars 100 x 10 | 6 bars 100 x 10 |
| 6300 | 7 bars 100 x 10 | 7 bars 100 x 10 |

Minimum recommended dimensions of ALUMINIUM busbars per pole:

. Fixed and draw-out versions

| I _n (A) | Vertical bars (mm) | Horizontal bars (mm) |
|--------------------|--------------------|----------------------|
| 5000 | 6 bars 100 x 10 | 6 bars 100 x 10 |
| 6300 | 7 bars 100 x 10 | 7 bars 100 x 10 |

6. ELECTRICAL AND MECHANICAL CHARACTERISTICS

Circuit breaker

| | | DMX ³ 6300 |
|--|----------------|--|
| | | DMX ³ L |
| | | 100kA |
| Frame current (A) | | 6300 |
| Number of poles | | 3P - 4P |
| Rated current I _n (A) | | 5000 / 6300 |
| Release type | | electronic |
| Pole pitch (mm) | | 130+130 |
| Rated insulation voltage U _i (V) | | 1000 |
| Rated impulse withstand voltage U _{imp} (kV) | | 12 |
| Rated operational voltage (50/60Hz) U _e (V) | | 690 |
| Category of use | | B |
| Rated ultimate short-circuit breaking capacity I _{cu} (kA) | 220 / 240 V AC | 100 |
| | 380 / 415 V AC | 100 |
| | 440 / 460 V AC | 100 |
| | 480 / 500 V AC | 100 |
| | 480 / 550 V AC | 75 |
| | 600 V AC | 75 |
| Rated service short-circuit breaking capacity I _{cs} (% I _{cu}) | | 100% |
| | 690 V AC | 65 |
| Rated short-circuit making capacity I _{cm} (kA) | 220 / 240 V AC | 220 |
| | 380 / 415 V AC | 220 |
| | 440 / 460 V AC | 220 |
| | 480 / 500 V AC | 220 |
| | 480 / 550 V AC | 165 |
| | 600 V AC | 165 |
| Rated short time withstand current I _{cw} (kA) for t = 1s | 690 V AC | 143 |
| | 220 / 240 V AC | 100 |
| | 380 / 415 V AC | 100 |
| | 440 / 460 V AC | 100 |
| | 480 / 500 V AC | 100 |
| | 480 / 550 V AC | 75 |
| Rated short time withstand current I _{cw} (kA) for t = 3s | 600 V AC | 75 |
| | 690 V AC | 65 |
| | 220 / 240 V AC | 85 |
| | 380 / 415 V AC | 85 |
| | 440 / 460 V AC | 85 |
| | 480 / 500 V AC | 85 |
| Suitable for isolation | 480 / 550 V AC | 75 |
| | 600 V AC | 75 |
| | 690 V AC | 65 |
| Neutral protection for 4P version (% I _{th}) | | 0 - 50 - 100 |
| Endurance (cycles) | mechanical | 5000 (w/o maint.); 10000 (with maint.) |
| | electrical | 5000 (w/o maint.) |
| Weight (Kg) | 3P - Fixed | 100 |
| | 3P - Drawout | 150 |
| | 4P - Fixed | 200 |
| | 4P - Drawout | 250 |
| Height (mm) | 3P - Fixed | 419 |
| | 3P - Drawout | 473 |
| | 4P - Fixed | 419 |
| | 4P - Drawout | 473 |
| Depth (mm) | 3P - Fixed | 354 |
| | 3P - Drawout | 433 |
| | 4P - Fixed | 354 |
| | 4P - Drawout | 433 |
| Width (mm) | 3P - Fixed | 786 |
| | 3P - Drawout | 1046 |
| | 4P - Fixed | 804 |
| | 4P - Drawout | 1064 |
| Temperature | operation | -25°C to +70°C |
| | storage | -25°C to +85°C |
| Maintenance | | Yes (see specific guide) |

DMX³ 6300 circuit breakers

DMX³-I 6300 switch disconnectors

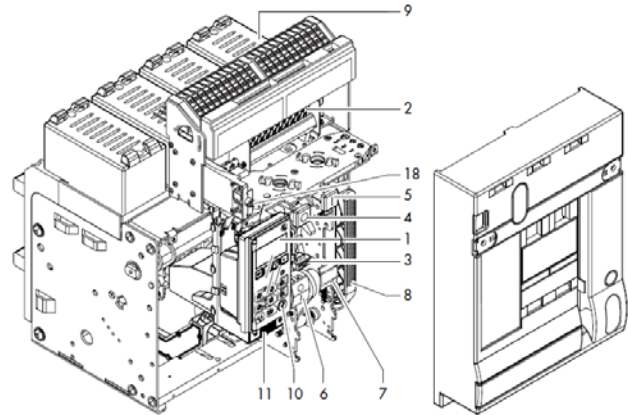
References: 0 289 50 / 51 / 52 / 53 / 60 / 61 / 62 / 63 / 70 / 71 / 77 / 78

Switch disconnector

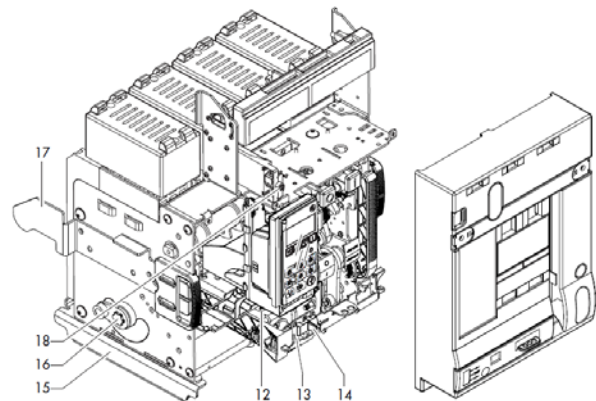
| | | DMX ³ -I 6300 |
|--|----------------|--|
| Frame current (A) | | 6300 |
| Number of poles | | 3P - 4P |
| Rated current I _e (A) | | 6300 |
| Pole pitch (mm) | | 130+130 |
| Rated insulation voltage U _i (V) | | 1000 |
| Rated impulse withstand voltage U _{imp} (kV) | | 12 |
| Rated operational voltage (50/60Hz) U _e (V) | | 690 |
| Category of use | | AC23A |
| Rated short circuit making capacity I _{cm} (kA) | 220 / 240 V AC | 220 |
| | 380 / 415 V AC | 220 |
| | 440 / 460 V AC | 220 |
| | 480 / 500 V AC | 220 |
| | 480 / 550 V AC | 165 |
| | 600 V AC | 165 |
| Rated short time withstand current I _{cw} (kA) for t = 1s | 220 / 240 V AC | 100 |
| | 380 / 415 V AC | 100 |
| | 480 / 500 V AC | 100 |
| | 480 / 550 V AC | 75 |
| | 600 V AC | 75 |
| | 690 V AC | 65 |
| Rated short time withstand current I _{cw} (kA) for t = 3s | 220 / 240 V AC | 85 |
| | 380 / 415 V AC | 85 |
| | 480 / 500 V AC | 85 |
| | 480 / 550 V AC | 75 |
| | 600 V AC | 75 |
| | 690 V AC | 65 |
| Suitable for isolation | | Yes |
| Minimum opening time (ms) | | 15 |
| Maximum closing time (ms) | | 30 |
| Endurance (cycles) | mechanical | 5000 (w/o maint.); 10000 (with maint.) |
| | electrical | 5000 (w/o maint.) |
| Weight (Kg) | 3P - Fixed | 100 |
| | 3P - Drawout | 150 |
| | 4P - Fixed | 200 |
| | 4P - Drawout | 250 |
| Height (mm) | 3P - Fixed | 419 |
| | 3P - Drawout | 473 |
| | 4P - Fixed | 419 |
| | 4P - Drawout | 473 |
| Depth (mm) | 3P - Fixed | 354 |
| | 3P - Drawout | 433 |
| | 4P - Fixed | 354 |
| | 4P - Drawout | 433 |
| Width (mm) | 3P - Fixed | 786 |
| | 3P - Drawout | 1046 |
| | 4P - Fixed | 804 |
| | 4P - Drawout | 1064 |
| Temperature | operation | -25°C to +70°C |
| | storage | -25°C to +85°C |
| Maintenance | | Yes (see specific guide) |

6.1 Main parts constituting the circuit breaker

Fixed version



Draw-out version



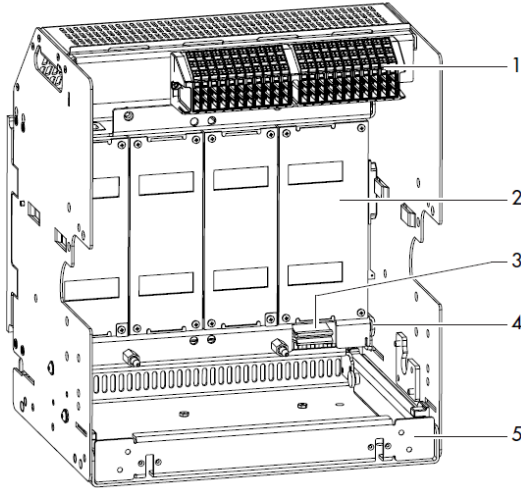
1. Protection Unit
2. Auxiliary Contacts
3. Reset button
4. OFF button
5. ON button
6. ON-OFF Indication
7. Spring Status Indication
8. Charging handle
9. Dejon cell
10. Mini USB cover
11. Battery cover
12. Draw-out mechanism
13. Draw-out bar insertion
14. Racking shutter
15. Support to place the breaker in draw-out cassette
16. Draw-out main shaft
17. Insertion guide
18. Dielectric test selector (if present)

DMX³ 6300 circuit breakers

DMX³-I 6300 switch disconnectors

References: 0 289 50 / 51 / 52 / 53 / 60 / 61 / 62 / 63 / 70 / 71 / 77 / 78

Draw-out base



1. Aux terminal block
2. Safety shutter
3. Earth connection
4. Earth terminal
5. Removable cassette

6.2 Regulated currents (I_n)

| | Phases | | | |
|-----------|------------------|----------------|-------------------------|------------------------|
| | I_r (A) | | I_{sd} (A) | |
| I_n (A) | $0.4 \times I_n$ | $1 \times I_n$ | $1.5 \times I_{r \min}$ | $10 \times I_{r \max}$ |
| 5000 | 2000 | 5000 | 3000 | 50000 |
| 6300 | 2520 | 6300 | 3780 | 63000 |

* For neutral adjustment, as explained in technical sheet, please consider the values $(0 - 0.5 - 1) \times I_r$.

6.3 Power losses per pole under I_n

Circuit breaker

| Power Losses (W) DMX ³ 6300 | | | |
|--|---------|----------|-------|
| Version | Fixed | Draw-out | |
| Number of poles | 3 - 4 | | |
| Pole pitch (mm) | 130+130 | | |
| Rated current I_n (A) | 5000 | 150.0 | 275.0 |
| | 6300 | 238.1 | 436.6 |

Switch disconnector

| Power Losses (W) DMX ³ -I 6300 | | | |
|---|---------|----------|-------|
| Version | Fixed | Draw-out | |
| Number of poles | 3 - 4 | | |
| Pole pitch (mm) | 130+130 | | |
| Rated current I_n (A) | 6300 | 238.1 | 436.6 |

6.4 Deratings

6.4.1 Temperature

Temperature deratings for fixed versions – horizontal terminals

| Temperature | Fixed version | | | | | | | | | |
|-----------------------|---------------|-------------|---------------|-------------|---------------|-------------|---------------|-------------|---------------|-------------|
| | up to 40°C | | 50°C | | 60°C | | 65°C | | 70°C | |
| | 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 |
| DMX ³ 6300 | 5000 | 1 | 5000 | 1 | 5000 | 1 | 5000 | 1 | 5000 | 1 |
| | 6300 | 1 | 6300 | 1 | 6048 | 0.96 | 5796 | 0.92 | 5544 | 0.88 |

Temperature deratings for draw-out versions – horizontal terminals

| Temperature | Draw-out version | | | | | | | | | |
|-----------------------|------------------|-------------|---------------|-------------|---------------|-------------|---------------|-------------|---------------|-------------|
| | up to 40°C | | 50°C | | 60°C | | 65°C | | 70°C | |
| | 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 |
| DMX ³ 6300 | 5000 | 1 | 5000 | 1 | 5000 | 1 | 5000 | 1 | 4750 | 0.95 |
| | 6300 | 1 | 6300 | 1 | 5355 | 0.85 | 5040 | 0.8 | 4725 | 0.75 |

6.4.2 Altitude

| Altitude (m) | < 2000 | 3000 | 4000 | 5000 |
|--|--------|-------------------|-------------------|------------------|
| Rated current (at 40°C/50°C) I_n (A) | I_n | $0.98 \times I_n$ | $0.94 \times I_n$ | $0.9 \times I_n$ |
| Rated voltage U_e (V) | 690 | 600 | 500 | 440 |
| Rated insulation voltage U_i (V) | 1000 | 900 | 750 | 600 |
| Dielectric withstand (V) | 3500 | 3200 | 2500 | 2000 |

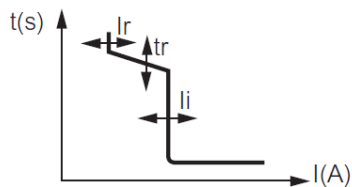
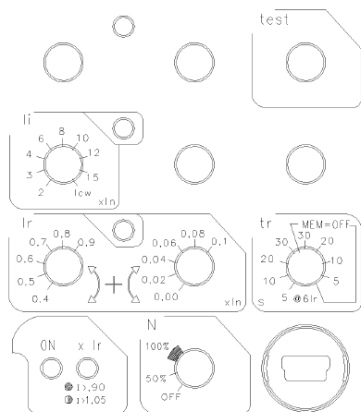
6.5 MP4 electronic protection unit

All MP4 protection units range has an integrated LCD screen to display electrical values, settings and logs. Adjustments are accomplished by selector switches.

All protection units have onboard a USB type "B" socket.

All protection units are equipped with batteries for powering in case of mains fault or when the breaker is open or not connected.

6.5.1 MP4 LI release (ref. 0 288 00) – Adjustment of I_r , t_r , I_i



Long delay protection against overloads with an adjustable threshold bases on the RMS value of the current:

- $I_r = (0.4 \div 1) \times I_n$ on two selectors (6 + 6 steps): (0.4 ÷ 0.9) by steps of 0.1 and (0.0 ÷ 0.1), by steps of 0.02
- t_r at $6 \times I_r$ (4 + 4 steps): 5-10-20-30 s (MEM ON) or 30-20-10-5 s (MEM OFF)

Short delay protection against short-circuits with fixed threshold:

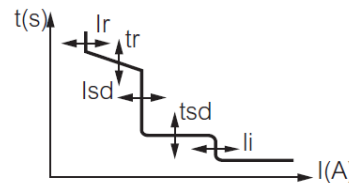
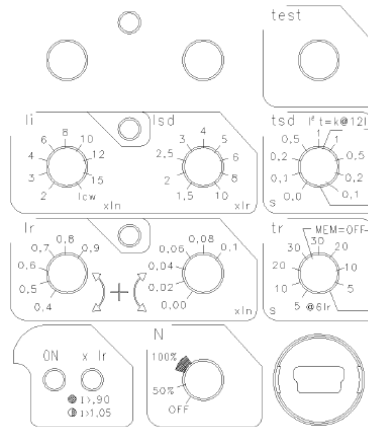
- $I_{sd} = 10 \times I_r$
- $t_{sd} = 1$ s

Instantaneous protection I_i with fixed threshold:

I_i (2 ÷ 15) $\times I_n$ or I_{cw} (9 steps) [$I_i = 2-3-4-6-8-10-12-15 \times I_n$ or I_{cw}]

Neutral adjustment = OFF – 0.5 $\times I_n$ – 1 $\times I_n$

6.5.2 MP4 LSI release (ref. 0 288 01) – Adjustment of I_r , t_r , I_{sd} , t_{sd} , I_i



Long delay protection against overloads with an adjustable threshold bases on the RMS value of the current:

- $I_r = (0.4 \div 1) \times I_n$ on two selectors (6 + 6 steps): (0.4 ÷ 0.9) by steps of 0.1 and (0.0 ÷ 0.1), by steps of 0.02
- t_r at $6 \times I_r$ (4 + 4 steps): 5-10-20-30 s (MEM ON) or 30-20-10-5 s (MEM OFF)

Short delay protection against short-circuits with an adjustable I_{sd} threshold:

- $I_{sd} = (1.5 \div 10) \times I_r$ (9 steps) [$I_{sd} = 1.5-2-2.5-3-4-5-6-8-10 \times I_r$]
- $t_{sd} = 0-0.1-0.2-0.3$ s ($t = k$) or $0.3-0.2-0.1-0.01$ s ($I^2t = k$)

Instantaneous protection I_i with fixed threshold:

I_i (2 ÷ 15) $\times I_n$ or I_{cw} (9 steps) [$I_i = 2-3-4-6-8-10-12-15 \times I_n$ or I_{cw}]

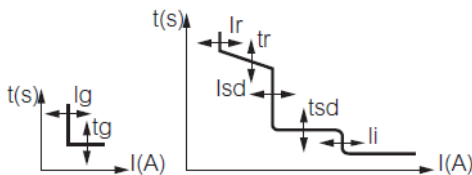
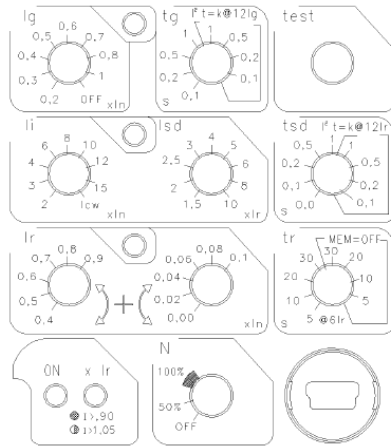
Neutral adjustment = OFF – 0.5 $\times I_n$ – 1 $\times I_n$

DMX³ 6300 circuit breakers

DMX³-I 6300 switch disconnectors

References: 0 289 50 / 51 / 52 / 53 / 60 / 61 / 62 / 63 / 70/
71/ 77/ 78

6.5.3 MP4 LSIg release (ref. 0 288 02) – Adjustment of I_r , t_r , I_{sd} , t_{sd} , I_i , I_g , t_g



Long delay protection against overloads with an adjustable threshold bases on the RMS value of the current:

- $I_r = (0.4 \div 1) \times I_n$ on two selectors (6 + 6 steps): (0.4 ÷ 0.9) by steps of 0.1 and (0.0 ÷ 0.1), by steps of 0.02
- t_r at $6 \times I_r$ (4 + 4 steps): 5-10-20-30 s (MEM ON) or 30-20-10-5 s (MEM OFF)

Short delay protection against short-circuits with an adjustable I_{sd} threshold:

- $I_{sd} (1.5 \div 10) \times I_r$ (9 steps) [$I_{sd} = 1.5-2-2.5-3-4-5-6-8-10 \times I_r$]
- $t_{sd} = 0-0.1-0.2-0.3$ s ($t = k$) or $0.3-0.2-0.1-0.01$ s ($I^2t = k$)

Instantaneous protection I_i with fixed threshold:

$I_i (2 \div 15) \times I_n$ or I_{cw} (9 steps) [$I_i = 2-3-4-6-8-10-12-15 \times I_n$ or I_{cw}]

Neutral adjustment = OFF – $0.5 \times I_n - 1 \times I_n$

Adjustment for ground fault:

- $I_g (0.2 \div 1) \times I_n$ (9 steps) and OFF
[$I_g = 0.2-0.3-0.4-0.5-0.6-0.7-0.8-1 \times I_n$; OFF]
- $t_g (0.1 \div 1)$ s (4 steps) (both $t = k$ and $I^2t = k$)
[$t_g = 0.1-0.2-0.5-1$ s]

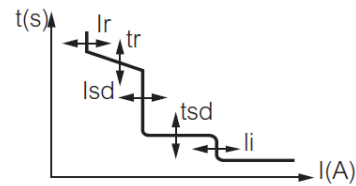
6.6 MP6 electronic protection unit

All MP6 protection units range has an integrated LCD colour touch screen to display electrical values, settings and logs and measurements. Adjustments are accomplished by icon menus.

All protection units have onboard a USB type "B" socket.

All protection units are equipped with batteries for powering in case of mains fault or when the breaker is open or not connected.

6.6.1 MP6 LSI release (ref. 0 288 03) – Adjustment of I_r , t_r , I_{sd} , t_{sd} , I_i



Long delay protection against overloads with an adjustable threshold bases on the RMS value of the current:

- $I_r = (0.4 \div 1) \times I_n$ (with steps of 0.1)
- $t_r = 5-10-20-30$ s (MEM ON) or $5-10-20-30$ s (MEM OFF)

Short delay protection against short-circuits with an adjustable I_{sd} threshold:

- $I_{sd} (1.5 \div 10) \times I_r$ (9 steps) [$I_{sd} = 1.5-2-2.5-3-4-5-6-8-10 \times I_r$]
- $t_{sd} = (0 \div 1)$ s (both for $t = k$ and $I^2t = k$, with steps of 0.1)

Instantaneous protection I_i with fixed threshold:

$I_i (2 \div 15) \times I_n$ or I_{cw} (9 steps) [$I_i = 2-3-4-6-8-10-12-15 \times I_n$ or I_{cw}]

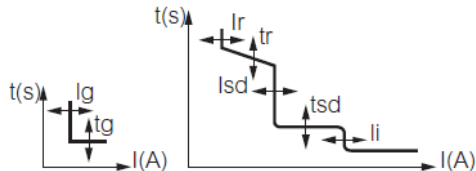
Neutral adjustment = OFF – $0.5 \times I_n - 1 \times I_n$

DMX³ 6300 circuit breakers

DMX³-I 6300 switch disconnectors

References: 0 289 50 / 51 / 52 / 53 / 60 / 61 / 62 / 63 / 70 / 71 / 77 / 78

6.6.2 MP6 LSIg release (ref. 0 288 04) – Adjustment of I_r , t_r , I_{sd} , t_{sd} , I_i , I_g , t_g



Long delay protection against overloads with an adjustable threshold bases on the RMS value of the current:

- $I_r = (0.4 \div 1) \times I_n$ (with steps of 0.1)
- $t_r = 5-10-20-30$ s (MEM ON) or 5-10-20-30 s (MEM OFF)

Short delay protection against short-circuits with an adjustable I_{sd} threshold:

- $I_{sd} = (1.5 \div 10) \times I_r$ (9 steps) [$I_{sd} = 1.5-2-2.5-3-4-5-6-8-10 \times I_r$]
- $t_{sd} = (0 \div 1)$ s (both for $t = k$ and $I^2t = k$, with steps of 0.1)

Instantaneous protection I_i with fixed threshold:

$I_i = (2 \div 15) \times I_n$ or I_{cw} (9 steps) [$I_i = 2-3-4-6-8-10-12-15 \times I_n$ or I_{cw}]

Neutral adjustment = OFF – $0.5 \times I_n - 1 \times I_n$

Adjustment for ground fault:

- $I_g = (0.2 \div 1) \times I_n$ and OFF [$I_g = 0.2-0.3-0.4-0.5-0.6-0.7-0.8-1 \times I_n$; OFF]
- $t_g = (0.1 \div 1)$ s (both $t = k$ and $I^2t = k$) [$t_g = 0.1-0.2-0.5-1$ s]

6.7 Common accessories for protection units

- External auxiliary power supply ref. 0 288 06

| | |
|-----------------------------|--------------------------|
| Input supply | 24 V DC or AC @50-60Hz |
| Output current | 250 mA |
| Operating temperature (°C) | -10 ÷ +55 |
| Input power supply (W / VA) | ≥ 5 |
| Dimension | 35mm Din rail: 2 modules |

- Communication option ref. 0 288 05
- External neutral for DMX³ 6300 ref. 0 288 10
- Programmable output module ref. 0 288 12

| | |
|----------------------------|--|
| Input supply | 24 V DC or AC @50-60Hz |
| Contact rated current (A) | AC: 250V 8A DC: 30V 8A; 110V 0.3A; 230V 0.12A |
| Operating temperature (°C) | -10 ÷ +55 |
| Dimension | 35mm Din rail: 6 modules |

6.8 Batteries for protection units

All protection units are equipped with batteries for powering in case of mains fault or when the breaker is open or not connected. All settings, stored parameters and logs are kept saved on protection unit's memory also if batteries are removed to be replaced.

The protection unit has to be equipped with four CR2 Lithium batteries (voltage 3V).

7. CONFORMITY

DMX³ range of product concerning circuit-breakers and switch-disconnectors are in full compliance with the EN/IEC standard 60947-2 and 60947-3 respectively.

The certificate are issued by LOVAG and/or by IECEE CB-scheme certification scheme.

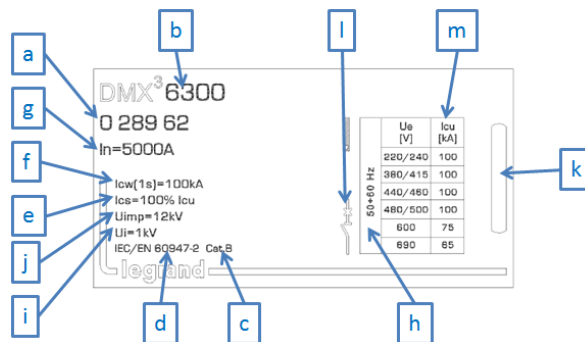
All the product range are CE, CCC, EAC marked. Other local markings are available.

DMX³ are full in compliance with the Shipping Register of Lloyds, RINA, Bureau Veritas.

Particular conditions:

- execution II (all climates) according to IEC 60947-1 Annex Q, Cat. F.

7.1 MARKING



| Reference | Meaning |
|-----------|--|
| a | Product reference |
| b | Product type |
| c | Utilization Category |
| d | Standards compliance |
| e | Rated service short-circuit breaking capacity |
| f | Rated short-time withstand current |
| g | Rated current |
| h | Operating frequencies |
| i | Rated insulation voltage |
| j | Rated impulse withstand voltage |
| k | Coloured label for breaking capacity |
| l | Identification symbol of the device |
| m | Rated ultimate short-circuit breaking capacity, according to the operational voltage U_e |

DMX³ 6300 circuit breakers

DMX³-I 6300 switch disconnectors

References: 0 289 50 / 51 / 52 / 53 / 60 / 61 / 62 / 63 / 70 / 71 / 77 / 78

8. EQUIPMENTS AND ACCESSORIES

Note: where not specified, accessories are common for every DMX³ (L and switch disconnector).

8.1 Control and signalling auxiliaries

- shunt trip: when energised the circuit breaker will be tripped

| | |
|-----------------------|---------------|
| 24 V AC and DC | ref. 0 288 48 |
| 48 V AC and DC | ref. 0 288 49 |
| 110 ÷ 130 V AC and DC | ref. 0 288 50 |
| 220 ÷ 250 V AC and DC | ref. 0 288 51 |
| 415 ÷ 480 V AC | ref. 0 288 52 |

- Motor operators

To motorize a DMX³, it is possible to attach, to the motor operators, a release coil (undervoltage or trip on energising) and a closing coil

| | |
|-----------------------|---------------|
| 24 V AC and DC | ref. 0 288 34 |
| 48 V AC and DC | ref. 0 288 35 |
| 110 ÷ 130 V AC and DC | ref. 0 288 36 |
| 220 ÷ 250 V AC and DC | ref. 0 288 37 |
| 415 ÷ 440 V AC | ref. 0 288 38 |
| 480 V AC and DC | ref. 0 288 40 |

| | |
|---|--|
| Rated operating voltage (U _c) | AC: 24V;48V;110V ÷ 130V;220V ÷ 250V;415V ÷ 440V/480V DC: 24V; 48V; 110V ÷ 130V; 220V ÷ 250V |
| Voltage range (%U _c) | 85 ÷ 110 |
| Maximum Power consumption (W / VA) | 240/240 |
| Maximum peak current for 80ms | (2 ÷ 3) x I _n |
| Charging time (s) | 7 |
| Operating frequency (n° / min) | 1 |

| | |
|---|--|
| Rated operating voltage (U _c) | AC: 24V;48V;110V ÷ 130V;220V ÷ 250V;415V/440V/480V DC: 24V; 48V; 110V ÷ 130V; 220V ÷ 250V |
| Voltage range (%U _c) | 70 ÷ 110 |
| Pick-up consumption (W / VA) | 500 / 500 |
| Pick-up time (ms) | 180 |
| Hold consumption (W / VA) | 5 / 5 |
| Minimum opening time (ms) | 30 |
| Insulation voltage (kV) | 2.5 |

- undervoltage releases: when the coil is de-energised, the circuit breaker will be tripped

| | |
|-----------------------|---------------|
| 24 V AC and DC | ref. 0 288 55 |
| 48 V AC and DC | ref. 0 288 56 |
| 110 ÷ 130 V AC and DC | ref. 0 288 57 |
| 220 ÷ 250 V AC and DC | ref. 0 288 58 |
| 415 ÷ 440 V AC | ref. 0 288 59 |

- Closing coils

To enable remote closing of the circuit breaker if the closing spring is charged

| | |
|-----------------------|---------------|
| 24 V AC and DC | ref. 0 288 41 |
| 48 V AC and DC | ref. 0 288 42 |
| 110 ÷ 130 V AC and DC | ref. 0 288 43 |
| 220 ÷ 250 V AC and DC | ref. 0 288 44 |
| 415 ÷ 480 V AC | ref. 0 288 45 |

| | |
|---|--|
| Rated operating voltage (U _c) | AC: 24V;48V;110V ÷ 130V;220V ÷ 250V;415V/440V/480V DC: 24V; 48V; 110V ÷ 130V; 220V ÷ 250V |
| Voltage range (%V _n) | 85 ÷ 110 |
| Pick-up consumption (W / VA) | 500 / 500 |
| Pick-up time (ms) | 180 |
| Hold consumption (W / VA) | 5 / 5 |
| Maximum closing time (ms) | 50 |
| Insulation voltage (kV) | 2.5 |

| | |
|---|--|
| Rated operating voltage (U _c) | AC: 24V;48V;110V ÷ 130V;220V ÷ 250V;415V/440V/480V DC: 24V; 48V; 110V ÷ 130V; 220V ÷ 250V |
| Voltage range (%U _c) | 85 ÷ 110 |
| Pick-up consumption (W / VA) | 500 / 500 |
| Pick-up time (ms) | 180 |
| Hold consumption (W / VA) | 5 / 5 |
| Minimum opening time (ms) | 60 |
| Insulation voltage (kV) | 2.5 |

- Modules for delayed tripping, to be used with undervoltage releases

| | |
|-----------------|---------------|
| 110 V AC and DC | ref. 0 288 62 |
| 230 V AC and DC | ref. 0 288 63 |

- Signalling contact for draw-out version

Inserted / test / draw-out signalling contact

3 changeover contacts per position ref. 0 288 13

| | | |
|---|----|------------------------|
| Rated operating voltage (U _c) | DC | 250V 0.3A 125V 0.6A |
| | AC | 250V 16A 125V 16A |

- Contact "ready to close" with charged springs ref. 0 288 14

| | | |
|---|----|----------------------|
| Rated operating voltage (U _c) | AC | 250V 16A 125V 16A |
|---|----|----------------------|

- Additional signalling contact ref. 0 288 15

| | | |
|---|----|------------------------|
| Rated operating voltage (U _c) | DC | 250V 0.3A 125V 0.6A |
| | AC | 250V 16A 125V 16A |

- Signalling contact for auxiliaries (ST, CC and UVR) ref. 0 288 16

| | | |
|---|----|------------------------|
| Rated operating voltage (U _c) | DC | 250V 0.3A 125V 0.6A |
| | AC | 250V 16A 125V 16A |

⁽¹⁾ It is possible to connect up to 3 modules - 1s of delay for each module installed

DMX³ 6300 circuit breakers

DMX³-I 6300 switch disconnectors

References: 0 289 50 / 51 / 52 / 53 / 60 / 61 / 62 / 63 / 70/
71 / 77 / 78

8.2 Locking

- Key locking in "open" position
1 lock + 1 Profalux star type flat key ref. 0 288 30
1 lock + 1 Ronis type flat key ref. 0 288 31
2 holes support frame for locks ref. 0 288 28
Set of 5 key barrels with Ronis type flat key ref. 0 288 29
- Key locking in "draw-out" position
Mounting of the lock on the base ref. 0 288 32
Lock and key Profalux type star key ref. 0 281 33
Lock and key Ronis type flat key ref. 0 281 33
- Door locking
Prevents opening of the door with the circuit breaker closed
Left-hand and right-hand side mounting ref. 0 288 20
- Padlocks in "open" position
Padlocking system for ACB (padlock not supplied) ref. 0 288 21
Padlock for buttons ref. 0 288 24
Padlocking system for shutters (padlock not supplied) ref. 0 288 26

8.3 Accessories

- Mechanical operations counter: to count total number of operation cycles of device ref. 0 288 23
- Rating mis-insertion device: to prevent the insertion of a draw-out circuit breaker into an incompatible base ref. 0 288 25
- Lifting plate ref. 0 288 79

8.4 Fixing devices for DMX³ and DMX³-I 6300

To integrate DMX³ and DMX³-I 6300 into XL³ enclosures ranges (fixing plates, metal faceplates for circuit breakers and cable sleeves, etc...) see specific instruction sheets.

8.5 Equipment for conversion of a fixed device into draw-out device

- Bases for draw-out device
For DMX³ / DMX³-I 6300 frame 3P ref. 0 289 13
For DMX³ / DMX³-I 6300 frame 4P ref. 0 289 14
- Transformation kit for draw-out version
For DMX³ / DMX³-I 6300 frame 3P ref. 0 289 15
For DMX³ / DMX³-I 6300 frame 4P ref. 0 289 16

8.6 Equipment for interlocking

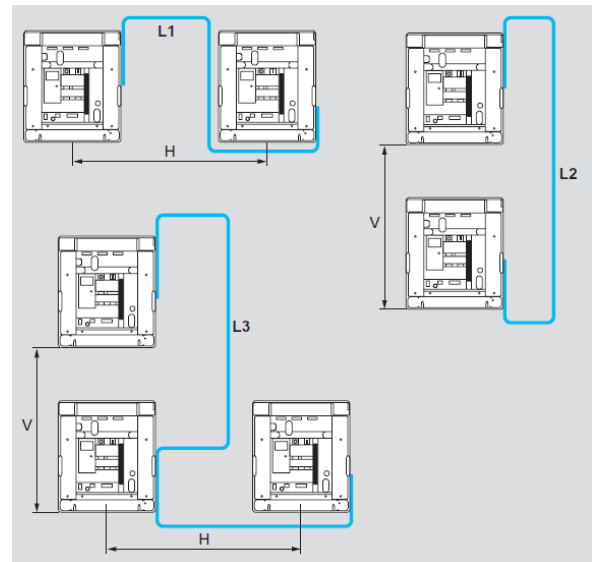
The mechanical interlock is set up using cables and can interlock 2 or 3 devices, which may be different type in a vertical or horizontal configuration. The interlock unit is mounted on the right-hand side of the device. Interlock cables to be ordered separately.

- Interlock for DMX³ 6300 ref. 0 288 66

8.7 Interlock cables

- 1000 mm ref. 0 289 17
- 1500 mm ref. 0 289 18
- 2600 mm ref. 0 289 20
- 3000 mm ref. 0 289 21
- 3600 mm ref. 0 289 22
- 4000 mm ref. 0 289 23
- 4600 mm ref. 0 289 24
- 5600 mm ref. 0 289 25

Choice of interlock cable



Calculation of cable length:

$$L1 = 1430 + H$$

$$L2 = 1570 + V$$

$$L3 = 1430 + V + H$$

8.9 Rear terminals

- For fixed version
For flat connections with bars, 3P ref. 0 288 92
For flat connections with bars, 4P ref. 0 288 93
For vertical connections with bars, 3P ref. 0 288 94
For vertical connections with bars, 4P ref. 0 288 95

Note 1: refs 0 288 92/93 to be fixed onto horizontal rear terminals of the circuit breaker

Note 2: refs 0 288 94/95 to be used to transform a flat connection into a vertical one. To be fixed onto Cat.Nos 0 288 92/93 according to the number of poles.

- For draw-out version
For vertical or horizontal connections with bars, 3P ref. 0 288 94
For vertical or horizontal connections with bars, 4P ref. 0 288 95

Note: to be fixed directly onto plate rear terminals of the circuit breaker

Note: for fixed and draw-out versions, please consider to double the number of references for each pole (pole pitch is 130mm + 130mm).

DMX³ 6300 circuit breakers

References: 0 289 50 / 51 / 52 / 53 / 60 / 61 / 62 / 63 / 70/
71 / 77 / 78

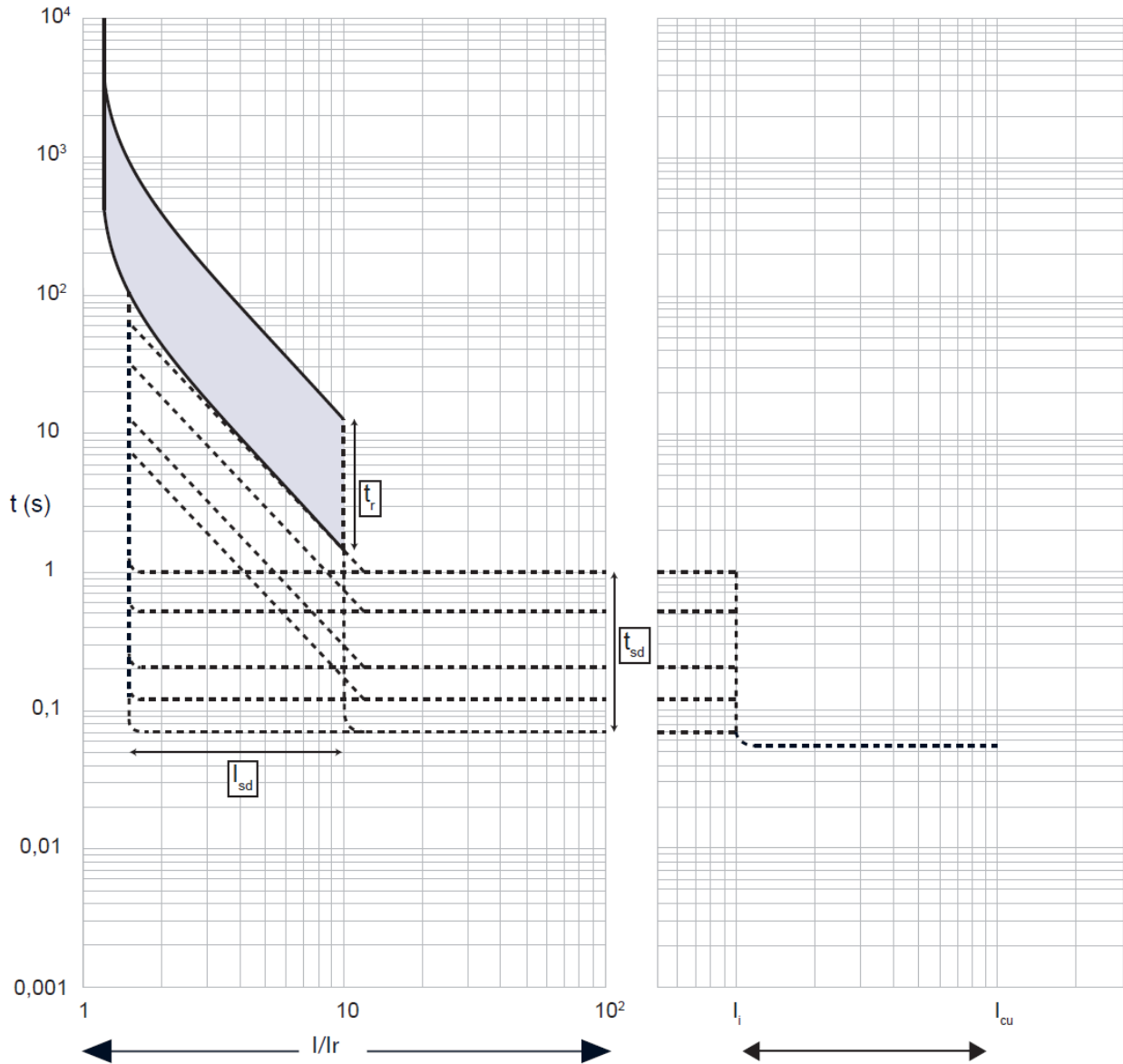
DMX³-I 6300 switch disconnectors

8.10 Insulating shields

- Fixed version 3P ref. 0 288 98
- Fixed version 4P ref. 0 288 99
- Draw-out version 3P ref. 0 288 18
- Draw-out version 4P ref. 0 288 19

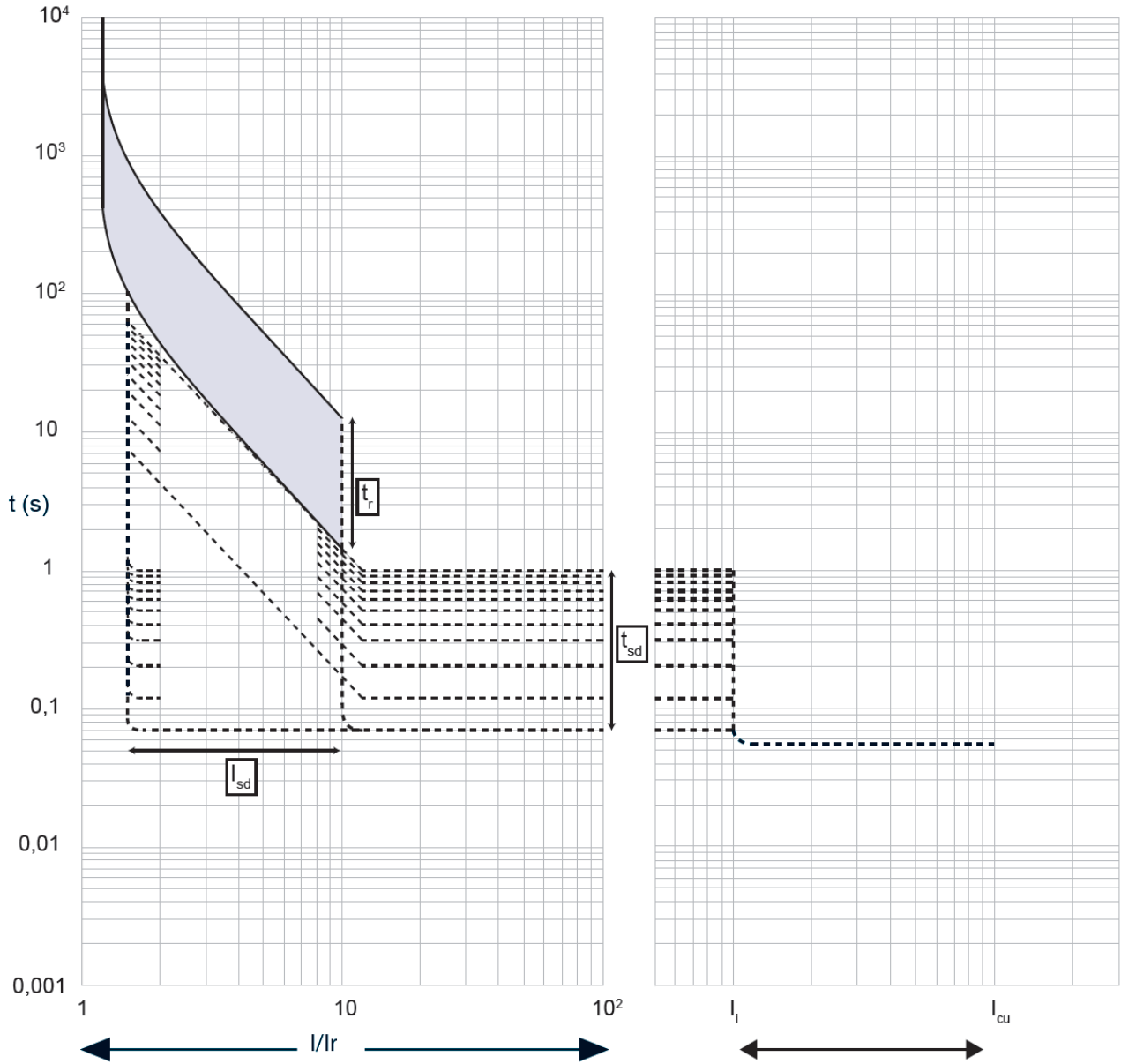
9. CURVES

9.1 TRIPPING CURVE FOR MP4 protection units



| Value | Description |
|----------|--|
| t | time |
| I | current |
| I_r | long time setting current |
| t_r | long time delay |
| I_{sd} | short time setting current |
| t_{sd} | short time delay |
| I_i | Instantaneous release |
| I_{cu} | Rated ultimate short-circuit breaking capacity |

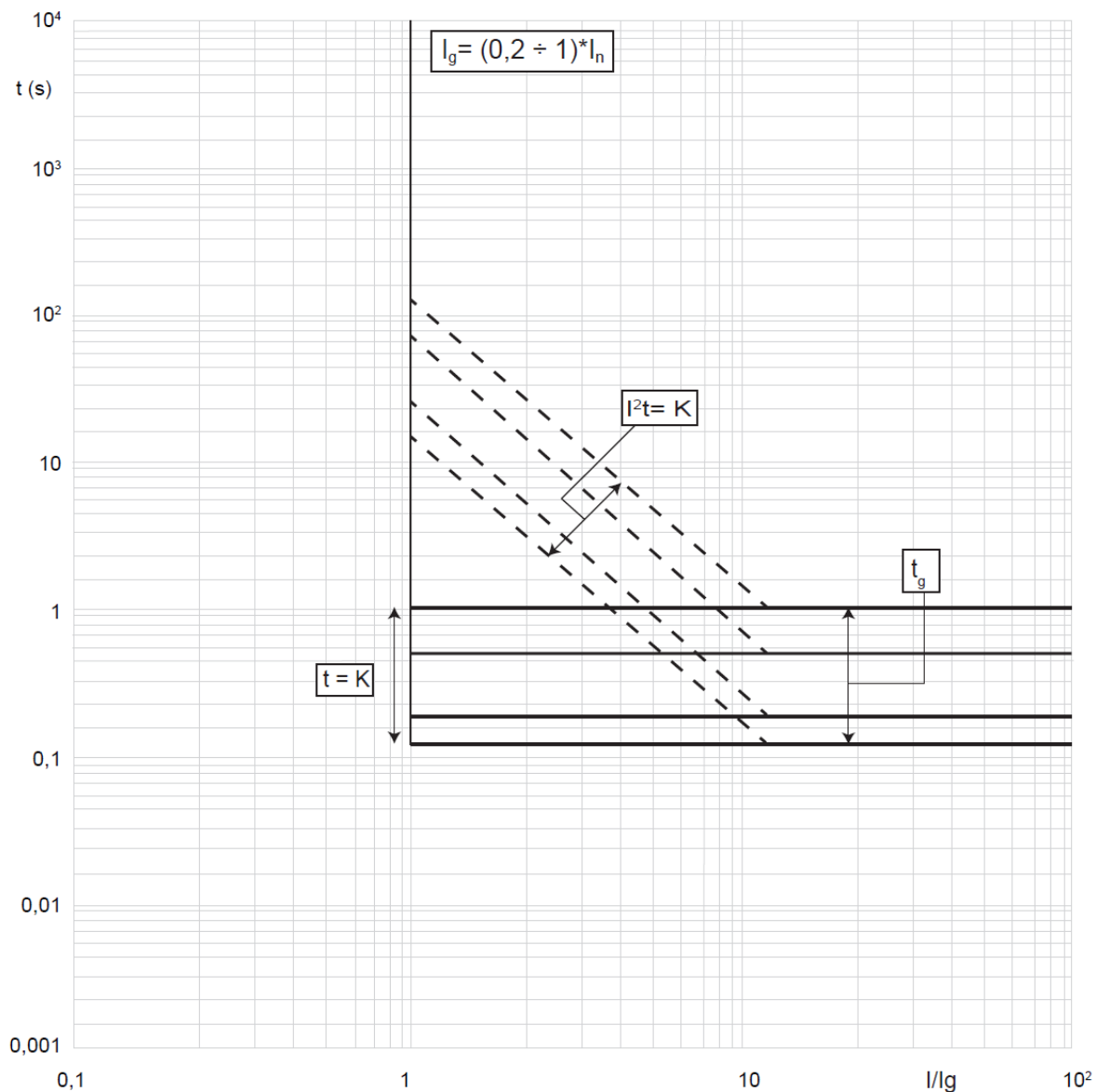
9.2 TRIPPING CURVE FOR MP6 protection units



| Value | Description |
|----------|--|
| t | time |
| I | current |
| I_r | long time setting current |
| t_r | long time delay |
| I_{sd} | short time setting current |
| t_{sd} | short time delay |
| I_i | Instantaneous release |
| I_{cu} | Rated ultimate short-circuit breaking capacity |

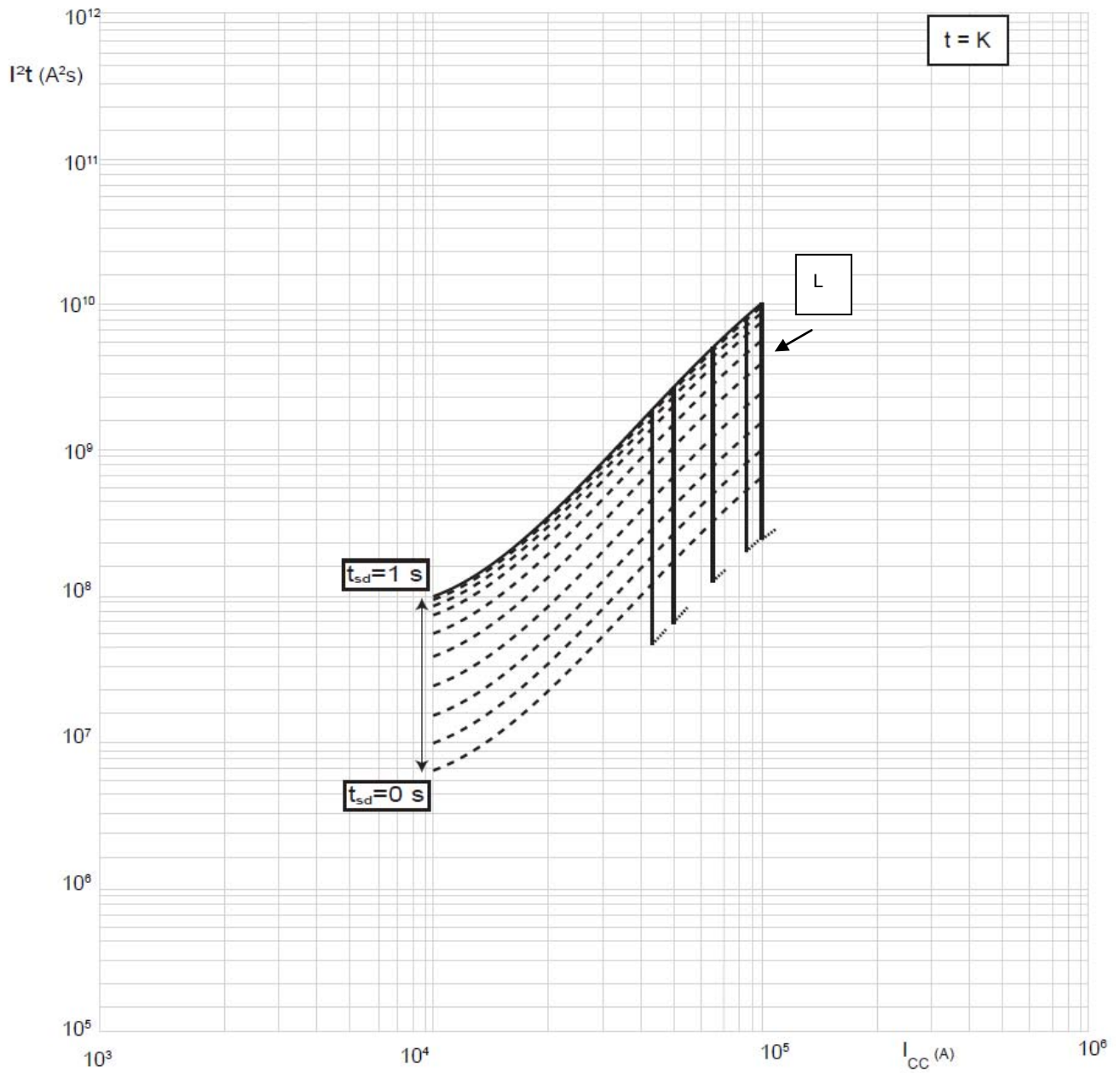
9.3 GROUND FAULT TRIPPING CURVE

Only LSIG releases (MP4 and MP6)



| Value | Description |
|----------------------|--------------------------------------|
| t | time |
| I | current |
| I _n | rated current |
| I _g | Ground fault current |
| t = k | Constant tripping time setting |
| I ² t = k | Constant pass-through energy setting |

9.4 PASS-THROUGH SPECIFIC ENERGY CURVE



| Value | Description |
|----------|------------------------------|
| I_{cc} | short circuit current |
| I^2t | pass-through specific energy |