Viale Borri, 231, 21100 Varese, Italia
Phone:+39 0332 279111

Megatiker M4 Thermal magnetic and MS4 trip-free switches

Reference(s) :

T743F250/320/400/500/630; T744F250/320/400/500/630; T742F320/400/500/630; T743N250/320/400/500/630; T744N250/320/400/500/630; T742N320/400/500/630; T743H250/320/400/500/630; T744H250/320/400/500/630; T742H320/400/500/630; T743L250/320/400/500/630; T744L250/320/400/500/630; T742L320/400/500/630; T743S400; T744S400; T743S630; T744S630

CONTENTS

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

Circuit breakers

	M4					
	36 kA			50 kA		
I_n (A)	3P	4P	3P + N/2	3P	4P	3P + N/2
250	T743F250	T744F250	-	T743N250	T744N250	-
320	T743F320	T744F320	T742F320	T743N320	T744N320	T742N320
400	T743F400	T744F400	T742F400	T743N400	T744N400	T742N400
500	T743F500	T744F500	T742F500	T743N500	T744N500	T742N500
630	T743F630	T744F630	T742F630	T743N630	T744N630	T742N630
	70 kA			100 kA		
I_n (A)	3P	4P	3P + N/2	3P	4P	3P + N/2
250	T743H250	T744H250	-	T743L250	T744L250	-
320	T743H320	T744H320	T742H320	T743L320	T744L320	T742L320
400	T743H400	T744H400	T742H400	T743L400	T744L400	T742L400
500	T743H500	T744H500	T742H500	T743L500	T744L500	T742L500
630	T743H630	T744H630	T742H630	T743L630	T744L630	T742L630

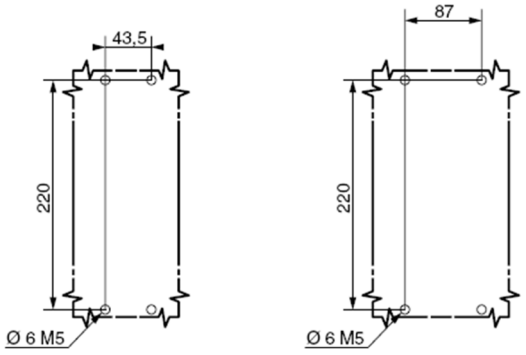
Switch disconnectors

MS4		
I_n (A)	3P	4P
400	T743S400	T744S400
630	T743S630	T744S630

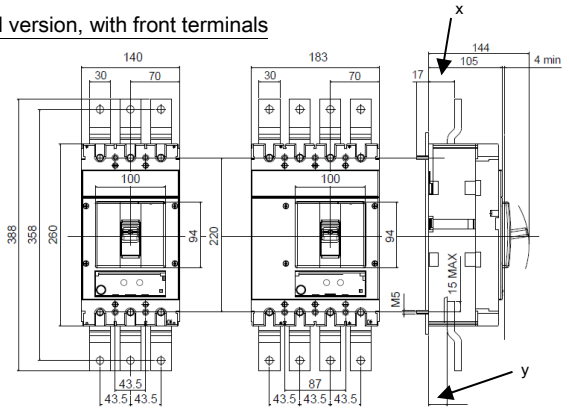
3. DIMENSIONS AND WEIGHTS

3.1 Dimensions

Implantation

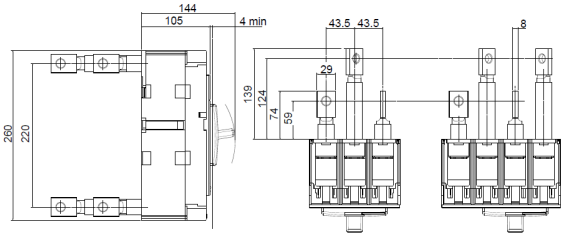


Fixed version, with front terminals



	I_n < 400	I_n ≥ 500 A
x	37	39
y	27	29

Fixed version, with flat rear terminal

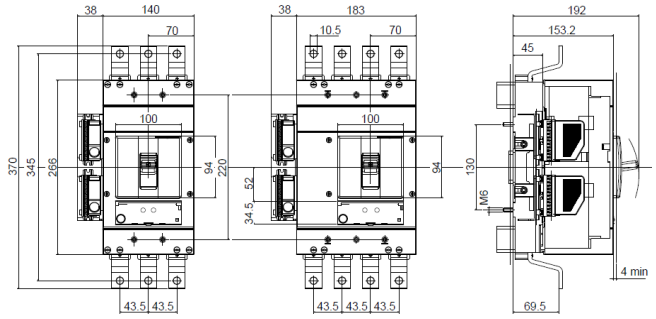


Megatiker M4 Thermal magnetic and MS4 trip-free switches

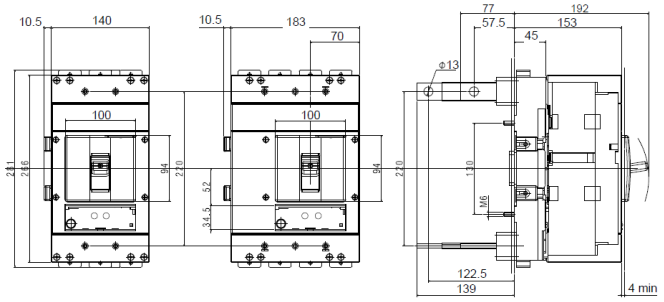
Reference(s) :

T743F250/320/400/500/630; T744F250/320/400/500/630; T742F320/400/500/630; T743N250/320/400/500/630; T744N250/320/400/500/630; T742N320/400/500/630; T743H250/320/400/500/630; T744H250/320/400/500/630; T742H320/400/500/630; T743L250/320/400/500/630; T744L250/320/400/500/630; T742L320/400/500/630; T743S400; T744S400; T743S630; T744S630

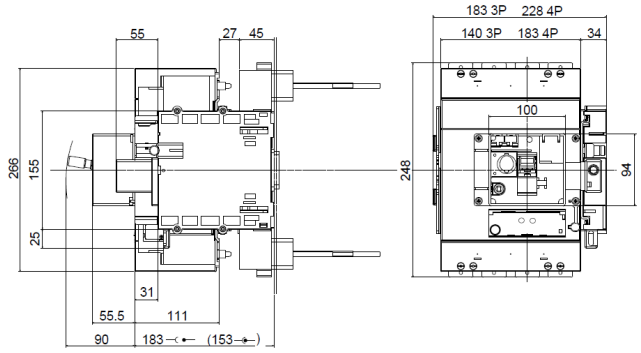
Plug-in version, with cage terminals



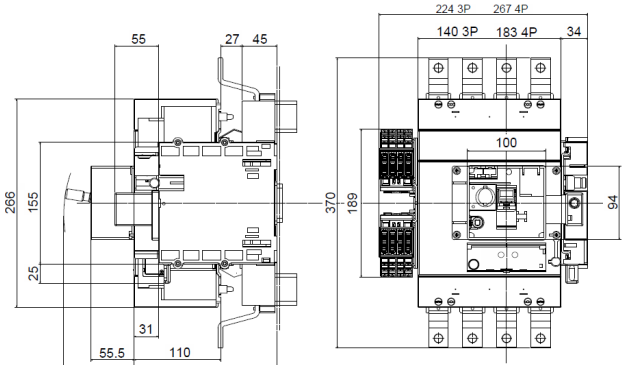
Plug-in version, without front terminals



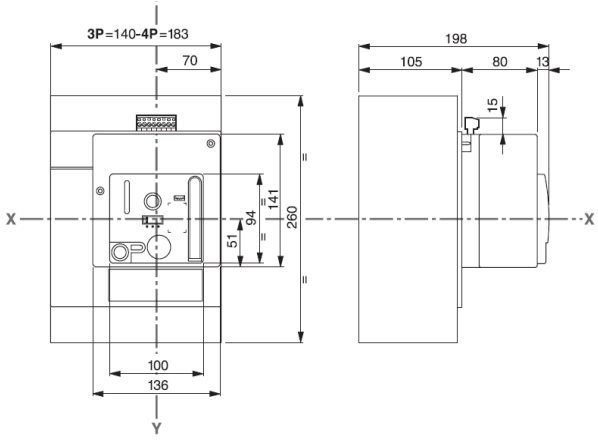
Draw-out version, flat rear terminals



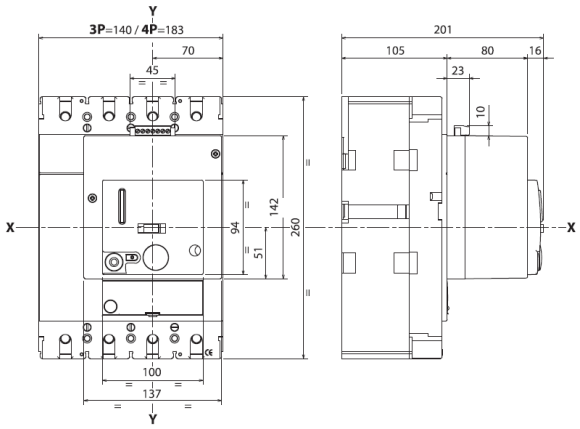
Draw-out version with sliding auxiliary contacts



Motor operator for synchronized operations (energy storage type)



Motor operator for general purpose operations (direct action type)



3.2 Weights

Configuration	Weights (Kg)			
	3P		4P	
	$I_n \leq 400A$	$I_n \geq 500A$	$I_n \leq 400A$	$I_n \geq 500A$
Circuit breaker (fixed version)	5.20	5.40	6.55	6.85
Switch disconnector (fixed version)	5.00	5.25	6.40	6.68
Plug-in (with front terminals)*	3.35	3.35	4.29	4.29
Plug-in (with rear terminals)*	3.55	3.55	4.79	4.79
Draw-out *	2.3	2.3	5.5	5.5
** to add to fixed version*				

4. OVERVIEW

4.1 Supplied with:

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

5. ELECTRICAL CONNECTIONS

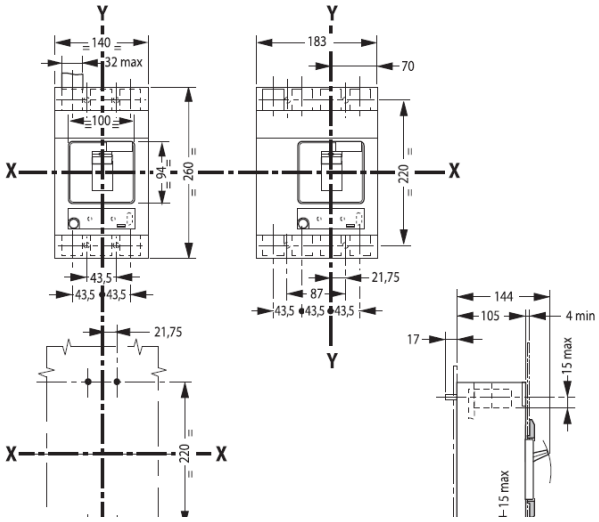
5.1 Mounting possibilities

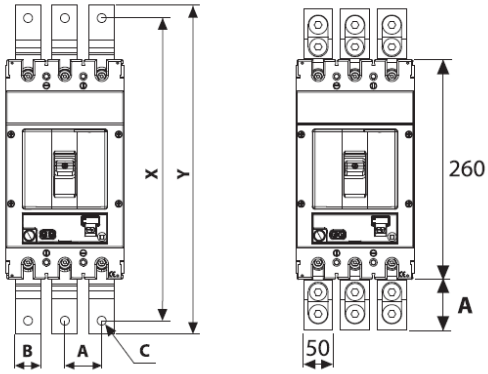
On plate:

- Vertical
- Horizontal
- Supply invertor type

5.2 Mounting

(see instruction sheet for detailed mounting procedures)

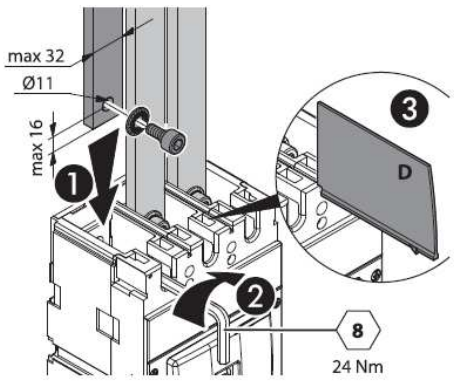


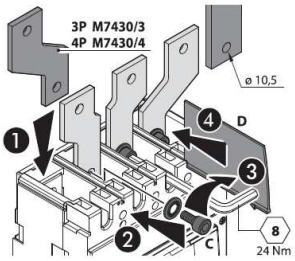


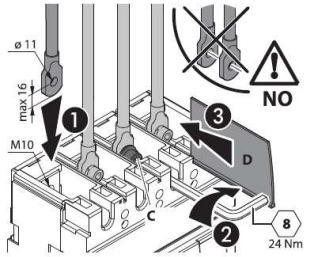
	A	B	C	X	Y
	43,5	30	10,5	358	388
	70	40	10,5	358	388

A	1,5	60,5

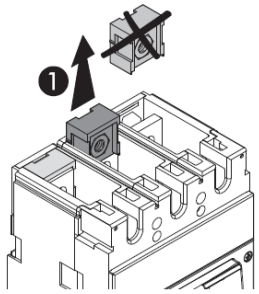
Busbars/cable lugs:

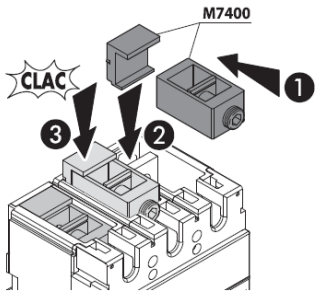


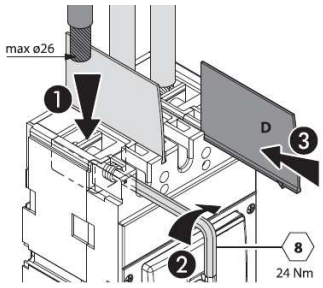


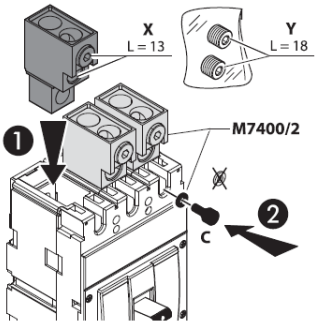


Cables:

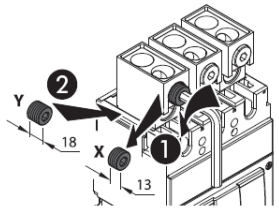


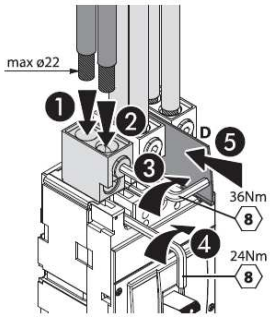






	X	Y
	13	18
Flexible Conductors	120÷185 mm²	50÷95 mm²
Rigid Conductors	150÷240 mm²	70÷120 mm²





6. ELECTRICAL AND MECHANICAL CHARACTERISTICS

Circuit breaker

Circuit Breaker	Megatiker M4 TM F/N/H/L (36kA, 50kA, 70kA, 100kA)
Rated current (A)	250, 320, 400, 500, 630
Poles	3 - 4
Pole pitch (mm)	42
Rated insulation voltage (50/60Hz) U_i (V)	800
Rated operating voltage (50/60Hz) U_e (V)	690
Rated impulse withstand current U_{imp}	8
Rated frequency (Hz)	50 - 60
Reference ambient temperature(°C)	40 - 50
Operating temperature (°C)	-25 ÷ 70
Mechanical endurance (cycles)	20000
Mechanical endurance with motor control	10000
Electrical endurance at I_n (cycles)	4000
Electrical endurance at 0.5 I_n (cycles)	8000
Utilization category	A
Suitable for isolation	Yes
Type of protection	Thermal-magnetic
Thermal adjustment I_r	(0.8 ÷1) x I_n
Magnetic adjustment I_i (A)	(5 ÷ 10) x I_n
Neutral protection for 4P (%I_{th} of phase pole)	100
Neutral protection for N/2 (A)	200 (I_n= 320A); 250 (I_n= 400A); 320 (I_n= 500A); 400 (I_n= 630A)
Dimensions (W x H x D) (mm)	140 x 260 x 105 (3P)
	183 x 260 x 105 (4P)
Maximum weight for fixed version (kg)	5.4 (3P)
	6.85 (4P)

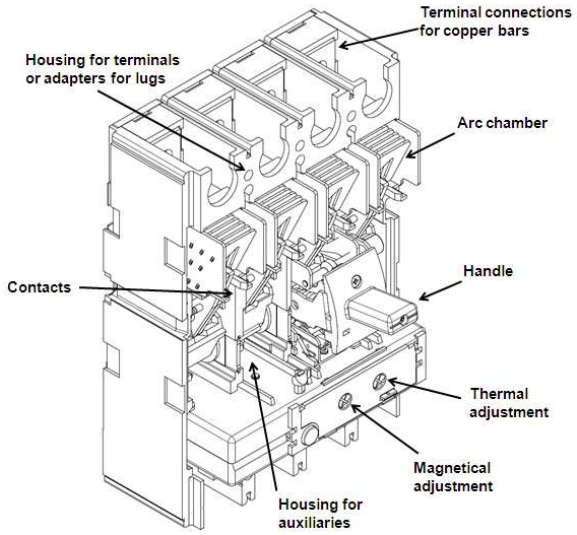
Switch disconnectors

Switch	Megaswitch MS4
Uninterrupted nominal current I_e (A)	400 - 630
Short-time resistive current I_{cw}(kA) for 1s	5 (400A) - 8 (630A)
Rated short-circuit making capacity I_{cm} (kA)	8(400A) - 14 (630A)
Rated insulation voltage U_i (V AC)	800
Maximum rated operating voltage U_e (V AC)	690
Rated impulse withstand voltage U_{imp} (kV)	8
Utilisation category	AC23A (400A) - AC22A (630A)
Suitable for isolation	Yes
Nominal frequency (Hz)	50-60
Operating temperature (°C)	-25 ÷ 70
Mechanical endurance (cycles)	20000
Mechanical endurance with motor control (cycles)	10000
Electrical endurance at I_n (cycles)	4000
Electrical endurance at 0.5 I_n (cycles)	8000
Dimensions (W x H x D) (mm)	140 x 260 x 105 (3P)
	183 x 260 x 105 (4P)
Maximum weight for fixed version (kg)	5.25 (3P)
	6.68 (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)
	240 V AC	70	100	105	150
	415 V AC	36	50	70	100
	500 V AC	25	30	40	50
	690 V AC	14	18	20	22
	250 V DC	35	35	35	35
	I_{cs}(% I_{cu})	100	100	100	70
	Rated making capacity under short circuit I_{cm}				
	I_{cm} (kA) at 415V	76.5	105	154	220
NEMA AB-1	240 V AC	70	100	105	150
	500 V AC	25	30	40	50
	690 V AC	14	18	20	22

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

	Phases limit trip current			
	thermal (I_r)		magnetic (I_i)	
I_n (A)	0.8 x I_n	1 x I_n	5 x I_n	10 x I_n
250	200	250	1250	2500
320	256	320	1600	3200
400	320	400	2000	4000
500	400	500	2500	5000
630	504	630	3150	6300

** For neutral adjustment, as explained in technical sheet, please consider the values ratios 100% on set currents.*

6.4 Load operations

Force on handle	In ≤ 400A	In ≥ 500A
Opening operation (N)	80	130
Closing operation (N)	180	210
Restore operation (N)	145	200

6.5 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.

6.6 Power losses per pole under I_n

Circuit breaker

	Power losses per pole (W)									
	I_n (A)									
	250		320		400		500		630	
	Phase	Neutral	Phase	Neutral	Phase	Neutral	Phase	Neutral	Phase	Neutral
Cage terminals	19.2	19.2	16.4	16.5	25.6	18.9	23.6	28.7	37.3	21.2
Lugs	19.2	19.2	16.4	16.5	25.6	18.9	23.6	28.7	37.3	21.2
External lugs	19.9	19.9	17.6	16.8	27.5	19.7	26.6	30.0	42.1	23.1
Spreaders	20.6	20.6	18.8	17.1	29.3	20.4	28.2	30.6	44.7	24.1
Rear terminals	20.4	20.4	18.4	17.0	28.7	20.2	28.5	30.7	45.0	24.3
Plugin version	26.7	26.7	28.8	19.6	44.9	26.5	53.9	41.1	85.3	40.5
Circuit breaker + RCD	22.3	22.3	21.5	17.7	33.6	22.1	36.1	33.8	57.2	29.2

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)			
	400		630	
	Phase	Neutral	Phase	Neutral
Cage terminals	25.6	25.6	37.3	37.3
Lugs	25.6	25.6	37.3	37.3
External lugs	27.5	27.5	42.1	42.1
Spreaders	29.3	29.3	44.7	44.7
Rear terminals	28.7	28.7	45.0	45.0
Plugin version	44.9	44.9	85.3	85.3
Circuit breaker + RCD	33.6	33.6	57.2	57.2

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.

6.7 DERATINGS

6.7.1 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)	10	20	30	40	50	60	70
250	336	307	279	250	250	222	193
320	416	384	352	320	320	288	256
400	475	460	425	400	400	360	320
500	600	550	525	500	500	455	410
630	700	683	650	630	630	580	530

For derating temperature with other configurations, see table A.

6.7.2 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 M4 circuit breakers, according to IEC/EN 60947-2 Annex F

Pollution degree

for Megatiker M4 circuit breakers, degree 3, according to IEC/EN 60947-2

6.7.3 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

6.7.4 Use in DC

See table B.

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.

.

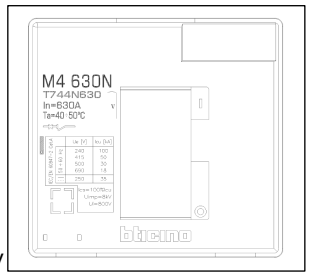
For specific information, please contact Legrand support.

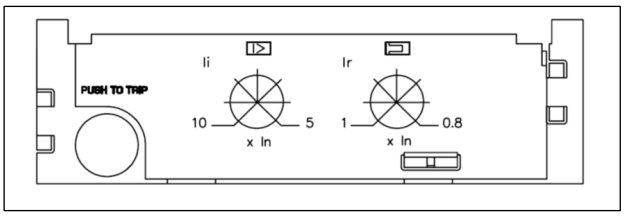
7.1 Marking

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

Product laser label on front

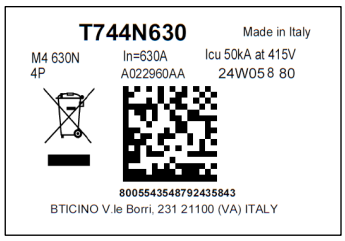
- -Manufacturer responsible
- -Denomination, type product, code
- -Standard conformity
- -Standard characteristics declared
- -coloured identification of I_{cu} at 415V





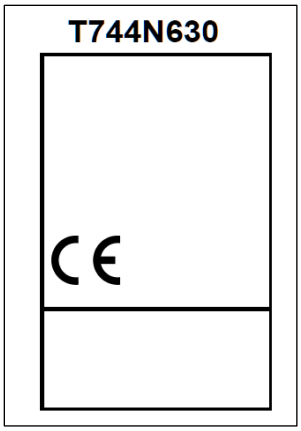
Product sticker label on side

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



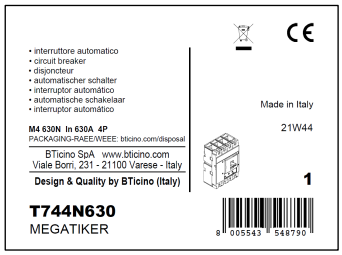
Mark sticker label on side

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



Packaging sticker label

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



8. EQUIPMENTS AND ACCESSORIES

8.1 Earth leakage modules

Earth leakage characteristics for Megatiker M4		
	Standard	with Led
Type	A - S	A - S
Uninterrupted nominal current I_u (A)	up to 630	up to 630
Rated isolated voltage U_i (V AC)	500	500
Rated operating voltage U_e (V AC) (50-60Hz)	500	500
Operating voltage (V AC) (50-60Hz)	230 ÷ 500	110 ÷ 500
Nominal frequency (Hz)	50 - 60	50 - 60
Operating temperature (°C)	-25 ÷ 70	-25 ÷ 70
Trip	electronic	electronic
Earth leakage time adjustments (s)	0 - 0.3 - 1 - 3	0 - 0.3 - 1 - 3
Earth leakage breaking capacity I_{dm} (% I_{cu})	60	60
Earth leakage protection adjustments $I_{\Delta n}$ (A)	0.03 ÷ 3	0.03 ÷ 3
Side-by-side mounting	no	no
Underneath mounting	yes	yes
50% Earth fault detection contact I_{dn}	no	yes
Clip on rail DIN 35	no	no
Dimensions (W x H x D) (mm) for 4P	183 x 152 x 105	183 x 152 x 106

(Power losses, see par. 5.4)

Standard
I_n <= 400A 4P ref. T7082/400
I_n = 500A-630A 4P ref .T7092/630

LED version
400A 4P ref. T7081/400
I_n <=500A-630A 4P ref. T7091/630

8.2 Releases (for Megatiker M4 and M5)

- shunt releases with voltage:

24 Vac and dc ref. M7C024
48 Vac and dc ref. M7C048
110÷130 Vac and dc ref. M7C110
220÷250 Vac and dc ref. M7C230
380÷440 Vac and dc ref. M7C400

Shunt releases electrical characteristics	
Rated voltage (U_c)	**Both ac and dc: 24V/48V/110÷130V/220÷250V/380÷440V**
Voltage range (%U_c)	**70 ÷ 110**
Intervention time (ms)	**≤ 50**
Power consumption (W/VA)	**300**
Minimum opening time (ms)	**50 ms**
Insulation voltage (kV)	**2,5**

- undervoltage releases with voltage:

24 V dc ref. M7T024C
24 V ac ref. M7T024
48 V dc ref. M7T048C
110 - 125 V ac ref. M7T110
220 - 240 V ac ref. M7T230
380 - 415 V ac ref. M7T400

Undervoltage relases electrical characteristics	
Rated voltage (U_c)	**ac: 24V/110÷125V/220÷240V/380÷415V dc: 24V/48V**
Voltage range (%U_c)	**85 ÷ 110**
Minimum opening time (ms)	**50**
Power consumption (W/VA)	**1.6 / 5**

- time-lag undervoltage releases (800 ms)

Time-lag modules with voltage:

24 V ac/dc ref. M7000E/024
230 V ac ref. M7000MR/230
400 V ac ref. M7000MR/400

Universal Release ref. M7TMEV
(to be equipped with a time-lag module *M7000MR/230/400*)

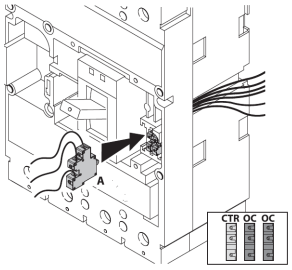
8.3 Auxiliary contacts (for Megatiker M4 and M5)

Changeover switch 3A – 250 VAC ref. M7X01

To show the state of the contacts or opening of the Megatiker on a fault:
- Auxiliary contact (standard) **OC**
- Fault signal **CTR**

Auxiliary contact electrica 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:
M4/MS4 → 2 auxiliary contacts + 1 fault signal + 1 release



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

8.4 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

8.4 Rotary handles

Direct on Megatiker (with auxiliary option)

- Standard (black) ref. M7447
- For emergency use (red / yellow) adapting on standard handle ref. M7R14

Vari-depth handle IP55 (with auxiliary option)

- Standard (black) ref. T7449
- For emergency use (red / yellow) adapting on standard handle ref. T7449E

Locking accessories (for vary-depth handle with auxiliary option)

- Key lock accessory for vari-depth rotary handle ref. M7R17

Ref. M7R17 must be used with universal keylocks to get the complete locking kit for rotary handle

8.5 Motor operators (front operated)

For general purpose operations (direct action type):

- 230 V ac ref. M74D230

For synchronized operations (energy storage type):

- 24 V ac and dc ref. M7475P/024
- 48 V ac and dc ref. M7475P/048
- 110 V ac ref. M7475P/110*
- 230 V ac ref. M7475P/230 *

*DC versione by request

	M74D230		M7475P/024-048-110-230	
Type	Direct drive		Energy storage	
Rated operating voltage (U_L) - AC	230V AC 50-60 Hz		24 - 48 - 230	
Rated operating voltage (U_L) - DC	230V AC 50-60 Hz		24 - 48 - 230	
Voltage range (%Uc)	85÷110		85÷110	
	Opening	Closing	Opening	Closing
Pick-up consumption (W / VA)	240	200	300	300
Hold consumption (W / A)	80	120	300	300
Operating time / complete electric operation (ms)	450	550	2000	100
Operating time / main contacts change position (ms)	270	550	n/a	n/a
Mechanical endurance (O-C cycles) @I_n = 630A	10000		n/a	
Electrical endurance (O-C cycles) @I_n = 630A	4000		4000	
Cycles / minutes	up to 8 automatic open/close operations in a row		10	4

Locking accessories

- Key lock accessory for motor operator ref. M7M406

Ref. M7M406 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. M7045
- Insulated shields (phase insulators) ref. M7295
- Sealable terminal shields:
  - Set of 2 (for 3P) ref. M7475
  - Set of 3 (for 4P) ref. M7476
- Terminal covers to guarantee IP20:
  - Set of 2 (for 3P) ref. M7C11
  - Set of 3 (for 4P) ref. M7C12

8.7 Connection accessories

Cage terminals

- Set of 4 terminals for cables 300 mm² max (rigid) or 240 mm² max (flexible) Cu/Al ref. M7400
- Set of 4 high-capacity terminals for cables 2x240 mm² max (rigid) or 2x185 mm² max (flexible) Cu/Al ref. M7400/2

Extended front terminals

- Set of 4 ref. M7430

Spreaders *(incoming or outcoming):*

- Set of 2 (for 3P) ref. M7430/3
- Set of 3 (for 4P) ref. M7430/4

Rear terminals *(incoming or outcoming):*

(used to convert the fixed version with front terminals into the fixed version with rear terminals)

- for 3P ref. M7450/P
- for 4P ref. M7451/P

Cage terminal use specifications

Megatiker M4							
Type of cage terminal	***Cable standard suggested cross section (mm²)****			***Dimensions limits of cable for cage terminals***			
	In (A)	Cu	Al	MIN cross section (mm²)		MAX cross section (mm²)	
				Flexible	Rigid	Flexible	Rigid
Standard	250	120	185	6	4	240	300
	320	185	\				
	400	240	\				
	500	\	\				
	630	\	\				
High capacity	250	120	185	70	35	185	240
	320	185	2x120				
	400	240	2x150				
	500	2x150	2x240				
	630	2x185	\				

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

8.8 Plug-in version

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

Special terminals for plug-in / draw-out base
(for incoming and outcoming terminals)

- Set of 6 terminals (3P) *ref.* M7B11
- Set of 8 terminals (4P) *ref.* M7B12

Bases
(accept DPX³/DPX³-I fitted with special terminals)

- Front terminal mounting base for 3P ref. M7B13
- Front terminal mounting base for 4P ref. M7B14
- Flat rear terminal mounting base for 3P ref. M7B15
- Flat rear terminal mounting base for 4P ref. M7B16

Bases for breakers with mounted earth leakage module

- Front terminal mounting base for 4P ref. M7B17
- Flat rear terminal mounting base for 4P ref. M7B18

Accessories

- Set of 2 extractor handle ref. M7B19
- Set of connectors (24-pin) ref. M7B20

8.9 Draw-out version

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

"Debro-lift" mechanism
(supplied with a rigid slide and handle for drawing-out)

- For base only (3P) ref. M7B22
- For base only (4P) ref. M7B23
- For base with earth leakage module (4P) ref. M7B24

Keylock for "Debro-lift" mechanism

- One key for Megatiker only

(enable locking in draw - out position)

- Key lock accessory for draw-out (frontal masks for motor operator or rotary handle) ref. M7B40
- Key lock accessory for draw-out ref. M7B38

Ref. M7B40 *and* M7B38 *must be used with universal keylocks to get the complete locking kit for draw-out version*

Accessories for "Debro-lift" mechanism

- Signalling contact (plugged-in / draw-out) ref. MT7910N
- Handle for drawing - out ref. MT7412

Auxiliary contacts

- Automatic auxiliary contacts for draw-out version ref. M7B21

(up to 2 contacts by Megatiker)

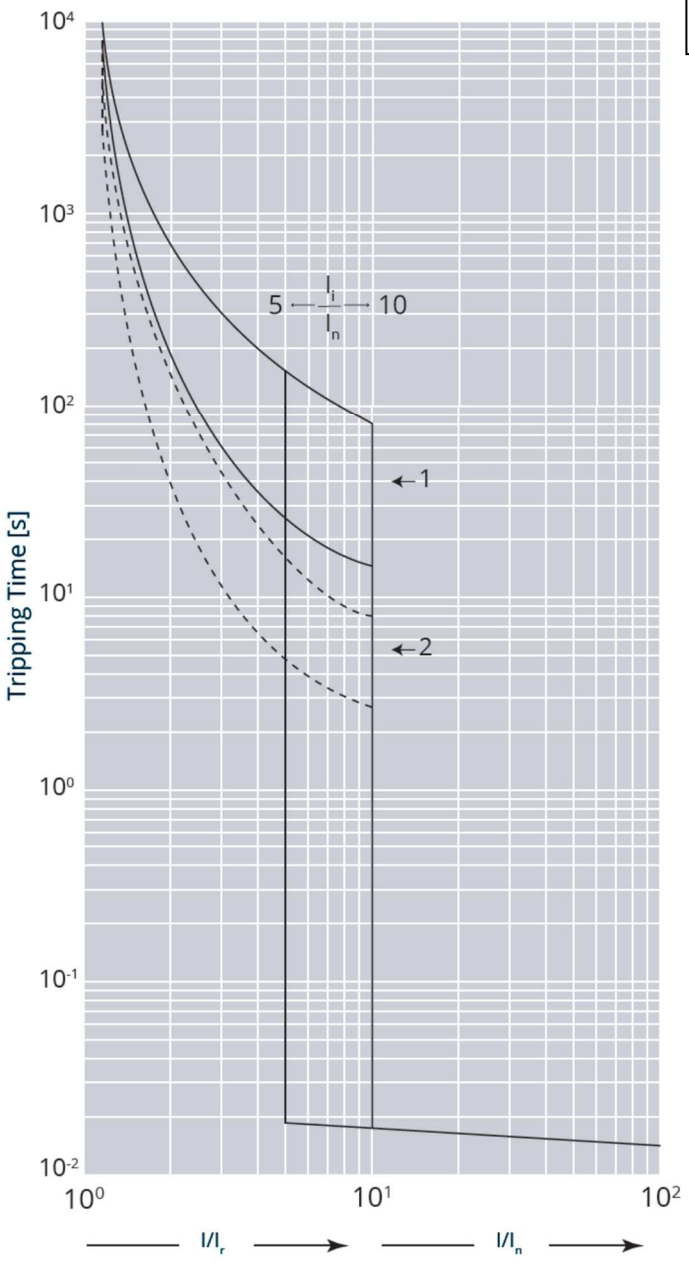
Plate for transfer switches *(factory assembled)*
(A transfer switch plate is composed of one plate with interlock for 2 devices)

- Plate for breaker or trip-free switch fixed version ref. M7197N

9. CURVES

9.1 Thermal magnetic tripping curve

Update: 02/07/2018

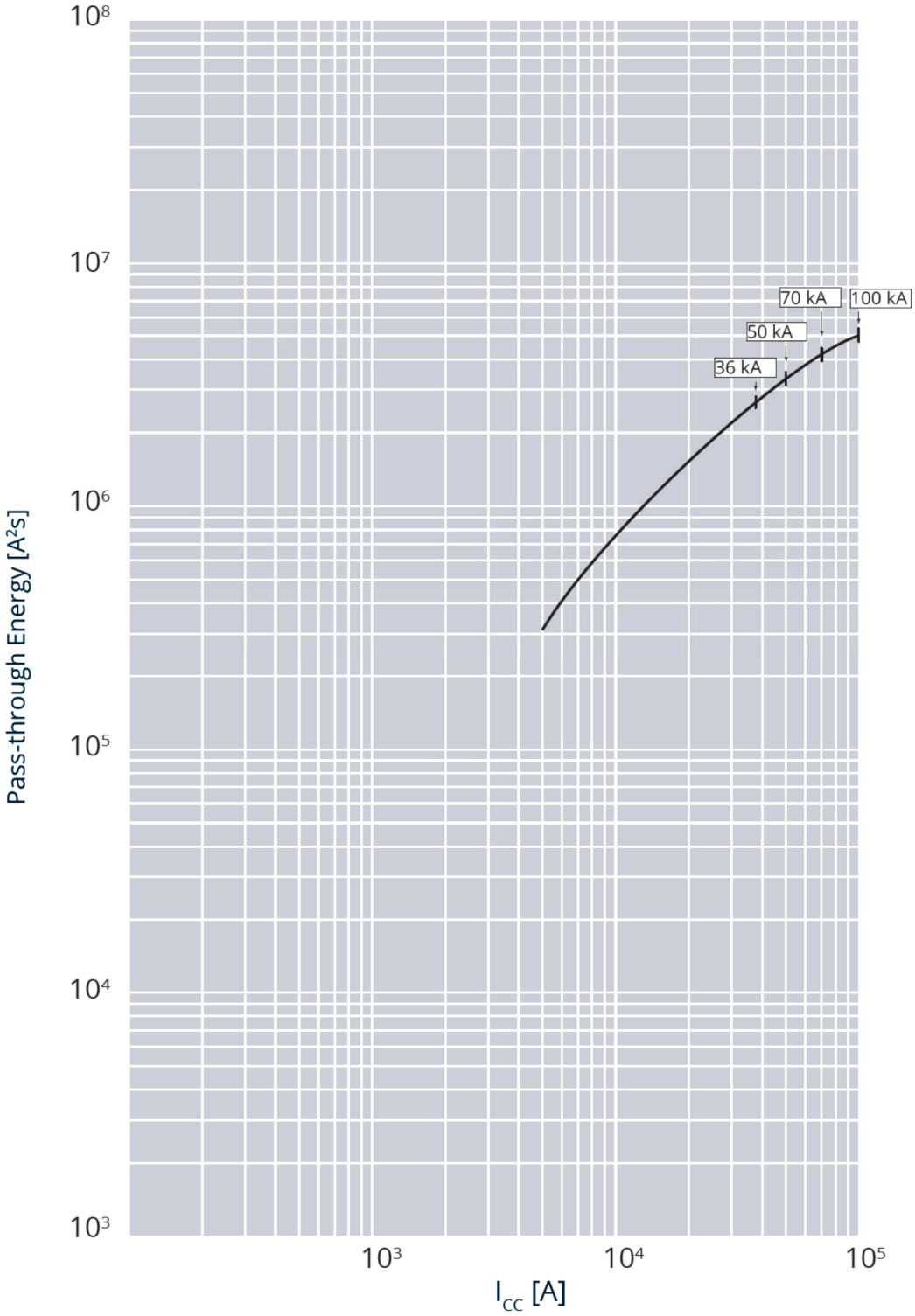


I_{cu} = 36-50-70-100 kA I_{max} = 630A 3-4 P U_e = 415Vac *(IEC/EN 60947-2)*

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 Pass-through specific energy characteristic curve

Update: 03/07/2018

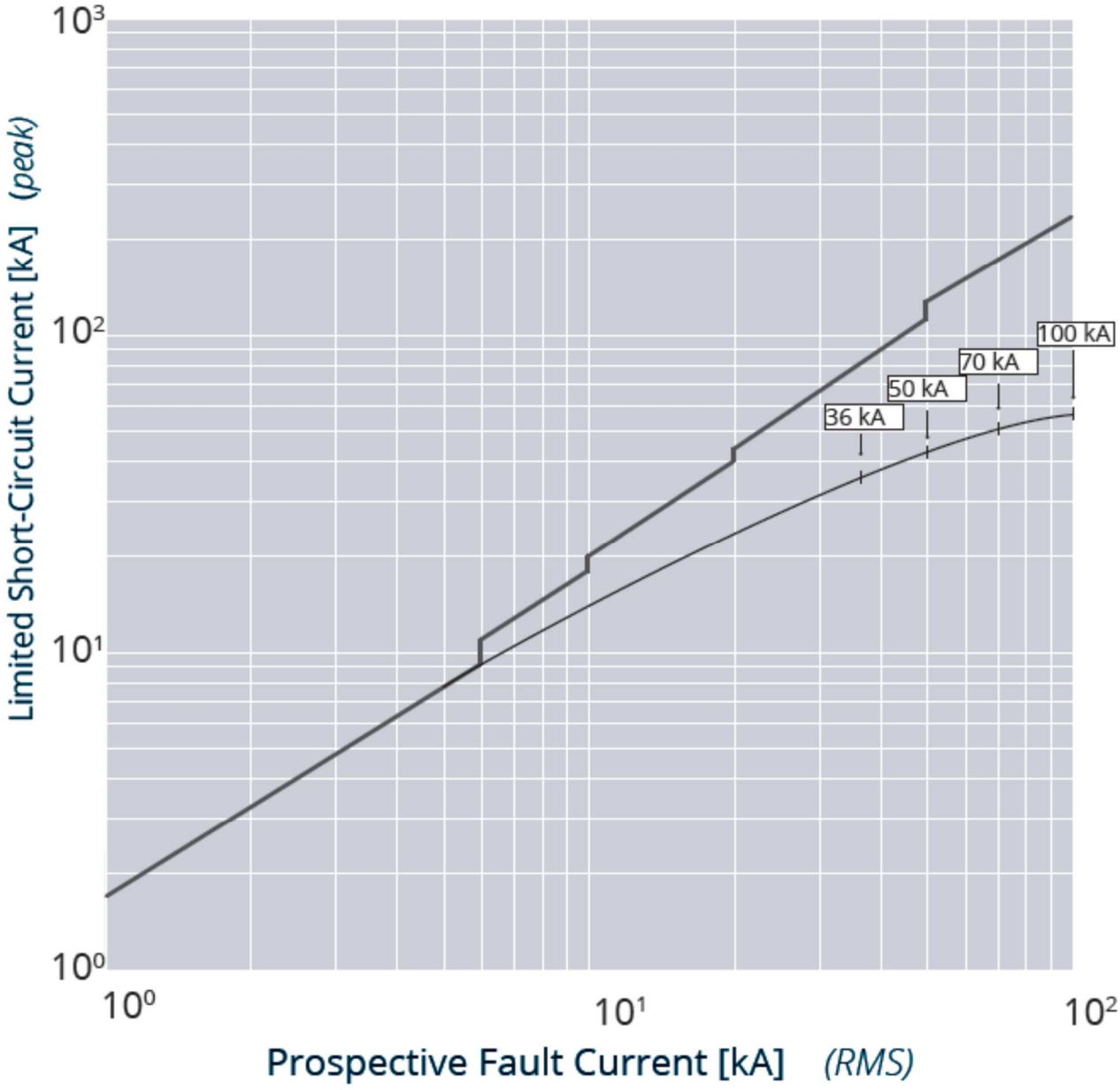


I_{cu} = 36-50-70-100 kA I_{max} = 630A 3-4 P U_e = 415Vac *(IEC/EN 60947-2)*

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

9.3 Cut-off peak current characteristic curve (kA)

Update: 02/07/2018



I_{cu} = 36-50-70-100 kA I_{max} = 630A 3-4 P U_e = 415Vac *(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 M4 Thermal magnetic and MS4 trip-free switches

Reference(s) :

T743F250/320/400/500/630; T744F250/320/400/500/630; T742F320/400/500/630; T743N250/320/400/500/630; T744N250/320/400/500/630; T742N320/400/500/630; T743H250/320/400/500/630; T744H250/320/400/500/630; T742H320/400/500/630; T743L250/320/400/500/630; T744L250/320/400/500/630; T742L320/400/500/630;

A) Derating Temperature and configurations

		Ambient temperature											
		30 °C		40 °C		50 °C		60 °C		65 °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	I_{max} (A)	I_r / I_n
DPX³ 630 fixed	Cage terminals, flexible cable	630	1	630	1	630	1	599	0.95	567	0.9	536	0.85
	Lugs, flexible cable	630	1	630	1	630	1	599	0.95	567	0.9	536	0.85
	Lugs, rigid cable	630	1	630	1	630	1	599	0.95	567	0.9	536	0.85
	Spreaders, flexible cable	630	1	630	1	630	1	599	0.95	504	0.8	473	0.75
	Spreaders, Cu bars	630	1	630	1	630	1	567	0.9	536	0.85	504	0.8
	Rear flat staggered terminals, flexible cable	630	1	630	1	630	1	599	0.95	504	0.8	473	0.75
	Rear flat staggered terminals, Cu bars, vertical	630	1	630	1	630	1	567	0.9	536	0.85	504	0.8
DPX³ 630 fixed + RCD	Cage terminals, flexible cable + RCD	599	0.95	567	0.9	567	0.9	504	0.8	473	0.75	441	0.7
	Lugs, flexible cable + RCD	599	0.95	567	0.9	567	0.9	504	0.8	473	0.75	441	0.7
	Lugs, rigid cable + RCD	599	0.95	567	0.9	567	0.9	504	0.8	473	0.75	441	0.7
	Spreaders, flexible cable + RCD	536	0.85	536	0.85	536	0.85	473	0.75	410	0.65	378	0.6
	Spreaders, Cu bars + RCD	567	0.9	536	0.85	536	0.85	504	0.8	441	0.7	378	0.6
	Rear flat staggered terminals, flexible cable + RCD	567	0.9	567	0.9	567	0.9	473	0.75	410	0.65	378	0.6
	Rear flat staggered terminals, Cu bars, vertical + RCD	567	0.9	567	0.9	567	0.9	504	0.8	441	0.7	378	0.6
	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	I_{max} (A)	I_r / I_n
DPX³ 630 draw-out	Cage terminals, flexible cable	599	0.95	567	0.9	536	0.85	504	0.8	473	0.75	441	0.7
	Rear flat terminals, flexible cable	599	0.95	567	0.9	536	0.85	504	0.8	473	0.75	441	0.7
	Rear flat terminals, Cu bars, vertical	599	0.95	567	0.9	536	0.85	504	0.8	473	0.75	441	0.7
DPX³ 630 draw-out + RCD	Cage terminals, flexible cable + RCD	536	0.85	504	0.8	473	0.75	441	0.7	410	0.65	378	0.6
	Cage terminals, Cu bars + RCD	536	0.85	504	0.8	473	0.75	441	0.7	410	0.65	378	0.6
	Rear flat terminals, flexible cable + RCD	536	0.85	504	0.8	473	0.75	441	0.7	410	0.65	378	0.6
	Rear flat terminals, Cu bars, vertical + RCD	536	0.85	504	0.8	473	0.75	441	0.7	410	0.65	378	0.6

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)*

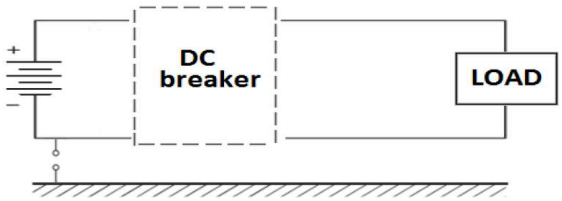
		1 pole *	2 poles in series *			3 poles in series *		
I_{cu} (kA)	I_n (A)	60 V	60 V	110 V	250 V	110 V	250 V	500 V
36	**250 ÷ 630**	35	35	35	35	35	35	35
50	**250 ÷ 630**	50	50	50	50	50	50	50
70	**250 ÷ 630**	70	70	70	70	70	70	70
100	**250 ÷ 630**	100	100	100	70	100	70	70

DC breaking capacity in the table respect the standards.

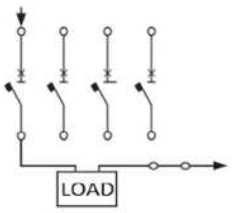
The positive tolerance is between 0% to 5% of voltage status.

Applied to DC networks insulated from the ground

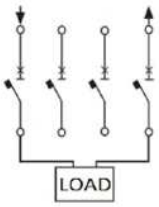
(*this diagram applies to both 3P and 4P circuit breakers):*



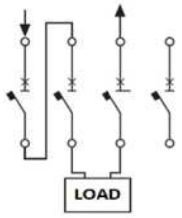
* *Connection modality of the DC breaker:*



1 pole



2 poles in series

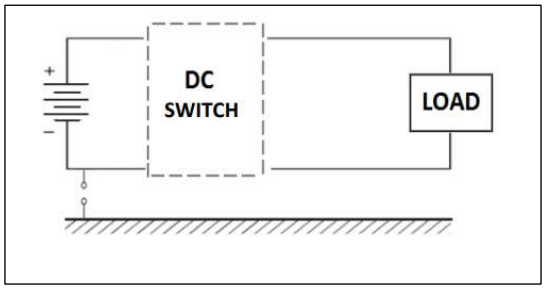


3 poles in series

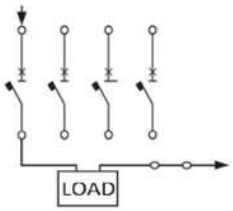
B.2 Switch disconnectors: category of use

Applied to DC networks insulated from the ground

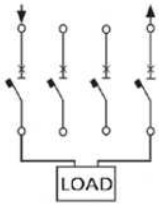
	1 pole *	2 poles in series *		3 poles in series *	4 poles in series *
I_n (A)	60 V	110 V	250	500 V	750 V
400	DC23	DC23	DC23	DC23	DC23
630	DC23	DC23	DC23	DC23	DC23



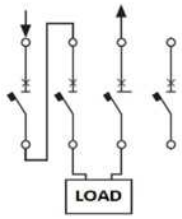
** Connection modality for DC switch disconnectors (polarity can be inverted):*



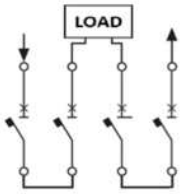
1 pole



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