

Megatiker M3 250 Thermal magnetic and MS3 250 trip-free switches

Reference(s) :

see in the relative tables



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1. USE

Megatiker platform, for premium segment, is able to cover extended ranges in terms of breaking capacities and rated currents, make protection suitable for different levels of power involved in installations. Megatiker platform provide easy assembly procedures during the phase of installation and mounting of accessories, suitable for professional use.

2. RANGE

Megatiker M3 250						
	36 kA		50 kA		70 kA	
I _n (A)	3P	4P	3P	4P	3P	4P
16	T733F16	T734F16	T733N16	T734N16	T733H16	T734H16
20	T733F20	T734F20	T733N20	T734N20	T733H20	T734H20
25	T733F25	T734F25	T733N25	T734N25	T733H25	T734H25
32	T733F32	T734F32	T733N32	T734N32	T733H32	T734H32
40	T733F40	T734F40	T733N40	T734N40	T733H40	T734H40
50	T733F50	T734F50	T733N50	T734N50	T733H50	T734H50
63	T733F63	T734F63	T733N63	T734N63	T733H63	T734H63
80	T733F80	T734F80	T733N80	T734N80	T733H80	T734H80
100	T733F100	T734F100	T733N100	T734N100	T733H100	T734H100
125	T733F125	T734F125	T733N125	T734N125	T733H125	T734H125
160	T733F160	T734F160	T733N160	T734N160	T733H160	T734H160
200	T733F200	T734F200	T733N200	T734N200	T733H200	T734H200
250	T733F250	T734F250	T733N250	T734N250	T733H250	T734H250

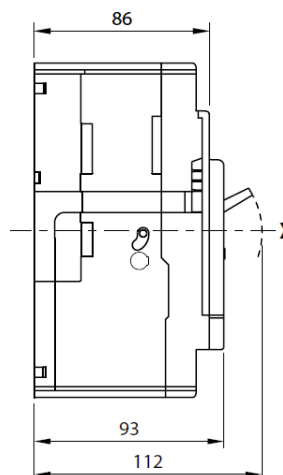
100 kA		
I _n (A)	3P	4P
16	T733L16	T734L16
20	T733L20	T734L20
25	T733L25	T734L25
32	T733L32	T734L32
40	T733L40	T734L40
50	T733L50	T734L50
63	T733L63	T734L63
80	T733L80	T734L80
100	T733L100	T734L100
125	T733L125	T734L125
160	T733L160	T734L160
200	T733L200	T734L200

Megatiker MS3 250		
I _n (A)	3P	4P
250	T733S250	T734S250

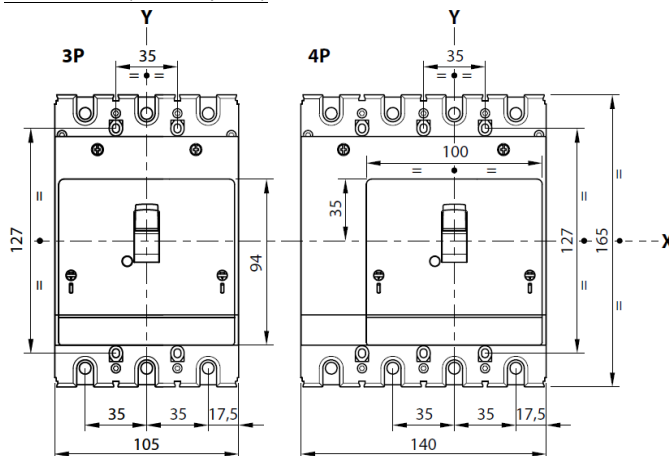
3. DIMENSIONS AND WEIGHTS

3.1 Dimensions

Lateral view

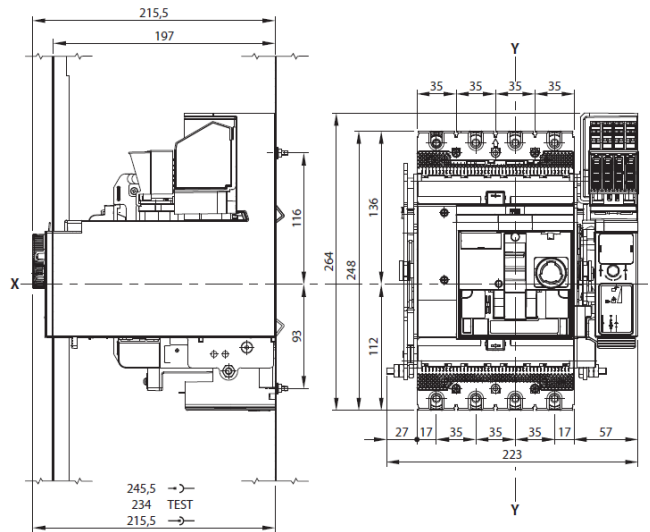


Frontal view (3 and 4 poles)

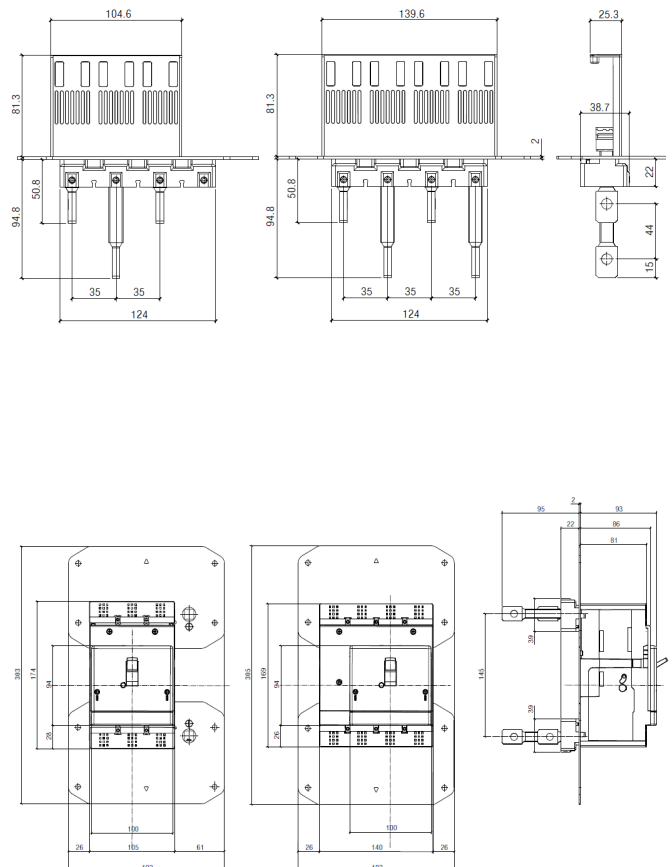


Reference(s) :
see in the relative tables

Draw-out version (4P)



Rear terminals

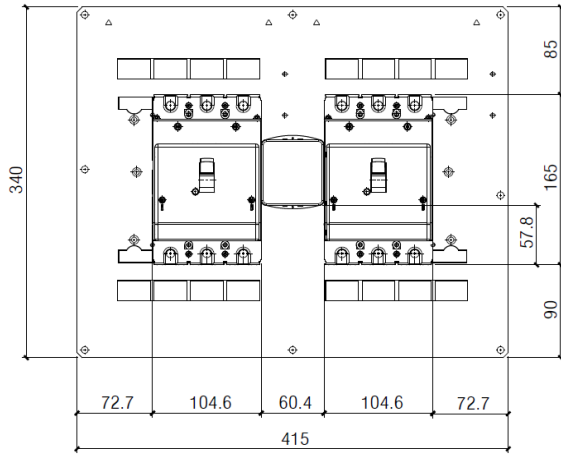


Megatiker M3 250 Thermal magnetic and MS3 250 trip-free switches

Reference(s) :
see in the relative tables

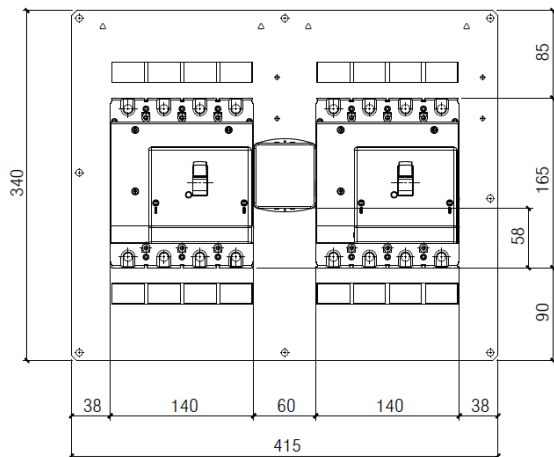
Interlock (3P)

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

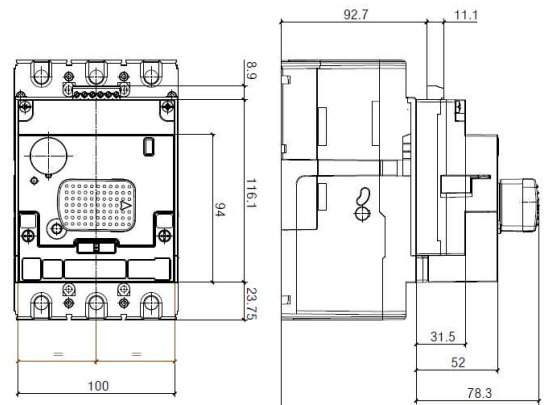
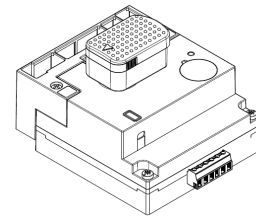
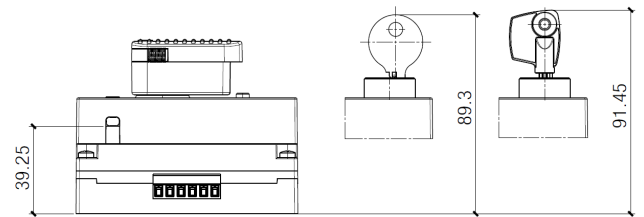
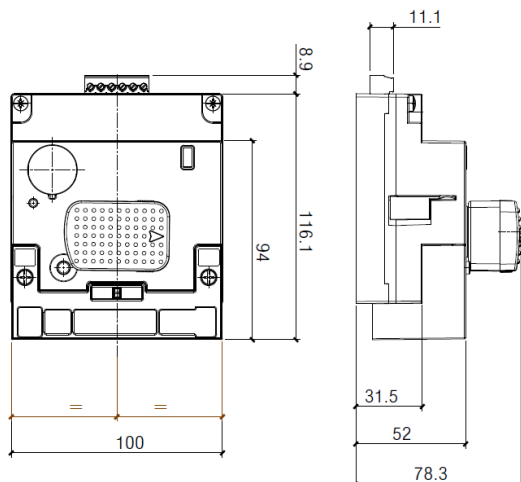


Interlock (4P)

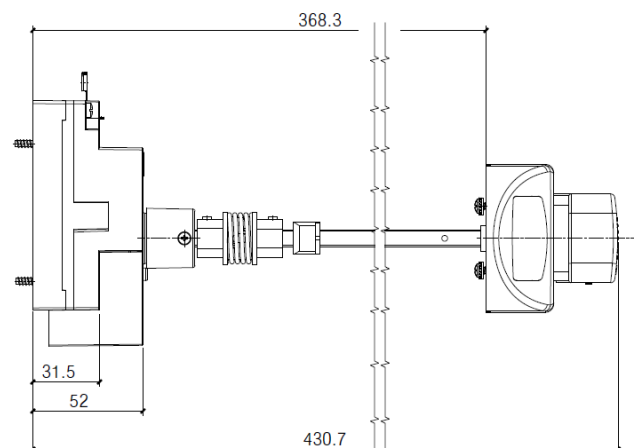
(for rear plate interlock dimension, see relative instruction sheet)



Direct rotary handle

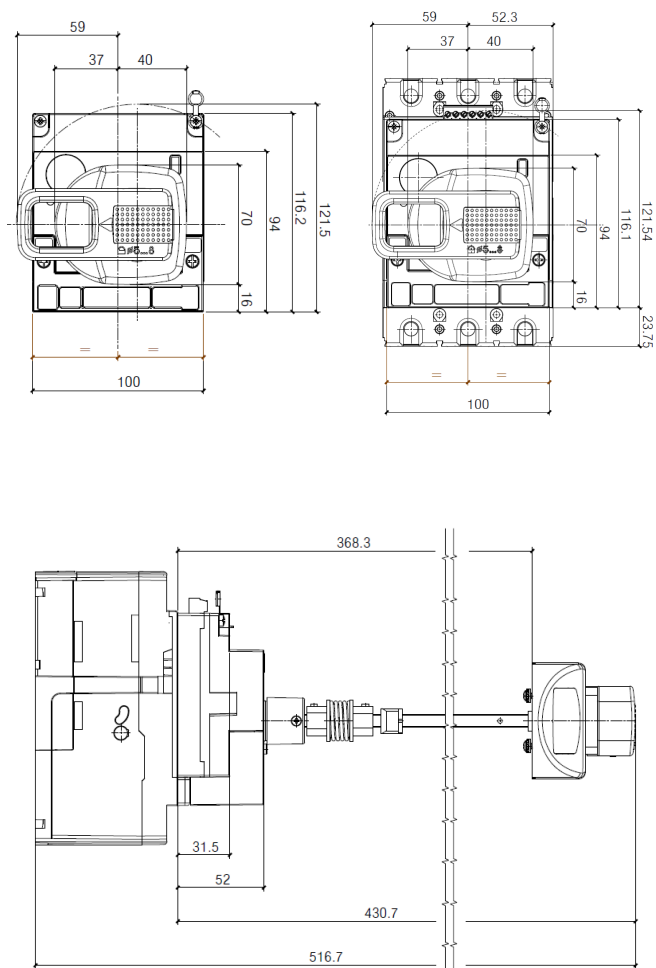


Vari-depth rotary handle

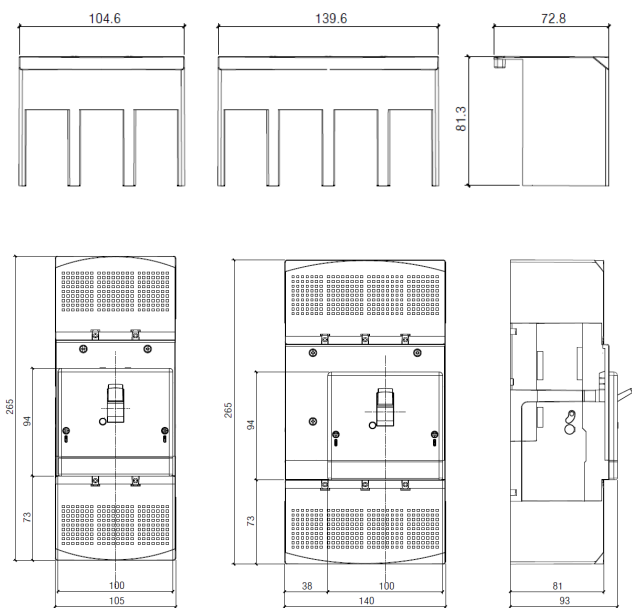


Megatiker M3 250 Thermal magnetic and MS3 250 trip-free switches

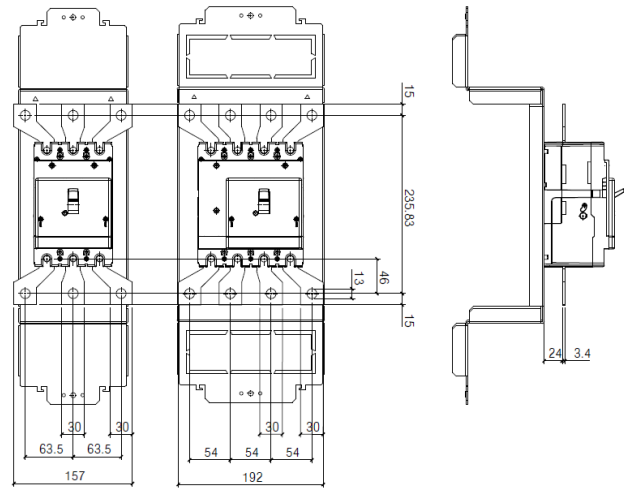
Reference(s) :
see in the relative tables



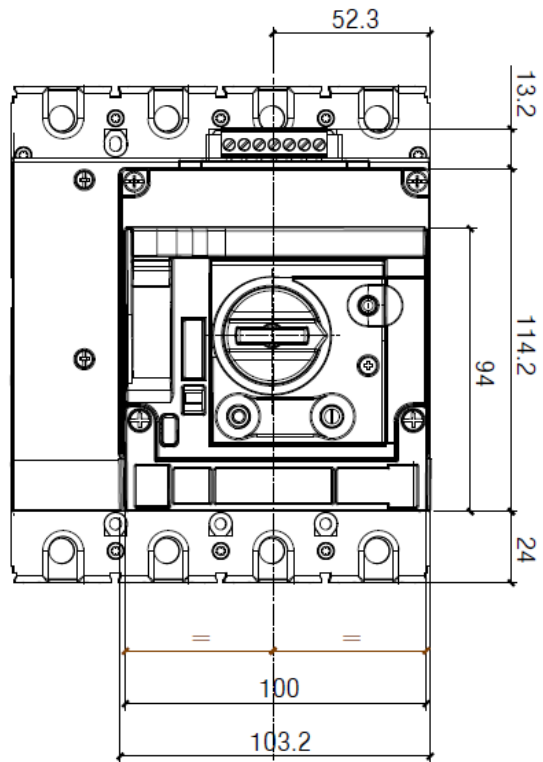
Sealable terminal shields



Spreaders

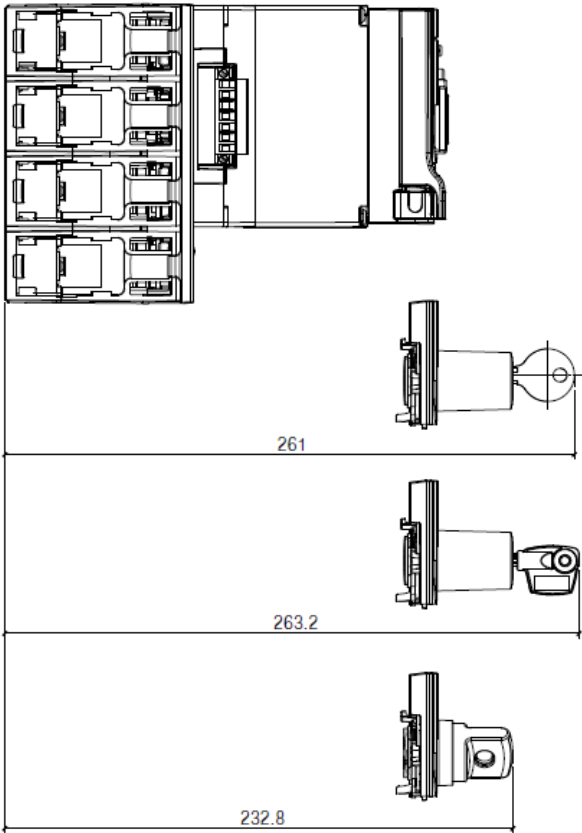
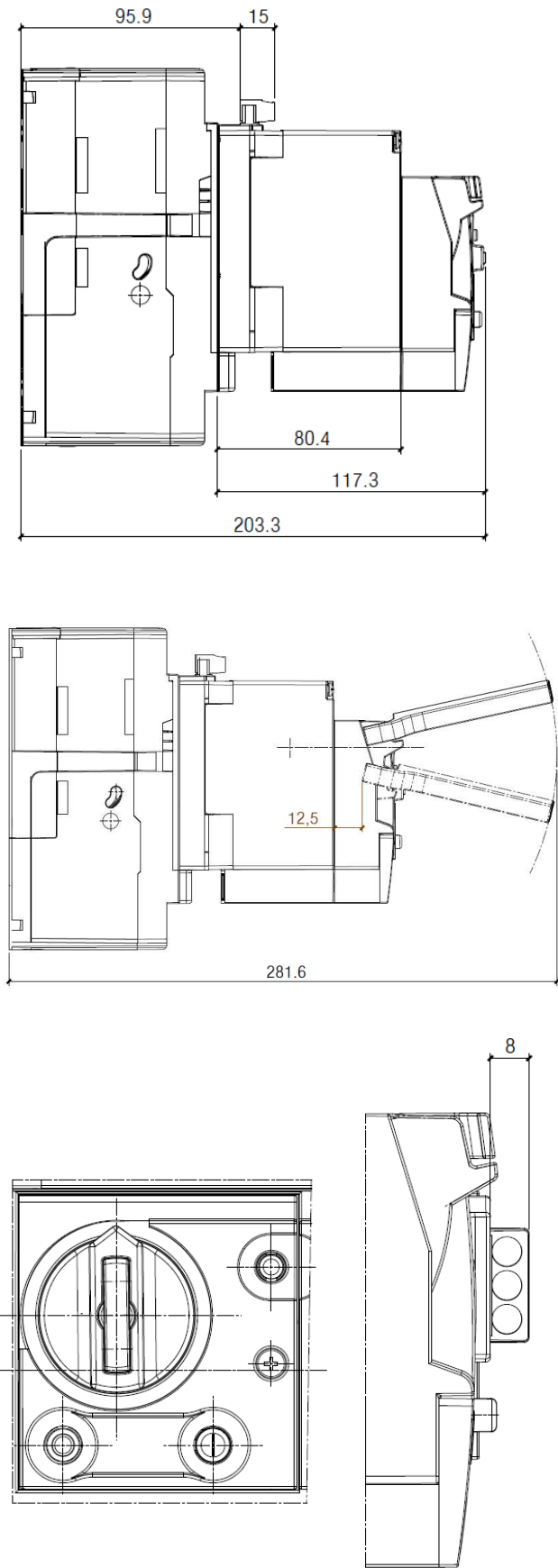


Motor operator



Megatiker M3 250 Thermal magnetic and MS3 250 trip-free switches

Reference(s) :
see in the relative tables



3.2 Weights

Configuration	Weights (Kg)	
	3P	4P
Circuit breaker/switch disconnecter	1.5	1.9
Plug-in*	3.5	4.5
Draw-out**	2.5	
Interlock*	0.35	
Rear interlock (for plug-in/draw-out version)*	5	
Motor operator*	1	
* to add to device weight		
** to add to device and plug-in weights		

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:

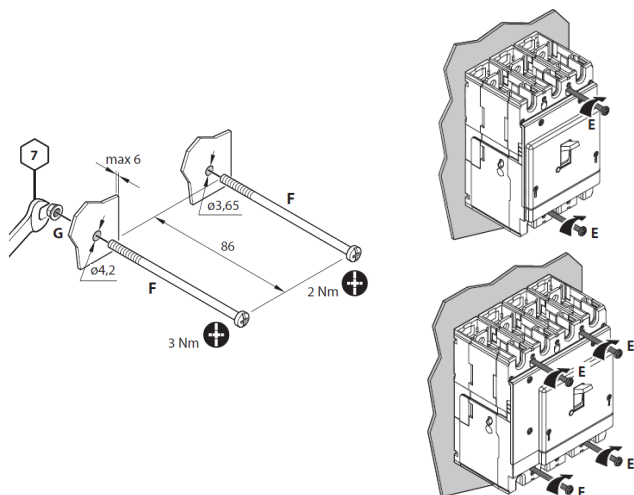
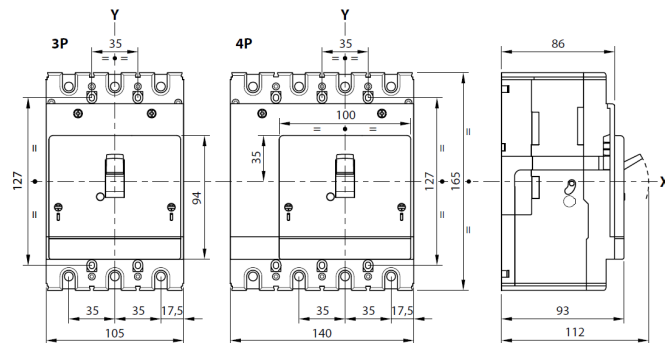
- Vertical
- Horizontal
- Supply inverter type

Megatiker M3 250 Thermal magnetic and MS3 250 trip-free switches

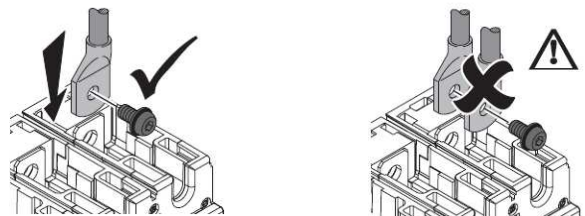
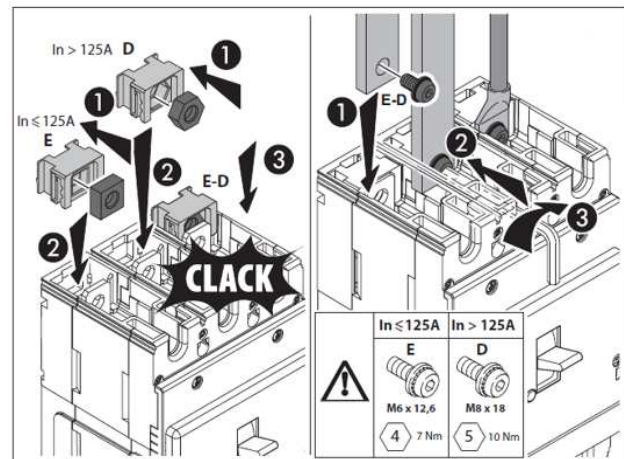
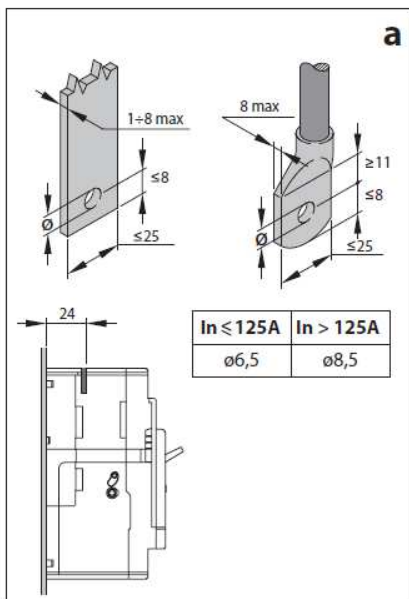
Reference(s) :
see in the relative tables

5.2 Mounting

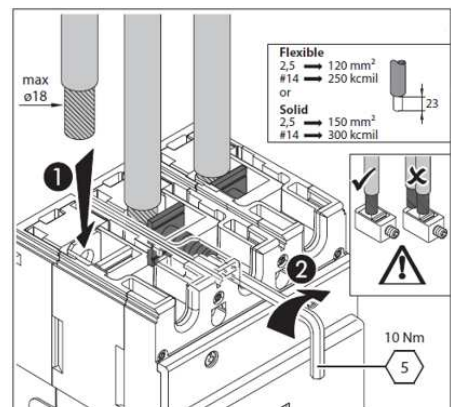
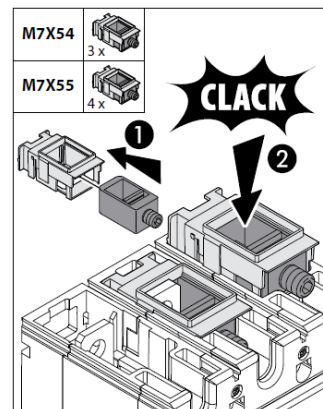
(see instruction sheet for detailed mounting procedures)



Busbars/cable lugs:



Cables:



Megatiker M3 250 Thermal magnetic and MS3 250 trip-free switches

Reference(s) :
see in the relative tables

6. ELECTRICAL AND MECHANICAL CHARACTERISTICS

Circuit breaker

Circuit Breaker	Megatiker M3 250 F/N/H/L (36kA, 50kA, 70kA, 100kA)
Rated current (A)	16-20-25-32-40-50-63-80-100-125-160-200-250
Poles	3 - 4
Pole pitch (mm)	35
Rated insulation voltage (50/60Hz) U_i (V)	800
Rated operating voltage (50/60Hz) U_e (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)	12000
Mechanical endurance with motor control (cycles)	12000
Electrical endurance at I_n (cycles)	6000
Electrical endurance at 0.5 I_n (cycles)	6000
Utilization category	A
Suitable for isolation	Yes
Type of protection	Thermal-magnetic
Thermal adjustment I_t	0,8 - 0,9 - 1 x I_n
Magnetic adjustment I_i (A)	400 A up to $I_n=40A$ (not adjustable); 6,5-10-13 x I_n for $I_n=50A$; 5-7,5-10 x I_n up to $\approx 250A$;
Neutral protection for 4P (% I_n of phase pole)	100
Dimensions (W x H x D) (mm)	105 x 165 x 86 (3P) 140 x 165 x 86 (4P)

Switch disconnectors

Switch	Megatiker MS3 250
Uninterrupted nominal current I_n (A)	250
Short-time resistive current I_{sw} (kA) for 1s	3
Rated short-circuit making capacity I_{sm} (kA)	4.3
Rated insulation voltage U_i (V AC)	800
Maximum rated operating voltage U_e (V AC)	690 ($I_n=160$ A - 200 A - 250 A) - 415 ($I_n=225$ A)
Rated impulse withstand voltage U_{imp} (kV)	8
Utilisation category	AC23A ($I_n \leq 225A$) - AC22A ($I_n=250A$)
Suitable for Isolation	Yes
Nominal frequency (Hz)	50-60
Operating temperature (°C)	-25 + 70
Mechanical endurance (cycles)	12000
Mechanical endurance with motor control (cycles)	12000
Electrical endurance at I_n (cycles)	6000
Electrical endurance at 0.5 I_n (cycles)	6000
Dimensions (W x H x D) (mm)	105 x 165 x 86 (3P) 140 x 165 x 86 (4P)

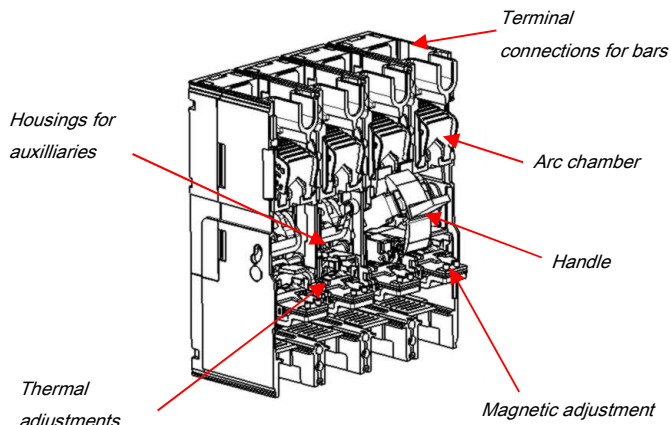
The maximum admissible (absolute) temperature is 125°C (for detail, see IEC 60947-1 and 60947-2).

Megatiker product line has the possibility to supply both in "direct" and "reverse" feed.

If "direct", the word "LINE" needs to be marked on supply terminals (normally the top ones), as well as "LOAD" has to be written on the output terminals to be connected to the load (normally the bottom ones).

If "reverse", any indications about LINE / LOAD are NOT expected on the product.

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)
	220/240 V AC	70	90	100	150
	380/415 V AC	36	50	70	100
	440/460 V AC	25	30	40	50
	480/500 V AC	16	18	30	35
	550 V AC	10	12	22	25
	690V AC	7	8	20	22
	$I_{cs}(\% I_{cu})$	100	100	100	100
	Rated making capacity under short circuit I_{cm}				
	I_{cm} (kA) at 415V	76.5	105	154	220
NEMA AB-1	220/240 V AC	70	90	100	150
	480/500 V AC	16	18	30	35
	690 V AC	7	8	20	22

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

I_n (A)	Phases limit trip current			
	thermal (I_t)		magnetic (I_i)	
	0.8 x I_n	1 x 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	325	650
63	51	63	315	630
80	64	80	400	800
100	80	100	500	1000
125	100	125	625	1250
160	128	160	800	1600
200	160	200	1000	2000
250	200	250	1250	2500

6.3 Load operations

Force on handle	N
Opening operation	63,5
Closing operation	66
Restore operation	86,5

Megatiker M3 250 Thermal magnetic and MS3 250 trip-free switches

Reference(s) :
see in the relative tables

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.

I _{cc} (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_n

Circuit breaker

	Power losses per pole (W)													
In (A)	16	20	25	32	40	50	63	80	100	125	160	200	250	
Cage terminals	2.99	4.47	5.34	4.99	7.67	5.76	9.45	7.22	7.77	12.73	11.8	14.89	21.21	
Lugs	2.73	4.08	6.38	4.56	7.01	5.26	8.63	6.59	7.1	11.63	10.78	13.6	19.38	
Spreaders	2.3	3.44	4.11	3.84	5.9	4.43	7.27	5.55	5.98	9.79	9.08	11.45	16.32	
Rear terminals	2.82	4.21	5.03	4.7	7.23	5.42	8.9	6.8	7.32	11.99	11.12	14.03	19.99	

Note: power loss 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 _n (A)	
250	
Cage terminals	14.84
Lugs	13.55
Spreaders	11.41
Rear terminals	13.98

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

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 _n (A)	-25	-20	-10	-5	0	10	20	30	40	50	60	70
16	22	23	22	21	21	20	18	17	16	16	14	14
20	29	29	27	26	26	24	23	21	20	20	18	17
25	37	36	34	33	32	30	29	27	25	25	23	21
32	47	46	44	42	41	39	37	34	32	32	29	27
40	59	57	54	53	52	49	46	43	40	40	36	34
50	74	72	68	66	64	61	57	54	50	50	45	43
63	93	90	86	83	81	77	72	68	63	63	57	54
80	118	114	109	106	103	98	92	86	80	80	72	68
100	147	143	136	132	129	122	115	107	100	100	90	85
125	184	179	170	166	161	152	143	134	125	125	113	106
160	235	229	218	212	206	195	184	172	160	160	144	136
200	294	286	272	265	258	244	230	215	200	200	180	170
250	368	358	340	331	332	305	287	269	250	250	225	213

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.

Electromagnetic disturbances (EMC)

for Megatiker M3 circuit breakers, according to IEC/EN 60947-2 Annex F

Pollution degree

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

6.6.3 Altitude

Altitude derating for Megatiker

Altitude (m)	2000	3000	4000	5000
U _e (V)	690	590	520	460
I _n (A) (T _a = 40°C/50°C)	1 x I _n	0.98 x I _n	0.93 x I _n	0.9 x I _n

6.6.4 Use in DC

See table B.

Megatiker M3 250 Thermal magnetic and MS3 250 trip-free switches

Reference(s) :
see in the relative tables

7. CONFORMITY

Megatiker range of product concerning circuit-breakers and trip-free switches exceed compliance with the EN/IEC standard 60947-2 and 60947-3 respectively.

Certification available by IECEE CB-scheme or LOVAG Compliance scheme.

Marks as CCC (China), EAC (Eurasian Federation) or different local certification are available.

Megatiker are in conformity with the Lloyds Shipping Register, RINA and Bureau Veritas Marine.

Megatiker respect the European Directives REACH, RoHS, RAEE and Product Environment Product (PEP Ecopassport) are available.

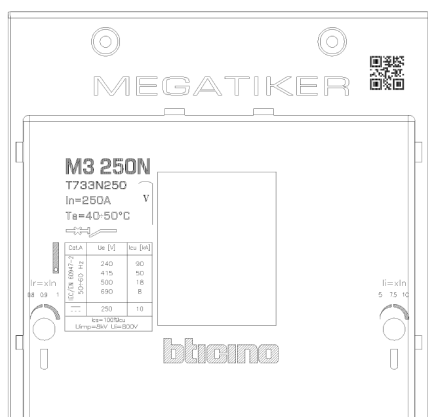
For specific information, please contact Legrand support.

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:

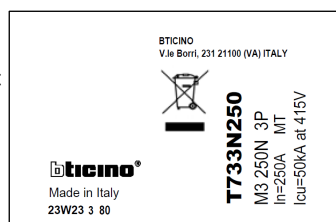
Product laser label on front

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



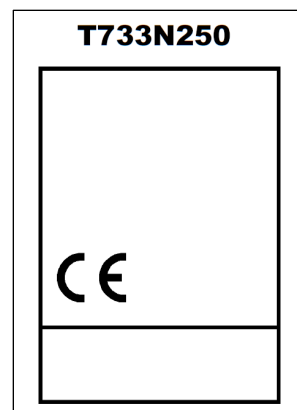
Product sticker label on side

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



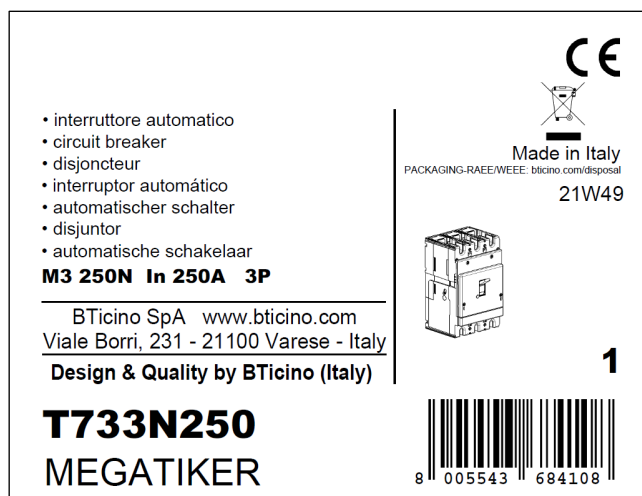
Mark sticker label on side

- 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 250 Thermal magnetic and MS3 250 trip-free switches

Reference(s) :
see in the relative tables

8. EQUIPMENTS AND ACCESSORIES

8.1 Releases (for Megatiker M1, M2, M3 125 / 160 / 250)

- 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 DPX3 125/250 HP starting from batch 19W15

- time-lag undervoltage releases (800 ms)

Time-lag modules with voltage:

24 V ac/dc
230 V ac
400 V ac

ref. M7000ME/024
ref. M7000MR/230
ref. M7000MR/400

Release

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

ref. M7UEM

8.2 Auxiliary contacts

Auxiliary contacts (1NC and 1 NO)
(for rotary handle)

Changeover switch 3A – 250 VAC

Signalling contact plugged-in / draw-out version

ref. M7R32

ref. M7X01

ref. M7B10

(Ref. M7X01 and . M7B10 are also for Megatiker M1/M2)

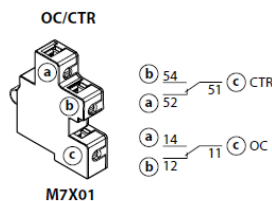
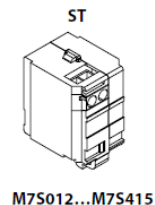
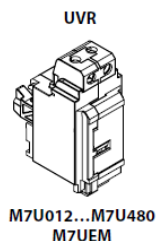
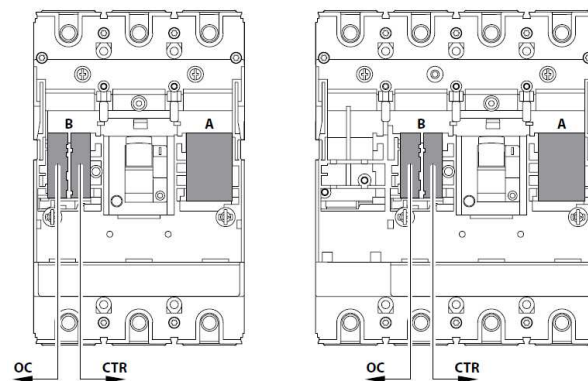
To show the state of the contacts or opening of the Megatiker on a fault:

- Auxiliary contact (standard) OC
- Fault signal CTR

Auxiliary contact electrical characteristics		
Rated voltage (V _n)	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 250 → 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
- motor operator
- plug-in mechanism
- draw-out mechanism

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. M7K01
- 1 lock + 1 flat key with fixed mapping (EL43525) ref. M7K02
- 1 lock + 1 flat key with fixed mapping (EL43363) ref. M7K03
- 1 lock + 1 star key with random mapping ref. M7K04

Megatiker M3 250 Thermal magnetic and MS3 250 trip-free switches

Reference(s) :
see in the relative tables

8.4 Rotary handles

Direct on Megatiker (with auxiliary option)

- Standard (black) ref. M7R24
- For emergency use (red / yellow) ref. M7R25

Vari-depth handle IP55 (with auxiliary option)

- Standard (black) ref. M7R26
- For emergency use (red / yellow) ref. M7R27

Locking accessories (for rotary handle with auxiliary option)

- Key lock accessory for direct rotary handle ref. M7R30
- Key lock accessory for vari-depth rotary handle ref. M7R31
(ref. M7R31 is compatible with Megatiker M3 125/160 also)

Ref. M7R30 and M7R31 must be used with universal keylocks to get the complete locking kit for rotary handle

8.5 Motor operators

For synchronized operations (energy storage type):

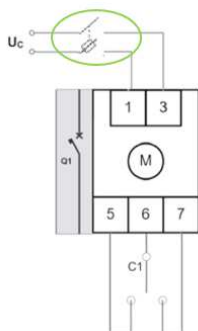
- 24 Vac and dc ref. M7M024
- 48 Vac and dc ref. M7M048
- 110 Vac ref. M7M110
- 230 Vac ref. M7M230

Technical parameters:

Voltage	Property	AC		DC	
		Opening	Closing	Opening	Closing
24V ac/dc	Maximum inrush power (VA)	75	430	55	320
	Rated power (VA)	45	-	20	-
	Absorption time (s)	2.8	0.01	3.3	0.01
	Operating current time (s)	1.1	0.03	1.2	0.03
48V ac/dc	Maximum inrush power (VA)	85	1000	70	690
	Rated power (VA)	65	-	15	-
	Absorption time (s)	3.3	0.006	3.8	0.006
	Operating current time (s)	1.1	0.02	1.3	0.02
110V ac	Maximum inrush power (VA)	95	600	-	-
	Rated power (VA)	60	-	-	-
	Absorption time (s)	3	0.02	-	-
	Operating current time (s)	1.0	0.03	-	-
230V ac	Maximum inrush power (VA)	125	460	-	-
	Rated power (VA)	70	-	-	-
	Absorption time (s)	2.5	0.08	-	-
	Operating current time (s)	0.9	0.03	-	-

It is necessary to foresee a protection device (e.g. fuse) along the motor operator power line. The correct size of the fuse depends on the motor version and on the number of users.

Here a schematic example:



Locking accessory (for motor operator)

- Padlock (for motor operator locking) ref. M7M61
- Key lock accessory for motor operator ref. M7M60

Ref. M7M60 must be used with universal keylocks to get the complete locking kit for motor operator

8.6 Mechanical accessories

- Padlock (for locking in "OPEN" position) ref. M7X02
(ref. M7X02 is compatible with Megatiker M1, M2 and M3125/160)

- Sealable terminal shields:
 - Set of 2 (for 3P) ref. M7C22
 - Set of 3 (for 4P) ref. M7C23

- Insulated shields:
 - Set of 2 (for 3P) ref. M7F01
 - Set of 3 (for 4P) ref. M7F02
 (ref. M7F01/02 are compatible with Megatiker M3 125/160)

8.7 Connection accessories

Cage terminals

- Set of 3 terminals for cables 150 mm² max (solid) or 120 mm² max (flexible) Cu/Al ref. M7X54
- Set of 4 terminals for cables 150 mm² max (rigid) or 120 mm² max (flexible) Cu/Al ref. M7X55

Spreaders (incoming or outgoing):

- Set of 3 (for 3P) ref. M7A52
- Set of 4 (for 4P) ref. M7A53

Rear terminals (incoming or outgoing):

- Set of 3 (for 3P) ref. M7A56
- Set of 4 (for 4P) ref. M7A57

Cage terminal use specifications

Megatiker M3 250							
Type of cage terminal	Cable standard suggested cross section (mm ²)*			Dimensions limits of cable for cage terminals			
	In (A)	Cu	Al	MIN cross section (mm ²)		MAX cross section (mm ²)	
				Flexible	Rigid	Flexible	Rigid
Standard	16	2,5	4	2,5	2,5	120	150
	20	2,5	4				
	25	4	6				
	32	6	10				
	40	10	16				
	50	10	16				
	63	16	25				
	80	25	35				
	100	35	50				
	125	50	70				
	160	70	\				
	200	95	\				
	250	120	\				

* The suggested cross section are in compliance with standard IEC60947-1 (ed.6 2020/04) and IEC60947-2 (ed.5.1 2019/07)

Megatiker M3 250 Thermal magnetic and MS3 250 trip-free switches

Reference(s) :
see in the relative tables

8.8 Plug-in version

(A plug-in is a Megatiker M3 250 fitted with special terminals and mounted on a plug-in base)

Bases

(for plug-in and draw-out versions for M3 250 HP and MS3 250 HP)

- Plug-in/draw-out base for 3P *ref. M7B50*
- Plug-in/draw-out base for 4P *ref. M7B51*
- Plug-in/draw-out mobile part kit for 3P *ref. M7B52*
- Plug-in/draw-out mobile part kit for 4P *ref. M7B53*

Plug-in accessories

Locking accessory (for plug-in)

- Key lock accessory for plug-in *ref. M7B64*

Ref. M7B64 must be used with universal keylocks to get the complete locking kit for plug-in version

8.9 Draw-out version

(A Megatiker M3 250 draw-out version is a plug-in fitted with a "Debro-lift" mechanism which can be used to withdraw the breaker while keeping it on its base)

"Debro-lift" mechanism

(supplied with a rigid slide and handle for drawing-out)

- transformation kit for 3P *ref. M7B54*
- transformation kit for 4P *ref. M7B55*

Frontal masks for draw-out version

(to provide in addition to debro-lift mechanism according to accessory mounted)

- Frontal module, with frontal mask (3P and 4P) *ref. M7B60*
(if neither motor operator nor rotary handle are mounted)
- Frontal mask for motor operator (3P and 4P) *ref. M7B61*

Locking accessory (for draw-out)

- Padlock for draw-out position *ref. M7B66*
- Key lock accessory for draw-out *ref. M7B63*

Ref. M7B63 must be used with universal keylocks to get the complete locking kit for draw-out version

Auxiliary contacts

- Automatic auxiliary contacts for draw-out version *ref. 4 222 30*
- 6 contact connector (under sliding contacts) *ref. 0 098 19*

(Ref. 0 098 19 can be used with both plug-in and draw-out version)

8.10 Interlock mechanism

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

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 250 *ref. M7I05*
- Rear interlock mechanism *ref. M7I03*
(for Megatiker M3 250 plug-in and/or draw-out version)
If used ref. F15/7500P6, maximum 1 set

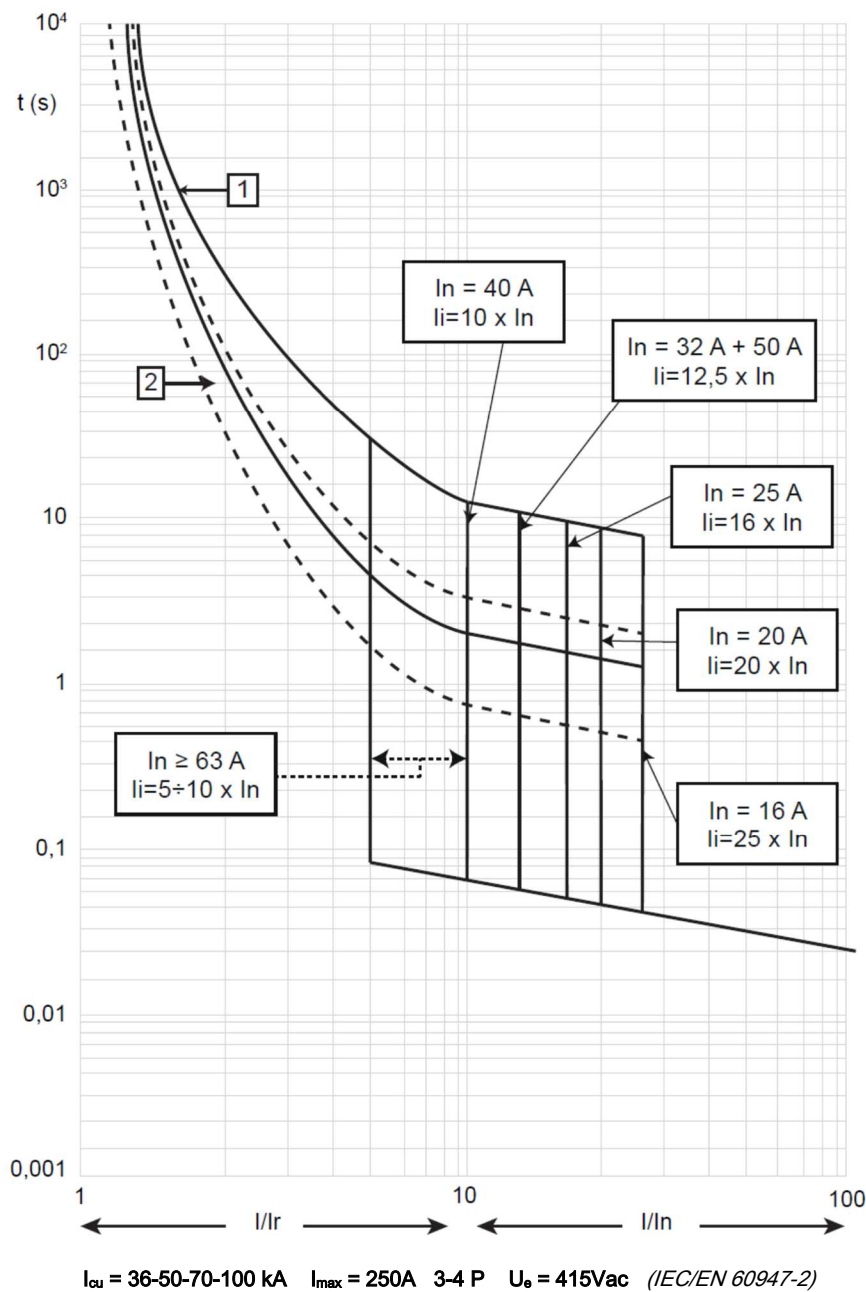
Megatiker M3 250 Thermal magnetic
and MS3 250 trip-free switches

Reference(s) :
see in the relative tables

9. CURVES

9.1 Thermal magnetic tripping curve

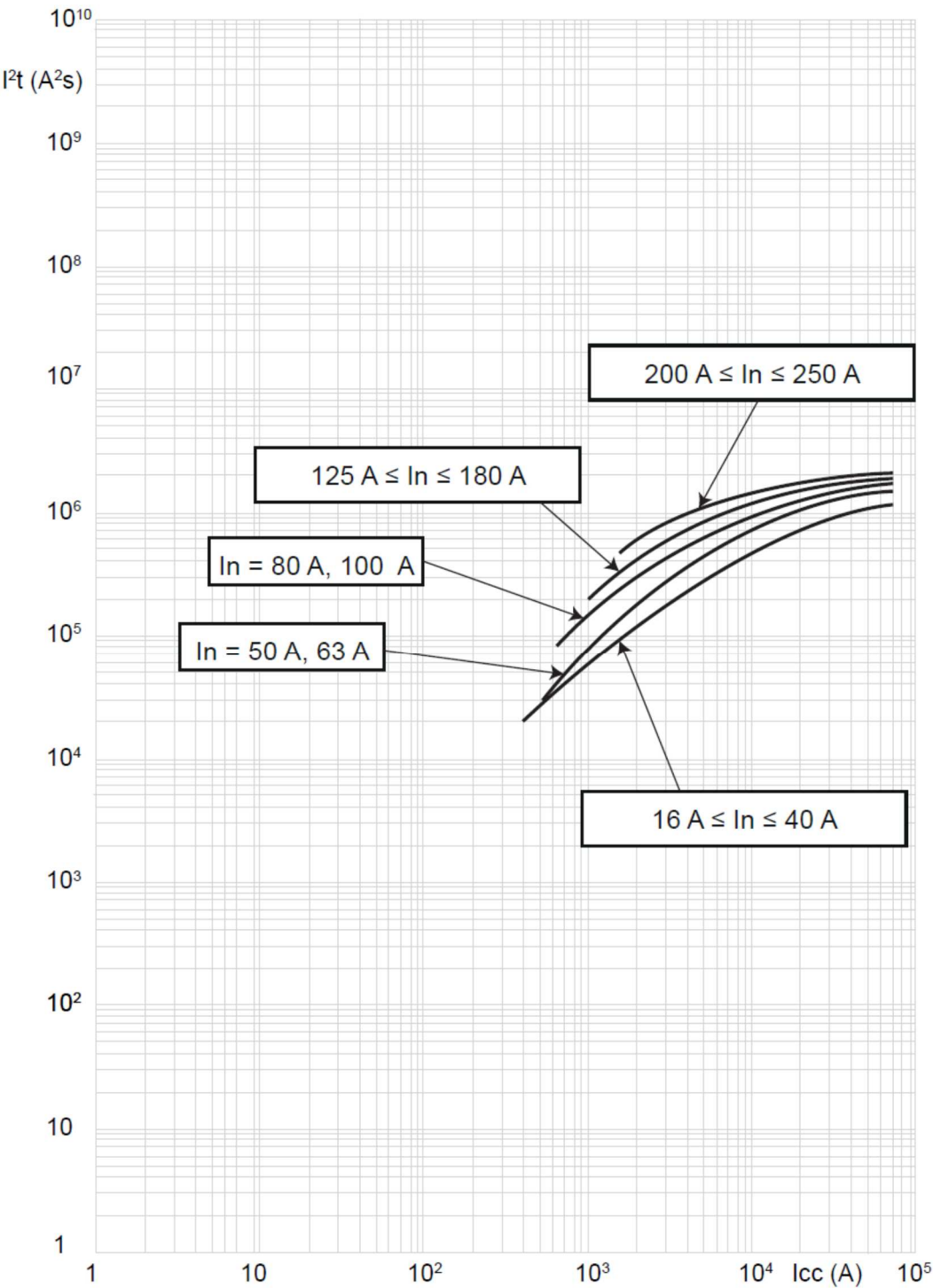
Update: 11/06/2019



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

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

Update: 11/06/2019

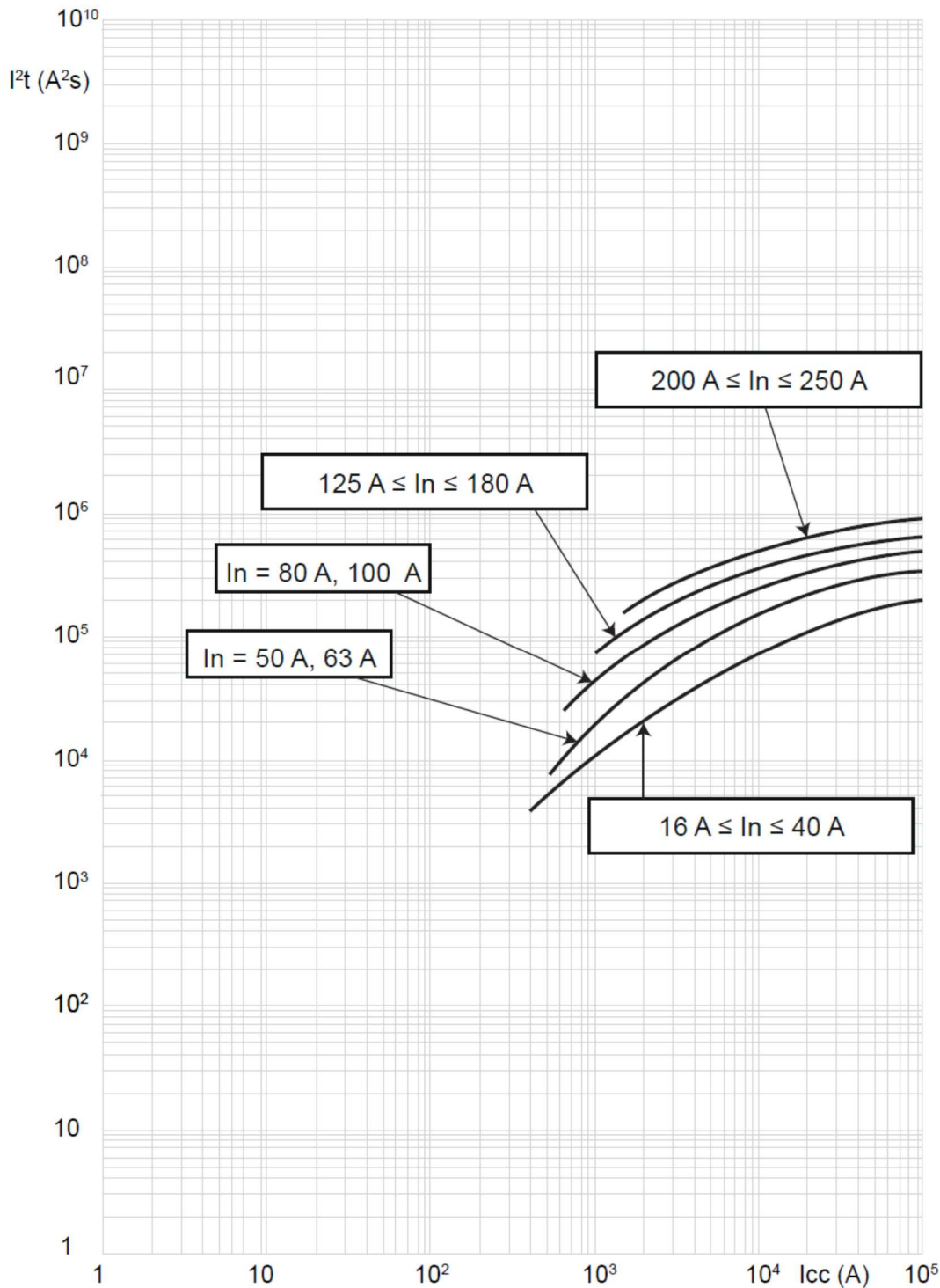


$I_{cu} = 36\text{--}50\text{ kA}$ $I_{max} = 250\text{ A}$ 3-4 P $U_e = 415\text{ Vac}$ (IEC/EN 60947-2)

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

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

Update: 30/08/2019



$I_{cu} = 70\text{-}100\text{ kA}$ $I_{max} = 250\text{ A}$ 3-4 P $U_o = 415\text{ Vac}$ (IEC/EN 60947-2)

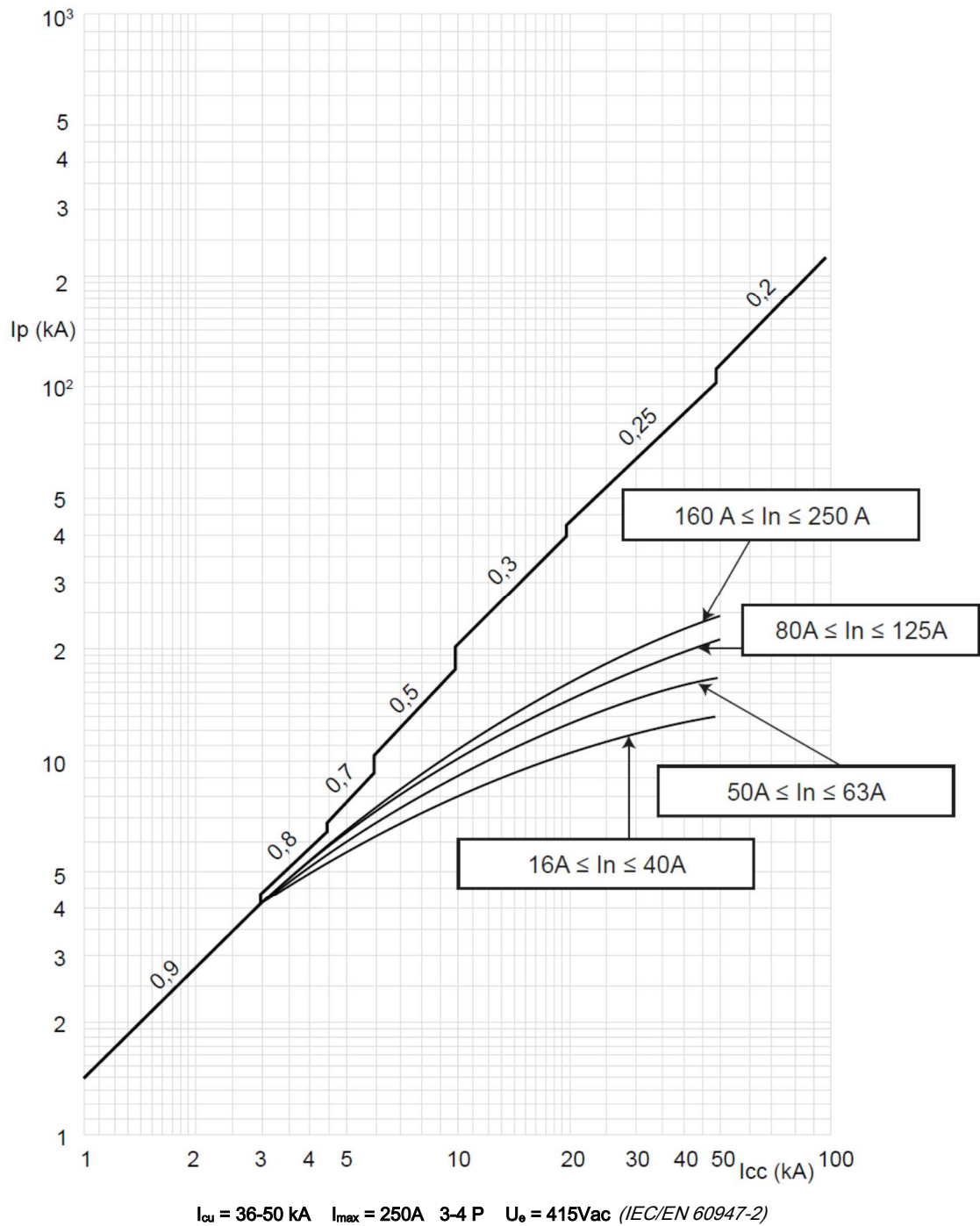
Value	Description
I_{cc}	short circuit current
I^2t (A^2s)	pass-through specific energy

Megatiker M3 250 Thermal magnetic and MS3 250 trip-free switches

Reference(s) :
see in the relative tables

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

Update: 08/01/2021



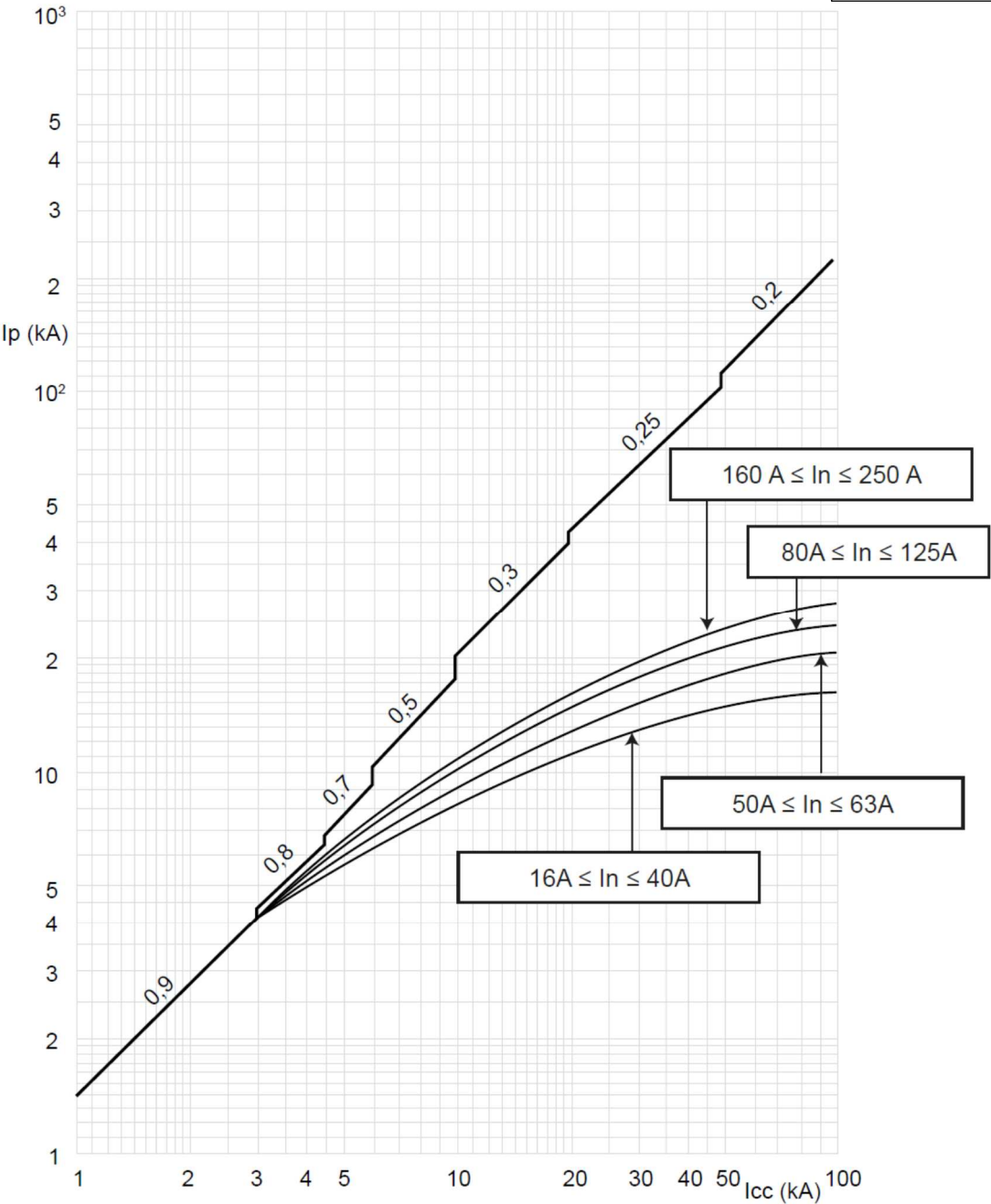
Value	Description
I_{cc}	estimated short circuit symmetrical current (RMS value)
I_p	maximum short circuit peak current
	maximum prospective short circuit peak current corresponding at the power factor
	maximum real peak short circuit current

Megatiker M3 250 Thermal magnetic and MS3 250 trip-free switches

Reference(s) :
see in the relative tables

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

Update: 08/01/2021



$I_{cu} = 70\text{--}100\text{ kA}$ $I_{max} = 250\text{ A}$ 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 250 Thermal magnetic and MS3 250 trip-free switches

Reference(s) :
see in the relative tables

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	250	1	250	1	250	1	255	0.90	213	0.85
Lugs, flexible cable	250	1	250	1	250	1	238	0.95	255	0.90
Spreaders, flexible cable	250	1	250	1	250	1	238	0.95	255	0.90
Plug-in/draw-out 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	250	1	255	0.90	255	0.90	213	0.85	188	0.75

For further technical information, please contact Legrand technical support.

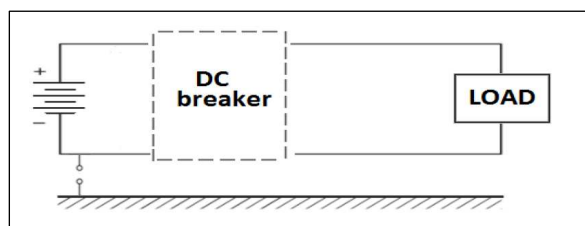
B) Use in DC

B.1 Circuit breakers: breaking capacity in DC (kA) (values estimates only)

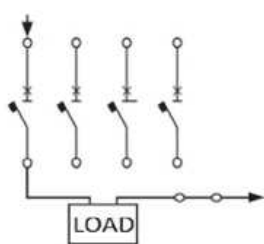
Applied to DC networks insulated from the ground
(this diagram applies to both 3P and 4P circuit breakers):

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 ÷ 250	35	36	35	10	36	10	10
50	16 ÷ 250	35	50	35	10	50	10	10

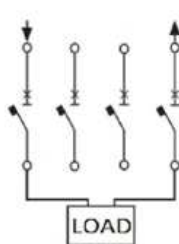
DC breaking capacity in the table respect the standards.
The positive tolerance is between 0% to 5% of voltage status.



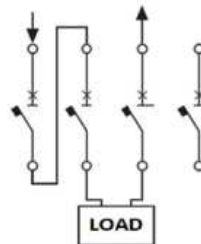
* Connection modality of the DC breaker:



1 pole



2 poles in series

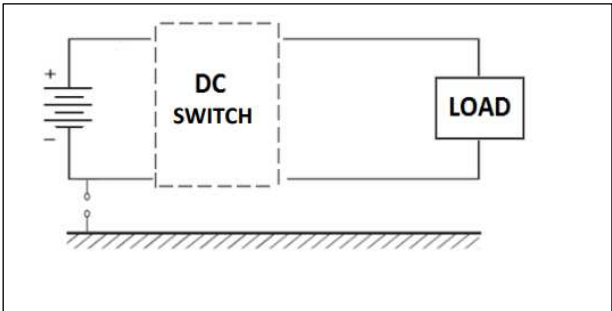


3 poles in series

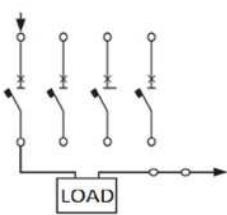
B.2 Switch disconnectors: category of use

	1 pole *	2 poles in series *		3 poles in series *	4 poles in series *
I _n (A)	60 V	110 V	250	500 V	750 V
250	DC23	DC23	DC23	DC23	DC23

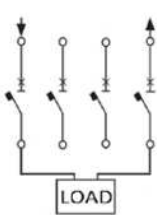
Applied to DC networks insulated from the ground



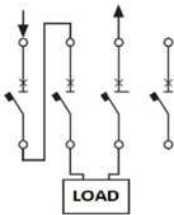
* Connection modality for DC switch disconnectors (polarity can be inverted):



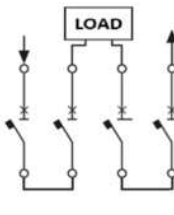
1 pole



2 poles in series



3 poles in series



4 poles in series

Data indicated in this document refers exclusively to test conditions according to product standards, unless otherwise indicated in the documentation.

For the different conditions of use of the product, inside electrical equipment or in any case inserted in the installation context, refer to the regulatory requirements of the equipment, local regulations and design specifications of the system