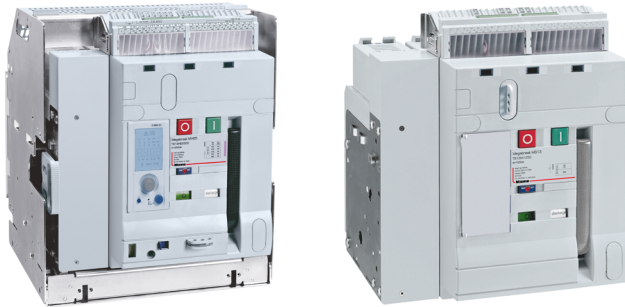


# Megabreak 2500 circuit breakers (with configurable protection unit) and trip-free switches

**Cat.Nos:**  
see relative tables part.2



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## 1. USE

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

Megabreak offers a series of trip-free switches (I series) also, with high performances of insulation, robustness, closing and withstand capability.

Both series are furthermore developed for increase continuity service looking at the plant energy efficiency and in respect of "green aspects" (see part 10. Conformity).

## 2. RANGE

### ■ 2.1 Megabreak circuit breakers up to 2500 A fixed version with configurable protection unit

In (A)	50 kA		65 kA		100 kA	
	3P	4P	3P	4P	3P	4P
<b>630</b>	T813A630	T814A630	T813H630	T814H630	T813L630	T814L630
<b>800</b>	T813A800	T814A800	T813H800	T814H800	T813L800	T814L800
<b>1000</b>	T813A1000	T814A1000	T813H1000	T814H1000	T813L1000	T814L1000
<b>1250</b>	T813A1250	T814A1250	T813H1250	T814H1250	T813L1250	T814L1250
<b>1600</b>	T813A1600	T814A1600	T813H1600	T814H1600	T813L1600	T814L1600
<b>2000</b>	T813A2000	T814A2000	T813H2000	T814H2000	T813L2000	T814L2000
<b>2500</b>	T813A2500	T814A2500	T813H2500	T814H2500	T813L2500	T814L2500

### ■ 2.2 Megabreak circuit breakers up to 2500 A draw-out version with configurable protection unit

In (A)	50 kA		65 kA		100 kA	
	3P	4P	3P	4P	3P	4P
<b>630</b>	T813AE630	T814AE630	T813HE630	T814HE630	T813LE630	T814LE630
<b>800</b>	T813AE800	T814AE800	T813HE800	T814HE800	T813LE800	T814LE800
<b>1000</b>	T813AE1000	T814AE1000	T813HE1000	T814HE1000	T813LE1000	T814LE1000
<b>1250</b>	T813AE1250	T814AE1250	T813HE1250	T814HE1250	T813LE1250	T814LE1250
<b>1600</b>	T813AE1600	T814AE1600	T813HE1600	T814HE1600	T813LE1600	T814LE1600
<b>2000</b>	T813AE2000	T814AE2000	T813HE2000	T814HE2000	T813LE2000	T814LE2000
<b>2500</b>	T813AE2500	T814AE2500	T813HE2500	T814HE2500	T813LE2500	T814LE2500

### ■ 2.3 Megabreak trip-free switches up to 2500 A fixed/draw-out version

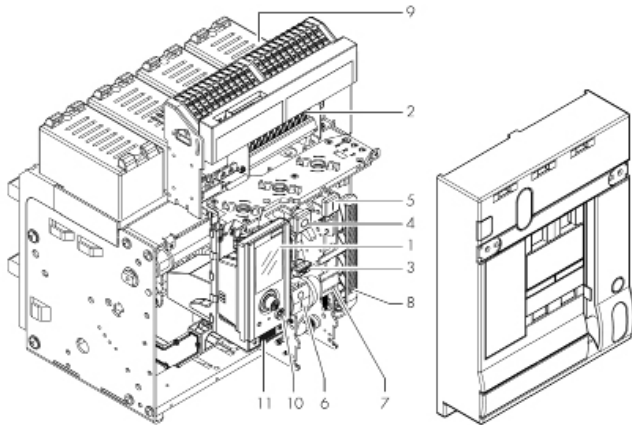
In (A)	Fixed version		Draw-out version	
	3P	4P	3P	4P
<b>1250</b>	T813M1250	T814M1250	T813ME1250	T814ME1250
<b>1600</b>	T813M1600	T814M1600	T813ME1600	T814ME1600
<b>2000</b>	T813M2000	T814M2000	T813ME2000	T814ME2000
<b>2500</b>	T813M2500	T814M2500	T813ME2500	T814ME2500

**2. RANGE (continued)**

**■ 2.4 Composition**

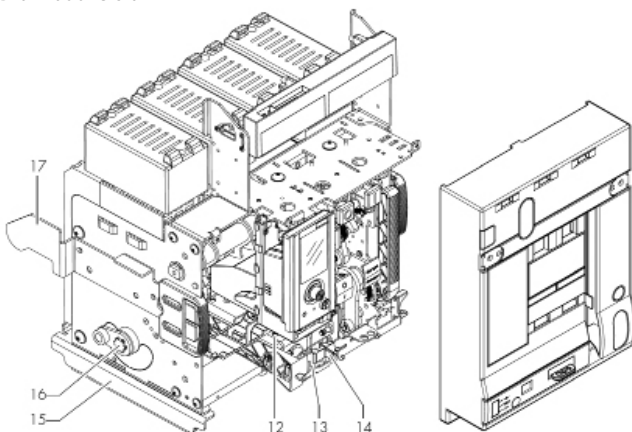
**Main parts constituting the circuit breaker**

Fixed version



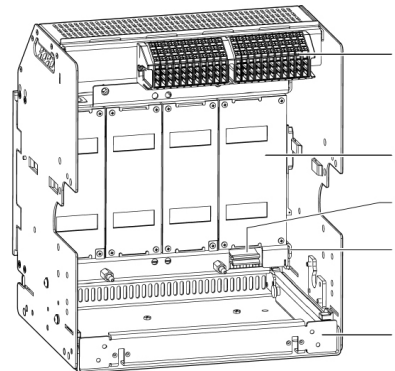
1. Protection Unit
2. Auxiliary contacts
3. Reset button
4. OFF button
5. ON button
6. ON-OFF Indication
7. Spring status indication
8. Charging handle
9. Dejon cell
10. Mini USB cover
11. Battery cover

Draw-out version



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

Draw-out base



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

Megabreak are equipped with auxiliary contacts (2 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.

**3. TECHNICAL CHARACTERISTICS**

**■ 3.1 Electrical characteristics**

- Circuit breaker

	<b>Megabreak 2500</b>			
	<b>50 kA</b>	<b>65 kA</b>	<b>100 kA</b>	
Frame current	2500 A			
Rated current I <sub>n</sub>	630 A/800 A/1000 A/1250 A 1600 A/ 2000 A/2500 A			
Poles	3P - 4P			
Rated insulation voltage U <sub>i</sub>	1000 V			
Rated impulse withstand voltage U <sub>imp</sub>	12 kV			
Rated operational voltage (50/60Hz) U <sub>e</sub>	690 V			
Rated ultimate short-circuit breaking capacity I <sub>cu</sub> (kA)	220/240 V~	50	65	100
	380/415 V~	50	65	100
	440/460 V~	50	65	100
	480/500 V~	50	65	100
	480/550 V~	50	65	75
	600 V~	50	65	75
	690 V~	50	55	65
Rated service short-circuit breaking capacity I <sub>cs</sub> (% I <sub>cu</sub> )	100%			

**3. TECHNICAL CHARACTERISTICS (continued)**

**■ 3.1 Electrical characteristics (continued)**

**- Circuit breaker (continued)**

		Megabreak 2500		
		50 kA	65 kA	100 kA
Rated short-circuit making capacity I <sub>cm</sub> (kA)	220/240 V~	105	143	220
	380/415 V~	105	143	220
	440/460 V~	105	143	220
	480/500 V~	105	143	220
	480/550 V~	105	132	165
	600 V~	105	132	165
	690 V~	105	121	143
Rated short time withstand current I <sub>cs</sub> (kA) for t = 1s	220/240 V~	50	65	85
	380/415 V~	50	65	85
	440/460 V~	50	65	85
	480/500 V~	50	65	85
	600 V~	50	60	75
	690 V~	50	55	65
Rated short time withstand current I <sub>cs</sub> (kA) for t = 3s	220/240 V~	45	45	65
	380/415 V~	45	45	65
	440/460 V~	45	45	65
	480/500 V~	45	45	65
	600 V~	45	40	65
	690 V~	45	45	65
Individual pole short-circuit current I <sub>tr</sub> (kA)	220/240 V~	1.2 times the maximum setting of the defined time delay release tripping current (I <sub>sd</sub> ) <sup>(1)</sup>		
	380/415 V~			
	440/460 V~			
	480/500 V~			
	600 V~			
	690 V~			
Suitable for insulation		Yes		
Neutral protection (% I <sub>th</sub> )		0 - 50 - 100 - 150 - 200		
Operation temperature		-25 °C to +70 °C		
Storage temperature		-25 °C to +85 °C		

<sup>(1)</sup> For more details, please consult BTicino

**- Trip-free switches**

	Megabreak 2500
Frame current	2500 A
Rated current I <sub>n</sub>	1250 A/1600 A/2000 A/2500 A
Poles	3P - 4P
Rated insulation voltage U <sub>i</sub>	1000 V
Rated impulse withstand voltage U <sub>imp</sub>	12 kV
Rated operational voltage (50/60Hz) U <sub>e</sub>	690 V

		Megabreak 2500
Category of use		AC23A
Rated short circuit making capacity I <sub>cm</sub> (kA)	220/240 V~	143
	380/415 V~	143
	440/460 V~	143
	480/500 V~	143
	600 V~	132
	690 V~	121
Rated short time withstand current I <sub>cs</sub> (kA) for t = 1s	220/240 V~	65
	380/415 V~	65
	440/460 V~	65
	480/500 V~	65
	600 V~	60
	690 V~	55
Rated short time withstand current I <sub>cs</sub> (kA) for t = 3s	220/240 V~	45
	380/415 V~	45
	440/460 V~	45
	480/550 V~	45
	600 V~	45
	690 V~	45
Suitable for insulation		Yes
Operation temperature		-25 °C to +70 °C
Storage temperature		-25 °C to +85 °C

The maximum temperature allowed on power terminals is 135 °C (absolute). For details, see IEC 60947-1 and 60947-2.

**■ 3.2 Phases limit trip current**

I <sub>n</sub> (A)	Thermal		Magnetic	
	I <sub>r</sub>		I <sub>sd</sub>	
	0.2 x I <sub>n</sub>	1 x I <sub>n</sub>	1.5 x I <sub>r</sub> min	10 x I <sub>r</sub> max
<b>630</b>	126	630	378	6300
<b>800</b>	160	800	480	8000
<b>1000</b>	200	1000	600	10000
<b>1250</b>	250	1250	750	12500
<b>1600</b>	320	1600	960	16000
<b>2000</b>	400	2000	1200	20000
<b>2500</b>	500	2500	1500	25000

Note: for neutral adjustment, please consider the values ratios 0%, 50%, 100%, 150% and 200% on set currents.

**3. TECHNICAL CHARACTERISTICS (continued)**

**3.3 Mechanical characteristics**

**- Endurances:**

		Megabreak 2500 (circuit breaker and trip-free switches)
Endurance (cycles)	Mechanical	10000 (w/o maintenance); 20000 (with maintenance)
	Electrical	10000 (w/o maintenance)
Category of use	B	

Note:

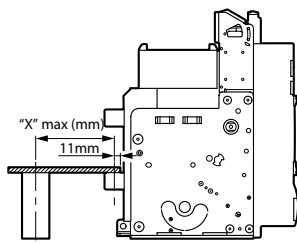
- With auxiliary contacts: same as breaker (10000 cycles w/o maintenance);
- With motor operator: 10000 cycles;
- With releases: 10000 cycles.

**- Electrodinamic 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.

Icc (kA) max	50	65	100
"X" max. (mm)	300	250	150



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

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

**3.4 Power losses per pole at In/Ie**

		Circuit breaker			
		Fixed	Draw-out	Fixed	Draw-out
Rated Icu (kA)		Up to 65 kA		100 kA	
Rated current In (A)	630	5.7	9.9	3.2	6.4
	800	9.2	16.0	5.2	10.2
	1000	14.4	25.0	8.1	16.0
	1250	22.4	39.1	12.7	25.0
	1600	36.7	64.0	20.8	41.0
	2000	57.4	100.0	32.5	64.0
	2500	89.7	156.3	50.8	100.0

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.

Rated current Ie (A)	Trip-free switches	
	Fixed	Draw-out
1250	32.8	54.7
1600	53.8	89.6
2000	57.4	100.0
2500	89.7	156.3

Note: power loss in the table above are referred and measured as described in the standard IEC 60947-1 for switches. Values in the table are referred to a single phase.

**3.5 Electronic protection unit**

All Megabreak 2500 can be equipped by a basic or advanced electronic protection unit whose main characteristics are:

- Integrated LED matrix screen to show electrical values and settings (basic) or Integrated LCD screen for displaying electrical values, settings and logs (advanced);
- Adjustment via rotating encoder;
- Adjustment of Ir, tr, Isd, tsd, li, Ig and tg;
- Possibility to enable/disable protections;
- Measure and display instantaneous, maximum and average values of different electrical values and protection conditions, fault signaling and log (for versions with measure);
- Equipped with batteries for powering in case of mains fault or when the breaker is open or not connected (advanced).

All protection units have onboard a mini type "B" USB socket for maintenance purposes or PCS software connection to PC.

**Protection unit types**

Protection unit are available in basic and advanced type as follows.

	Features		Power consumption	Cat.Nos
	Display	With measure		
<b>Basic</b>	LED matrix	NO	55 mA	MP210A
		YES	69 mA	MP210AM*
<b>Advanced</b>	LCD screen	NO	62.5 mA	MP410A
		YES	80 mA	MP410AM*

\* For the correct working of metering function, it is necessary to connect a CX<sup>3</sup> EMS power supply module Cat.No F80BA.

**Protective functions**

**Ir: Long time delay protection against overloads**

From 0.2 to 1 x In with steps of 1 A  
Protection: ON/OFF

**tr: Long delay protection operation time**

From 40 ms to 30 s (@6Ir) with steps of 40 ms  
Thermal memory: ON/OFF

**Isd: Short time delay protection against short-circuits**

From 1.5 to 10 x Ir with steps of 1 A  
Protection: ON/OFF

**tsd: Short time delay protection operation time**

From 40 ms to 1 s with steps of 40 ms  
(both t = k, independent time delay, and I<sup>2</sup>t=k, inverse short time delay)

**li: Instantaneous protection against very high short-circuits**

From 2 to 15 x In or Icw with steps of 1 A  
Protection: ON/OFF

**3. TECHNICAL CHARACTERISTICS (continued)**

**■ 3.5 Electronic protection unit (continued)**

**Ig: Earth fault current**

From 0.2 to 1 x In with steps of 1A  
Protection: ON/OFF

**tg: Time delay on earth fault tripping**

From 80 ms to 1s with steps of 40 ms  
(both t = k, independent time delay, and I<sup>2</sup>t=k, inverse short time delay)

**N: Neutral protection** OFF, 50%, 100%, 150%, 200%

**Configuration**

Protection units basic and advanced are fully configurable and can be configured in complete freedom.

They can be used to adapt settings as closely as possible to the requirements of the specific installation, either by enabling/disabling the different protection devices (currents and tripping times), or by altering the different trip thresholds.

The tripping curve is thus fully customised to suit the real-life conditions of each project.

Protection units with integrated measurement function can also be used to display voltages, active and reactive powers, frequency, power factor, and also energy, in addition to monitoring currents.

Alarms can be programmed on a number of these parameters: max. voltage, min. voltage, voltage unbalance, max. and min. frequency, etc.

**General remarks on protection unit**

The protection units basic/advanced are normally supplied by the internal current transformers (CTs).

When the current flowing through the circuit breaker is greater than 50 A

(single for phase load), the internal current supply ensures all operation of the protection unit (included LED status).

Display backlight is guaranteed starting from 220 A (for single phase load) and integrated measure (if available) are instead guaranteed starting from 300 A (for single phase load) in absence of any other supply. In any case the external power supply is strongly recommended for the correct working of measurement, as well as RS485 communication.

To ensure the same performance when the load is less than 50 A (for single phase load) to grant complete functions, one of the following optional power supplies can be used:

- EMS power supply module (Cat.No FB80BA)
- Power supply temporarily connected to frontal USB socket, connected to a 5 V<sub>DC</sub> power bank, Dongle BLE or PC.

**Common accessories for protection units**

**Bluetooth communication key** Cat.No MPXX02  
USB key for Bluetooth communication with Megabreak protection unit, needed to monitor and manage (test and report) the Megabreak protection units through EnerUp + Project App. USB connection port on the front of protection unit.

**Power supply module** Cat.No FB80BA  
500 mA 12 V stabilized power supply module for CX<sup>3</sup> energy management system – 1 DIN module. For correct use, choose protection units with measure function (Cat.Nos. MP210AM or MP410AM)

**Communication interface** Cat.No. F80BIM1  
RS485/CX<sup>3</sup> energy management system conversion  
Consumption: 0.344 W - 28.7 mA (12 V<sub>DC</sub>) – 1 DIN module

**External neutral** Cat.No. M8TAX  
Optional accessories, to be ordered when ordering electronic protection unit and Megabreak air circuit breakers for factory assembly.

**4. INSTALLATION RULES**

**Temperature derating**

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 deratings for Megabreak 2500 circuit breakers fixed version-horizontal terminals:

Fixed version										
Temperature	up to 40 °C		50 °C		60 °C		65 °C		70 °C	
	I <sub>max</sub> (A)	I <sub>r</sub> /I <sub>n</sub>	I <sub>max</sub> (A)	I <sub>r</sub> /I <sub>n</sub>	I <sub>max</sub> (A)	I <sub>r</sub> /I <sub>n</sub>	I <sub>max</sub> (A)	I <sub>r</sub> /I <sub>n</sub>	I <sub>max</sub> (A)	I <sub>r</sub> /I <sub>n</sub>
<b>Megabreak 2500 I<sub>cu</sub> up to 65 kA</b>	630	1	630	1	630	1	630	1	630	1
	800	1	800	1	800	1	800	1	800	1
	1000	1	1000	1	1000	1	1000	1	1000	1
	1250	1	1250	1	1250	1	1250	1	1250	1
	1600	1	1600	1	1600	1	1600	1	1600	1
	2000	1	2000	1	1960	0.98	1920	0.96	1880	0.94
	2500	1	2450	0.98	2350	0.94	2250	0.9	2150	0.86
<b>Megabreak 2500 I<sub>cu</sub> = 100 kA</b>	630	1	630	1	630	1	630	1	630	1
	800	1	800	1	800	1	800	1	800	1
	1000	1	1000	1	1000	1	1000	1	1000	1
	1250	1	1250	1	1250	1	1250	1	1250	1
	1600	1	1600	1	1600	1	1600	1	1600	1
	2000	1	2000	1	2000	1	2000	1	2000	1
	2500	1	2500	1	2500	1	2500	1	2500	1

**4. INSTALLATION RULES (continued)**

**Temperature derating (continued)**

Temperature deratings for Megabreak 2500 trip-free switches fixed version-horizontal terminals:

Fixed version										
Temperature	up to 40 °C		50 °C		60 °C		65 °C		70 °C	
	I <sub>max</sub> (A)	I <sub>r</sub> /I <sub>n</sub>	I <sub>max</sub> (A)	I <sub>r</sub> /I <sub>n</sub>	I <sub>max</sub> (A)	I <sub>r</sub> /I <sub>n</sub>	I <sub>max</sub> (A)	I <sub>r</sub> /I <sub>n</sub>	I <sub>max</sub> (A)	I <sub>r</sub> /I <sub>n</sub>
<b>Megabreak-I 2500</b>	1250	1	1250	1	1250	1	1250	1	1250	1
	1600	1	1600	1	1600	1	1600	1	1600	1
	2000	1	2000	1	1960	0.98	1920	0.96	1880	0.94
	2500	1	2450	0.98	2350	0.94	2250	0.9	2150	0.86

Temperature deratings for Megabreak 2500 circuit breakers draw-out version-horizontal terminals:

Draw-out version										
Temperature	up to 40 °C		50 °C		60 °C		65 °C		70 °C	
	I <sub>max</sub> (A)	I <sub>r</sub> /I <sub>n</sub>	I <sub>max</sub> (A)	I <sub>r</sub> /I <sub>n</sub>	I <sub>max</sub> (A)	I <sub>r</sub> /I <sub>n</sub>	I <sub>max</sub> (A)	I <sub>r</sub> /I <sub>n</sub>	I <sub>max</sub> (A)	I <sub>r</sub> /I <sub>n</sub>
<b>Megabreak 2500 Icu up to 65 kA</b>	630	1	630	1	630	1	630	1	630	1
	800	1	800	1	800	1	800	1	800	1
	1000	1	1000	1	1000	1	1000	1	1000	1
	1250	1	1250	1	1250	1	1250	1	1250	1
	1600	1	1600	1	1600	1	1600	1	1600	1
	2000	1	2000	1	1960	0.98	1920	0.96	1880	0.94
	2500	1	2400	0.96	2250	0.9	2100	0.84	1950	0.78

Draw-out version										
Temperature	up to 40 °C		50 °C		60 °C		65 °C		70 °C	
	I <sub>max</sub> (A)	I <sub>r</sub> /I <sub>n</sub>	I <sub>max</sub> (A)	I <sub>r</sub> /I <sub>n</sub>	I <sub>max</sub> (A)	I <sub>r</sub> /I <sub>n</sub>	I <sub>max</sub> (A)	I <sub>r</sub> /I <sub>n</sub>	I <sub>max</sub> (A)	I <sub>r</sub> /I <sub>n</sub>
<b>Megabreak 2500 Icu = 100 kA</b>	630	1	630	1	630	1	630	1	630	1
	800	1	800	1	800	1	800	1	800	1
	1000	1	1000	1	1000	1	1000	1	1000	1
	1250	1	1250	1	1250	1	1250	1	1250	1
	1600	1	1600	1	1600	1	1600	1	1600	1
	2000	1	2000	1	2000	1	2000	1	2000	1
	2500	1	2500	1	2500	1	2500	1	2500	1

Temperature deratings for Megabreak 2500 trip-free switches draw-out version-horizontal terminals:

Draw-out version										
Temperature	up to 40 °C		50 °C		60 °C		65 °C		70 °C	
	I <sub>max</sub> (A)	I <sub>r</sub> /I <sub>n</sub>	I <sub>max</sub> (A)	I <sub>r</sub> /I <sub>n</sub>	I <sub>max</sub> (A)	I <sub>r</sub> /I <sub>n</sub>	I <sub>max</sub> (A)	I <sub>r</sub> /I <sub>n</sub>	I <sub>max</sub> (A)	I <sub>r</sub> /I <sub>n</sub>
<b>Megabreak-I 2500</b>	1250	1	1250	1	1250	1	1250	1	1250	1
	1600	1	1600	1	1600	1	1600	1	1600	1
	2000	1	2000	1	1960	0.98	1920	0.96	1880	0.94
	2500	1	2400	0.96	2250	0.9	2100	0.84	1950	0.78

NOTE: For further technical information, please contact BTicino technical support.

#### 4. INSTALLATION RULES *(continued)*

##### Temperature derating *(continued)*

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

**Pollution degree:** for Megabreak 2500 circuit breakers, degree 3, according to IEC/EN 60947-2.

**Electromagnetic disturbances (EMC):** for Megabreak 2500, according to IEC/EN 60947-2 - Annex F.

##### Altitude derating for Megabreak 2500 (circuit breakers and trip-free switches)

Altitude (m)	2000	3000	4000	5000
Rated current $I_n$ (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

#### 5. DIMENSIONS AND WEIGHTS

##### ■ 5.1 Dimensions

		Megabreak 2500 (circuit breakers)			Megabreak 2500 (trip-free switches)
		50 kA	65 kA	100 kA	-
Height (mm)	3P-fixed	419			419
	3P-Draw-out	465			465
	4P-Fixed	419			419
	4P-Draw-out	465			465
Depth (mm)	3P-fixed	354			354
	3P-Draw-out	433			433
	4P-Fixed	354			354
	4P-Draw-out	433			433
Width (mm)	3P-fixed	273		408	273
	3P-Draw-out	327		425	327
	4P-Fixed	358		538	358
	4P-Draw-out	412		555	412

##### ■ 5.2 Weights

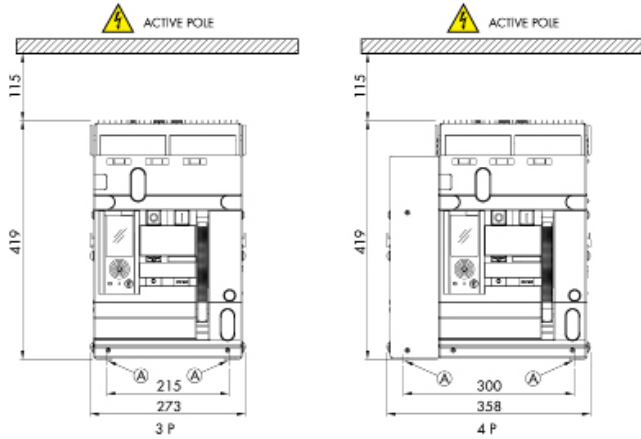
		Megabreak 2500 (circuit breakers)			Megabreak 2500 (trip-free switches)
		50 kA	65 kA	100 kA	-
Weight (kg)	3P-fixed	36		55	35
	3P-Draw-out <sup>(1)</sup>	81		106	80
	4P-Fixed	43		68	42
	4P-Draw-out <sup>(1)</sup>	86		134	85

<sup>(1)</sup>Weights for draw-out releases are to be intended with base.

**5. DIMENSIONS AND WEIGHT (continued)**

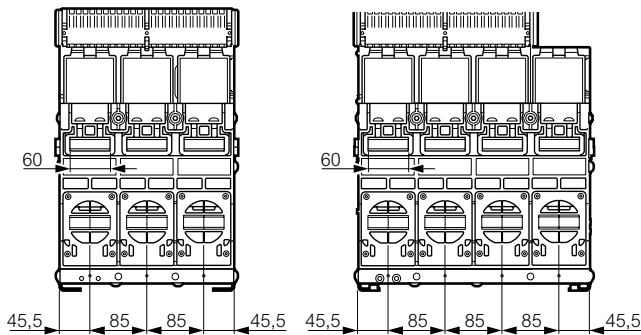
**■ 5.3 Fixed version (Megabreak circuit breakers with Icu = 50 kA, Icu = 65 kA and Megabreak trip-free switches)**

Frontal view

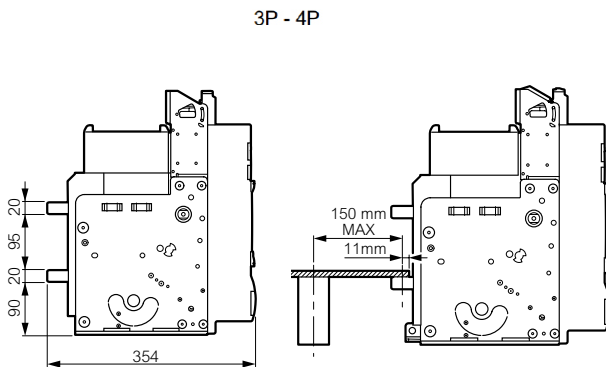


A = fixing point on plate of enclosure

Rear view

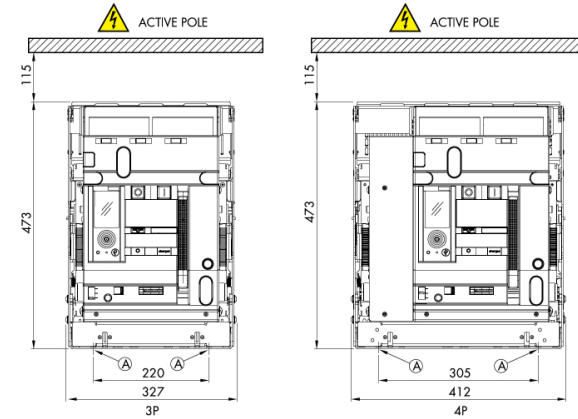


Lateral view



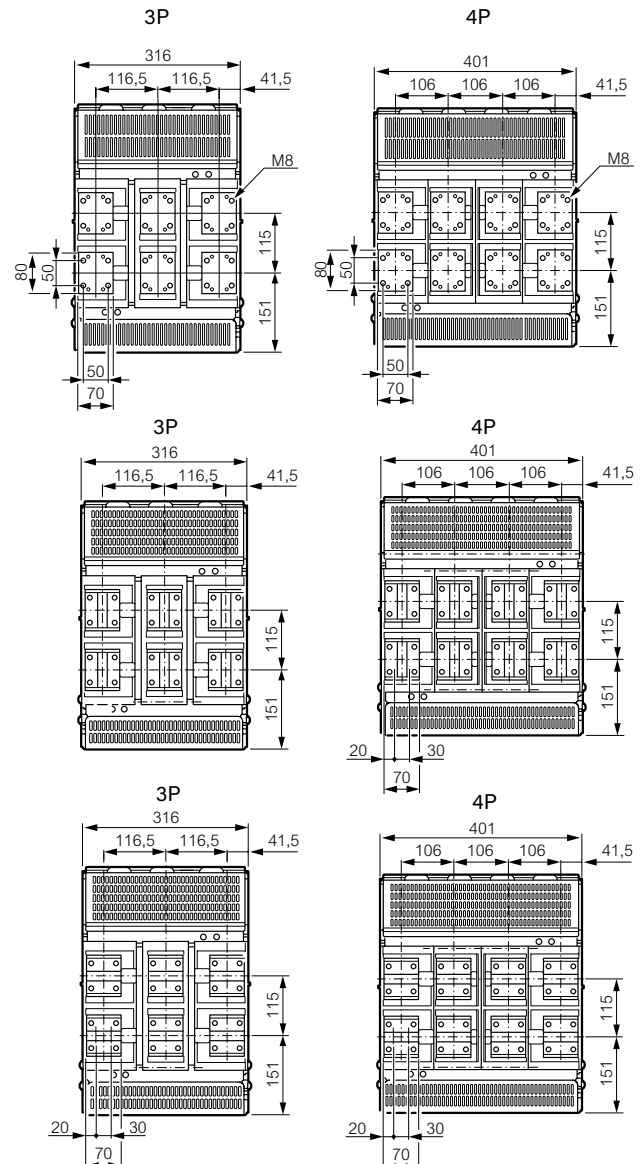
**■ 5.4 Draw-out version (Megabreak circuit breakers with Icu = 50 kA, Icu = 65 kA and Megabreak trip-free switches)**

Frontal view



A = fixing point on plate of enclosure

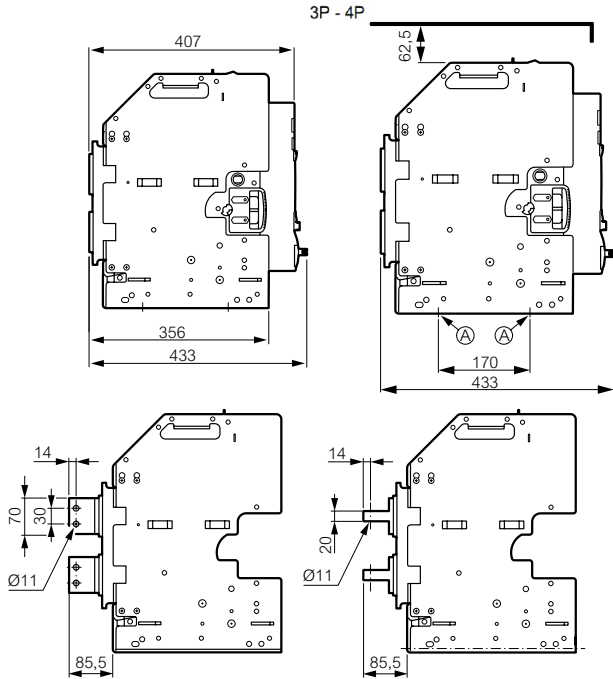
Rear view



**5. DIMENSIONS AND WEIGHT (continued)**

**■ 5.4 Draw-out version (Megabreak 2500 circuit breakers with Icu = 50 kA, Icu = 65 kA and Megabreak trip-free switches) (continued)**

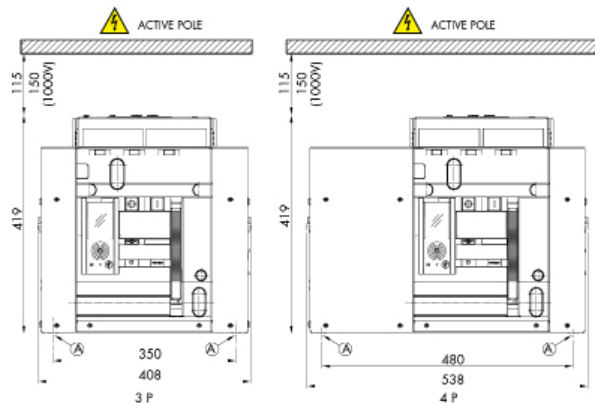
Lateral view



A = fixing point on plate of enclosure

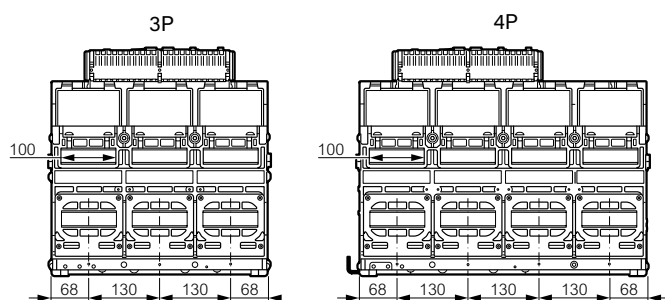
**■ 5.5 Fixed version (Megabreak 2500 circuit breakers with Icu = 100 kA)**

Frontal view

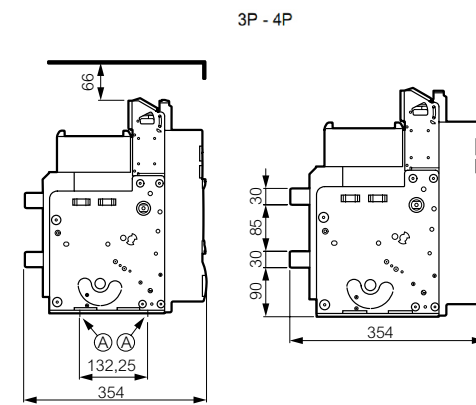


A = fixing point on plate of enclosure

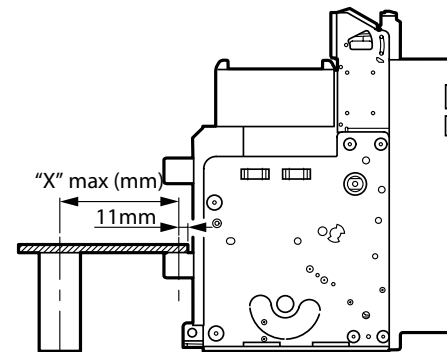
Rear view



Lateral view

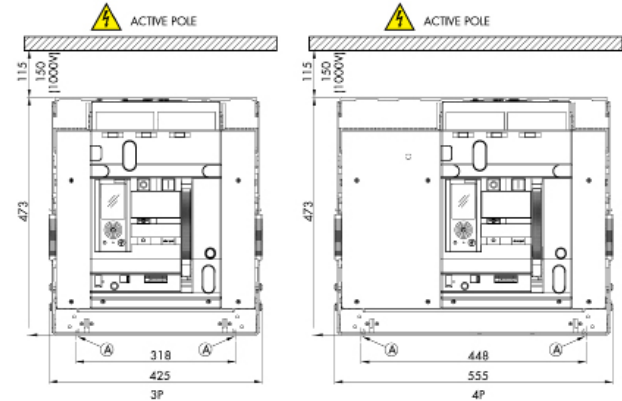


A = fixing point on plate of enclosure



**■ 5.6 Draw-out version (Megabreak 2500 circuit breakers with Icu = 100 kA)**

Frontal view

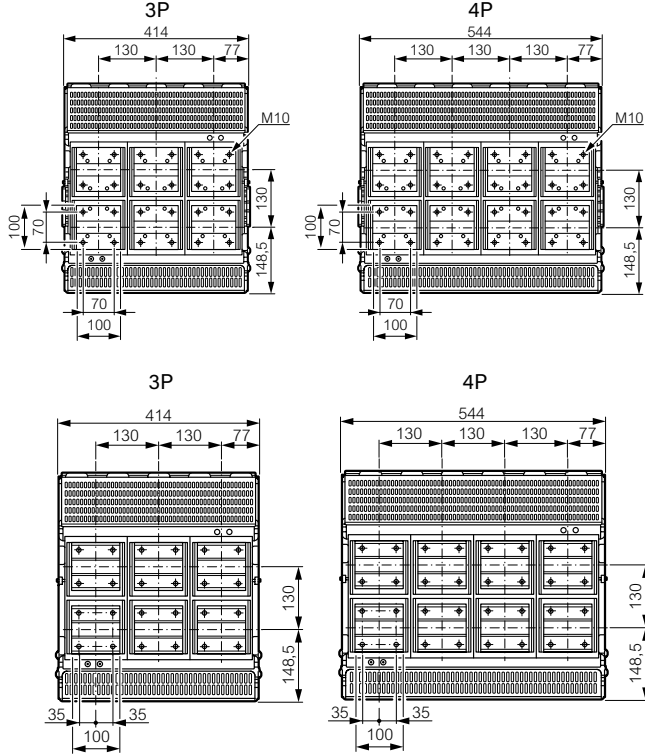


A = fixing point on plate of enclosure

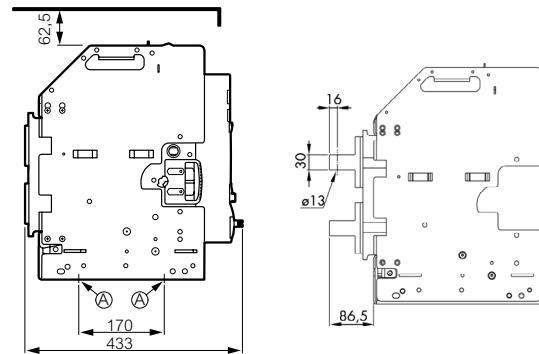
**5. DIMENSIONS AND WEIGHT (continued)**

**■ 5.6 Draw-out version (Megabreak 2500 circuit breakers with Icu = 100 kA) (continued)**

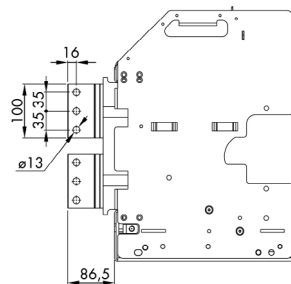
Rear view



Lateral view



A = fixing point on plate of enclosure



**6. ELECTRICAL CONNECTIONS**

Use only as a general guideline to select products. Due to extensive variety of switchgear installation shapes and conditions of use, the solution used must always be verified. If inter-poles air distance is less than 20 mm, it is recommended to use of phase insulators or insulated bars.

**Minimum cross section of Copper busbars per pole:**

- Fixed version (Megabreak 2500 circuit breakers with Icu = 50 kA, Icu = 65 kA and Megabreak trip-free switches)

Rated current (A)	Vertical bars (mm)	Horizontal bars (mm)
<b>630</b>	2 bars 40 x 5	2 bars 40 x 5
<b>800</b>	2 bars 50 x 5	2 bars 50 x 5
<b>1000</b>	1 bar 60 x 10 2 bars 60 x 5	1 bar 60 x 10 2 bars 60 x 5
<b>1250</b>	1 bar 80 x 10 2 bars 80 x 5	1 bar 80 x 10 2 bars 80 x 5
<b>1600</b>	2 bars 50 x 10	2 bars 50 x 10
<b>2000</b>	3 bars 50 x 10	3 bars 50 x 10 4 bars 50 x 10
<b>2500</b>	3 bars 80 x 10	4 bars 80 x 10 5 bars 60 x 10

- Fixed version (Megabreak 2500 circuit breakers with Icu = 100 kA)

Rated current (A)	Vertical bars (mm)	Horizontal bars (mm)
<b>630</b>	1 bar 40 x 10 2 bars 40 x 5	2 bars 40 x 5
<b>800</b>	1 bar 50 x 10 2 bars 50 x 5	2 bars 50 x 5
<b>1000</b>	1 bar 50 x 10 2 bars 50 x 5	2 bars 60 x 5
<b>1250</b>	2 bars 60 x 5	2 bars 80 x 5
<b>1600</b>	2 bars 80 x 5	2 bars 50 x 10
<b>2000</b>	2 bars 50 x 10	2 bars 60 x 10
<b>2500</b>	3 bars 50 x 10	3 bars 60 x 10

- Draw-out version (Megabreak 2500 circuit breakers with Icu = 50 kA, Icu = 65 kA and Megabreak trip-free switches)

Rated current (A)	Vertical bars (mm)	Horizontal bars (mm)
<b>630</b>	2 bars 40 x 5	2 bars 40 x 5
<b>800</b>	2 bars 50 x 5	2 bars 50 x 5
<b>1000</b>	2 bars 60 x 5	2 bars 60 x 5
<b>1250</b>	2 bars 80 x 5	2 bars 80 x 5
<b>1600</b>	2 bars 50 x 10	2 bars 50 x 10
<b>2000</b>	3 bars 50 x 10	3 bars 50 x 10
<b>2500</b>	3 bars 80 x 10	4 bars 80 x 10

**6. ELECTRICAL CONNECTIONS (continued)**

- Draw-out version (Megabreak circuit breakers with Icu = 100 kA)

Rated current (A)	Vertical bars (mm)	Horizontal bars (mm)
<b>630</b>	1 bar 40 x 10 2 bars 40 x 5	2 bars 40 x 5
<b>800</b>	1 bar 50 x 10 2 bars 50 x 5	2 bars 50 x 5
<b>1000</b>	1 bar 50 x 10 2 bars 50 x 5	2 bars 60 x 5
<b>1250</b>	2 bars 60 x 5	2 bars 80 x 5
<b>1600</b>	2 bars 80 x 5	2 bars 50 x 10
<b>2000</b>	2 bars 50 x 10	2 bars 60 x 10
<b>2500</b>	3 bars 50 x 10	3 bars 60 x 10

**Minimum cross section of Aluminium busbars per pole:**

- Fixed version (Megabreak 2500 circuit breakers with Icu = 50 kA, Icu = 65 kA and Megabreak trip-free switches)

Rated current (A)	Vertical bars (mm)	Horizontal bars (mm)
<b>630</b>	2 bars 50 x 8	2 bars 50 x 10
<b>800</b>	2 bars 50 x 10	2 bars 50 x 10
<b>1000</b>	2 bars 60 x 10	2 bars 60 x 10
<b>1250</b>	2 bars 60 x 10	4 bars 50 x 10
<b>1600</b>	4 bars 50 x 10	4 bars 60 x 10
<b>2000</b>	4 bars 60 x 10	4 bars 80 x 10
<b>2500</b>	4 bars 100 x 10	5 bars 100 x 10

- Fixed version (Megabreak 2500 circuit breakers with Icu = 100 kA)

Rated current (A)	Vertical bars (mm)	Horizontal bars (mm)
<b>630</b>	2 bars 40 x 8	2 bars 40 x 8
<b>800</b>	2 bars 50 x 8	2 bars 50 x 8
<b>1000</b>	2 bars 50 x 8	2 bars 50 x 10
<b>1250</b>	2 bars 50 x 10	2 bars 60 x 10
<b>1600</b>	2 bars 60 x 10	4 bars 50 x 8
<b>2000</b>	4 bars 50 x 8	4 bars 50 x 10
<b>2500</b>	4 bars 60 x 10	4 bars 80 x 10

- Draw-out version (Megabreak 2500 circuit breakers with Icu = 50 kA, Icu = 65 kA and Megabreak trip-free switches)

Rated current (A)	Vertical bars (mm)	Horizontal bars (mm)
<b>630</b>	2 bars 50 x 8	2 bars 50 x 10
<b>800</b>	2 bars 50 x 10	2 bars 50 x 10
<b>1000</b>	2 bars 60 x 10	2 bars 60 x 10
<b>1250</b>	2 bars 60 x 10	4 bars 50 x 10
<b>1600</b>	4 bars 50 x 10	4 bars 60 x 10
<b>2000</b>	4 bars 60 x 10	4 bars 80 x 10
<b>2500</b>	4 bars 100 x 10	5 bars 100 x 10

- Draw-out version (Megabreak circuit breakers with Icu = 100 kA)

Rated current (A)	Vertical bars (mm)	Horizontal bars (mm)
<b>630</b>	2 bars 40 x 8	2 bars 40 x 8
<b>800</b>	2 bars 50 x 8	2 bars 50 x 8
<b>1000</b>	2 bars 50 x 8	2 bars 50 x 10
<b>1250</b>	2 bars 50 x 10	2 bars 60 x 10
<b>1600</b>	2 bars 60 x 10	4 bars 50 x 8
<b>2000</b>	4 bars 50 x 8	4 bars 50 x 10
<b>2500</b>	4 bars 60 x 10	4 bars 80 x 10

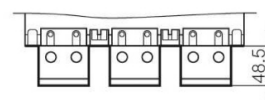
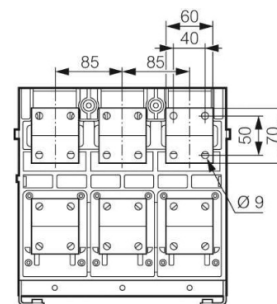
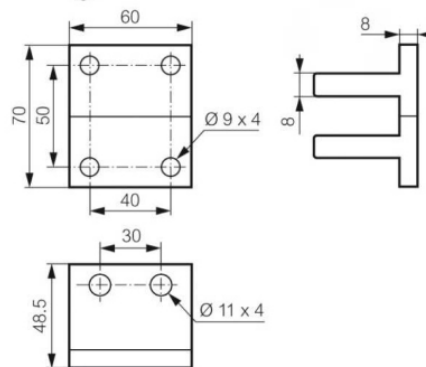
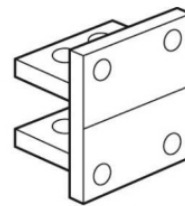
**7. EQUIPMENTS AND ACCESSORIES**

■ **7.1 Terminals and spreaders**

- Rear terminals for fixed version (up to 65 kA) – Flat connection pitch 85 mm

They must be fixed onto horizontal rear terminals of the circuit breaker.

Cat.Nos	
3P	4P
MT8P3P1	MT8P4P1



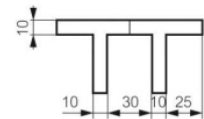
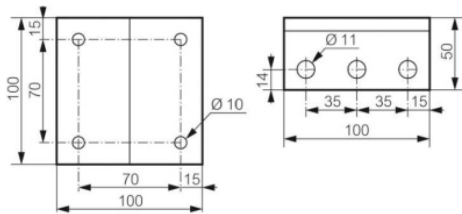
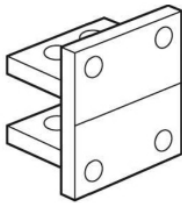
**7. EQUIPMENTS AND ACCESSORIES (continued)**

**7.1 Terminals and spreaders (continued)**

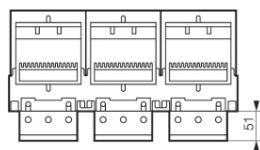
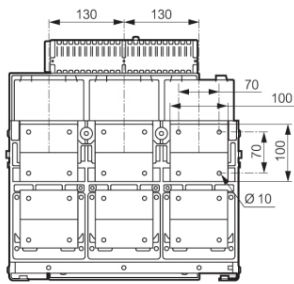
**- Rear terminals for fixed version (100 kA) – Flat connection pitch 130 mm**

They must be fixed onto horizontal rear terminals of the circuit breaker.

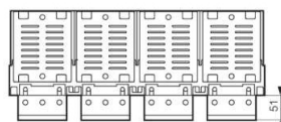
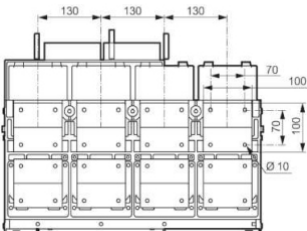
Cat.Nos	
<b>3P</b>	<b>4P</b>
MT8P3P2	MT8P4P2



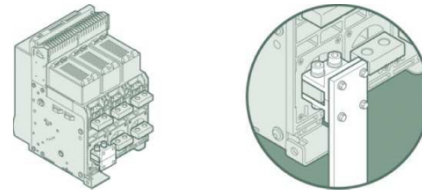
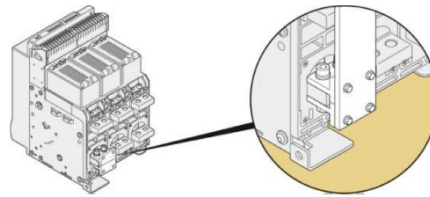
3P



4P



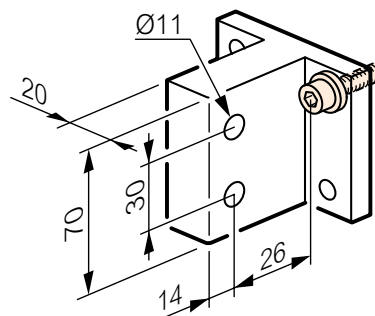
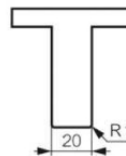
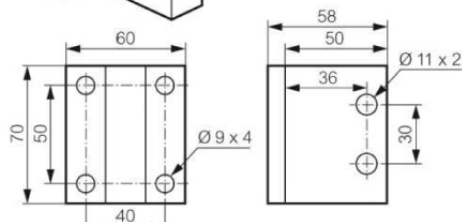
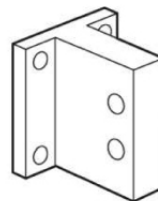
- Mounting examples:



**- Rear terminals for fixed version (up to 65 kA) – Vertical connection pitch 85 mm**

They are used to transform a flat connection into a vertical one. To be fixed onto Cat.Nos MT8P3P1/MT8P4P1 according to the number of poles.

Cat.Nos	
<b>3P</b>	<b>4P</b>
MT8HV3P1	MT8HV4P1



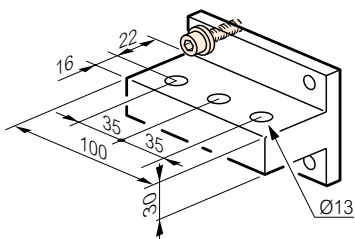
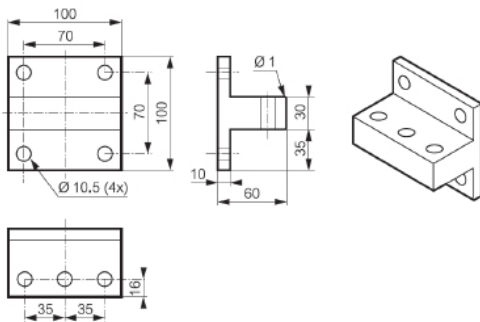
## 7. EQUIPMENTS AND ACCESSORIES (continued)

### 7.1 Terminals and spreaders (continued)

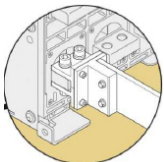
#### - Rear terminals (100 kA) for fixed (vertical connection) and draw-out flat/vertical connection version pitch 130 mm

They are used to transform a flat connection into a vertical one. To be fixed onto Cat.Nos MT8P3P2/MT8P4P2 according to the number of poles.

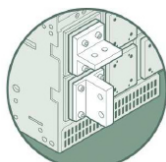
Cat.Nos	
3P	4P
MT8HV3P2	MT8HV4P2



- Mounting example:  
Fixed

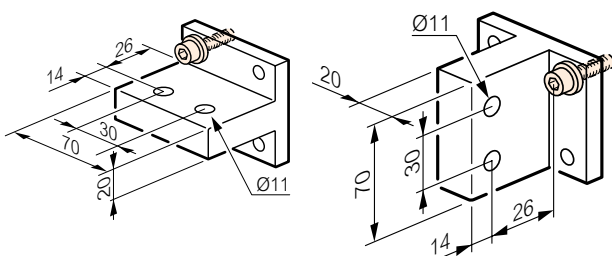


Draw-out



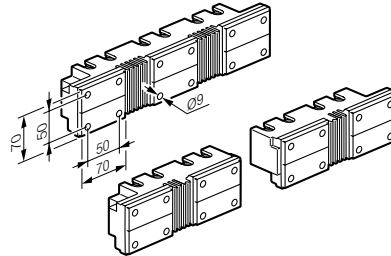
#### - Rear terminals for draw-out version (up to 65 kA) – Flat/vertical connection pitch 85 mm

Cat.Nos	
3P	4P
MT8HV3P1S	MT8HV4P1S



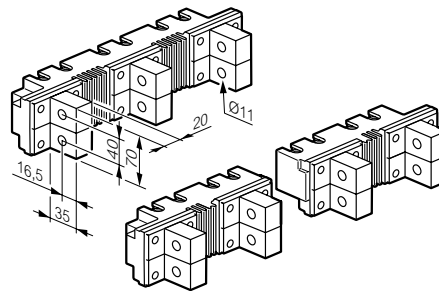
#### - Spreaders for fixed version – Flat connection

Cat.Nos	
3P	4P
MT8P3P1S	MT8P4P1S



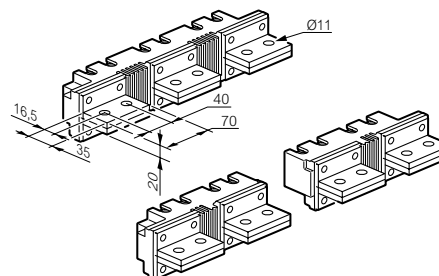
#### - Spreaders for fixed version – Vertical connection

Cat.Nos	
3P	4P
MT8V3P1S	MT8V4P1S



#### - Spreaders for fixed version – Horizontal connection

Cat.Nos	
3P	4P
MT8H3P1S	MT8H4P1S



**7. EQUIPMENTS AND ACCESSORIES (continued)**

**■ 7.2 Control auxiliaries**

**- Shunt trip: when energised the circuit breaker will be tripped.**

24 V $\sim/\equiv$	Cat.No M8T024C
48 V $\sim/\equiv$	Cat.No M8T048C
110 $\div$ 130 V $\sim/\equiv$	Cat.No M8T110C
220 $\div$ 250 V $\sim/\equiv$	Cat.No M8T230C
415 $\div$ 480 V $\sim$	Cat.No M8T415

<b>Rated operating voltage (Uc) (V)</b>	$\sim$ : 24 - 48 - 110 $\div$ 130 - 220 $\div$ 250 - 415 $\div$ 480 $\equiv$ : 24 - 48 - 110 $\div$ 130 - 220 $\div$ 250
<b>Voltage range(*) (% Uc)</b>	70 $\div$ 110
<b>Pick-up consumption (W / VA)</b>	500/500
<b>Pick-up time (ms)</b>	180
<b>Hold consumption (W / VA)</b>	5/5
<b>Minimum opening time (ms)</b>	30
<b>Insulation voltage (kV)</b>	2.5

(\*) The minimum voltage range % is referred to the rated voltage minimum value and the maximum voltage range % is referred to the rated voltage maximum value.

**- Undervoltage releases: device trips when coil is de-energised.**

24 V $\sim/\equiv$	Cat.No M8M024C
48 V $\sim/\equiv$	Cat.No M8M048C
110 $\div$ 130 V $\sim/\equiv$	Cat.No M8M110C
220 $\div$ 250 V $\sim/\equiv$	Cat.No M8M230C
415 $\div$ 440 V $\sim$	Cat.No M8M415

<b>Rated operating voltage (Uc) (V)</b>	$\sim$ : 24 - 48 - 110 $\div$ 130 - 220 $\div$ 250 - 415 $\div$ 480 $\equiv$ : 24 - 48 - 110 $\div$ 130 - 220 $\div$ 250
<b>Voltage range(*) (% Uc)</b>	85 $\div$ 110
<b>Pick-up consumption (W / VA)</b>	500/500
<b>Pick-up time (ms)</b>	180
<b>Hold consumption (W / VA)</b>	5/5
<b>Minimum opening time (ms)</b>	60
<b>Insulation voltage (kV)</b>	2.5

(\*) The minimum voltage range % is referred to the rated voltage minimum value and the maximum voltage range % is referred to the rated voltage maximum value.

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

110 V $\sim/\equiv$	Cat.No M8MR110C
230 V $\sim/\equiv$	Cat.No M8MR230C

<b>Rated operating voltage (Uc) (V)</b>	$\sim$ : 110 or 230 $\equiv$ : 110 or 230
<b>Voltage range (% Uc)</b>	85 to 110
<b>Pick-up consumption (W / VA)</b>	16.5 (@110 V)/34.5 (@230 V)
<b>Time delay (s)</b>	1 <sup>(1)</sup>
<b>Hold consumption (W / VA)</b>	5 (@110 V)/10 (@230 V)
<b>Opening threshold</b>	0.3 to 0.75 x Un
<b>Closing threshold</b>	0.85 x Un
<b>Operating temperature (°C)</b>	-10 to +55

<sup>(1)</sup> It is possible to connect up to 3 modules - 1s of delay for each module installed.

**- Closing coils: to enable remote closing of the circuit breaker if the closing spring is charged.**

24 V $\sim/\equiv$	Cat.No M8C024C
48 V $\sim/\equiv$	Cat.No M8C048C
110 $\div$ 130 V $\sim/\equiv$	Cat.No M8C110C
220 $\div$ 250 V $\sim/\equiv$	Cat.No M8C230C
415 $\div$ 480 V $\sim$	Cat.No M8C415

<b>Rated operating voltage (Uc) (V)</b>	$\sim$ : 24 - 48 - 110 $\div$ 130 - 220 $\div$ 250 - 415 $\div$ 480 $\equiv$ : 24 - 48 - 110 $\div$ 130 - 220 $\div$ 250
<b>Voltage range(*) (% Uc)</b>	85 $\div$ 110
<b>Pick-up consumption (W / VA)</b>	500/500
<b>Pick-up time (ms)</b>	180
<b>Hold consumption (W / VA)</b>	5/5
<b>Maximum closing time (ms)</b>	30
<b>Insulation voltage (kV)</b>	2.5

(\*) The minimum voltage range % is referred to the rated voltage minimum value and the maximum voltage range % is referred to the rated voltage maximum value.

**- Motor operators connect to a release coil (UVR or trip on energising) and a closing coil.**

24 V $\sim/\equiv$	Cat.No M8MT024C
48 V $\sim/\equiv$	Cat.No M8MT048C
110 $\div$ 130 V $\sim/\equiv$	Cat.No M8MT110C
220 $\div$ 250 V $\sim/\equiv$	Cat.No M8MT230C
415 $\div$ 440 V $\sim$	Cat.No M8MT415
480 V $\sim/\equiv$	Cat.No M8MT480

**7. EQUIPMENTS AND ACCESSORIES (continued)**

**■ 7.2 Control auxiliaries (continued)**

- Motor operators connect to a release coil (UVR or trip on energising) and a closing coil (continued).

<b>Rated operating voltage (Uc) (V)</b>	$\sim$ : 24 - 48 - 110 ÷ 130 - 220 ÷ 250 - 415 ÷ 480 $\equiv$ : 24 - 48 - 110 ÷ 130 - 220 ÷ 250
<b>Voltage range(*) (% Uc)</b>	85 ÷ 110
<b>Maximum power consumption (W / VA)</b>	180/180 (up to 65 kA); 240/240 (100 kA)
<b>Maximum peak current for 80 ms</b>	2 to 3 x In
<b>Charging time (s)</b>	5 (up to 65 kA); 7 (100 kA)
<b>Operating frequency (n°/min.)</b>	2 (up to 65 kA); 1 (100 kA)

(\*) The minimum voltage range % is referred to the rated voltage minimum value and the maximum voltage range % is referred to the rated voltage maximum value.

**■ 7.3 Signalling auxiliaries**

- Signalling contact for draw-out version inserted/test/drawn-out signalling contact 3 changeover contacts per position.

Cat.No M8POS		
<b>Rated operating voltage (Uc)</b>	$\equiv$	250 V - 0.3 A
		125 V - 0.6 A
	$\sim$	250 V - 16 A
		125 V - 16 A

- Contact "ready to close" with charged springs.

Cat.No M8PC		
<b>Rated operating voltage (Uc)</b>	$\equiv$	250 V - 0.3 A
		125 V - 0.6 A
	$\sim$	250 V - 16 A
		125 V - 16 A

- Additional signalling contact.

Cat.No M8AGG		
<b>Rated operating voltage (Uc)</b>	$\equiv$	250 V - 0.3 A
		125 V - 0.6 A
	$\sim$	250 V - 16 A
		125 V - 16 A

- Signalling contact for auxiliaries (ST, CC and UVR).

Cat.No M8SB		
<b>Rated operating voltage (Uc)</b>	$\equiv$	250 V - 0.3 A
		125 V - 0.6 A
	$\sim$	250 V - 16 A
		125 V - 16 A

**■ 7.4 Locking**

- **Universal key locks:** to be used in combination with key locking support Cat.No MT805A or MT805E01.

Key barrel and flat key with random mapping	Cat.No M7K01
Key barrel and flat key with fixed mapping EL43525	Cat.No M7K02
Key barrel and flat key with fixed mapping EL 43363	Cat.No M7K03
Key barrel and star key with random mapping	Cat.No M7K04

- **Keylocks supports:**

Key locking support in "open" position (to be equipped with universal keylocks Cat.Nos M7K01/02/03/04)	Cat.No MT805A
Key locking support in "draw-out" position (to be equipped with universal keylocks Cat.Nos M7K01/02/03/04)	Cat.No MT805E01

- **Door locking:** prevents opening of the door with the circuit breaker closed.

Left-hand and right-hand side mounting	Cat.No MT807SD
--	----------------

- **Padlocks in "open" position:**

Padlocking system for ACB (padlock not supplied)	Cat.No MT807OP
Padlock for buttons	Cat.No MT807LT
Padlocking system for shutters (padlock not supplied)	Cat.No MT805SS

**■ 7.5 Mechanical operations counter**

to count total number of operation cycles of device Cat.No MT807CM

**■ 7.6 Rating mis-insertion device**

to prevent the insertion of a draw-out circuit breaker into an incompatible base Cat.No MT806AT

**■ 7.7 Lifting plate**

Cat.No MT809PS

**■ 7.8 Fixing devices for Megabreak 2500 (circuit breakers and trip-free switches)**

Specific instruction sheets are provide to integrate Megabreak 2500 into MAS enclosures ranges (fixing plates, metal faceplates for circuit breakers and cable sleeves, etc.).

**■ 7.9 Equipment for conversion of a fixed device into draw-out device (circuit breakers and trip-free switches)**

- **Bases for draw-out device**

For Megabreak 2500 (up to 65 kA) 3P	Cat.No M803B1
For Megabreak 2500 (up to 65 kA) 4P	Cat.No M804B1
For Megabreak 2500 (100 kA) 3P	Cat.No M803B2
For Megabreak 2500 (100 kA) 4P	Cat.No M804B2

- **Transformation kit for draw-out version**

For Megabreak 2500 (up to 65 kA) 3P	Cat.No M803P1
For Megabreak 2500 (up to 65 kA) 4P	Cat.No M804P1
For Megabreak 2500 (100 kA) 3P	Cat.No M803P2
For Megabreak 2500 (100 kA) 4P	Cat.No M804P2

**■ 7.10 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 Megabreak 2500 (up to 65 kA)	Cat.No MT817F1
Interlock for Megabreak 2500 (100 kA)	Cat.No MT817F2

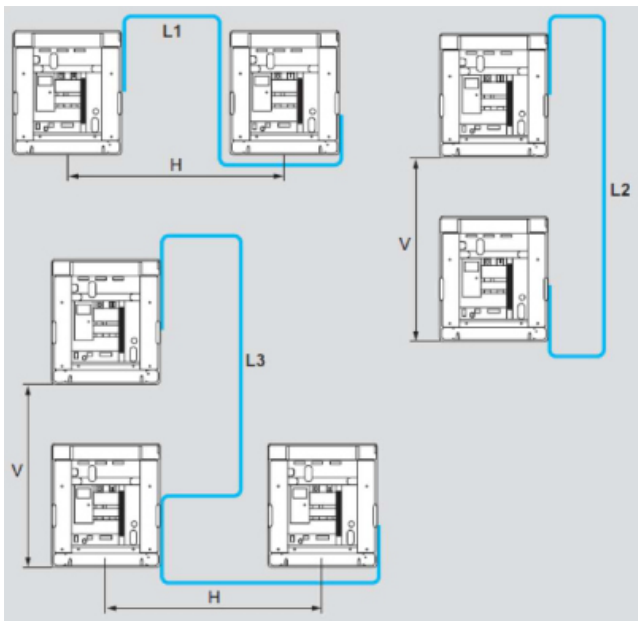
**7. EQUIPMENTS AND ACCESSORIES (continued)**

**7.11 Interlock cables**

Length: 1000 mm  
Length: 1500 mm  
Length: 2600 mm  
Length: 3000 mm  
Length: 3600 mm  
Length: 4000 mm  
Length: 4600 mm  
Length: 5600 mm

Cat.No MT807M7  
Cat.No MT807M8  
Cat.No MT807M1  
Cat.No MT807M2  
Cat.No MT807M3  
Cat.No MT807M4  
Cat.No MT807M5  
Cat.No MT807M6

Choice of interlock cable:



Calculation of cable length:

$L1 = 1430 + H$   
 $L2 = 1570 + V$   
 $L3 = 1430 + V + H$

**7.12 Insulating shields**

Fixed version 3P  
Fixed version 4P  
Draw-out version 3P  
Draw-out version 4P

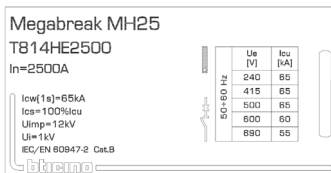
Cat.No MT8SF3P  
Cat.No MT8SF4P  
Cat.No MT8SF3P  
Cat.No MT8SF4P

**8. MARKING**

Product is 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 Icu at 415 V.



**Product laser label on side:**

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

**T814HE2500**

In 2500A  
Icu 65kA  
Draw-out  
Frame 1 4P  
Z0425AAB  
CIRCUIT BREAKER  
Made in Italy  
23W30 0 80

8005543707590824323

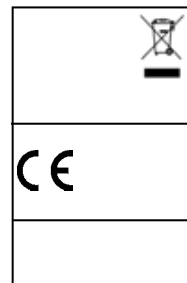


BTICINO V.le Borri, 231 21100 (VA) ITALY

**Mark sticker label on side:**

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

**T814HE2500**



**Packaging sticker label:**

- Manufacturer responsible;
- Denomination and type product;
- Standard conformity;
- Mark/Licence (if any);
- Directive requirements.

interruttore aperto estraibile  
draw-out ACB  
disjoncteur ouvert débro  
ausziehb. offener Leistungssch.  
bast. abierto seccionable  
uittrekbare open stroomonderbreke  
disjuntor extralvel abierto

MH25 4P In 2500A

BTicino SpA www.bticino.com  
Viale Borri, 231 - 21100 Varese - Italy  
Design & Quality by BTicino (Italy)

PACKAGING-RACE/WEEE: [www.comtopost.it](http://www.comtopost.it)

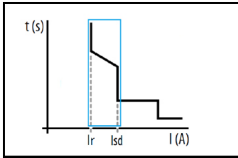
ACCESSORI	Q.TA'

**T814HE2500  
MEGABREAK**

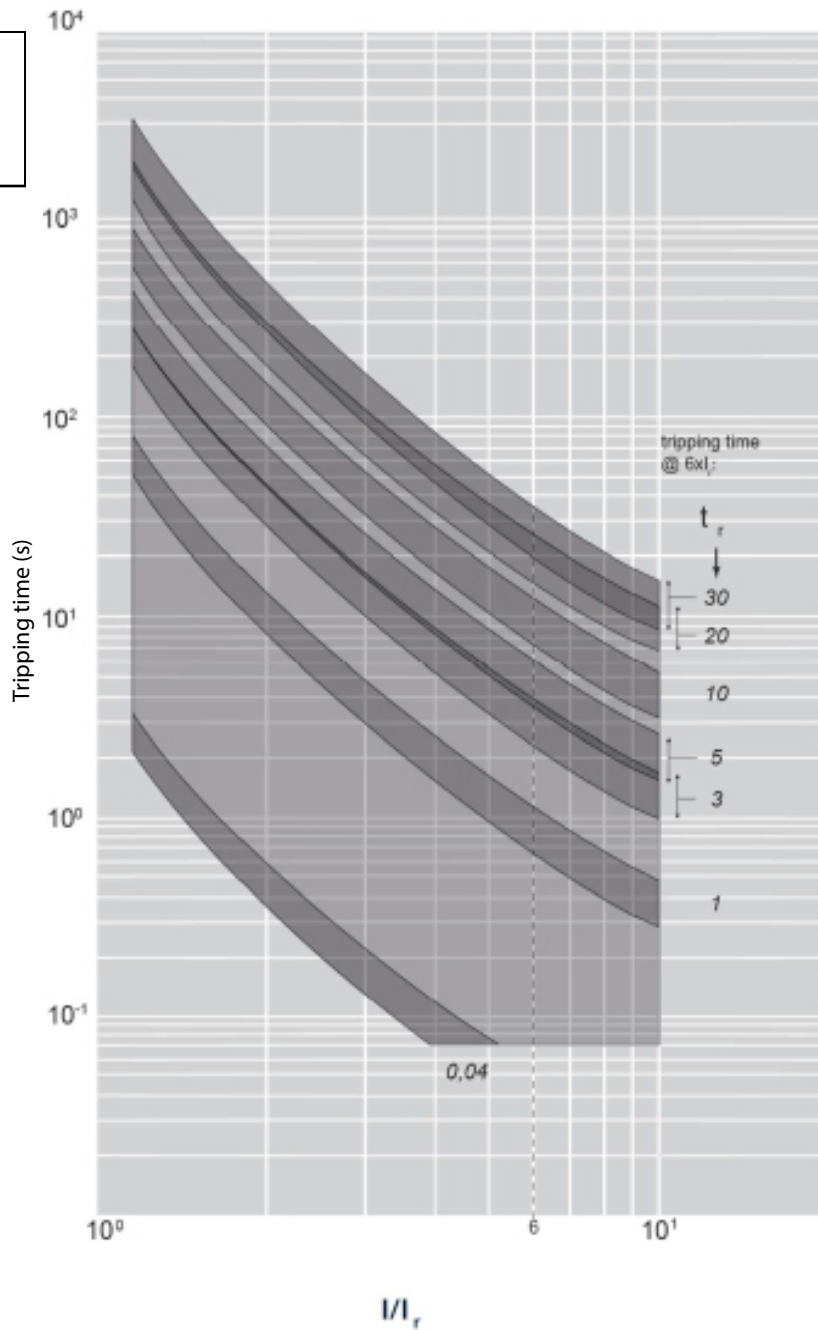
**1**  
N°\_ORDINE:  
N°\_RIGA:

**9. CURVES**

■ 9.1 Tripping curve for Megabreak 2500 basic and advanced protection units: L – T protection detail.



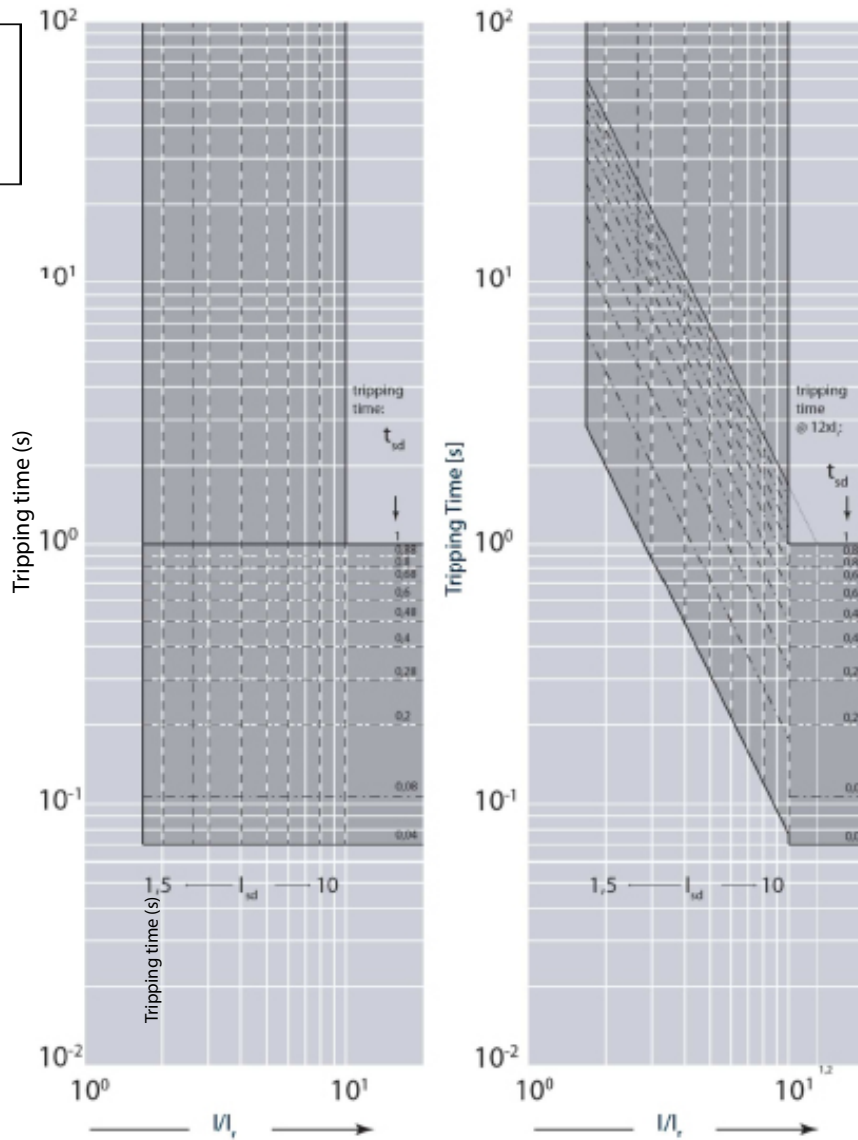
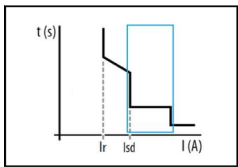
Update: 14/10/2022



Value	Description
I	Current
Ir	Long time setting current
tr	Long time delay

9. CURVES (continued)

■ 9.2 Tripping curve for Megabreak 2500 basic and advanced protection units: short time trip protection detail.

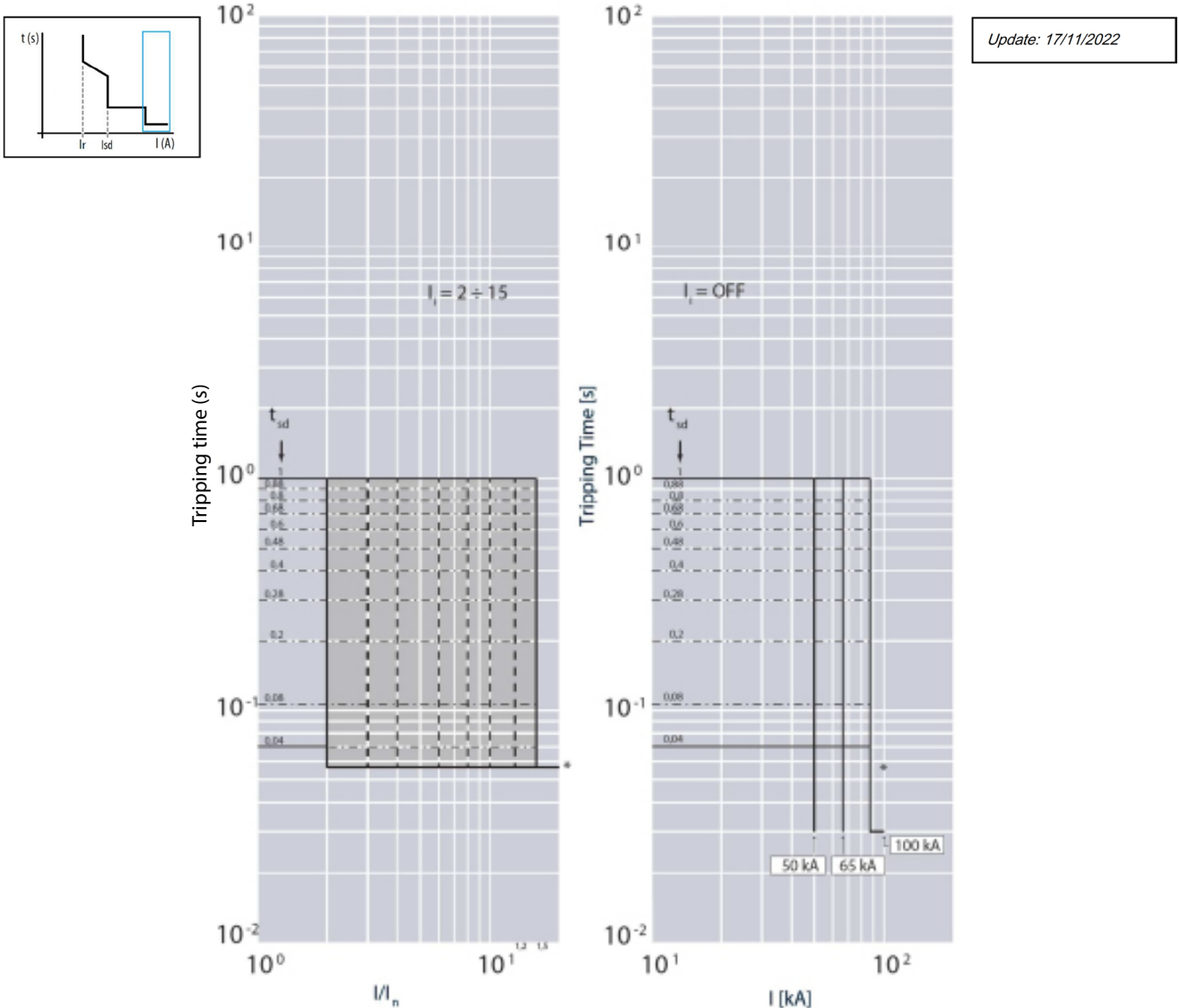


Update: 17/11/2022

Value	Description
$I$	Current
$I_{sd}$	Short time setting current
$t_{sd}$	Short time delay

**9. CURVES (continued)**

**9.3 Tripping curve for Megabreak 2500 basic and advanced protection units: instantaneous trip protection detail.**



\* Fixed instantaneous override - Isf

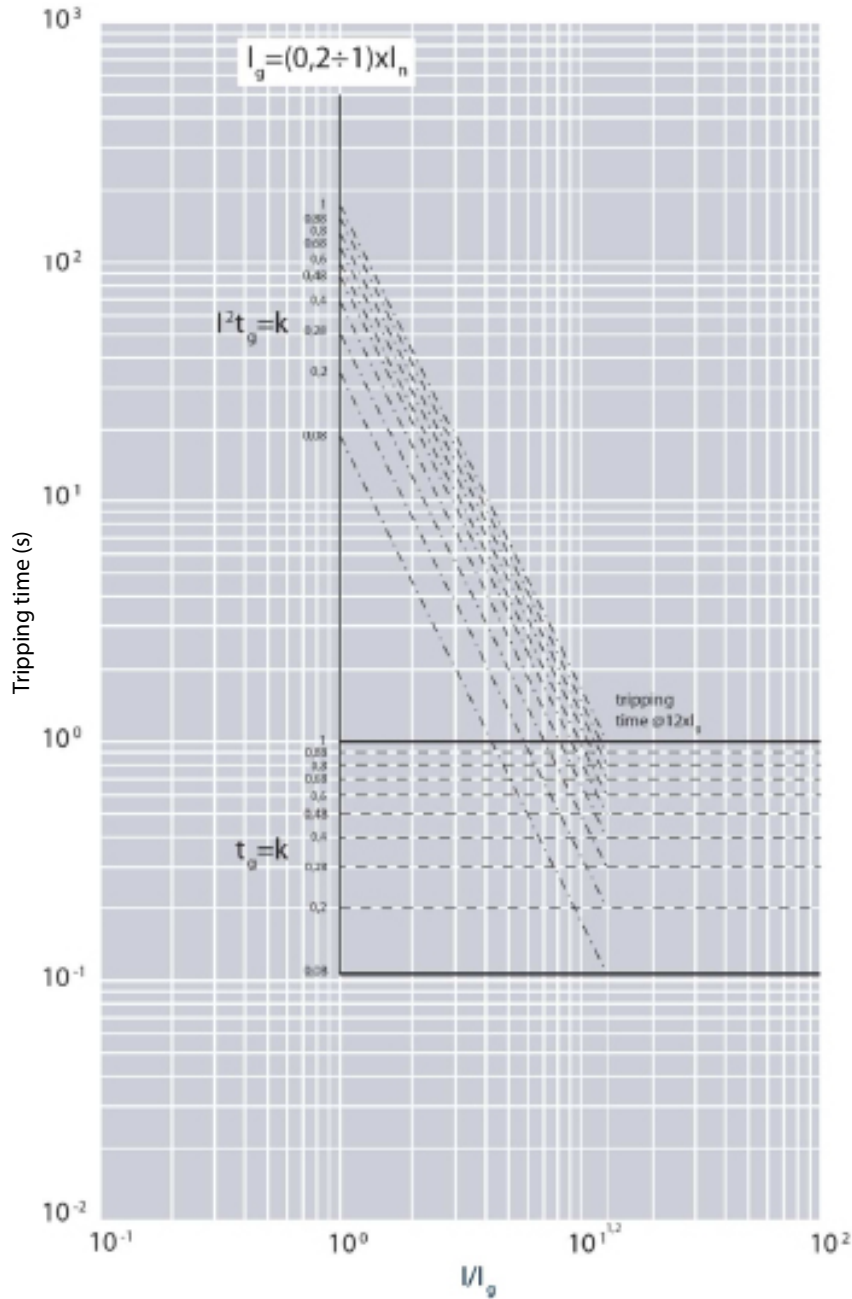
Icu	Values for Isf
50 kA	50 kA
65 kA	65 kA
100 kA	85 kA

Value	Description
I	Current
I <sub>n</sub>	Rated current
t <sub>sd</sub>	Short time delay
I <sub>i</sub>	Instantaneous release
I <sub>cw</sub>	Rated short time withstand current

9. CURVES (continued)

■ 9.4 Ground fault curve for Megabreak 2500 basic and advanced protection units.

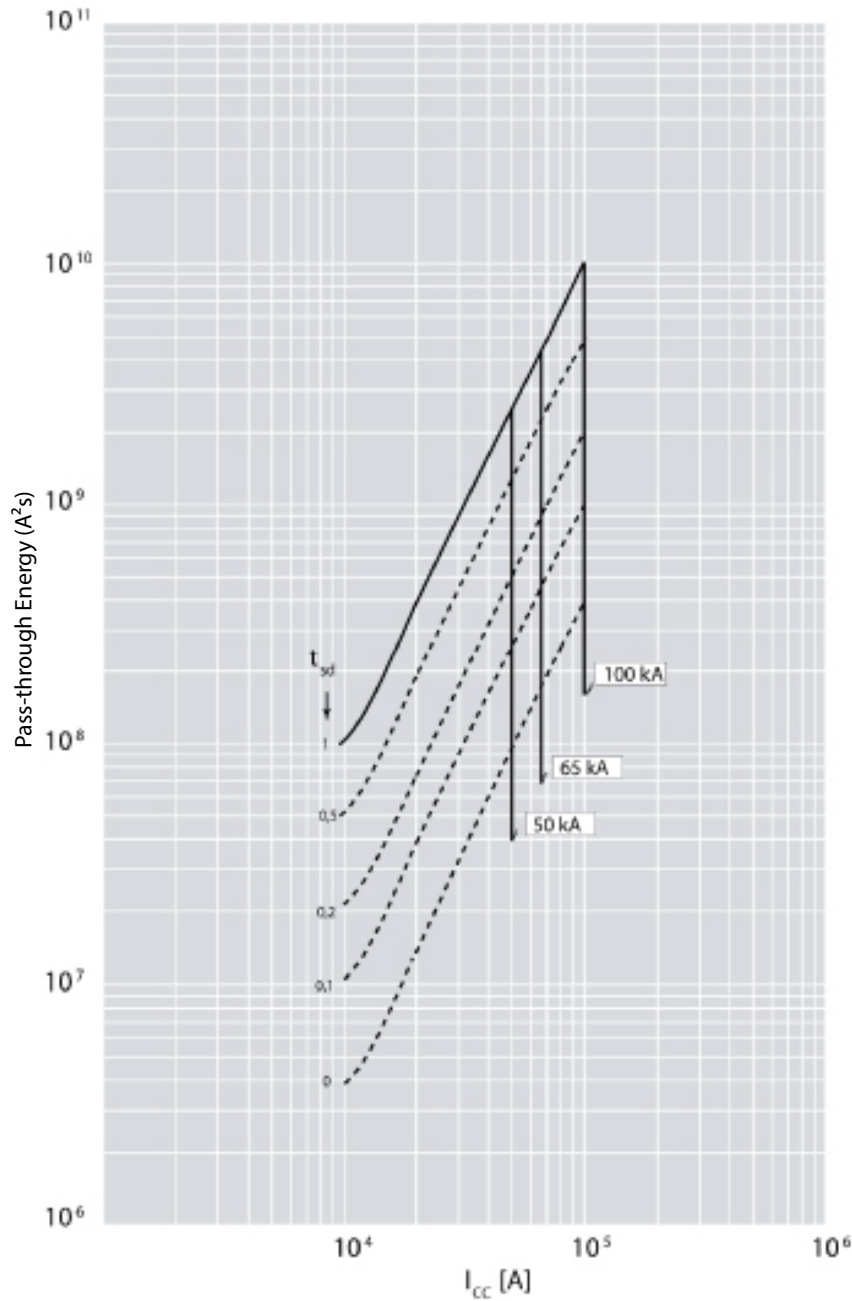


Update: 17/11/2022

Value	Description
<b>I</b>	Current
<b>I<sub>n</sub></b>	Rated current
<b>I<sub>g</sub></b>	Ground fault current
<b>tsd</b>	Short time delay
<b>tsd = k</b>	Constant tripping time setting
<b>I<sup>2</sup>tsd = k</b>	Constant pass-through energy setting

**9. CURVES (continued)**

■ **9.5 Pass-through specific energy curve (at 415 V).**



Value	Description
<b>I</b>	Current
<b>I<sub>n</sub></b>	Rated current
<b>I<sub>g</sub></b>	Ground fault current
<b>tsd</b>	Short time delay
<b>tsd = k</b>	Constant tripping time setting
<b>I²tsd = k</b>	Constant pass-through energy setting

## 10. CONFORMITY

Megabreak range of product concerning circuit-breakers and trip-free switches exceed compliance with the IEC/EN 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.

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

**RoHS:** Compliance with the 2011/65/EU Directive (RoHS), as modified by the 2015/863/EU Delegated Directive, on the restriction of the use of certain hazardous substances in electrical and electronic equipment.

**REACH:** The substances identified as SVHC (Substances of Very High Concern) according to the REACH Regulation (1907/2006), if present in the products at a concentration above 0.1% weight by weight, are declared inside the European SCIP database. At the date of publication of this document none of the substance listed in the annex XIV is found in this product.

**WEEE:** WEEE Directive (2012/19/EU): the sale of this product includes a contribution to the appointed environmental bodies of each European country in charge of handling, at the end of their life, the products falling within the scope of the EU Directive on Electrical and Electronic Equipment Waste.

**PACKAGING:** Design and manufacture of packaging compliant with European Directive 94/62/CE.

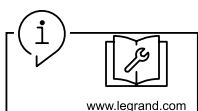
**BATTERIES (for product containing batteries and/or accumulators):** The batteries and/or accumulators included in this product comply with the requirements set out in European Regulation 2023/1542, according to the application timing indicated therein.

## 11. OTHER INFORMATION

**XLPro Calcul:** Calculation notes creation software, addressed to installers, design office and maintenance operators.  
Definition of the electrical characteristics of a low voltage installation in compliance with the applicable standards.

**XLPro<sup>3</sup> Tool Selectivity and backup/Legrand Selectivity and Backup:** Software dedicated to installers, panelbuilders and design offices.  
Definition of the selectivity and backup values of an association of electrical devices and obtention of the tripping curves of the selected products.

**XLPro Panels:** Distribution panel design software, addressed to panelbuilders and electrical panel designers.  
Design of the electrical distribution of the panel, production of electrical diagrams, establishment of products and overall costing of the project.



**Workshop book:** mounting informations, equipments, accessories and spare parts available on e-catalog.

**Instruction sheet:** all mounting information, available on e-catalog.

**PEP:** available on e-catalog.

For further technical information, please contact BTicino technical support.

Unless otherwise indicated, data reported in this document refers exclusively to test conditions according to product standards.

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