WORKSHOP SPECIFICATIONS

AIR CIRCUIT BREAKERS
DMX³ 1600

THE GLOBAL SPECIALIST IN ELECTRICAL
AND DIGITAL BUILDING INFRASTRUCTURES

legrand®

A key component of the main distribution board, DMX^3 air circuit breakers, available from 630 to 1600 A, provide protection and control at the supply end of low voltage installations.

These devices offer numerous accessory options, protection units, high performance levels and a rugged construction, all of which make them ideally suited to meet the needs of safety and energy management in installations.

* The DMX^3 range is available up to 6300 A in 4 sizes.

CONTENTS

SAFETY INSTRUCTIONS

General information

- Use only the products and accessories recommended by the Legrand Group in the catalogue, instructions, technical data sheets and all other documents provided by Legrand (hereinafter referred to as "the Documentation") in compliance with the installation rules.
- Improper installation and/or use may result in the risk of arcing in the enclosure, overheating or fire. The enclosures must be used under normal conditions, they must not be subjected to Voltage / Current / Temperature values other than those specified in the Documentation.
- Legrand declines all responsibility for any modification or repair of the equipment making up the enclosure that is not authorized by the Legrand Group, as well as any failure to comply with the rules and recommendations specified by Legrand in the Documentation. In addition, in the cases mentioned above, the warranty granted by Legrand will not be applicable.
- It is necessary to check that the characteristics of the products are appropriate for their environment and use during maintenance operations, and to refer to the Documentation. If you have any questions or require clarification, please contact Legrand Group.
- The installation, use and maintenance of the enclosures and their components must be carried out by qualified, trained and authorized personnel, in accordance with the regulations in force in each country.

RISK OF ELECTRIC SHOCK, BURNS AND EXPLOSION.

- People working on the installation must have the appropriate electrical authorizations for the work to be carried out.
- Wear the PPE (Personal Protective Equipment) necessary to work on live products.
- Respect the safety rules related to electrical work.
- Improper electrical and mechanical use of equipment can be dangerous and may result in personal injury or damage to property.
- Depending on the maintenance operations to be carried out, partial or total power cuts of the enclosure concerned should be planned before any work.
- When performing operations that involve access to the inside of the enclosure, be aware of the risk of burns before touching any products or metal parts.
- Before turning the power back on, make sure that there are no foreign bodies and that all physical protections have been put back in place (e.g.: screens, covers, shields).

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Any failure to strictly apply the procedures and to respect these recommendations, could lead to serious risk of accident, endangering people and property (in particular, without limitation, risk of burns, electric shocks, etc.).

The rules and recommendations in this document are based on our knowledge of the typical conditions of use of our products in the fields of application usually encountered. However, it is always the customer's responsibility to verify and validate that Legrand products are suitable for its installation and use.

The customer must ensure proper installation, maintenance and operation of the equipment to avoid any risk of injury to personnel or damage to property in the event of product failure, especially for applications that require a very high level of safety (e.g., those in which the failure of a component may endanger human life or health).

The rules for storage, handling, installation and maintenance and the appropriate precautions and warnings must be strictly observed and applied.

ORDERING AND DELIVERY STATUS OF THE DMX³ 1600

A DMX³ air circuit breaker cannot be ordered without a protection unit since the protection unit has to be programmed according to the circuit breaker and the desired options

Using XLPro³ software, it is possible to generate a purchase order in Word® format. For further details concerning a DMX³ order, please contact your local Legrand sales office(1).

All electrical and mechanical accessories can be ordered and installed after delivery of the product.

For factory-fitted accessories and options, please see the table on the next page.

(1) except for DMX³ air circuit breakers complet version that are already equipped with protection unit, and therefore do not neede factory assembly (see Cat.Nos p. 9)

Order ACB DMX³ — Rate for : 2023-11

Order n° : — Customer code :

Please send this form to your usual commercial/sales contact

Construction site informations :

Price offer n° : — Date :
Site: — Building name :
Panel : Nouveau tableau 1 — Buiding type :
Sales representative: — Buiding address :

Manager :

Name : — Address :
Phone number/Email :

Wholesaler

Name :
Address :

Delivery (if different address)

Company name :
Name :
Address :
Tel. n° / Email :

900185 : ACB DMX³ factory assembled

Manufacturer	Description	Reference	Quantity
Legrand	MCCB DMX³ 1600 4P 1250A 50kA Draw-out	028358	1
Legrand	DMX³ protection unit MP2 10	028300	1
Legrand	Motor operator 220-250V ac/dc	028123	1
Legrand	Closing coil 220-250V ac/dc	028129	1
Legrand	Shunt trip 220-250V ac/dc	028134	1
Legrand	Undervoltage release 220-250V ac/dc	028139	1
Legrand	6 auxiliary contact DMX³ T0	028175	1

Select 1 language package for the protection unit:

English / Italian / Français — English / French — English / Russian — English / Spanish / Portuguese — English / Chinese

Quantity of ACB DMX³ identical : 1

Total value :

Depending on the accessories ordered, the table below will indicate whether they will be delivered assembled or not. Depending on the assembly centre and/or markets, the factory configuration of DMX³ may vary.

Check the configuration of the DMX³ carefully to ensure you order all the accessories required for correct operation.

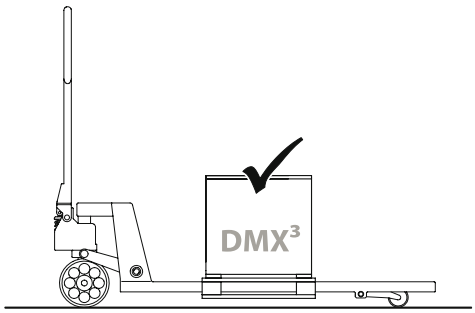
ACCESSORIES			STATE OF ASSEMBLY	
CAT.NOS		DESCRIPTION	FACTORY ASSEMBLED	DETAILS
0 280 35/41 and 0 281 47/48		Rear terminals	NO	They are delivered (not mounted) with the DMX³ 1600.
0 281 85/86 0 281 55/56 0 281 57/58		Front terminals	NO	They are delivered (not mounted) with the DMX³ 1600.
0 281 59/60		Spreaders	NO	They are delivered (not mounted) with the DMX³ 1600.
0 281 20/21/22/ 23/24		Motor operators	YES	This accessory is fixed inside the DMX³ 1600 and is connected to the MOT terminal block.
0 281 26/27/29/ 31/32/34/36/ 37/38/39/40		Undervoltage releases and closing coils	YES	This accessory is fixed inside the DMX³ 1600 and is connected to the UVR/ST/CC terminal block.
0 281 49/50/51/52		Insulation shields	NO	They are delivered (not mounted) with the DMX³ 1600.
0 281 73		Signal contact for inserted/test/draw-out position	YES	It is delivered with the DMX³ 1600 and fixed inside
0 281 74		Signal contact spring charged and ready to close	YES	It is fixed inside the DMX³ 1600 and is connected to the SC and RC terminals.
0 281 75		6 additional auxiliary contacts	YES	It is fixed inside the DMX³ 1600 and is connected to the terminals OC1/2/3/4/5/6.
0 281 76		4 additional auxiliary contacts	YES	It is fixed inside the DMX³ 1600 and is connected to the terminals OC1/2/3/4
0 281 77		Padlock for button	NO	It attaches to the outside of the DMX³ 1600.
0 281 91 +	4 238 80 or 4 238 81 or 4 238 82 or 4 238 83	Lock in "open" position	YES	It is mounted inside the DMX³ 1600.
0 281 91 +	4 238 80 or 4 238 83	Lock in "draw-out" position	NO	It is delivered (not mounted) with the DMX³ 1600.
0 281 84		Door locking	NO	It is delivered (not mounted) with the DMX³ 1600.
0 281 87		Inserted / test / draw-out lock button	NO	It is delivered (not mounted) with the DMX³ 1600. Its installation requires the removal of the circuit breaker (or switch).
0 281 88		Mechanical counter	YES	It is fixed inside the DMX³ 1600.

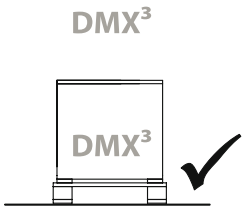
ORDERING AND DELIVERY STATUS OF THE DMX³ 1600

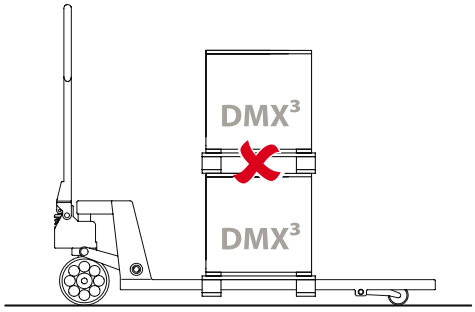
ACCESSORIES		STATE OF ASSEMBLY	
CAT.NOS	DESCRIPTION	FACTORY ASSEMBLED	DETAILS
0 281 89	Rating mis-insertion device	YES	It is fixed outside the DMX³ 1600 but inside the base.
0 281 90	Interlock	PARTIALLY	All accessories are mounted in the DMX³1600. Only one part, used to determine the type of inverter (A/B/C/D), is delivered unassembled
0 288 63	Time-lag module	NO	It is not integrated in the circuit breaker (or switch). It has to be fixed on a modular rail.
0 289 17/18/ 20/21/22/23/24/25	Interlock cables	NO	They are delivered with the DMX³ 1600.
0 283 00/01 0 283 02/03	Protection units	YES	Protection units are factory installed and configured with factory settings (see the guides for the relevant protection unit). The batteries and sealing kit are supplied but not pre-installed (they are delivered in a separate box).
4 149 40	EMS CX³/MODBUS RS 485 gateway	NO	It is not integrated in the circuit breaker (or switch). It has to be fixed on a modular rail.
4 149 45	Stabilized external power supply	NO	It is not integrated in the circuit breaker (or switch). It has to be fixed on a modular rail.

STORAGE AND EXPEDITION

- Store the breaker in a cool, dry place, away from dusty/corrosive environment.
- Do not handle 2 DMX³ one above the other and do not stack more than 2 breakers one above the other on floor
- Place pallets on a stable spot
- All DMX³ 1600 are delivered in wooden crates and are mounted on a pallet with 4 screws



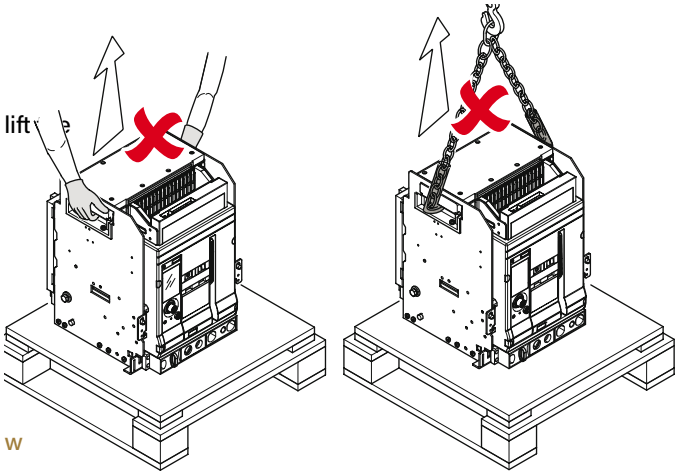




HANDLING AND TRANSPORT

For draw-out version, lifting operation is carried out in 2 stages:

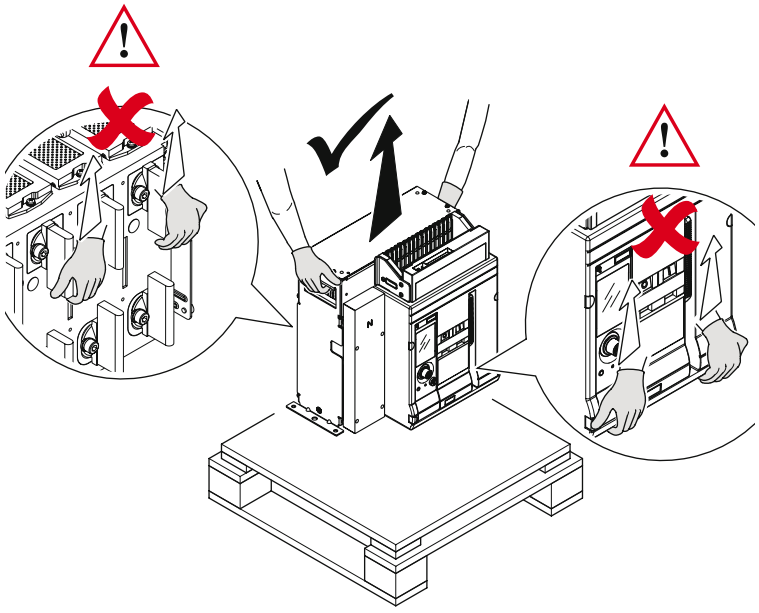
- first, the fixed part (DMX³)
- and then the moving part (the base) having taken care beforehand to check that the main contacts are open (product in the "OFF" position) and that the loading springs are unloaded



For the draw-out version, it is also forbidden to base/DMX³ assembly in one go.

- To facilitate handling, hanging and lifting handles are incorporated into the product (if there is a base for draw-out version, handles are also present on it).

DMX³ 2500-4000 breakers (fixed and draw-out version) can also be transported by 2 persons. (according to their abilities and product type : weight from 16 kg to 60 kg)



Do not lift the breaker using front panel or terminals

Heavy equipment: exercise proper care to avoid personal injury and equipment damage

THE DMX³ 1600 RANGE

Presentation of the offer

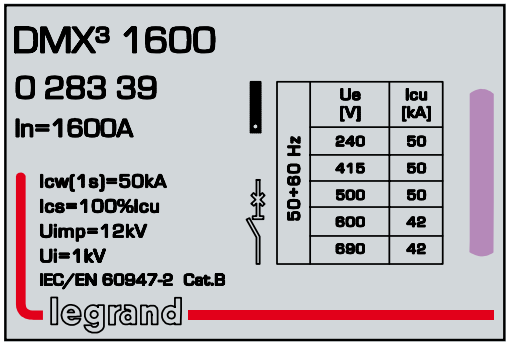
AIR CIRCUIT BREAKERS AND TRIP FREE SWITCHES FROM 630 TO 1600 A

DMX³ circuit breakers are available in two breaking capacities (42 kA and 50 kA), in 5 rated currents (from 630 A to 1600 A), in fixed and draw-out versions.

Icu (415~)		42 kA				50 kA			
		FIXED		DRAW-OUT		FIXED		DRAW-OUT	
	In (A)	3P	4P	3P	4P	3P	4P	3P	4P
DMX³ 1600	630	0 283 20	0 283 25	0 283 40	0 283 45	0 283 30	0 283 35	0 283 50	0 283 55
	800	0 283 21	0 283 26	0 283 41	0 283 46	0 283 31	0 283 36	0 283 51	0 283 56
	1000	0 283 22	0 283 27	0 283 42	0 283 47	0 283 32	0 283 37	0 283 52	0 283 57
	1250	0 283 23	0 283 28	0 283 43	0 283 48	0 283 33	0 283 38	0 283 53	0 283 58
	1600	0 283 24	0 283 29	0 283 44	0 283 49	0 283 34	0 283 39	0 283 54	0 283 59
	BASE	-	-	0 281 53	0 281 54	-	-	0 281 53	0 281 54

		FIXED		DRAW-OUT	
	In (A)	3P	4P	3P	4P
DMX³-I 1600	1000	0 282 62	0 282 67	0 284 92	0 284 97
	1250	0 282 63	0 282 68	0 284 93	0 284 98
	1600	0 282 64	0 282 69	0 284 94	0 284 99
	BASE	-	-	0 281 53	0 281 54

Example of a label with a breaking capacity of 50 kA



DMX³ 42 kA

DMX³ 50 kA

In=1250A	Rated current
Icw(1s)=42kA	Short time withstand current
Ics=100%Icu	Rated short-circuit service breaking capacity
Uimp=12kV	Rated impulse withstand voltage
Ui=1kV	Rated insulation voltage
IEC/EN 60947-2	Normative compliance
Cat.B	Category of use

BREAKING CAPACITIES & RATED CURRENTS					
	630 A	800 A	1000 A	1250 A	1600 A
DMX³	42 kA fixed and draw-out				
DMX³	50 kA fixed and draw-out				
DMX³-I	Fixed and draw-out				

COMPLETE AIR CIRCUIT BREAKERS FROM 630 A TO 1600A WITH PROTECTION UNIT

In order to meet market needs and gain responsiveness, specific catalogue numbers have been created. They include the DMX³ + the protection unit.

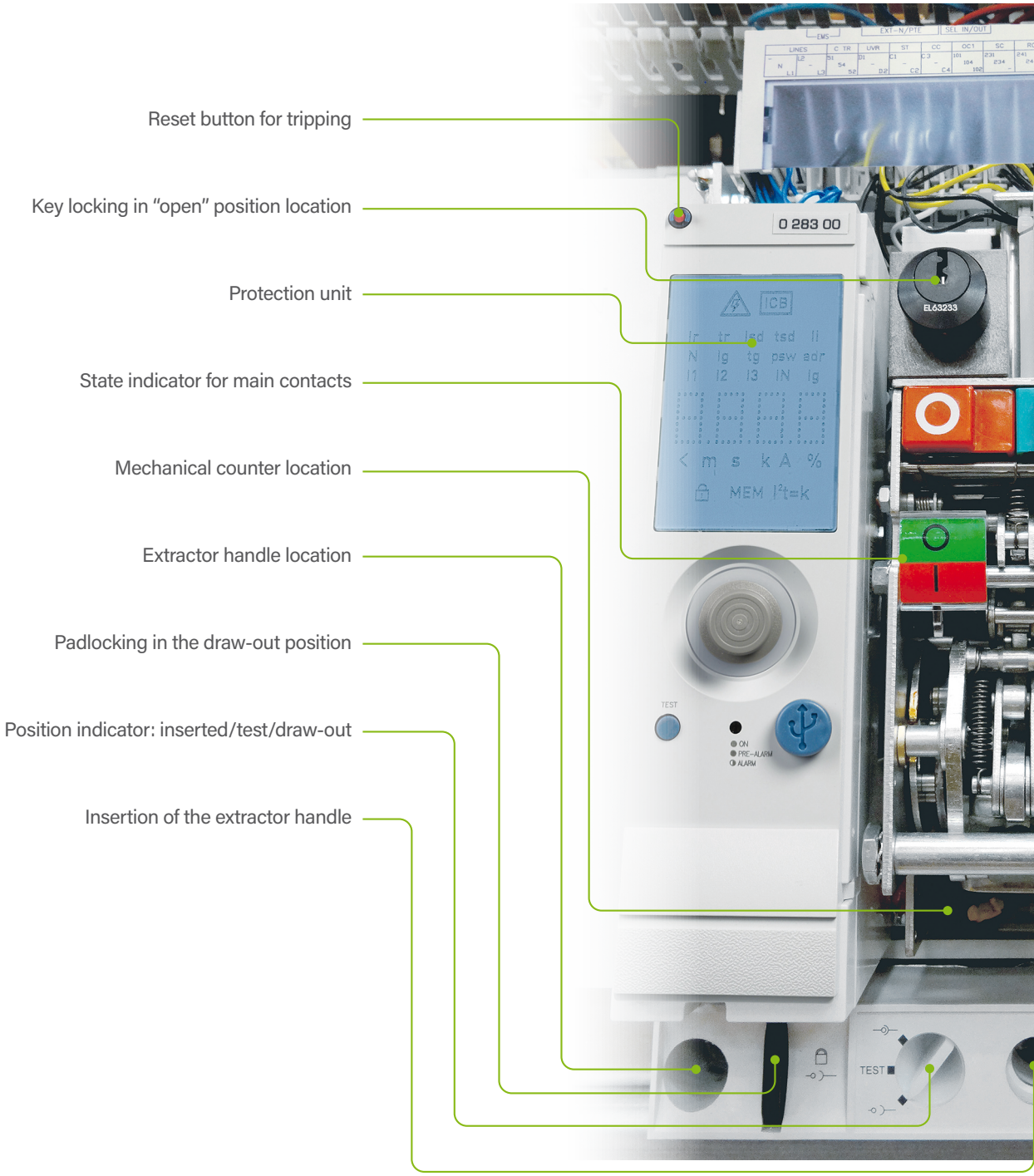
Cat.Nos(1)	Description	MP4.10 protection unit
0 282 30	DMX³ 1600 50 kA fixed version 3P 1000 A + protection unit witout measure	0 283 02
0 282 31	DMX³ 1600 50 kA fixed version 3P 1600 A + protection unit witout measure	0 283 02
0 282 32	DMX³ 1600 50 kA fixed version 4P 1000 A + protection unit witout measure	0 283 02
0 282 33	DMX³ 1600 50 kA fixed version 4P 1600 A + protection unit witout measure	0 283 02
0 282 35	DMX³ 1600 50 kA draw-out version 3P 1000 A + protection unit witout measure	0 283 02
0 282 36	DMX³ 1600 50 kA draw-out version 3P 1600 A + protection unit witout measure	0 283 02
0 282 37	DMX³ 1600 50 kA draw-out version 4P 1000 A + protection unit witout measure	0 283 02
0 282 38	DMX³ 1600 50 kA draw-out version 4P 1600 A + protection unit witout measure	0 283 02

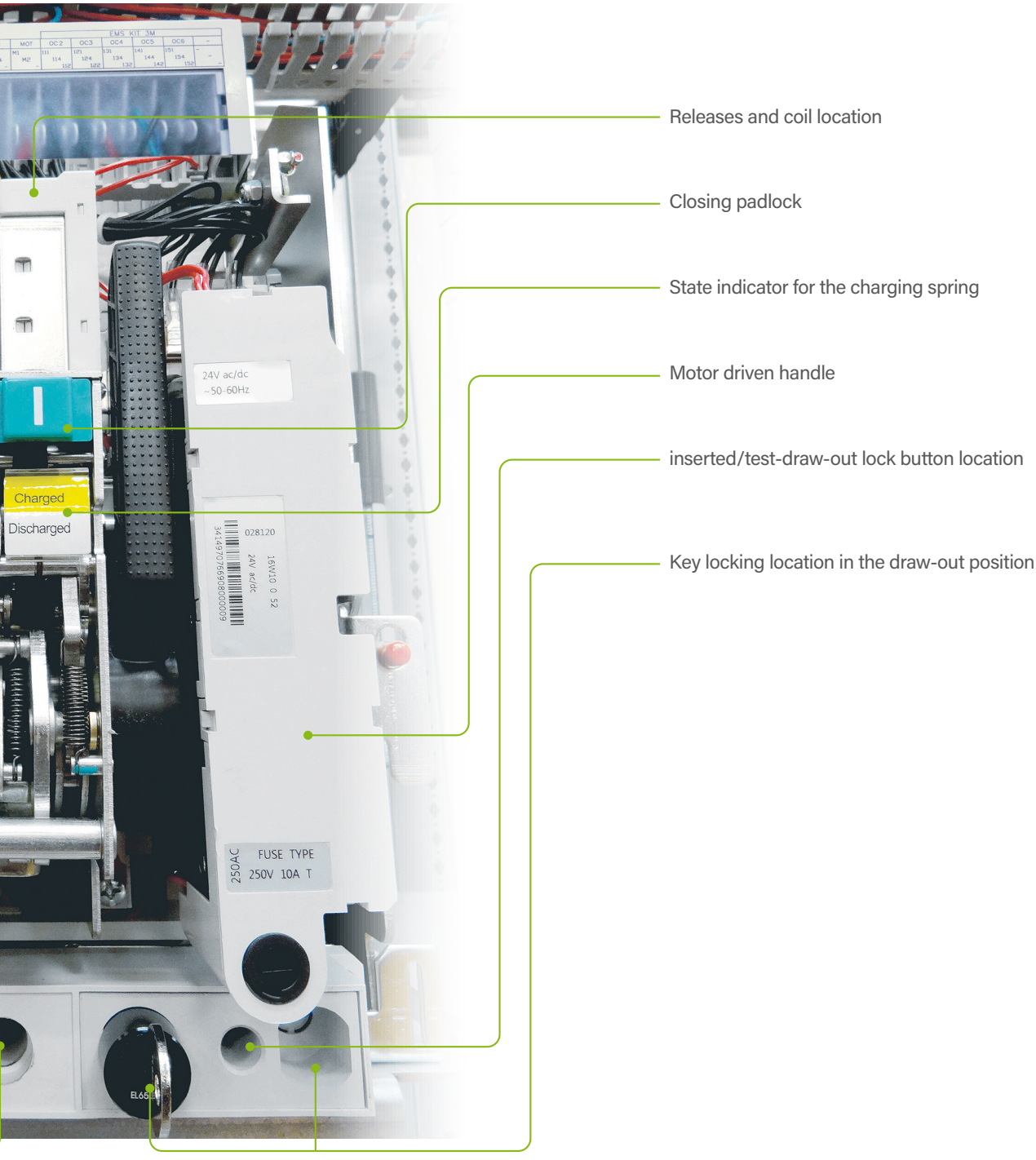
(1) - Rear terminals not mounted
- If draw-out version: mobile part only

Cat.Nos(1)	Description	MP2.10 protection unit
0 282 20	DMX³ 1600 42 kA draw-out version 3P 630 A + protection unit without measure	0 283 00
0 282 21	DMX³ 1600 42 kA draw-out version 3P 800 A + protection unit without measure	0 283 00
0 282 22	DMX³ 1600 42 kA draw-out version 3P 1000 A + protection unit without measure	0 283 00
0 282 23	DMX³ 1600 42 kA draw-out version 3P 1250 A + protection unit without measure	0 283 00
0 282 24	DMX³ 1600 42 kA draw-out version 3P 1600 A + protection unit without measure	0 283 00
0 282 25	DMX³ 1600 42 kA draw-out version 4P 630 A + protection unit without measure	0 283 00
0 282 26	DMX³ 1600 42 kA draw-out version 4P 800 A + protection unit without measure	0 283 00
0 282 27	DMX³ 1600 42 kA draw-out version 4P 1000 A + protection unit without measure	0 283 00
0 282 28	DMX³ 1600 42 kA draw-out version 4P 1250 A + protection unit without measure	0 283 00
0 282 29	DMX³ 1600 42 kA draw-out version 4P 1600 A + protection unit without measure	0 283 00

(1) - Rear terminals not mounted
- If draw-out version: mobile part only

FRONT PANEL OF THE DMX³ 1600




Releases and coil location
Closing padlock
State indicator for the charging spring
Motor driven handle
inserted/test-draw-out lock button location
Key locking location in the draw-out position
24V ac/dc
~50-60Hz
Charged
Discharged
FUSE TYPE
250V 10A T
250AC

ELECTRICAL ACCESSORIES

1- Shunt trip

The current shunt trip allows instantaneous opening of the DMX³ by energising the coil: negative safety.

The rising edge of this electrical command is given by a NO external contact (for example an emergency stop) and not by the protection unit.

The shunt trip comes with a connector (male + female) to be inserted into slots C1 and C2 on the DMX³ terminal block.

The shunt trip can support being energised permanently.

ST = Shunt Trip
UVR = Undervoltage Release
CC = Closing Coil

It is possible to equip the DMX^3 with 2 shunt trips: the first is placed in the slot marked "ST" and the second is placed in the slot for the undervoltage release marked "UVR". In this case, the second shunt trip will be connected to terminals D1 and D2.

After a closing command, it is necessary to allow a period of 50 ms before issuing an opening command.

Cat.Nos	Operating voltage
0 281 31	24 V AC/DC
0 281 32	48 V AC/DC
0 281 33	110-130 V AC/DC
0 281 34	220-250 V AC/DC
0 281 35	415-440 V AC

TECHNICAL CHARACTERISTICS

Rated voltage (Uc)	AC: 24V; 48V; 110V to 130V; 220V to 250V; 415V to 440V DC: 24V; 48V; 110V to 130V; 220V to 250V
Operating voltage range (%Uc)	70 to 110
Power dissipated at launch (W/VA)	400/400
Response time (ms)	300
Power dissipated during operation (W /VA)	50 / 50
Opening time (ms)	50
Insulation voltage (kV)	2.5

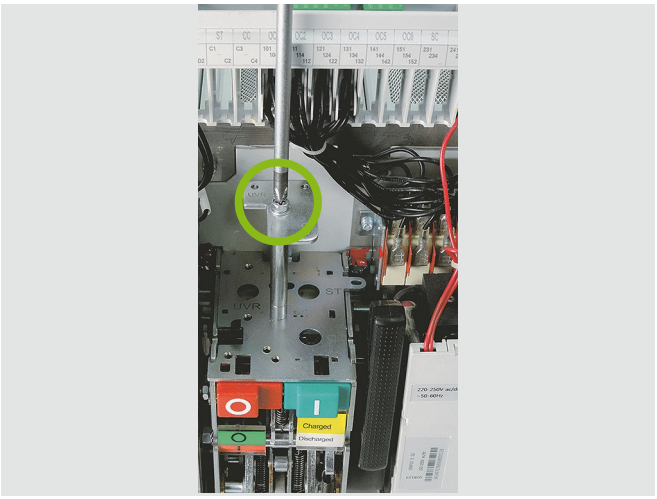
MOUNTING

Before any intervention, check that the DMX^3 is in the "OFF" position (contacts open), drawn-out (if necessary) and the discharged spring.

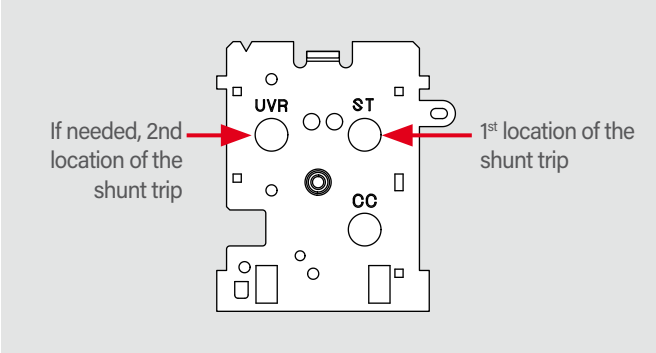
Remove the 4 screw caps from the front panel and then the 4 screws (Philips impression tip n°1) and remove the front panel.

Remove the plastic cover from the terminal block.

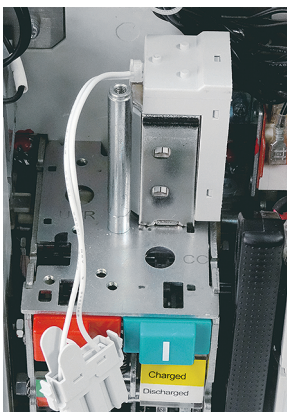
Remove the screw (Philips impression tip no.2) from the release holding plate and remove the plate.



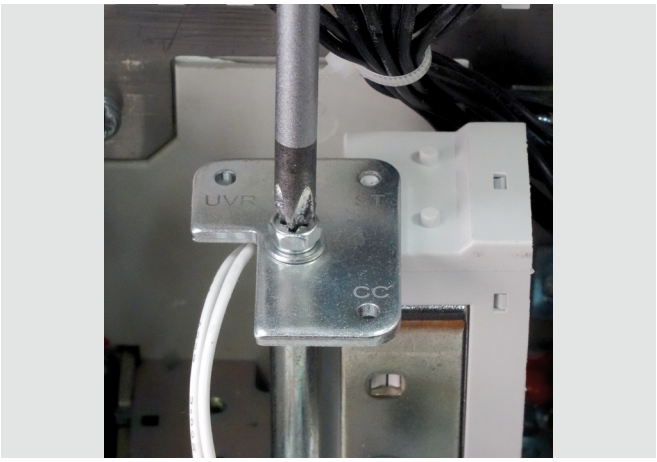
Top view of the DMX^3



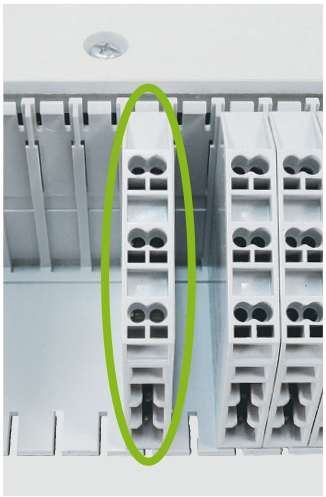
Insert the metal pins of the trigger correctly into the DMX^3 holes.

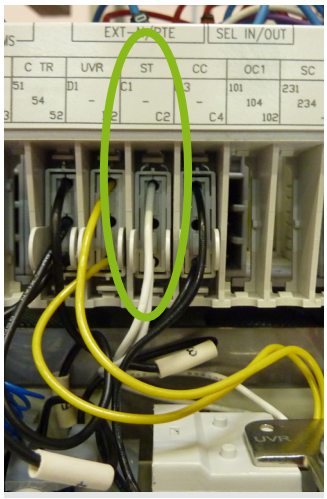


Replace the retaining plate and then replace it with the screw (Philips impression cap no. 2, tightening torque 3 Nm).

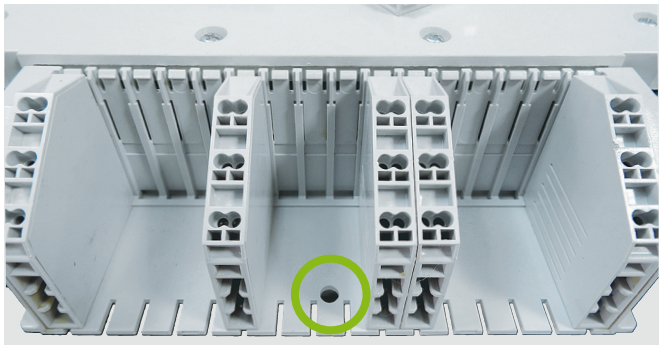


Clip the connector and terminal block into the dedicated slots: here ST (Shunt Trip).





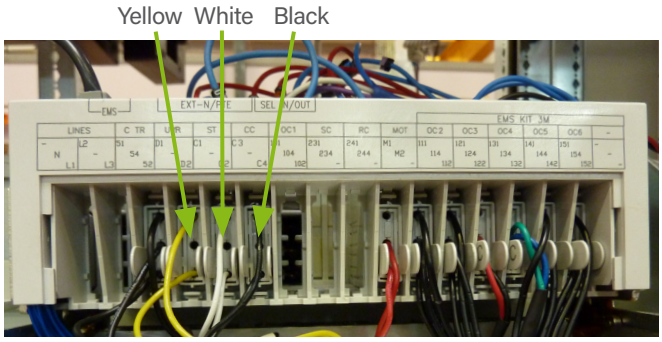
For a fixed version, it is necessary to remove the OC1 and OC2 terminals in order to access the hole provided for the screwdriver passage (fixing the holding plate).



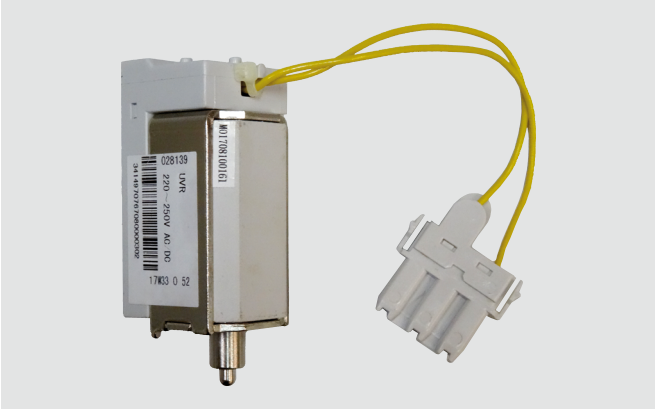
Replace the plastic cover of the terminal block, then the front panel using the 4 screws (Philips impression cap n°1, tightening torque of 1 Nm), then the screw covers.

Re-insert the DMX³ if necessary.

The cables are visually marked according to the type of trip unit:
- Yellow: Undervoltage Release (UVR)
- White: Shunt Trip (ST)
- Black: Closing Coil (CC)



2- Undervoltage release



The undervoltage release allows instantaneous opening of the DMX³ by powering off the coil: positive safety.

The descending edge of this electrical command is given by a NC external contact (for example an emergency stop) and not by the protection unit.

The undervoltage release comes with a connector (male + female) to be inserted into slots D1 and D2 on the DMX³ terminal block.

Only one undervoltage release can be installed per device. The latter must be in the slot marked "UVR".

ST = Shunt Trip
UVR = Undervoltage Release
CC = Closing Coil

Cat.Nos	Operating voltage
0 281 36	24 V AC/DC
0 281 37	48 V AC/DC
0 281 38	110-130 V AC/DC
0 281 39	220-250 V AC/DC
0 281 40	415-440 V AC

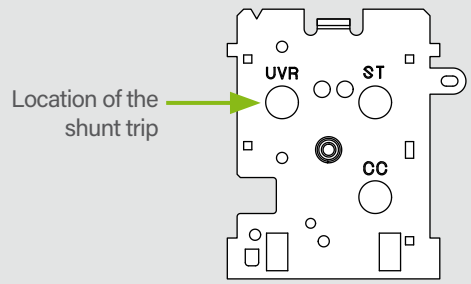
TECHNICAL CHARACTERISTICS

Rated voltage (Uc)	AC: 24V; 48V; 110V to 130V; 220V to 250V; 415V to 440V DC: 24V; 48V; 110V to 130V; 220V to 250V
Operating voltage range (%Uc)	85-110
Power dissipated at launch (W/VA)	400/400
Response time (ms)	300
Power dissipated during operation (W /VA)	50 / 50
Opening time (ms)	60
Insulation voltage (kV)	2.5

MOUNTING

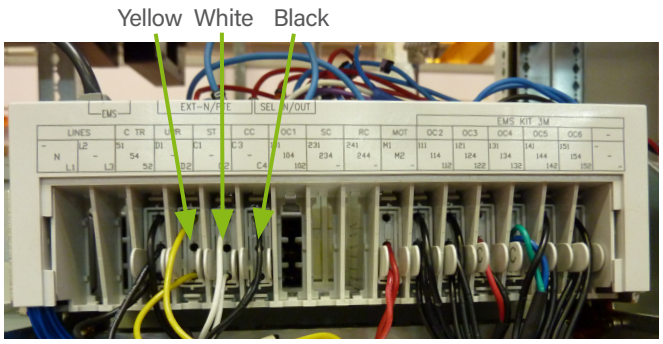
Before any intervention, check that the DMX³ is in the "OFF" position (contacts open), drawn-out (if necessary) and the spring discharged.

Top view of the DMX³



The assembly operations are identical for both shunt trip (shunt trip and undervoltage release) as well as for the closing coil. However, be sure to respect the dedicated spaces and the specific installation requirements depending on the version (draw-out or fixed).

The cables are visually marked according to the type of trip unit:
- Yellow: Undervoltage Release (UVR)
- White: Shunt Trip (ST)
- Black: Closing Coil (CC)



3- Closing coil

If the spring is charged and the protection unit is not indicating a fault, this accessory allows to close the contacts of the DMX^3 by powering on the coil.

The rising edge of this electrical command is given by a NO external contact (for example a PLC output) and not by the protection unit.

The closing coil comes with a connector (male + female) to be inserted into slots C3 and C4 on the DMX^3 terminal block.

Only one closing coil can be installed per device. The latter must be placed in the 3rd slot marked "CC".

The closing coil can be under permanent voltage.

ST = Shunt Trip
UVR = Undervoltage Release
CC = Closing Coil

Cat.Nos	Operating voltage
0 281 26	24 V AC/DC
0 281 27	48 V AC/DC
0 281 28	110-130 V AC/DC
0 281 29	220-250 V AC/DC
0 281 30	415-440 V AC

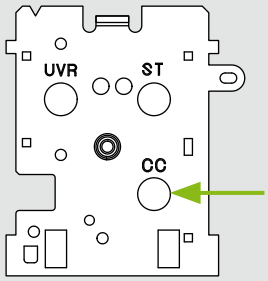
TECHNICAL CHARACTERISTICS

Rated voltage (Uc)	AC: 24V; 48V; 110V to 130V; 220V to 250V; 415V to 440V DC: 24V; 48V; 110V to 130V; 220Vto 250V
Operating voltage range (%Uc)	85-110
Power dissipated at launch (W/VA)	400/400
Response time (ms)	300
Power dissipated during operation (W / VA)	50 / 50
Opening time (ms)	50
Insulation voltage (kV)	2.5

MOUNTING

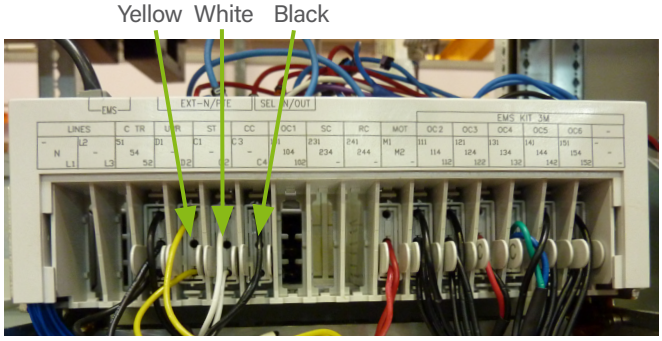
Before any intervention, check that the DMX³ is in the "OFF" position (contacts open), drawn-out (if necessary) and the spring discharged.

Top view of the DMX³

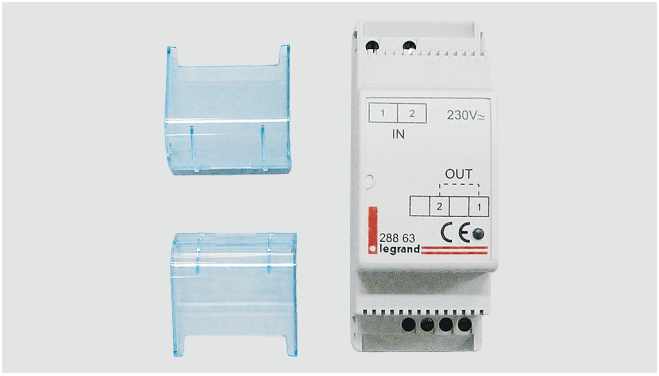


The assembly operations are identical for both shunt trip (shunt trip and undervoltage release) as well as for the closing coil. However, be sure to respect the dedicated spaces and the specific installation requirements depending on the version (draw-out or fixed).

The cables are visually marked according to the type of trip unit:
- Yellow: Undervoltage Release (UVR)
- White: Shunt Trip (ST)
- Black: Closing Coil (CC)



4- Time-lag module for undervoltage release



These modules are used to delay the intervention of an undervoltage release installed in a DMX^3 by up to 3 seconds during a micro-break. These delay modules combine with standard undervoltage releases Cat.No 0 281 38 (110 V) and Cat.No 0 281 39 (230 V).

A single module is used to obtain a delay of one second. Connecting 3 modules in series obtains a maximum delay of 3 seconds.

When using an emergency stop, it must be of type NC, and should be placed between the output of the last delay module and the undervoltage release.

Before turning on the delay module, you must ensure that the undervoltage release is connected. Power the module for at least 1 second to obtain its full operating capacity. Multiply this time by the number of modules installed. Before working on the wiring downstream of the delay module, wait a minute after switching off the power supply to avoid any electric shocks.

Protection for this delay module must be placed upstream of the DMX^3 where the undervoltage release is to be installed.

Cat.Nos	Operating voltage
0 288 62	110 V AC/DC
0 288 63	230 V AC/DC

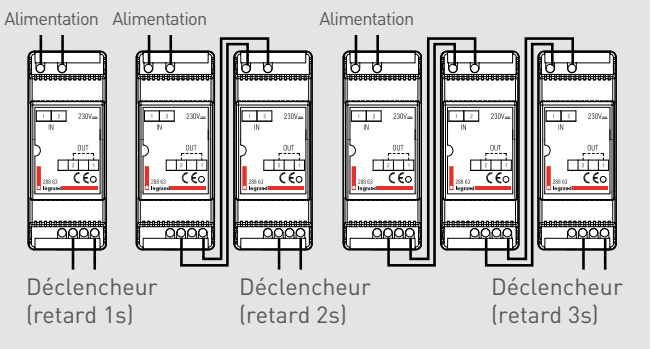
CARACTÉRISTIQUES TECHNIQUES

Rated voltage (Uc)	AC: 110V / 230V DC: 110V / 230V
Operating voltage range (%Uc)	85 to 10
Power dissipated at launch (W / VA)	16.5 (110V) / 34.5 (230V)
Delay (s) Uc	1(1)
Holding power (W / VA)	5 (110V) / 10 (230V)
Opening operating threshold	0.35 to 0.7 Un
Closing operating threshold	0.85 Un
Operating temperature (°C)	-10 to +55

(1) Possibility - up to 3 modules -1s delay for each module installed

MOUNTING

Example with item Cat.No 0 288 63 (same mounting for item Cat.No 0 288 62):



5- Motor operator

The motor operator is used to reset the closing spring automatically. Its starting and stopping are automatic if voltage is present at its terminals.

It is preferable to have a constant voltage at the terminals so that the DMX^3 can operate quickly.

The motor operator comes with a connector (male + female) to be inserted into slots M1 and M2 slots on the DMX^3 terminal block.

In parallel with its installation, it is possible to add a trip unit (undervoltage release or shunt trip) and a closing coil.

If there is no longer any voltage at the terminals of the motor driven handle, it is always possible to recharge the spring manually.

Cat.nos	Operating voltage
0 281 20	24 V AC/DC
0 281 21	48 V AC/DC
0 281 22	110-130 V AC/DC
0 281 23	220-250 V AC/DC
0 281 24	415-440 V AC

TECHNICAL CHARACTERISTICS

Rated voltage (Uc)	AC: 24V; 48V; 110V to 130V; 220V to 250V; 415V to 440V DC: 24V; 48V; 110V to 130V; 220V to 250V
Operating voltage range (%Uc)	85 to 110
Max. Power dissipated (W / VA)	240 / 240
Max. Current for 80ms	(2 to 3) x In
Charging time (s)	5
Operating frequency (cycles / min)	2

- **Fuse type integrated in the motor driven handle:**

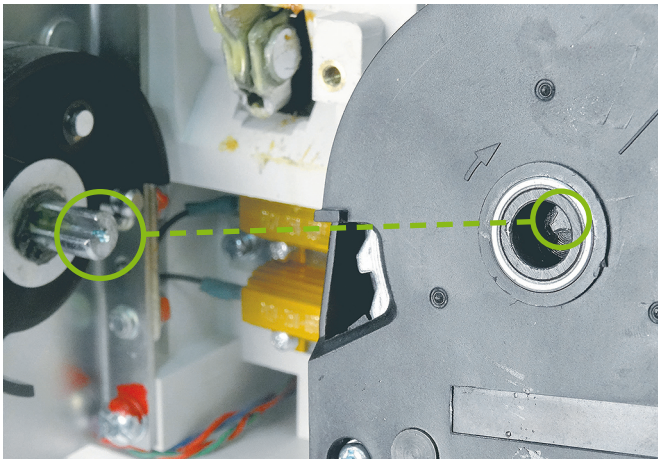
Motor operator	Fuse type
0 281 20	250V - 10A T- 5 x 20mm
0 281 21	250V - 5A T- 5 x 20mm
0 281 22	250V - 2,5A T- 5 x 20mm
0 281 23	250V - 1,25A T- 5 x 20mm
0 281 24	250V - 0,8A T- 6,3 x 20 mm

MOUNTING

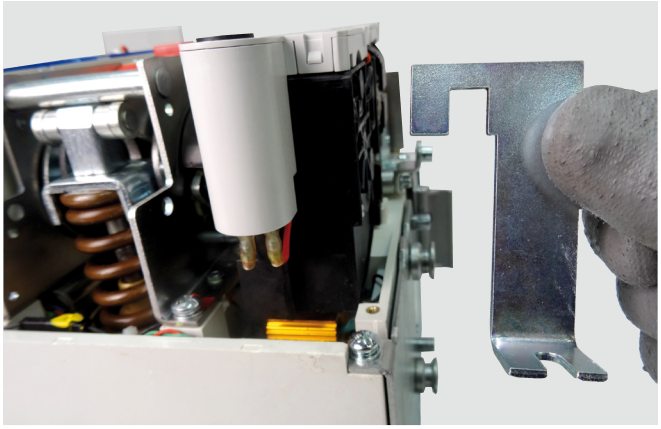
Before any intervention, check that the DMX^3 is in the "OFF" position (contacts open), drawn-out (if necessary) and the spring discharged.

Remove the 4 screw caps from the front panel and then the 4 screws (Philips impression tip n°1) and remove the front panel.

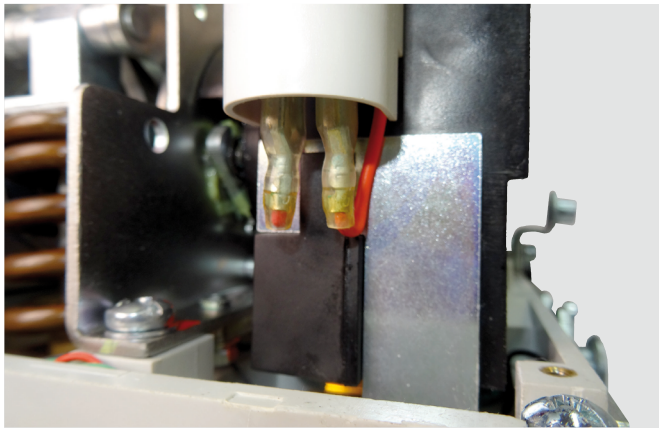
Insert the control by aligning the shaft groove with the coding of the motor driven handle.



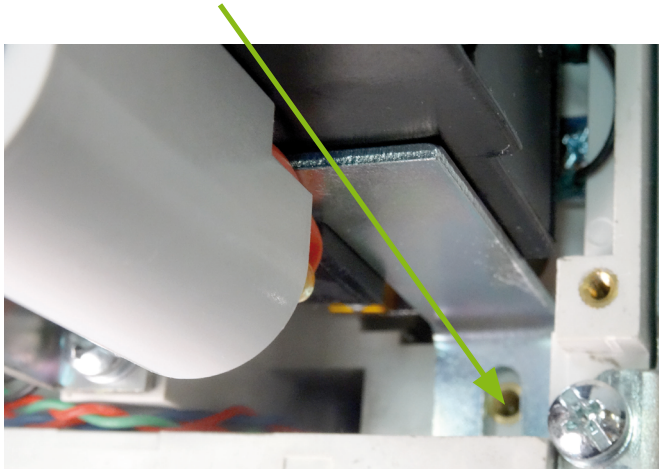
Insert the metal plate correctly and secure it with the screw and washer provided (Philips impression tip no. 2, tightening torque 3 Nm).



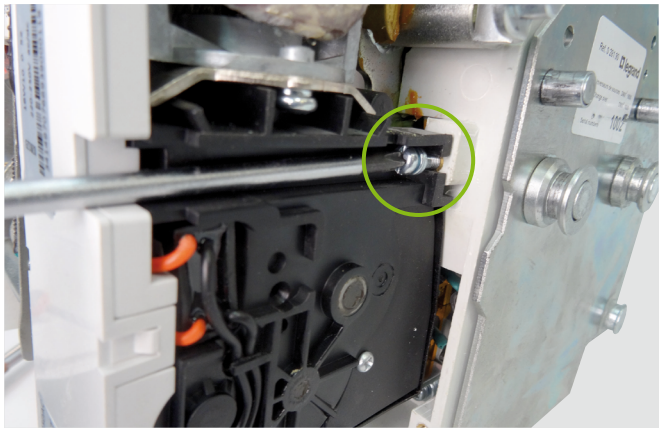
Bottom view



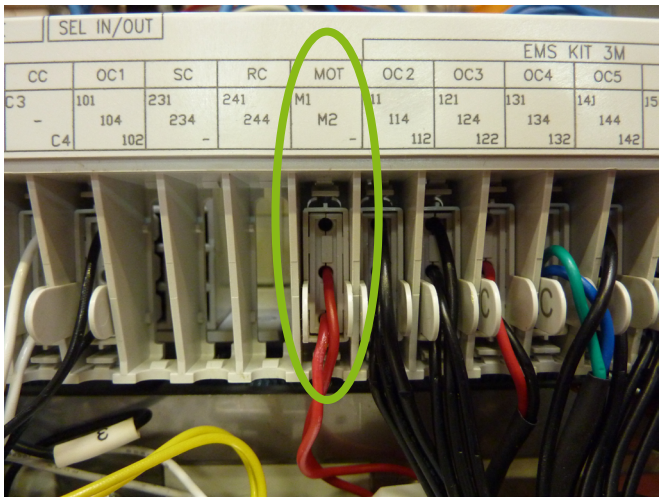
Screw location



Attach the 2nd control holding screw (Philips impression tip no. 2, tightening torque 3 Nm).



Clip the connector and terminal block into the dedicated slots: here MOT (M1/M2).

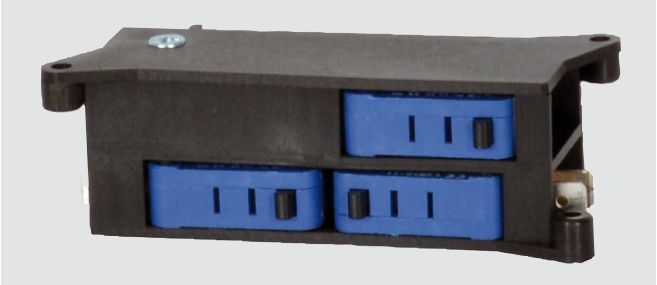


Replace the plastic cover of the terminal block, then the front panel using the 4 screws (Philips impression cap n°1, tightening torque of 1 Nm), then the screw covers.

Re-insert the DMX^3 if necessary and carry out 2 operation tests.

TABLE OF CONTENTS

Signalling contact for inserted/test/ draw-out version (Cat.No 0 281 73)



These contacts allow you to remotely report the position of a DMX³ pluggable in its base: "inserted", "test" or "draw out".

Each contact has a specific function that cannot be modified.

The block has 3 contacts: 1 for the presence of DMX³ in the base ("draw-out"), 1 for the "test" position and 1 for the "draw-out" position.

These contacts are of the changeover type (NO-NC) with dry contact (potential-free). It is possible to install a maximum of 2 contact blocks per DMX³ draw-out version (i.e. 2 contacts per maximum position).

The wiring at the contacts is already done, the cable ends can be connected to an external terminal block.

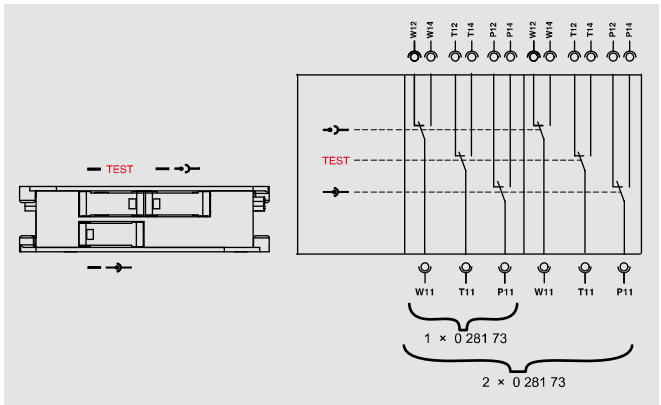
The length of the cables coming out of the base is 1400 mm. Their cross-section is 0.5 mm².

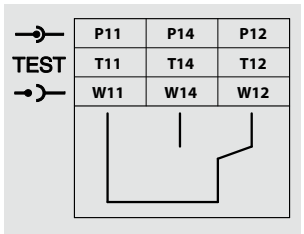
If the base is equipped with a locking button Cat.No 0 281 87, it is impossible to install a second contact Cat.No 0 281 73 located to the left of the base (seen from the front).

TECHNICAL CHARACTERISTICS

Rated voltage (Uc)	DC	250V 0.3A
	AC	250V 16A

- **Layout and wiring principle**





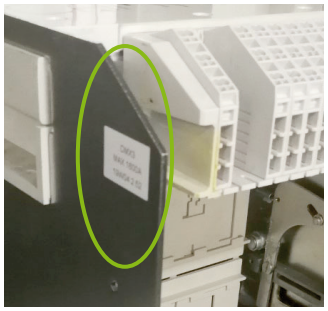
MOUNTING

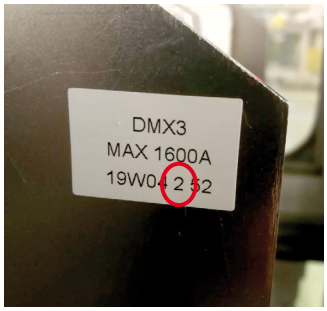
Before any intervention, check that the DMX³ is in the "OFF" position (contacts open), drawn-out (if necessary) and the spring discharged.

First check the version identified on the label attached to the base (2 versions exist):

1st version :

2nd version :





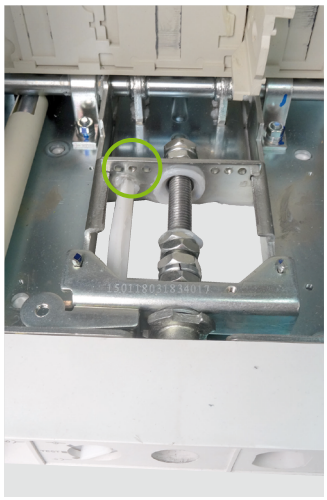
Version ≥ 2 → **OK**

Version < 2 → **contact Legrand**

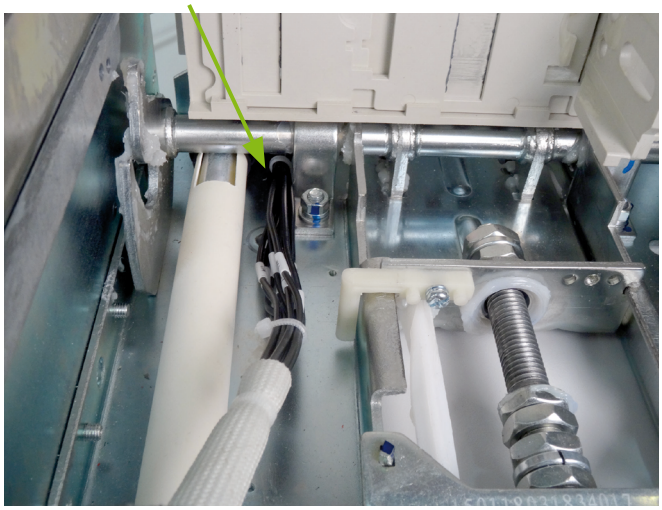
Mounting is identical on the right or on the left, observing the mounting direction described in the instructions.

Mounting example on the left

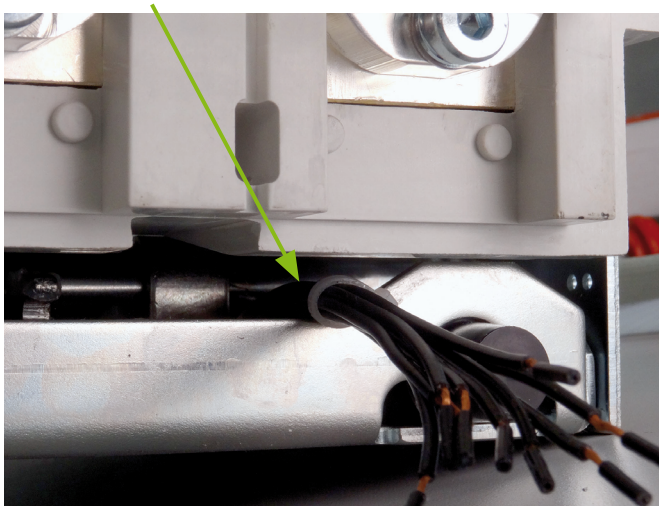
Install the plastic bracket in the position shown below and secure it with the screw provided (Philips impression cap no. 2, tightening torque 3 Nm).



Run the contact wires through the back of the base:



Back of the base



Secure the contact block with the 2 screws provided (Philips impression cap no. 1, tightening torque 1 Nm).

Re-insert the DMX^3 and perform a mechanical and electrical function test by trying all positions (inserted-test-draw-out).

7- Contact " ready to close " with charged springs (Cat.No 0 281 74)

This contact block provides remote feedback of 2 distinct types of information:

– Device ready to close (RC): the contact is closed when the spring is charged, as long as there is no fault detected on the circuit breaker and all safety systems allowing closure are inactive.

– Spring charged: (SC): the contact is closed when the spring is fully charged (electrically or manually).

These contacts are volt-free changeover (NO) contacts.

On the DMX^3 terminal block, the "ready to close" contact is connected to slot "RC" at terminals 241/244 and the "spring charged" contact to slot "SC" at terminals 231/234.

TECHNICAL CHARACTERISTICS

Rated operating voltage (Vn)	**AC 125-250V**	3A
	DC 30V	3A
	DC 250V	0.5A

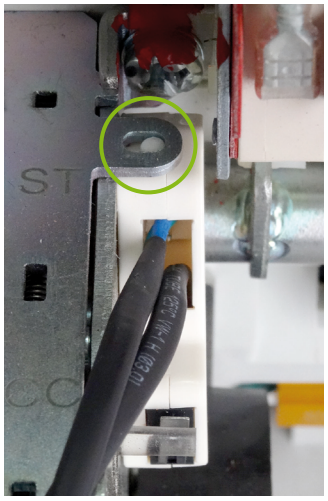
MOUNTING

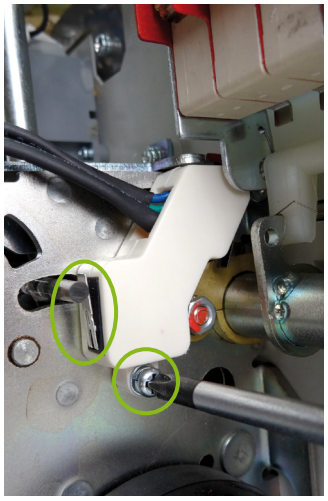
Before any intervention, check that the DMX³ is in the "OFF" position (contacts open), drawn-out, and the spring discharged.

Remove the 4 screw covers from the front panel and then the 4 screws (Philips impression cap no. 1) and remove the front panel.

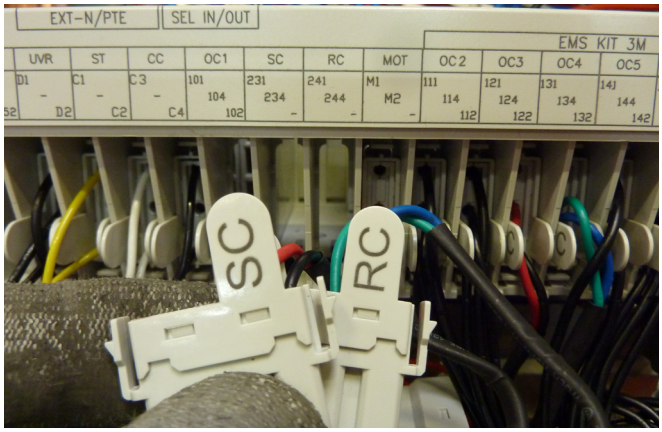
If a motor operator is present, dismantle it beforehand.

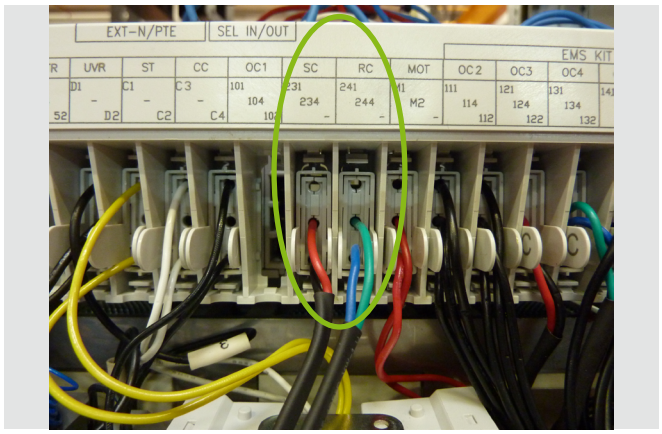
Position the contact, insert and tighten the fixing screw (Philips nipple no. 1, tightening torque 1 Nm).





Clip the 2 connectors at the specific points according to the identified marking.

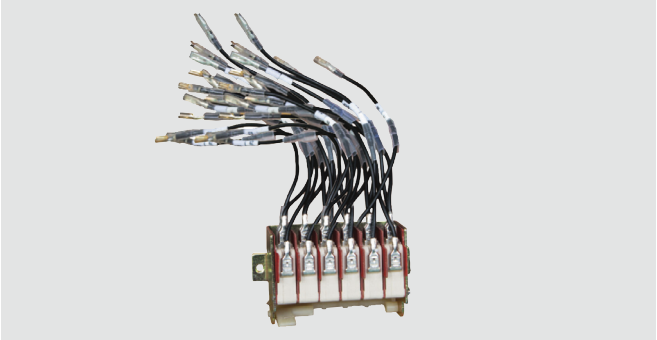




Replace the plastic cover of the terminal block, then the front panel using the 4 screws (Philips impression cap n°1, tightening torque of 1 Nm), then the screw covers.

Re-insert the DMX³ if necessary and carry out 2 function tests.

8- Module with 6 (0 281 75) and 4 (0 281 76) auxiliary contacts



Auxiliary contacts are used to indicate the position of the main contacts of the DMX³ remotely.

These contacts are volt-free changeover (NO/NC) contacts.

When the DMX³ poles are open, the contact is closed between terminals 1x1 and 1x2.

All DMX³ and DMX³-I come with 4 preinstalled auxiliary contacts. This must be removed if the new 6-pin contact block is installed (2 additional to the original).

These contacts are delivered with their male connector (6) as well as 2 female connectors (the 4 original female connectors are kept).

See wiring layout page 34.

TECHNICAL CHARACTERISTICS

Rated operating voltage (Vn)	**AC 125-250V**	16A
	DC 125V	0.6A
	DC 250V	0.3A

9- External auxiliary power supply (Cat. No 0 281 72)

The external power supply provides continuous power to the DMX³ 1600 protection unit. Any other source (not recommanded by Legrand) that could be used instead of the external power supply may interfere with the operation of the protection unit, or even switch it off, thus voiding the DMX³ warranty.

This power supply module must be supplied in 230 V~.

The connection of this external auxiliary power supply to the DMX³ 1600 terminal block must be strictly observed. Reverse wiring may damage the protection unit.

- DMX³ terminal H1 connected to the - terminal of the power supply Cat.No 0 281 72 (output 1, 2, 3 or 4).
- DMX³ terminal H2 connected to the + terminal of the power supply Cat.No 0 281 72 (output 1, 2, 3 or 4).

See also the installation of the terminals of the protection unit page 35.

It is possible to have a stable and undisturbed direct power supply (terminals PU1-PU2) provided by an auxiliary line 110-230V AC 50-60Hz (L+L or L+N), protected by a 50mA gR fuse: corrugated power supply for example.

It is necessary to permanently connect external auxiliary power supply.

TECHNICAL CHARACTERISTICS

Power supply	230 V~ 50-60Hz
Dissipated power (W / VA)	≥ 25
Operating temperature (°C)	-10 to +55

The power supply has four independent outputs, designed to provide 400mA each, and to supply 4 DMX^3 1600 simultaneously.

The maximum power consumption of this power supply is 25 V~.

It can be fixed:

- On a standard 35mm rail
- Directly on a support using the holes (2) of the product

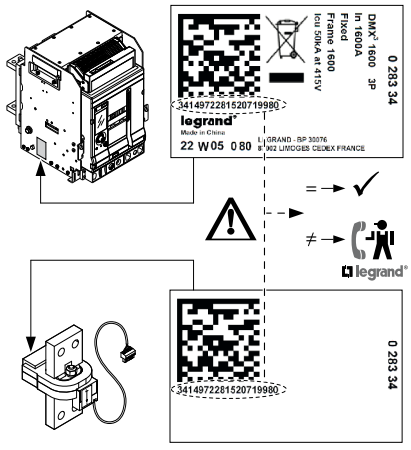
10- External Neutral (Cat.No 0 281 25)

The Rogowski coil is factory-mounted only on the 126 mm bar. It is possible to use the external neutral only with 3-pole circuit breakers (fixed or draw-out) and it is installed in the following cases:

- Neutral protection (with all versions of the protection unit).
- Earth fault protection (with all versions of the protection unit).

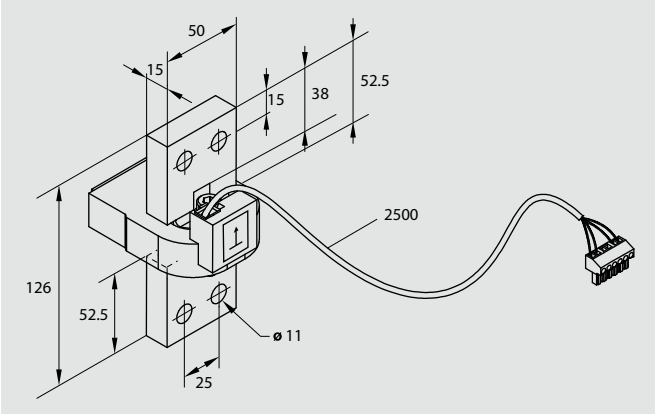
It must be installed at the same level as the DMX^3 and its cable must be as far away as possible from disturbing electromagnetic sources (transformers, etc.) and power conductors.

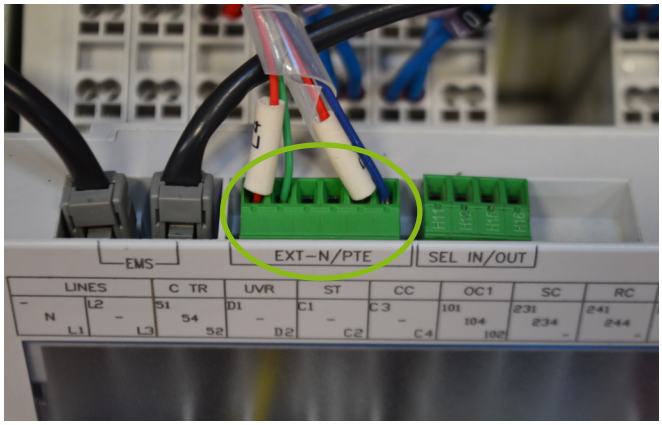
The direction of current flow in the Rogowski coil must be respected (see product instructions).
The terminal block supplied with the coil should be connected to the terminal block of the electronic board of the protection unit
Then check the correct setting of the protection unit.



The identification number of the external Neutral must be the same as the serial number of the circuit breaker.
If this is not the case, it's not possible to connect the DMX^3, please consult us.

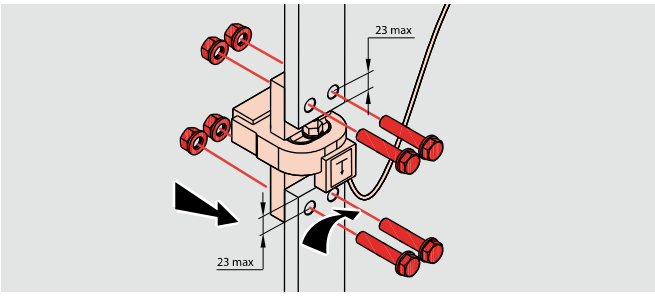
DIMENSIONS



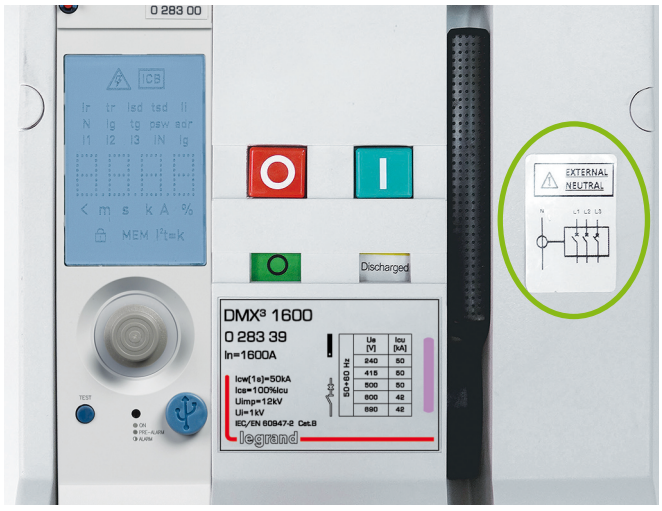


MOUNTING

Before any intervention, check that the DMX³ is in the "OFF" position (contacts open), drawn-out (if necessary) and the spring discharged.



- Fix the bars on the external Neutral (respecting the maximum distance between the axis of the holes and the end of the bars, see illustration above) using 4 screw/nut assemblies: the type of screws, nuts and tightening torque are to be defined by the installer.
- Then insert the connector into the dedicated slot on the provided terminal block. See the installation of the terminals of the protection unit page 35.
- For a protection unit with measure, a Neutral voltage tap should be applied to the DMX³ terminal block.
- Attach the information label on the front panel.



Do not close the DMX³ without first inserting the connector into the terminal block.
Do not remove the connector without first opening the DMX³.

11- CX³ EMS power supply module

The power supply module Cat.No 4 149 45 is part of the part of the CX³ EMS modular system for monitoring energy in electrical panels. Only this power supply dedicated to the CX³ EMS system can be used.

This module supplies power by means of the communication rail and/or cables

TECHNICAL CHARACTERISTICS

- **Display:** none
- **Supply voltage:**
  - primary 95 to 250 V~
  - secondary 12 VDC 500mA
- **Settings parameters:** none
- **Addressing:** none
- **Connection:**
  - power supply via screw terminals
  - power supply distribution via cables or dedicated rail.
- **Fixing:** on DIN rail
- **Dimensions :** 1 module
- **Supplied:** with a white cable for galvanic isolation.

For more information, please consult the technical data sheet

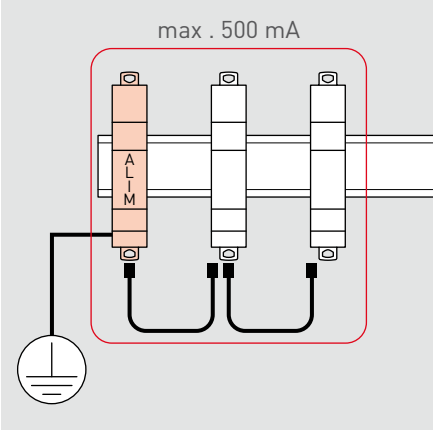
The number of power supplies Cat.No 4 149 45 in an CX³ EMS system depends on how much power is needed for the modules to work correctly.

One power supply module can provide **up to 500 mA**. If the installation needs a higher power rating, an additional power supply module must be installed. A single CX³ EMS BUS must not exceed 1.5 A: i.e. 3 **power supply modules maximum**.

The total number of modules permitted with one power supply depends on their total consumption

The maximum total length allowed for CX³ EMS system must not exceed 3m.

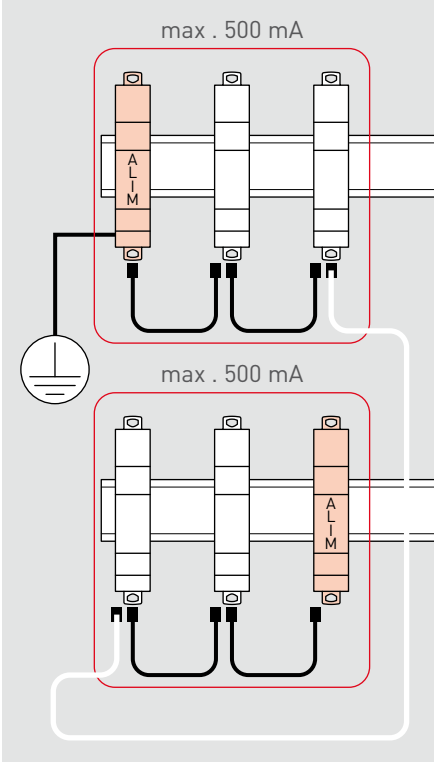
1 CX³ EMS system
1 power supply module



If there are 1 or 2 power supplies, they should be installed at each end of the CX³ EMS system.
If there are 3 power supplies, 2 should be installed at each end of the CX³ EMS system, and the 3rd in the middle.
CAUTION: each set must be connected with a white cable

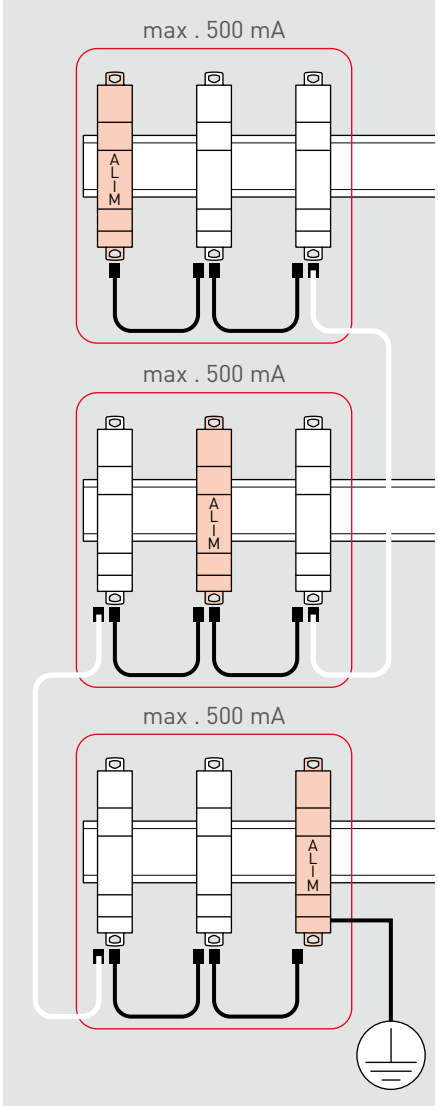
2 power supplies cannot be installed on the same communication rail.

1 CX³ EMS system
2 power supply modules



Each set consisting of "one power supply module and its CX³ EMS modules" should be separated with a special link which must include a white cable (supplied with every power supply module).

1 CX³ EMS system
3 power supply modules



When there are several power supplies in a system, just one of them must be Earthed

CX³ EMS power supply module (continued)

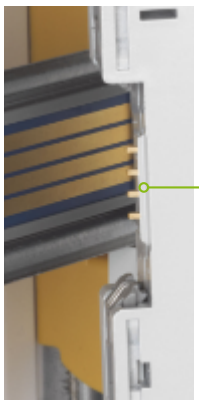
CONNECTION

- **Power supply module:**

Screw connection on the lower side of the module

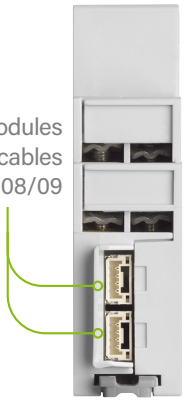
- **BUS CX³ EMS:**

There are 2 possible solutions for connection to the BUS



At the back of the modules
via communication rail
Cat. Nos 4 149 01/02/03

At the bottom of the modules
via communication cables
Cat. Nos 4 149 07/08/09



To protect the power supply module, refer to the information in the product technical data sheet

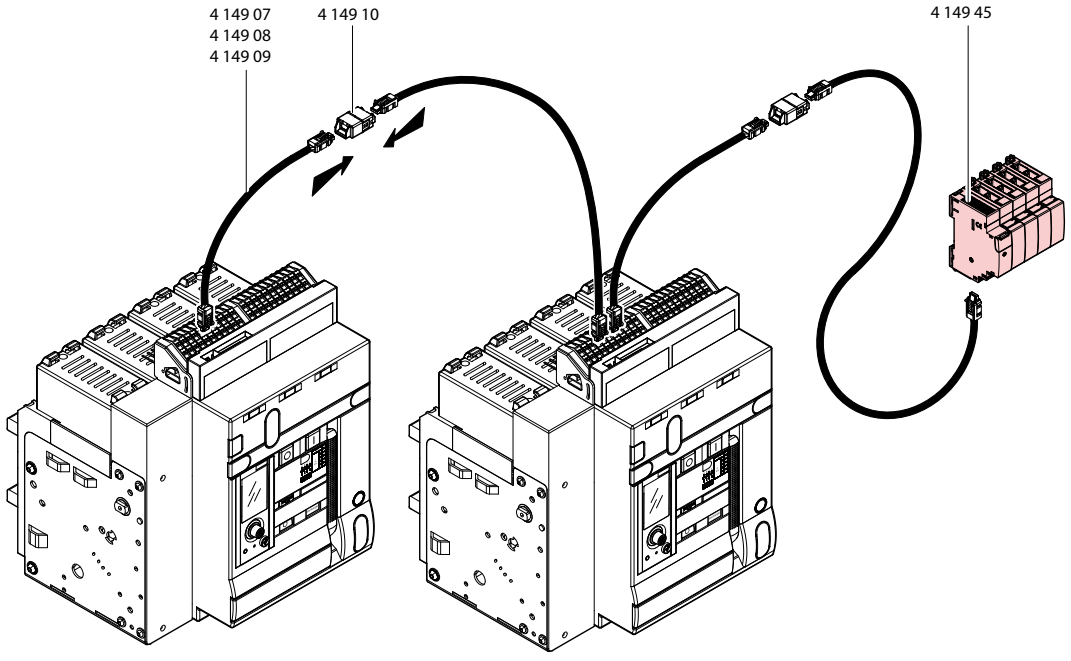
Once the module is positioned on the DIN communication rail, it is not possible to slide it

The CX³ EMS BUS connection specifications are common to all CX³ EMS products and are detailed in the product Instructions
For more information about CX³ EMS power consumption, please consult the technical data sheet

Protection units can be connected to CX³ EMS system via connection cable Cat.Nos 4 149 07/08/09 and connector Cat.No 4 149 10.

- 4 149 07 : connection cable EMS length 250 mm
- 4 149 08 : connection cable EMS length 500 mm
- 4 149 09 : connection cable EMS length 1000 mm

The maximum total length allowed for CX³ EMS system must not exceed 3m.

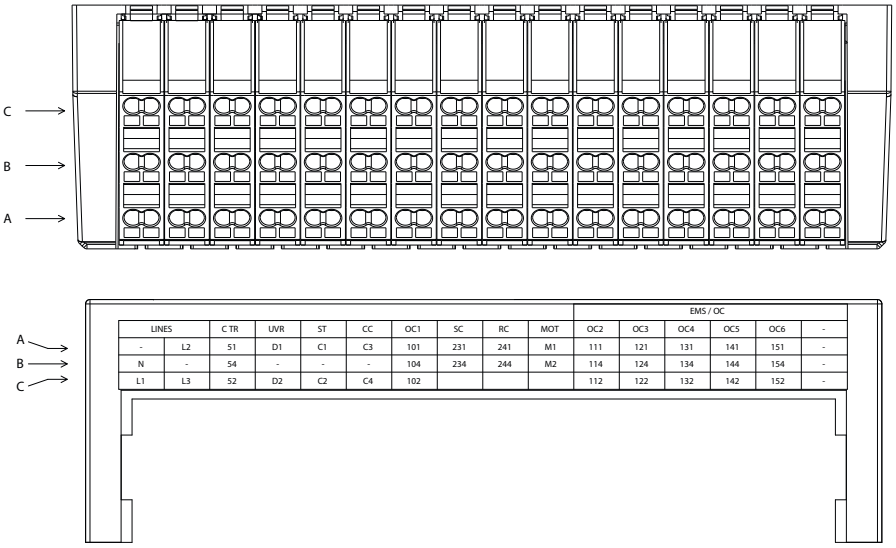


1 power supply module can provide up to 500 mA, so consumption must be calculated in order for the installation to work correctly

POWER CONSUMPTION

CAT.NOS	DESCRIPTION	MAXIMUM CONSUMPTION
0 283 00	MP2.10 protection unit without measure	55 mA
0 283 01	MP2.10 protection unit with measure	69 mA
0 283 02	MP4.10 protection unit without measure	62,5 mA
0 283 03	MP4.10 protection unit with measure	80 mA

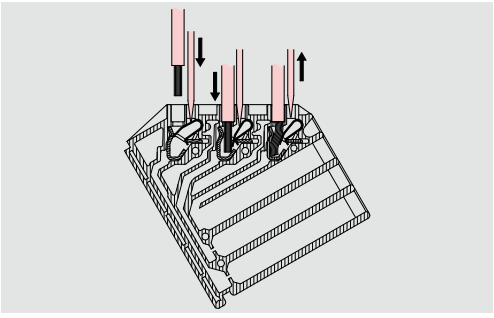
12- Terminal block layout and accessory location



										EMS / OC					
LINES		C TR	UVR	ST	CC	OC1	SC	RC	MOT	OC2	OC3	OC4	OC5	OC6	-
-	L2	51	D1	C1	C3	101	231	241	M1	111	121	131	141	151	-
N	-	54	-	-	-	104	234	244	M2	114	124	134	144	154	-
L1	L3	52	D2	C2	C4	102				112	122	132	142	152	-

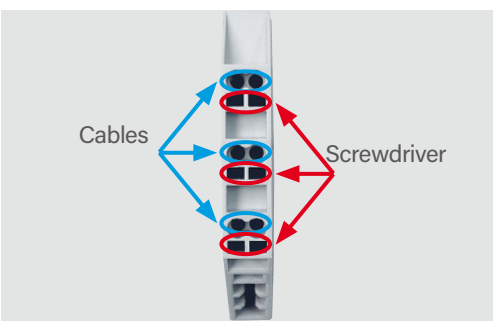
- **Automatic spring-cage terminals**

- Insert a flat screwdriver (3 mm): the spring opens.
- Insert the cable.
- Remove the screwdriver: the spring automatically blocks the cable.



A spring-cage terminal accepts a maximum cross-section of 2.5 mm^2/cable and a maximum number of 2 cables.

It is also possible to insert 2 cables of different cross-sections while respecting the limits detailed below.



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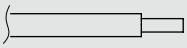
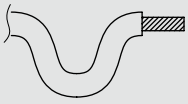
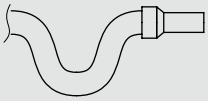
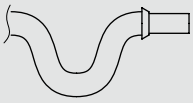
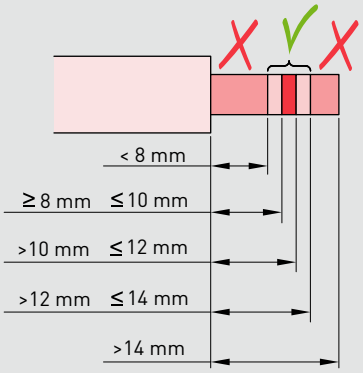
▪ Recommended cross-sections and length

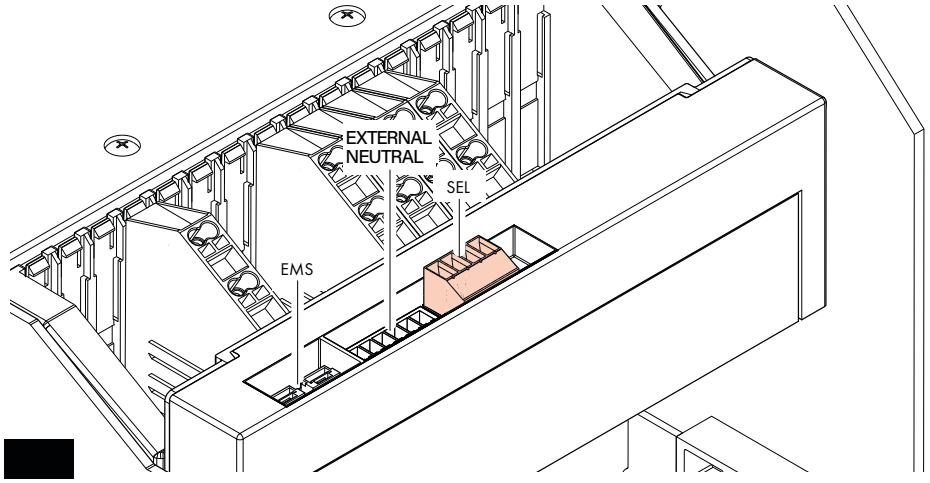
Rigid cable	 1 to 2,5 mm²
Flexible cable without ferrule	
Flexible cable with flanged end cap	
Flexible cable with collarless end cap	

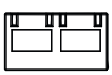
▪ Optimum stripping length: 11 mm

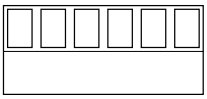


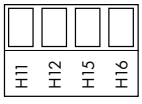
▪ Terminals concerning the protection unit

Draw-out version: wire the circuit-breaker in the fully withdrawn position.




EMS

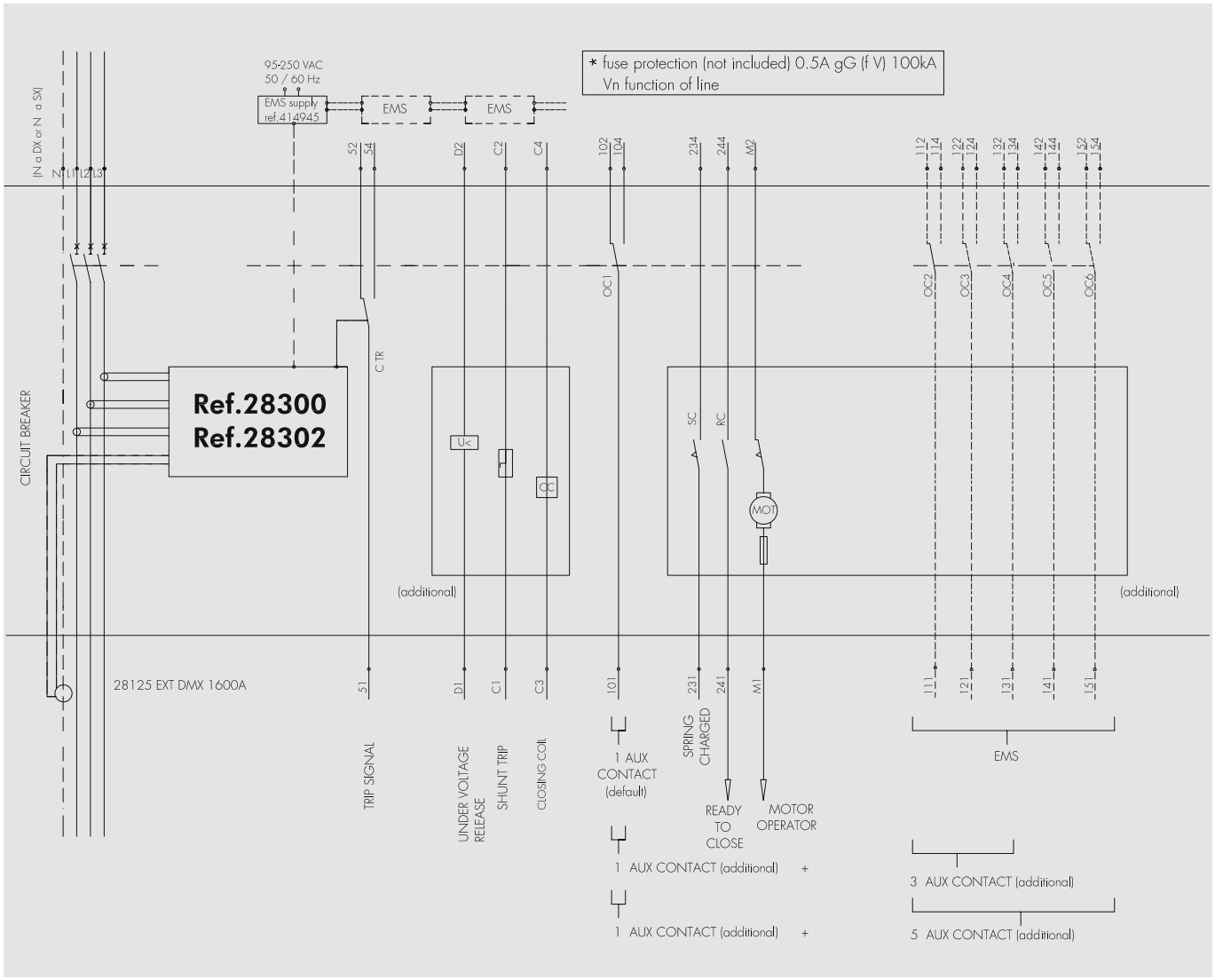

EXTERNAL NEUTRAL
0 281 25 (6 OUTPUTS TERMINAL BLOCK)



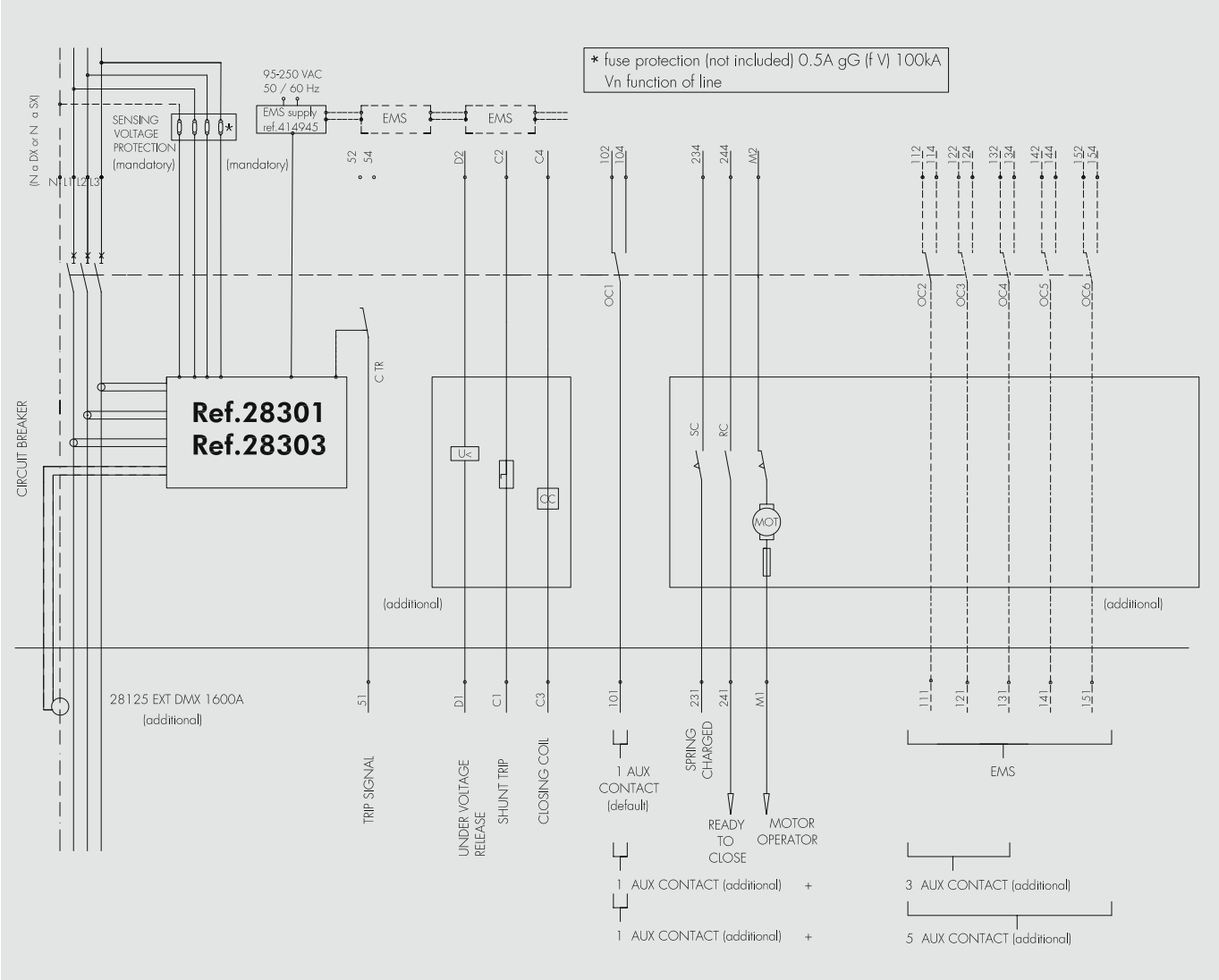
SEL:
H11 - H12 SEL_IN
H15 - H16 SEL_OUT

13- Electrical drawings

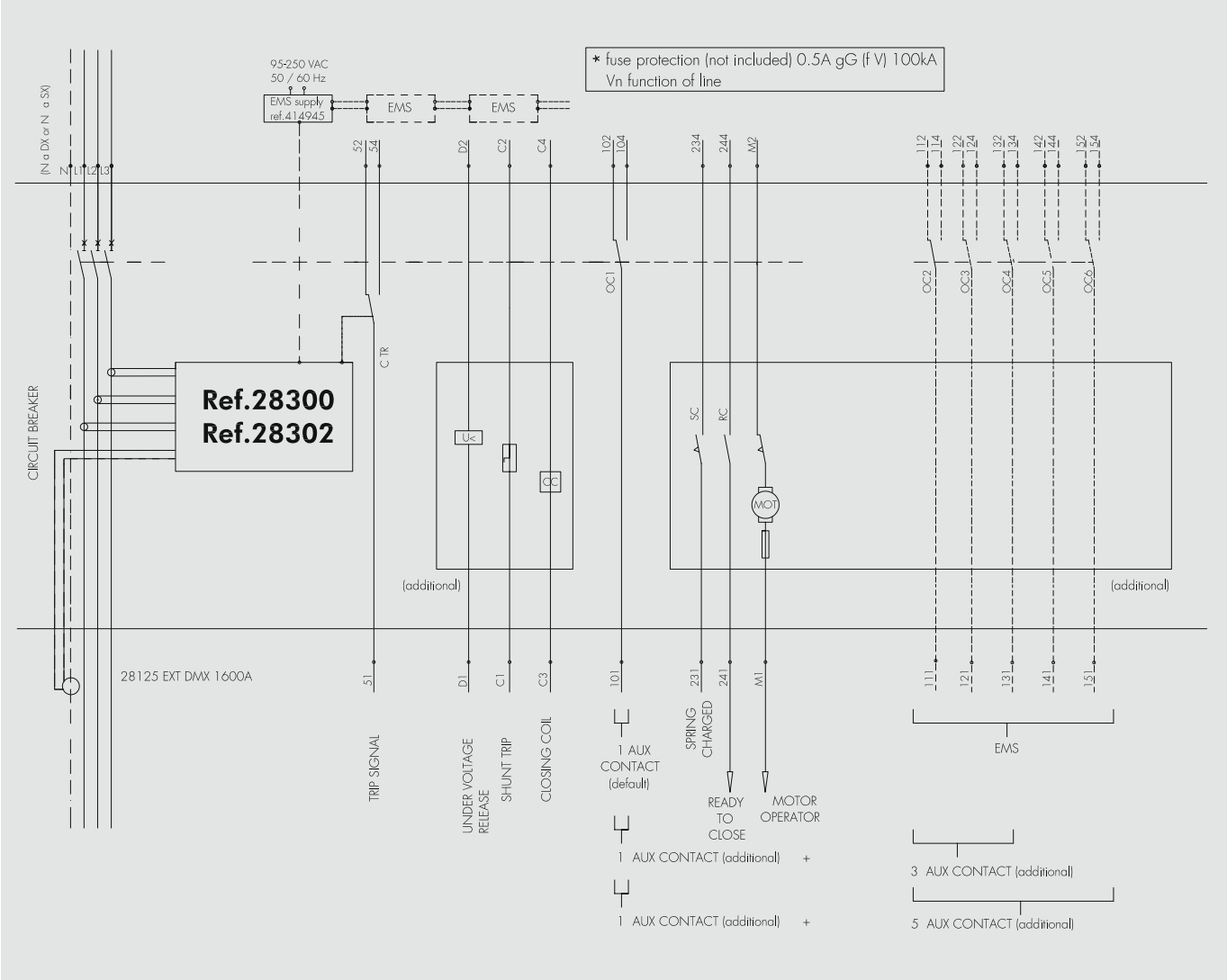
3P CIRCUIT BREAKER WITHOUT MEASURE + EXTERNAL NEUTRAL



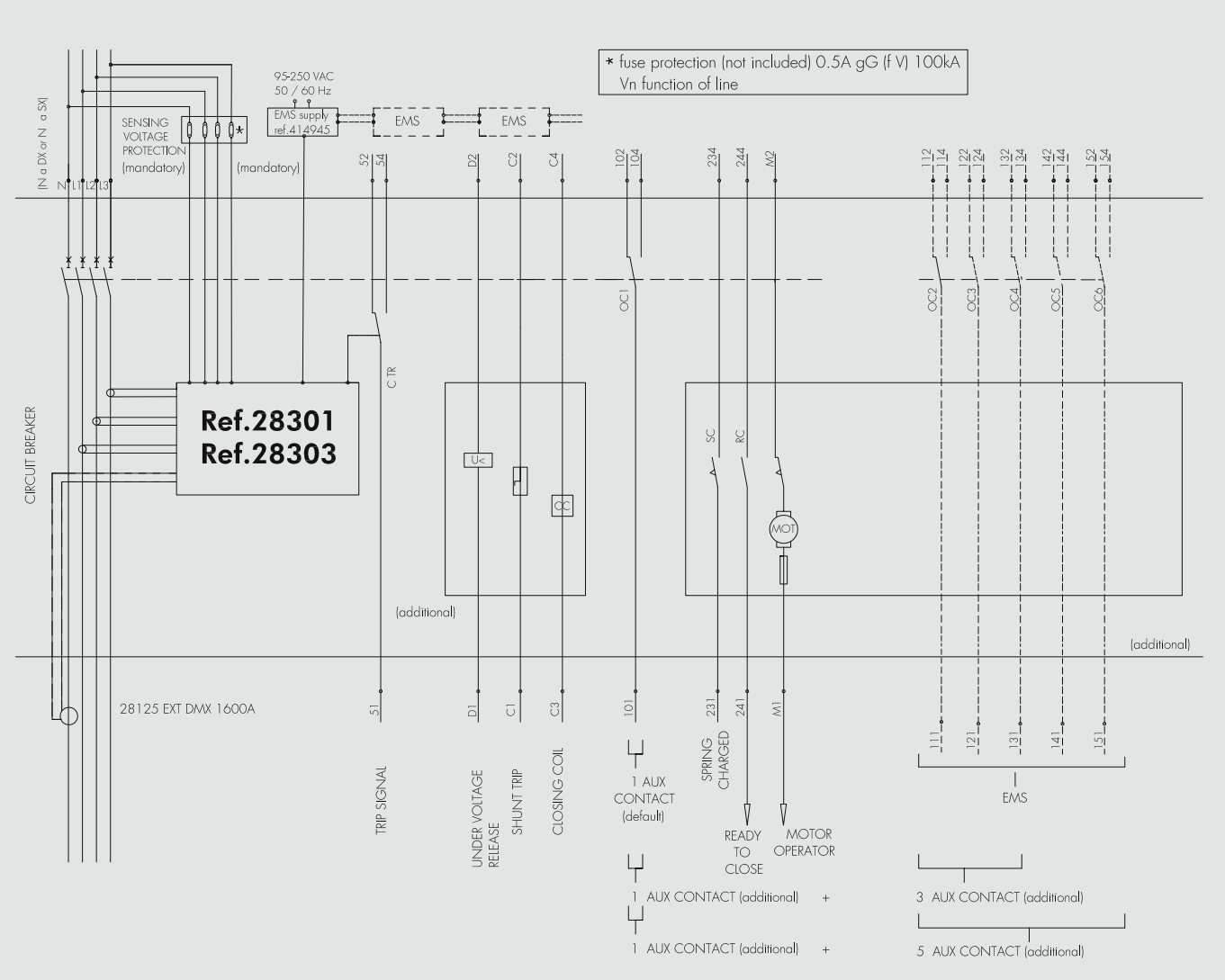
3P CIRCUIT BREAKER WITH MEASURE + EXTERNAL NEUTRAL



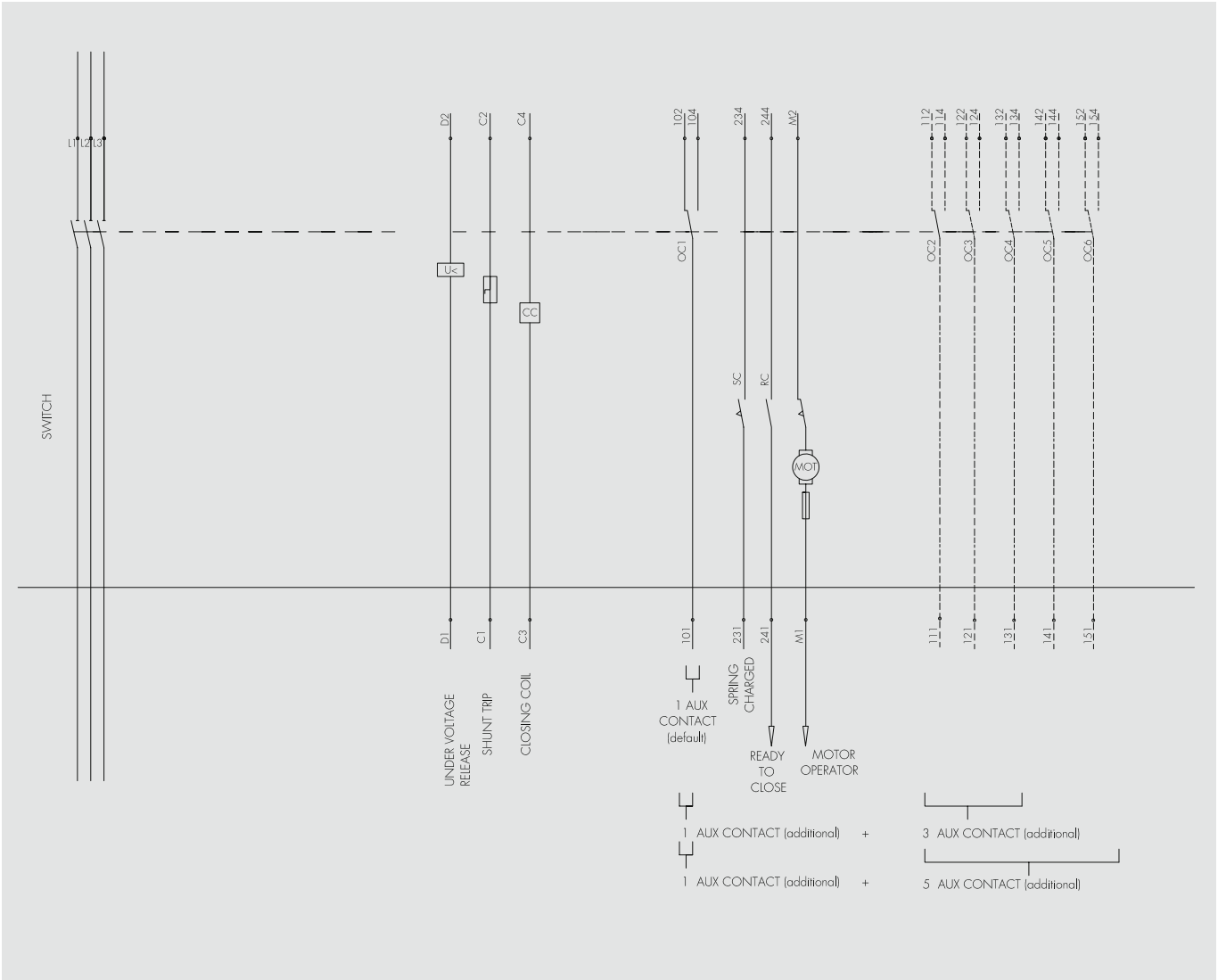
4P CIRCUIT BREAKER WITHOUT MEASURE



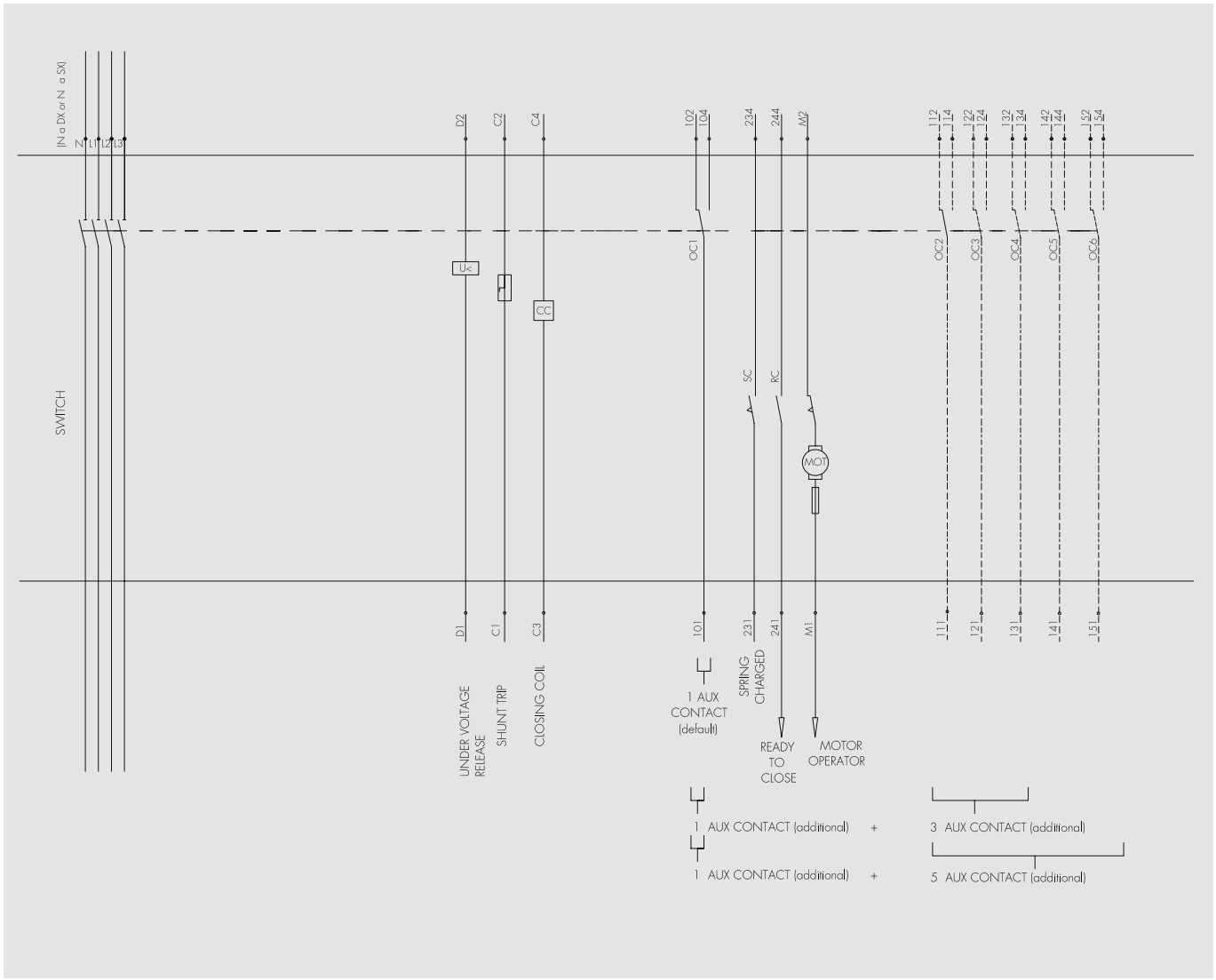
4P CIRCUIT BREAKER WITH MEASURE



3P TRIP-FREE SWITCH



4P TRIP-FREE SWITCH



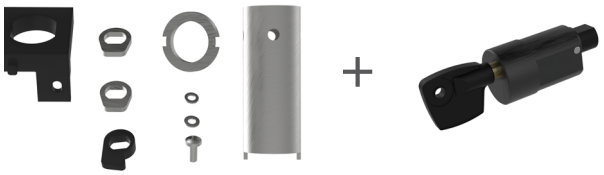
MECHANICAL ACCESSORIES

1- Lock in "open" position

Key barrels (in selection chart below) are to be combined with key locking support Cat.No 0 281 91

Key barrel and flat key with random mapping	**4 238 80**
Key barrel and flat key with fixed mapping EL43525	**4 238 81**
Key barrel and flat key with fixed mapping EL43363	**4 238 82**
Key barrel and star key with random mapping	**4 238 83**

Example Cat.No 0 281 91 + 4 238 83



A lock in the "open" position prevents the DMX³ from closing. It can be installed on fixed or draw-out devices, circuit breaker or switch.

There are 2 types of locking: with a flat key (type RONIS) or with a star key (type PROFALUX).

To lock the DMX³, simply press the OFF button and turn the key 1/4 turn clockwise.

To unlock the DMX³, simply turn 1/4 turn counterclockwise, the OFF button will return to its position.

In the locked position, the key is free. It is then possible to lock the unit in by removing the key.

In the unlocked position, the key cannot be removed.

It is possible to order specific barrels or additional keys specifying the barrel number:

– Flat key : ABA90GEL6149

– Star key : HBA90GPS6149.

It is, however, necessary to order a locking support Cat.No 0 281 91 order to have the different fixing accessories.

MOUNTING

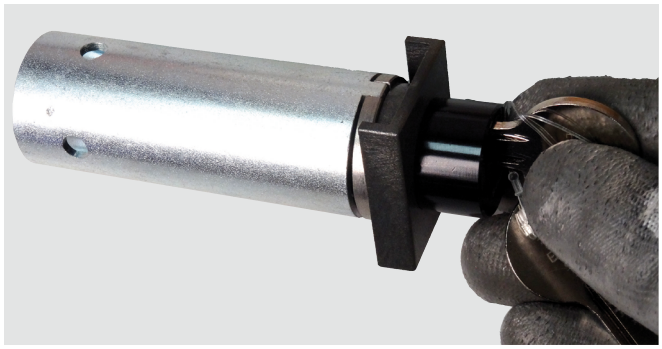
Before any intervention, check that the DMX³ is in the "OFF" position (contacts open), drawn-out (if necessary) and the spring discharged.

Remove the 4 screw covers from the front panel, then the 4 screws (Phillips no 1) and remove the front panel.

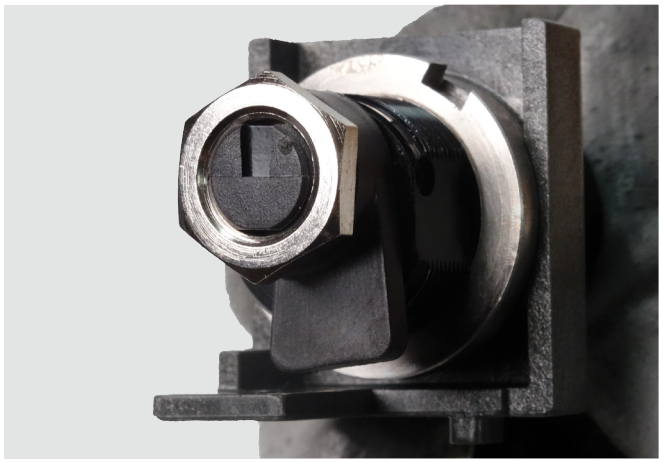
Remove the lock location at the rear of the front panel using a 23 mm drill (or other tool).

Insert the cylinder into the plastic frame and lock the assembly with the 2-notch nut using the wrench provided.

Position the key vertically during this assembly.

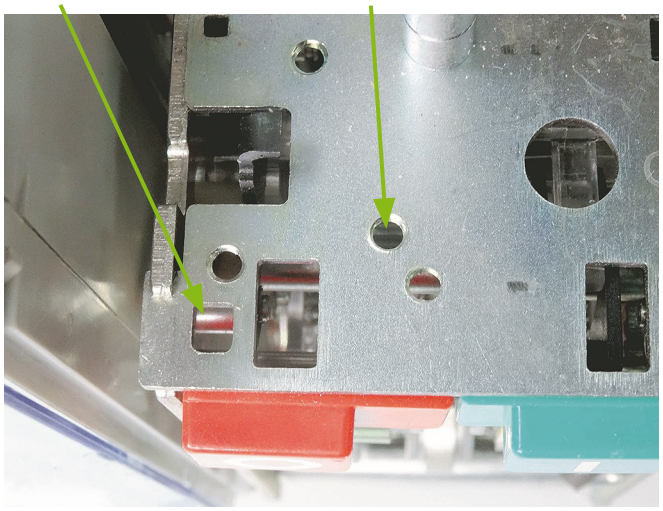


Insert the plastic cam supplied and lock it with the metal nut using a 16 mm open-end wrench (tightening torque 4 Nm).



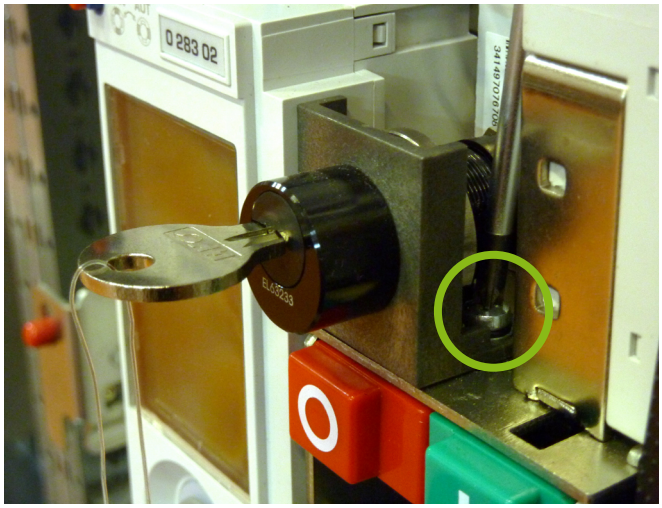
Position the assembly above the "OFF" button of the DMX³ in the notch provided.

Notch Fixing hole



Position the key horizontally when mounting.

Tighten the assembly with the screw supplied using a tool with Phillips no. 1 (tightening torque - 3 Nm).



Carry out 2 functional tests:

- Press the "OFF" button.
- Hold this button while turning the key 1/4 turn clockwise.
- Check that the key can be removed and that the "OFF" button remains in the depressed position.

Normal operation (unlocked): I cannot remove the key, it is in horizontal position.
Locked operation: I can remove the key, it is in the vertical position.

Replace the plastic cover of the terminal block, then the front panel using the 4 screws (Phillips no. 1, tightening torque of 1 Nm), then the screw covers.

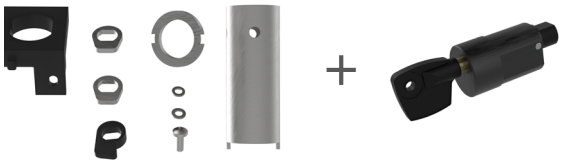
Re-insert the DMX³ if necessary.

2- Lock in "draw-out" position

Key barrels (in selection chart below) are to be combined with key locking support Cat.No 0 281 91

Key barrel and flat key with random mapping	**4 238 80**
Key barrel and star key with random mapping	**4 238 83**

Example Cat.No 0 281 91 + 4 238 83



This accessory allows locking in the "draw-out" position. The design of this accessory prohibits locking in the "inserted" position.

To lock the DMX³ plug-in DMX³ in the "draw-out" position, turn the key 1/4 turn to the right after making sure that the handle is removed from the insertion system and that its housing is closed.

In the locked position, the key is free. It is then possible to lock the unit in by removing the key.

To unlock the DMX³, so that it can be inserted, simply turn the key 1/4 turn to the left, thus freeing the shutter system for the handle.

There are two types of locks:

- With flat key (type RONIS)
- Star key (type PROFALUX)

It is possible to order specific barrels or additional keys specifying the barrel number

- Flat key: ABA90GEL6149
- Star key: HBA90GPS6149

It is, however, necessary to order a locking support Cat.No 0 281 91 order to have the different fixing accessories.

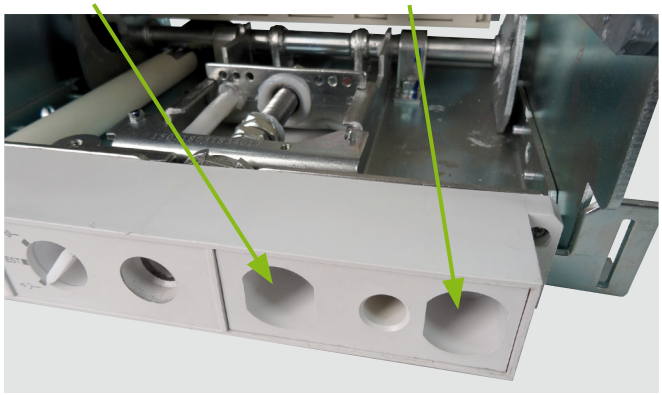
MOUNTING

Before any intervention, check that the DMX³ is in the "OFF" position (contacts open), drawn-out (if necessary) and the spring discharged.

Remove the 4 screw covers from the front panel, then the 4 screws (Phillips no. 1) and remove the front panel.

2 locations are possible: on the left of the frame and on the right of the frame. Two interlocks can be installed simultaneously in case of multiple lockouts.

1st location 2nd location

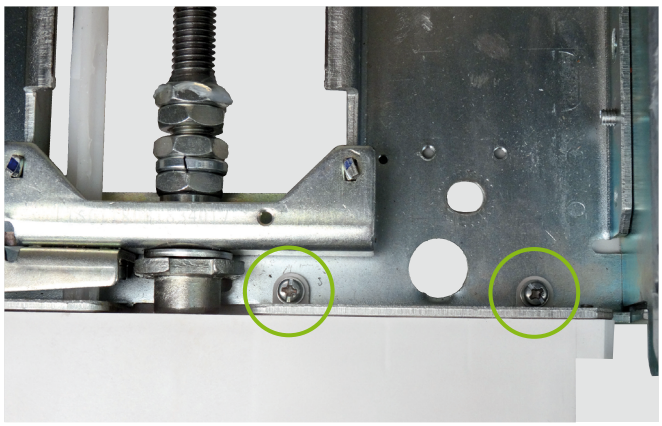


- **Example of installation on the left side of the frame**

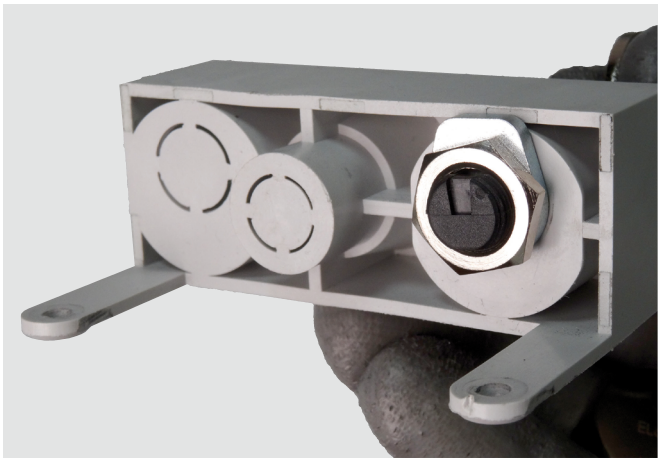
Remove the 2 retaining screws from the plastic frame using a Phillips no. 2 tool.

Remove the frame from the front.

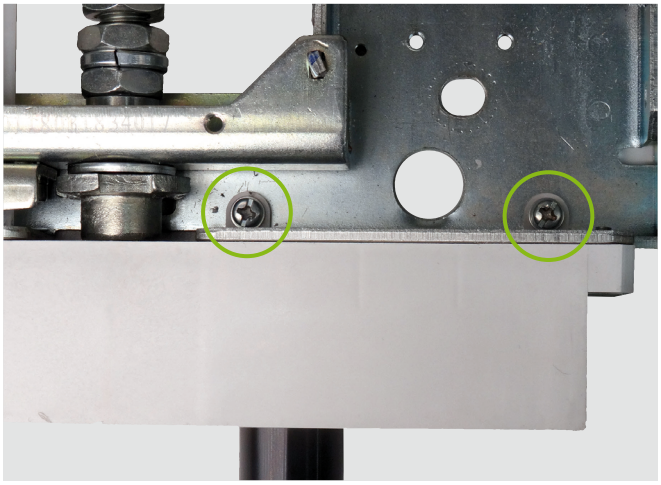
- **Top view**



Remove the pre-cut cover using a suitable tool, insert the cylinder into the plastic frame, then position the cam correctly at the rear and secure the assembly with the nut supplied using a 16 mm open-end wrench (tightening torque of 4 Nm). Then position the wrench horizontally.



Re-insert the assembly into the base then fix it with the 2 fixing screws using a Phillips screwdriver no. 2 (tightening torque of 3 Nm).



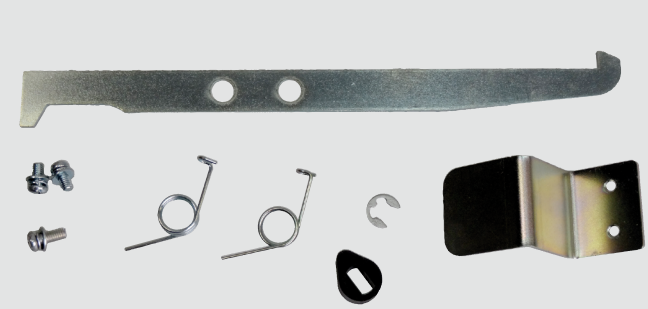
Put the DMX^3 back in its base and carry out a functional test:

"Inserted" position:
1 I can't remove the key (horizontal position).
2 I can insert the draw-out handle.

"Test" position:
1 I can't remove the key (horizontal position).
2 I can insert the draw-out handle.

"Draw-out" position:
1 I can remove the key (vertical position).
2 I cannot insert the draw-out handle if the key is removed or in the vertical position.

3- Door locking (Cat.No 0 281 84)



2 parts (marked I and L in the instructions sheet) are not shown in the picture because they are only used for DMX-SP mounting.

This lock prevents the faceplate from being opened/closed when the DMX^3 "draw-out" version is in the "inserted" position. The faceplate can be opened/closed in the "test" or "draw-out" position.

The lock can be installed on the left or right side of the base, respectively for a faceplate with right or left hinges. The catalogue number includes all accessories required for mounting on the DMX^3 and faceplate.

The faceplates for DMX^3 used in the XL^3 4000/6300 enclosures are already equipped with a fixing system (bracket).

The mounting bracket on the dedicated XL^3 faceplate is welded on. It thus imposes the opening direction (to the left) as well as the positioning of the door lock on the DMX^3: to the right imperatively.

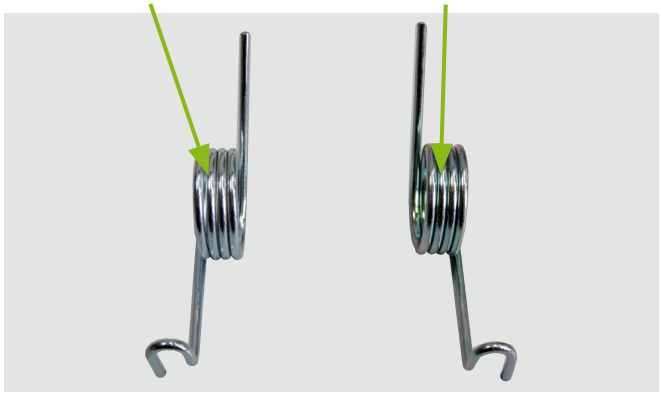
MOUNTING

Before any intervention, check that the DMX³ is in the "OFF" position (contacts open) and the spring is discharged.

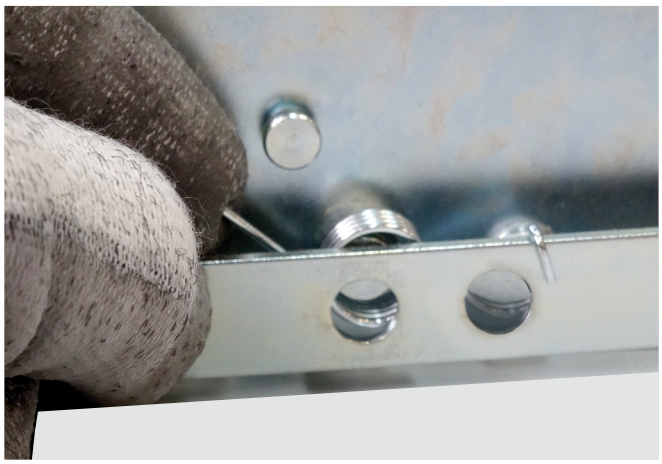
- **Example of locking positioned on the left side of the base**

Use the spring suitable for mounting:

Left mounting Right mounting



Position the spring on the metal lever



Insert the end of the lever into the slot provided in the DMX³ and then position the assembly correctly on the axis.

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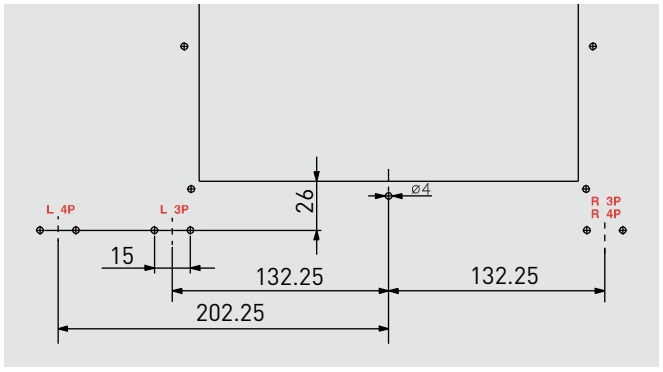
Insert the retaining clip and then the cam with its screw (Phillips no. 2, tightening torque 3 Nm).

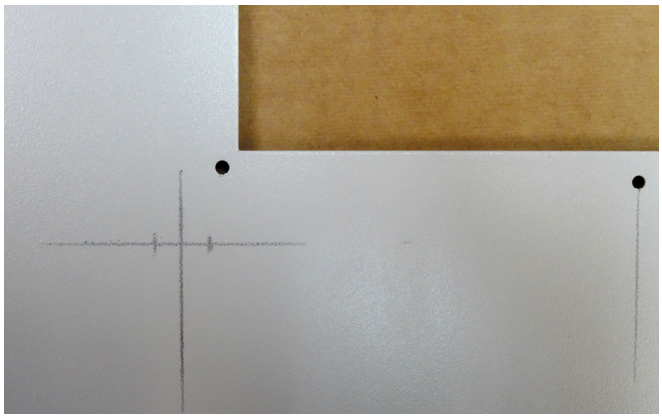
For the installation of the bracket on the faceplate side, refer to the dimensional drawing in the instructions sheet



Not applicable for XL³ faceplate: the mounting bracket on the dedicated XL³ faceplate is welded on.

Example of a photo for the installation of a bracket (left) on the faceplate of a DMX³:

Front view



Rear view

Ø of the 2 fixing holes of the bracket: 4,5 mm

Impression and tightening torque of the 2 fixing screws:

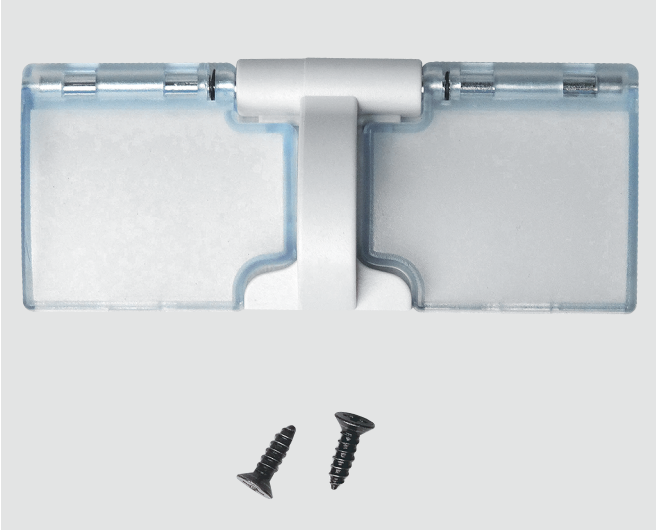
Phillips screws no. 2 and 3 Nm

- **Position configurations**

Inserted → inability to open or close faceplate

Test and draw-out → possible opening and closing of the faceplate

4- Padlock for button I/O (Cat.No 0 281 77)



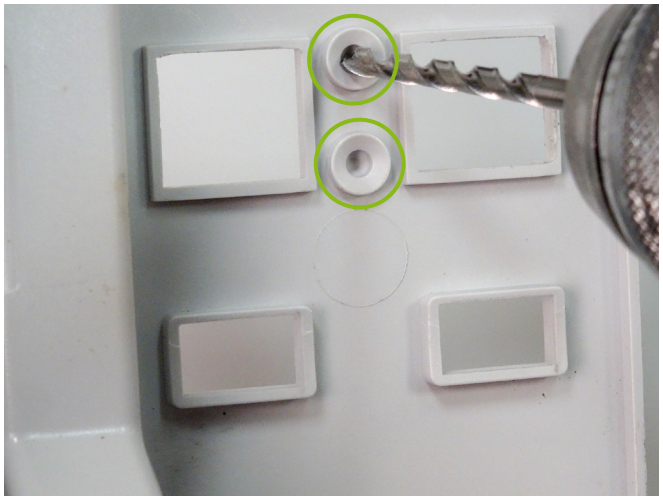
This device is used to block physical access to the ON/OFF buttons.

MOUNTING

Before any intervention, check that the DMX³ is in the "OFF" position (contacts open), drawn-out (if necessary) and the spring discharged.

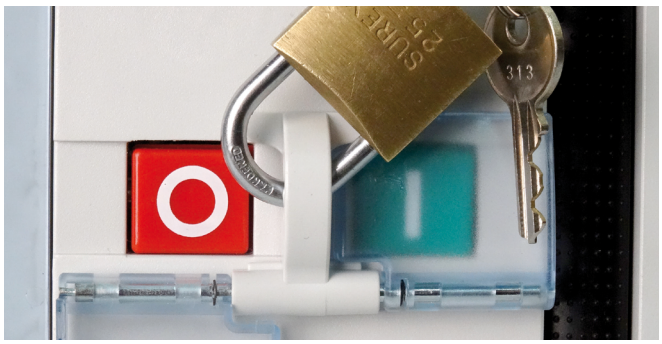
Remove the 4 screw covers from the front panel, then the 4 screws (Phillips no. 1) and remove the front panel.

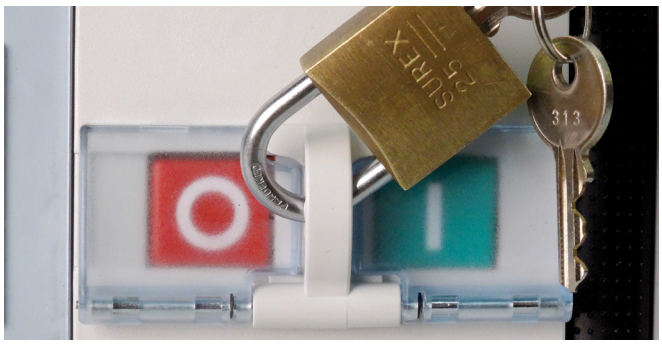
Use a 3.5 mm drill bit to drill the 2 holes where the screws are to pass through (at the rear of the front panel).



Insert the 2 screws supplied and tighten them in the holes of the padlock (Phillips no. 0, tightening torque 1 Nm).

Then it is possible to insert a lockout padlock (ø max. 3.5 mm) and thus lock out either the "OFF" button, the "ON" button or both buttons at the same time.





Replace the front panel using the 4 screws (Phillips no. 1, tightening torque 1 Nm), then the screw covers.

Re-insert the DMX³ if necessary.

5- Mechanical counter (Cat.No 0 281 88)

The mechanical counter is used to display on the front panel of the DMX^3 the number of "closing/opening/recharging of the coil" cycles performed by the product.

This counter can be installed on all the circuit breakers and switches of the DMX^3 1600 range.

It is delivered with the display "99990".

It cannot be manually reset.

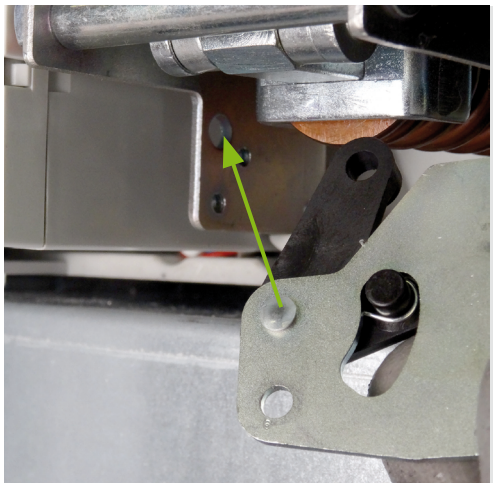
IMPLEMENTATION

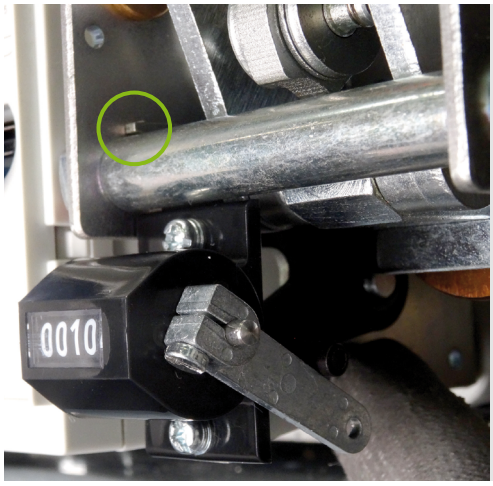
Before any intervention, check that the DMX^3 is in the "OFF" position (contacts open), drawn-out (if necessary) and the spring discharged.

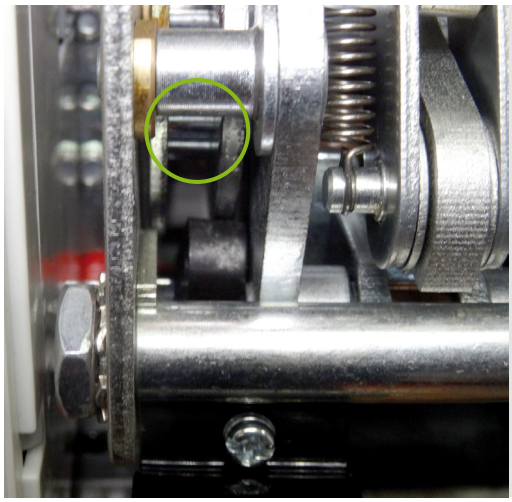
Remove the 4 screw covers from the front panel, then the 4 screws (Phillips no. 1) and remove the front panel.

Position the meter correctly by inserting the pin in the hole, the metal lug on the axis and the plastic cam on the mechanism.

Pin in the hole:

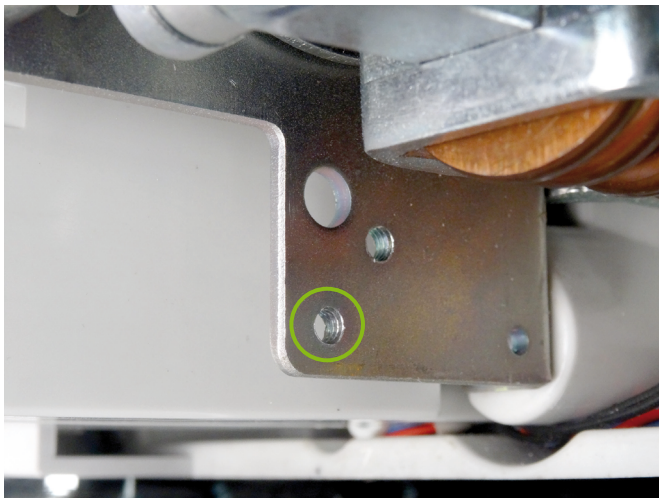




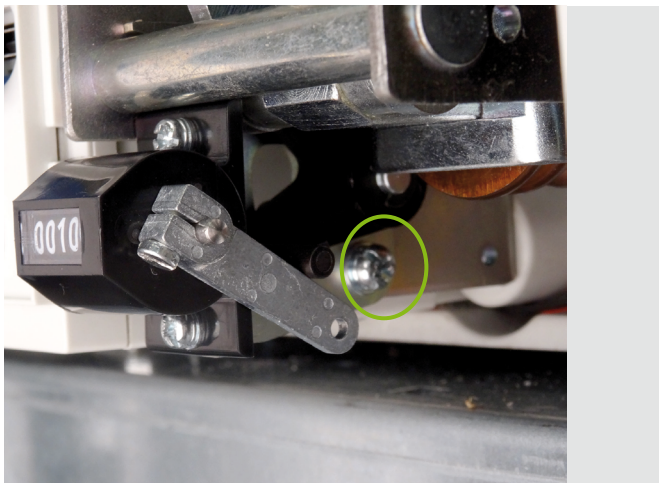


Then fix the meter with the screw supplied (end cap with Phillips no. 2, tightening torque 3 Nm).

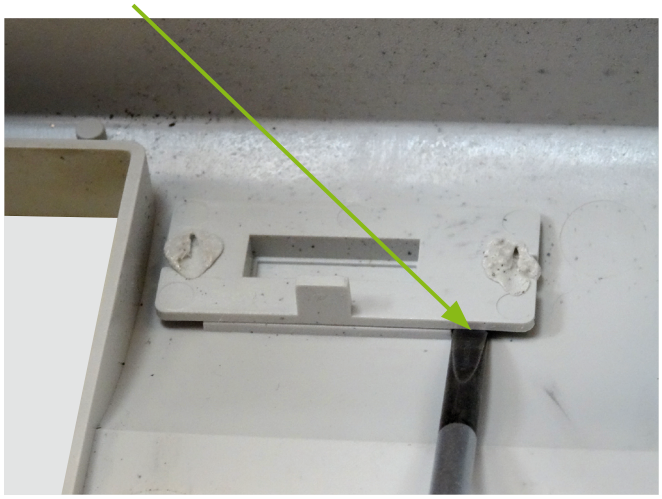
Fixing hole on DMX³



Fixing screw



Remove the plastic cover at the back of the front panel with a flat screwdriver.



Replace the front panel using the 4 screws (Phillips cap no. 1, tightening torque 1 Nm), then the screw covers.

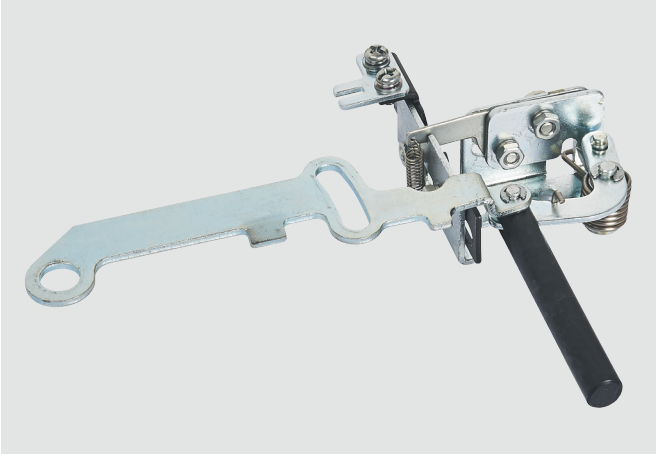
Re-insert the DMX^3 if necessary.

Carry out 10 complete opening/closing cycles to check that the meter is working properly.

The number of units changes as soon as the spring is fully recharged.

The counter is delivered with the number "99990" displayed. On the 10th complete cycle, it will change to "00000".

6- Inserted/test/ draw-out lockout button (Cat.No 0 281 87)



This accessory ensures the correct position of a DMX³ 1600 draw-out mechanism. It also avoids potential damage to the components at the end of the inserting or drawing-out process.

Cannot be installed if 2 locks in "draw-out" position Cat.Nos 4 238 80/83.

MOUNTING

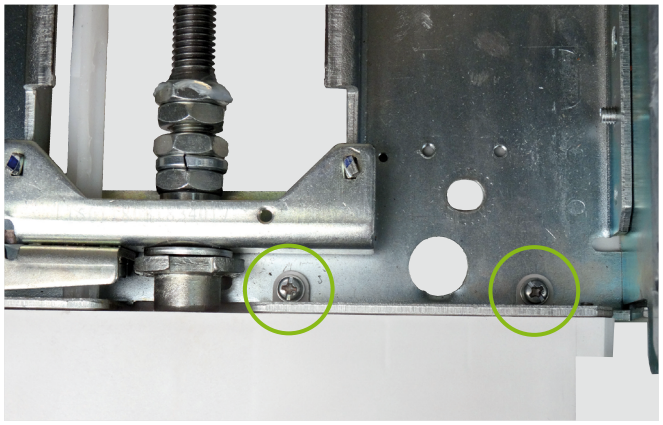
Before any intervention, check that the DMX³ is in the "OFF" position (contacts open), drawn-out (if necessary) and the spring discharged.

Remove the 4 screw covers from the front panel, then the 4 screws (Phillips no. 1) and remove the front panel.

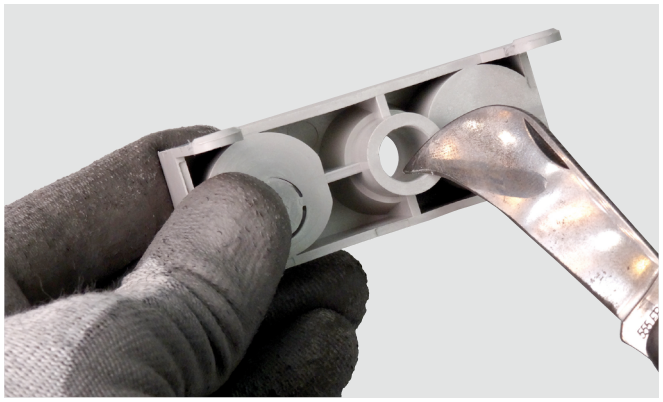
Remove the 2 retaining screws from the plastic frame using a Phillips screwdriver no. 2.

Remove the frame from the front.

- **Top view**



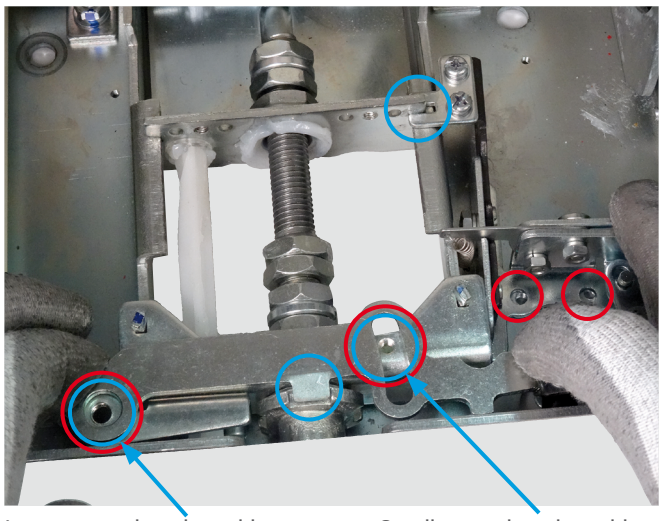
Remove the pre-cut cover with a suitable tool and deburr the contours of the hole with an electrician's knife.



Set up the mechanism by checking its correct positioning and then insert the 2 fixing screws provided. Tighten these 2 screws in the base (Phillips no. 2, tightening torque 3 Nm).

Check points for correct positioning in **blue**.

Location of the fixing screws of the mechanism in **red**.



Large screw location with shoulder

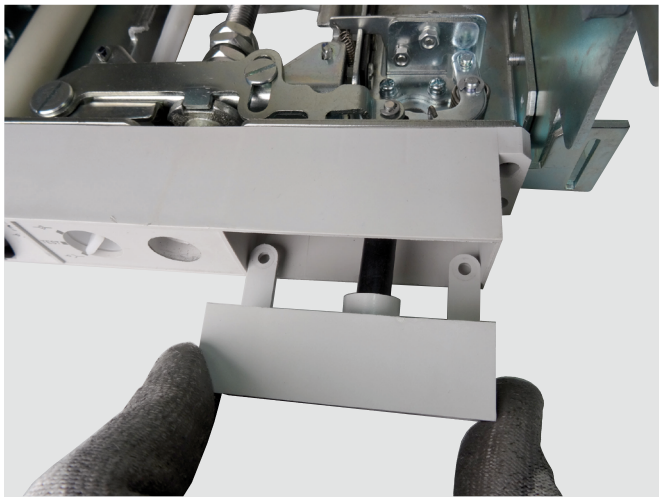
Small screw location with shoulder

Insert the screw with shoulder (the largest) on the left side of the mechanism and tighten it (8 mm flat recess, tightening torque 10 Nm).

Insert the screw with shoulder (the smallest one) on the central part of the mechanism and then tighten it (6.5 mm flat recess, tightening torque 3 Nm).

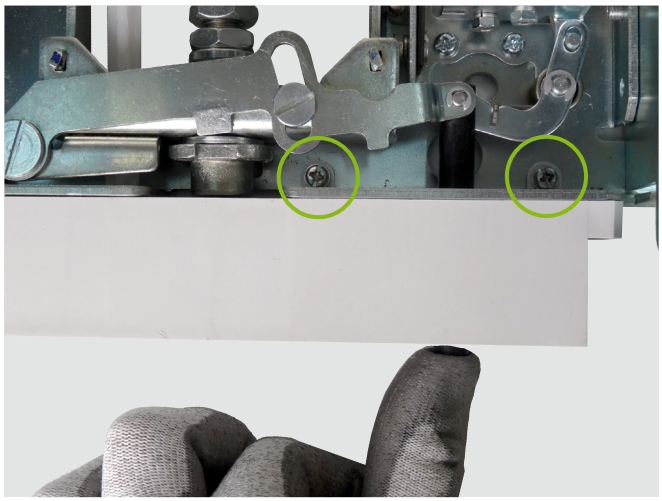
Make sure that the 2 shoulder screws are correctly fitted on the mechanism (see photo below).

Re-insert the plastic frame from the front by correctly engaging the button in the pre-drilled hole.



Replace the 2 fixing screws and tighten them (Phillips no. 2, tightening torque 3 Nm).

For a better ease of screwing, press back the knob before tightening the 2 screws so as to clear the access.



Replace the front panel using the 4 screws (Phillips cap no. 1, tightening torque 1 Nm), then the screw covers.

Re-insert the DMX^3 and carry out 2 complete functional tests (inserted/test/draw-out).

OPERATION:

When the DMX^3 is in one of the three positions (inserted/test/draw-out), the locking button is pulled out, we can insert the inserted/draw-out handle but not turn it.

To do this, push the locking button. The handle can then be turned to the next position.

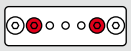
This operating principle is identical for inserted and draw-out DMX^3.

7- Rating mis-insertion device (Cat.No 0 281 89)

When several DMX³ draw-out version are present in the same enclosure, the rating mis-insertion device makes it possible not to put the wrong DMX³ in a base. While the size and number of poles may be the same, the settings, wear, marking and accessorization may be different.

There is one combination per rated current, i.e. 5 combinations. In case several DMX³ with the same nominal intensity are present, several other combinations are possible. Be careful however not to use one with the same amperage as the other.

Here is an illustration of the combinations according to the rated current:

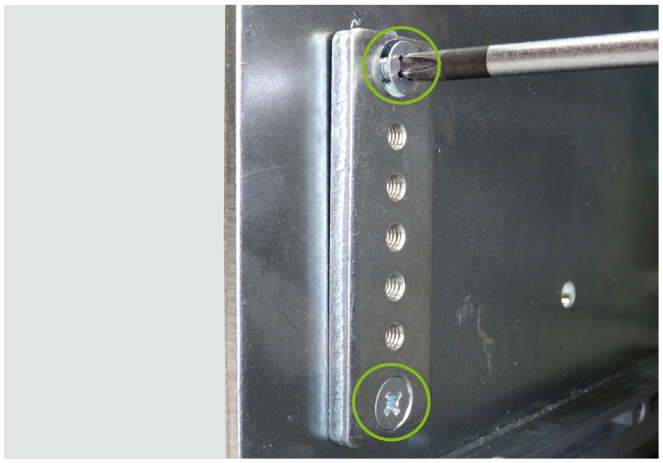
In		
630 A		
800 A		
1000 A		
1250 A		
1600 A		

MOUNTING

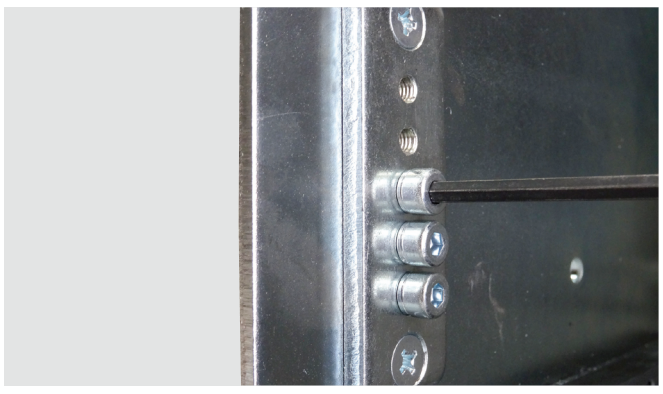
Before any intervention, check that the DMX³ is in the "OFF" position (contacts open), drawn-out (if necessary) and the spring discharged.

- **Example of a mounting on a DMX³ 1600 In=1250A**

Attach one of the 2 inserts to the left side of the base using 2 countersunk screws (Phillips no. 1, tightening torque 3 Nm). The chamfered holes of the insert must be positioned on the inside of the base:



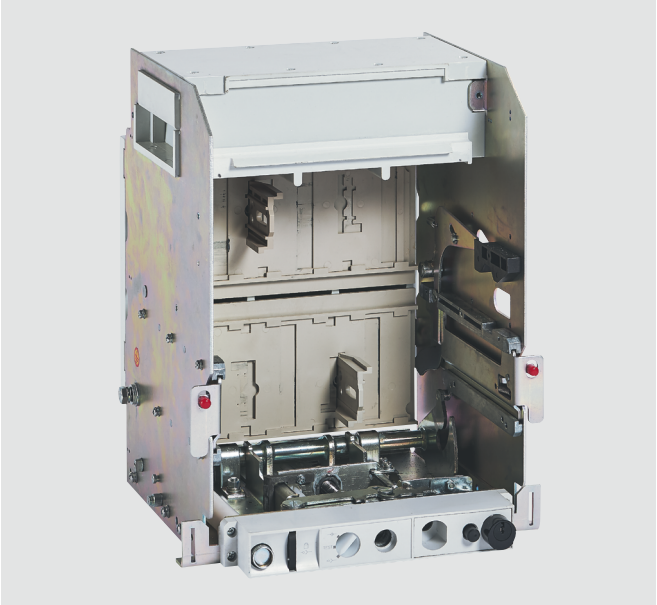
Place the screw/washer assemblies in the insert (3 on the bottom in our example) and tighten → 3 mm hex wrench, tightening torque 3 Nm.



In the same way, fix the remaining insert on the left side of the DMX³ using the 2 remaining countersunk screws (Phillips no. 1, tightening torque 3 Nm). The chamfered holes of the insert must be positioned on the outside of the DMX³. Insert the screw/washer assemblies into the insert (2 on top in our example) and tighten → 3 mm hex wrench, tightening torque 3 Nm.

Check the correct operation by checking that the DMX³ can be inserted back in without any constraint.

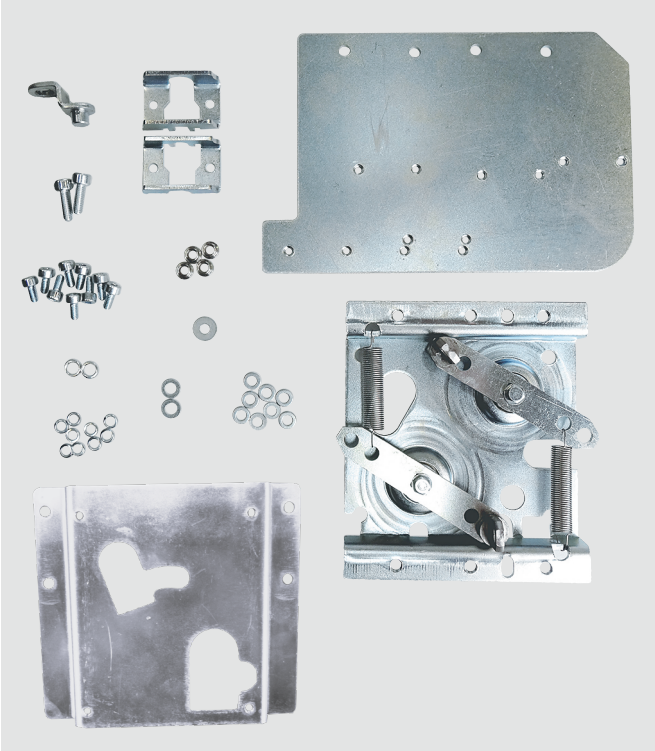
8- Base for draw-out version



Empty bases are delivered without accessories and without the terminal block support of the auxiliaries.

Cat.Nos	Type
0 281 53	3P
0 281 54	4P

9- Interlock (Cat.No 0 281 90)



The mechanical interlocking of the devices is carried out by means of the cables and allows the construction of 2-device transfer switches in vertical or horizontal configuration. It is mounted on the right side of the units or bases.

Only Legrand interlock cables, referenced for DMX^3 1600 (see page 64) must be mounted on the interlocking mechanisms.

MOUNTING FOR DRAW-OUT VERSION

Before any intervention, check that the DMX³ is in the "OFF" position (contacts open), drawn-out (if necessary) and the spring discharged.

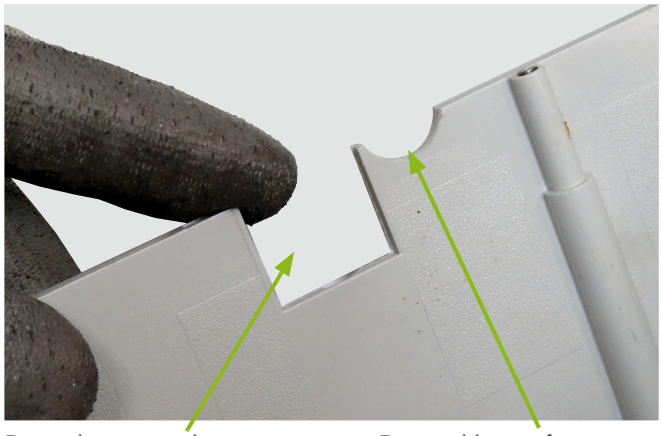
Identify the base (if applicable) and DMX³ labels and identify the version number:

< 1 → **contact Legrand**

≥ 1 → **OK** to do the assembly

Remove the 4 screw covers from the front panel, then the 4 screws (Phillips No. 1) and remove the front panel.

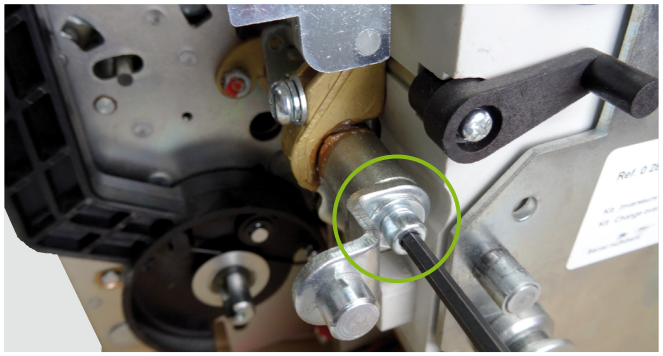
Use pliers to remove one part (draw-out version) or 2 parts (fixed version) from the right side of the front panel.



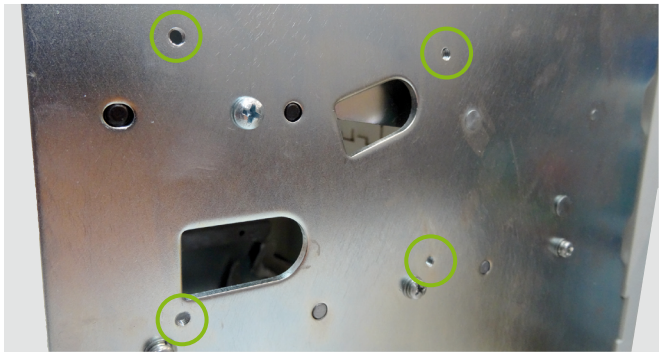
Part to be removed in both versions

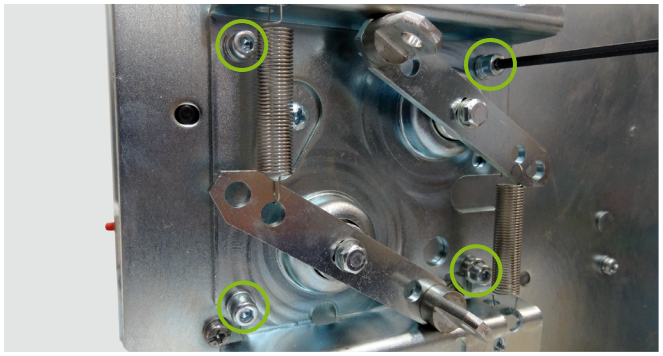
Removable part for the fixed version

Install the metal bracket using the screw and washers supplied: 3 mm hex wrench, tightening torque 2 Nm.

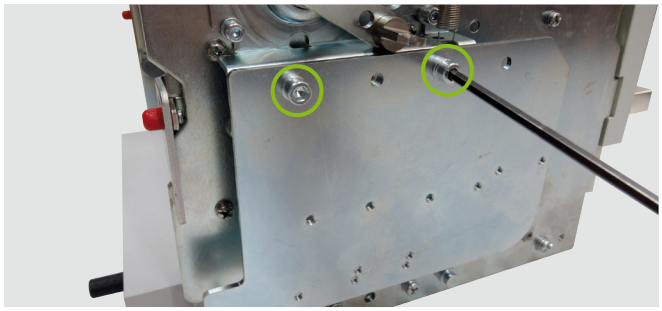


Fix the plate with the 2 levers on the right side of the base using the 4 screws and washers supplied: 3 mm hex wrench, tightening torque of 2 Nm.





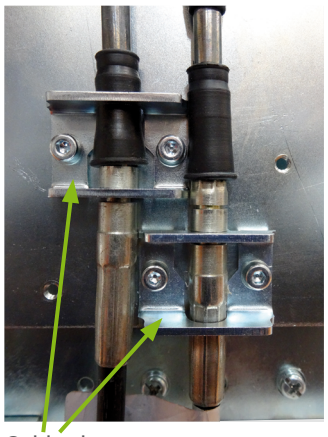
Fix the metal support on the plate with the 2 levers using the 2 screws and washers supplied: 4 mm hex wrench, tightening torque of 3 Nm.



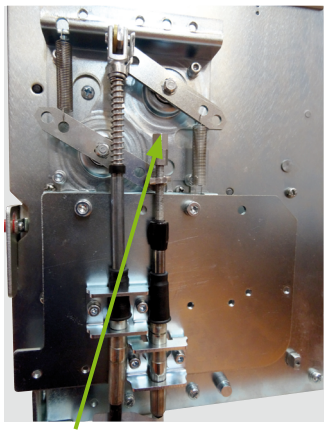
Fix the interlocking cables in the mounting direction described in the instructions sheet, then fix the locking clamps using the 4 screws and washers supplied: 3 mm hex wrench, tightening torque 2 Nm.

For the choice of cables, refer to the page 64.

Observe the mounting direction of the cable clamps. Make sure that the thread length of the nuts is between 0 mm and 1 mm.



Cable clamps



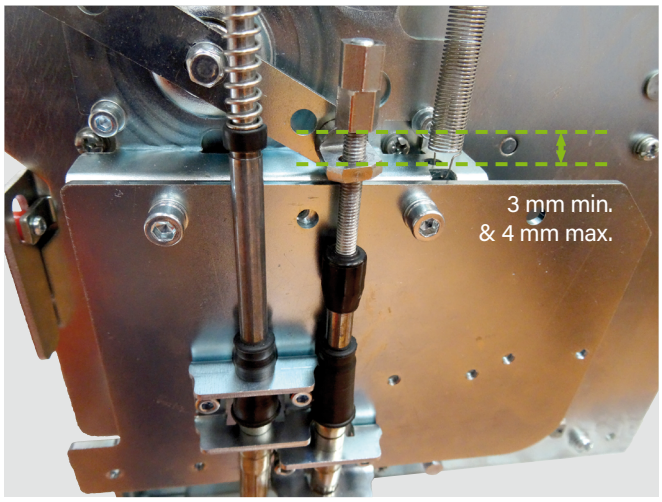
Gap between
0 mm and 1 mm

Carry out the same operations described above on the 2nd product.

Re-insert the 2 DMX^3 in their base and charge the 2 springs.

Close 1 of the 2 products.

Set on DMX^3 closed the distance between the lever and the 1st nut. It must be between 3 mm and 4 mm. Also check that the 2nd cable is not clamped.



Then tighten the lock nut with a 10 mm bush (tightening torque 3 Nm).

Open this DMX^3 and charge its spring.

Close the 2nd product (not adjusted) and carry out the same distance adjustment of the nut (between 3 mm and 4 mm). Check that the other cable is not clamped.

Then tighten the lock nut with a 10 mm bush (tightening torque 3 Nm).

Check the individual DMX^3 and truth table for correct operation.

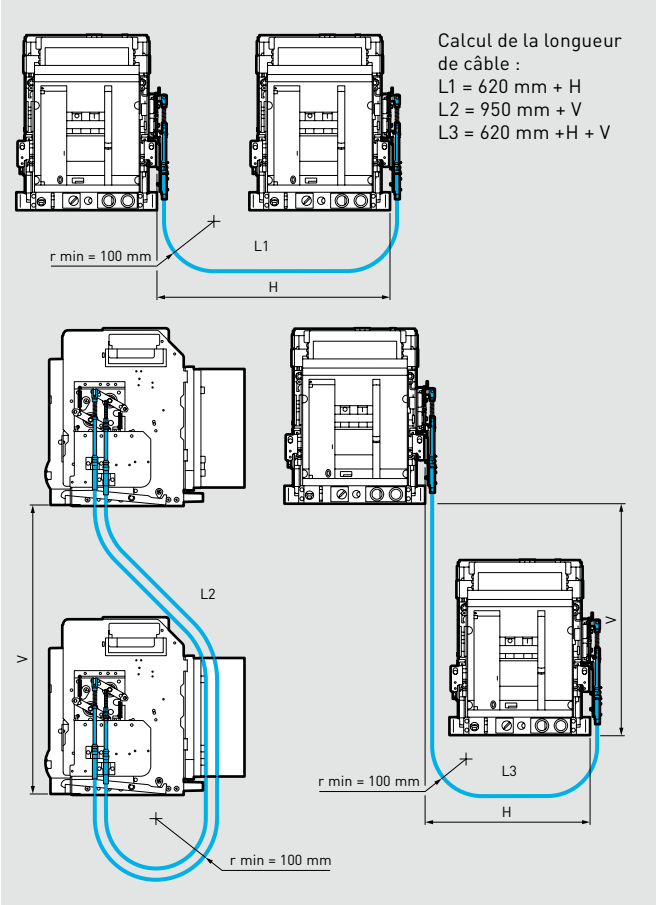
In the event of a malfunction, repeat the adjustment steps after checking that the cables are undamaged, that their length is suitable for the configuration and that their bending radius of min. 100 mm is observed.

10- Interlock cables

Interlock cables allow 2 DMX³ to be mechanically connected via the interlocking mechanisms (see above).

The length must be chosen according to the layout of the DMX³ in the enclosure. It is important to respect the minimum bending radius which is 100 mm, and to ensure that it is fixed to the enclosure structure after the mechanical adjustment of the system.

For installation, see previous pages and opposite.



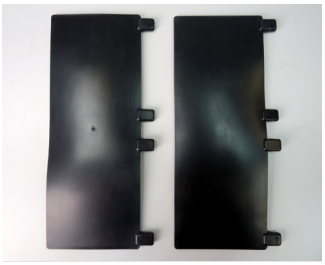
CABLES

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

11- Insulation shields

Cat.No 0 281 50
(4P - Fixed)

Cat.No 0 281 51
(3P - Draw-out)

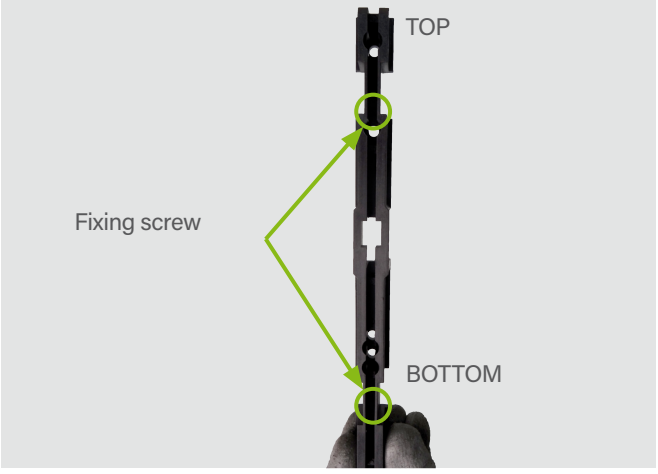


Cat.Nos	Type
0 281 49	Fixed version 3P
0 281 50	Fixed version 4P
0 281 51	Draw-out version 3P
0 281 52	Draw-out version 4P

MOUNTING

- **Fixed version**

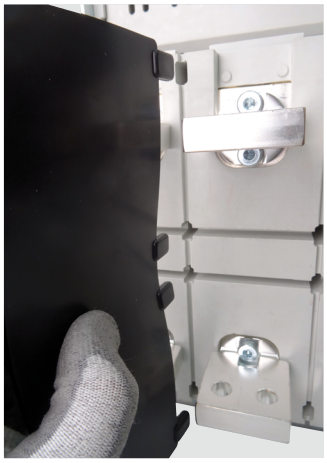
Fix the brackets (at the rear of the DMX³) using the supplied screws (2/brackets), respecting the mounting direction (Phillips no. 2, tightening torque of 2 Nm).



Then insert the shields as far as possible into the brackets so that they can be slid downwards to complete the installation.

- **Draw-out version**

Insert the shields as far as possible into the openings provided in the base.



CONNECTION ACCESSORIES FOR POWER AND EARTHING CONNECTION

The various connection accessories offer the entire DMX^3 range a wide range of possibilities, which can easily be adapted to the desired configurations.

The screws required for mounting the various connection accessories are supplied with each set. The tightening torques to be applied are indicated in the instructions enclosed with the products.

The screws used for fixing the busbars to the connection accessories are not supplied and therefore remain the responsibility of the panel builder.

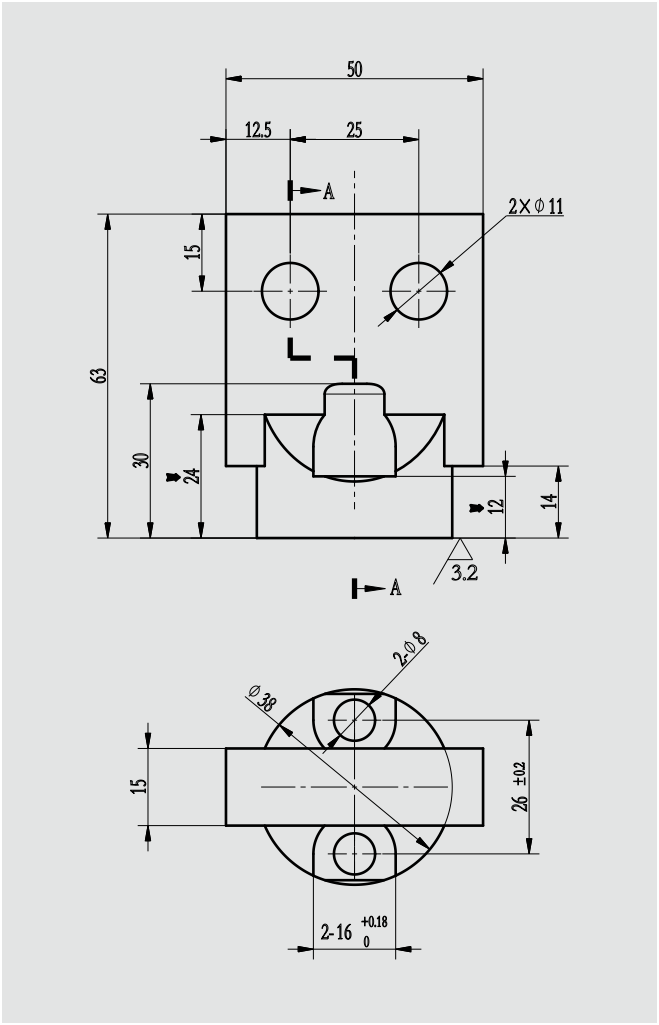
The tightening torques of the busbar fixing screws depend on the diameter and quality of the bars. It is therefore necessary to contact the manufacturer of the screws used.

Due to the wide variety of shapes and construction conditions that can affect the behaviour of the device, the solution chosen should always be checked. If the distance between the poles is less than 20 mm, the use of phase insulators or insulated busbars is recommended.

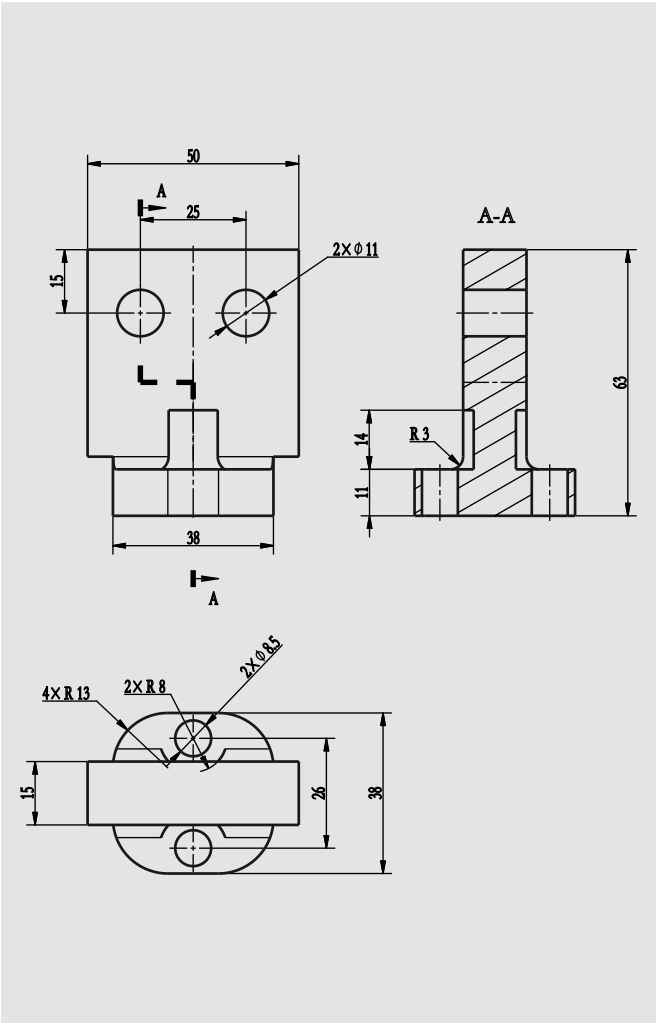
CAT.NOS	TYPE	VERSION	TIGHTENING TORQUE ON DMX^3
0 280 35	Rear terminals 3P	Fixed	16 Nm
0 280 41	Rear terminals 4P	Fixed	16 Nm
0 281 47	Rear terminals 3P	Draw-out	16 Nm
0 281 48	Rear terminals 4P	Draw-out	16 Nm
0 281 85	Additional front terminals 3P	Fixed and Draw-out	16 Nm
0 281 86	Additional front terminals 4P	Fixed and Draw-out	16 Nm
0 281 55	Front terminals 3P	Fixed	16 Nm
0 281 56	Front terminals 4P	Fixed	16 Nm
0 281 57	Front terminals 3P	Draw-out	16 Nm
0 281 58	Front terminals 4P	Draw-out	16 Nm
0 281 59	Spreaders 3P	Fixed and Draw-out	47 Nm*
0 281 60	Spreaders 4P	Fixed and Draw-out	47 Nm*

*The spreaders are fixed to the rear terminals using the screws, washers and nuts supplied.

- **Plans Cat.Nos 0 280 35/41**

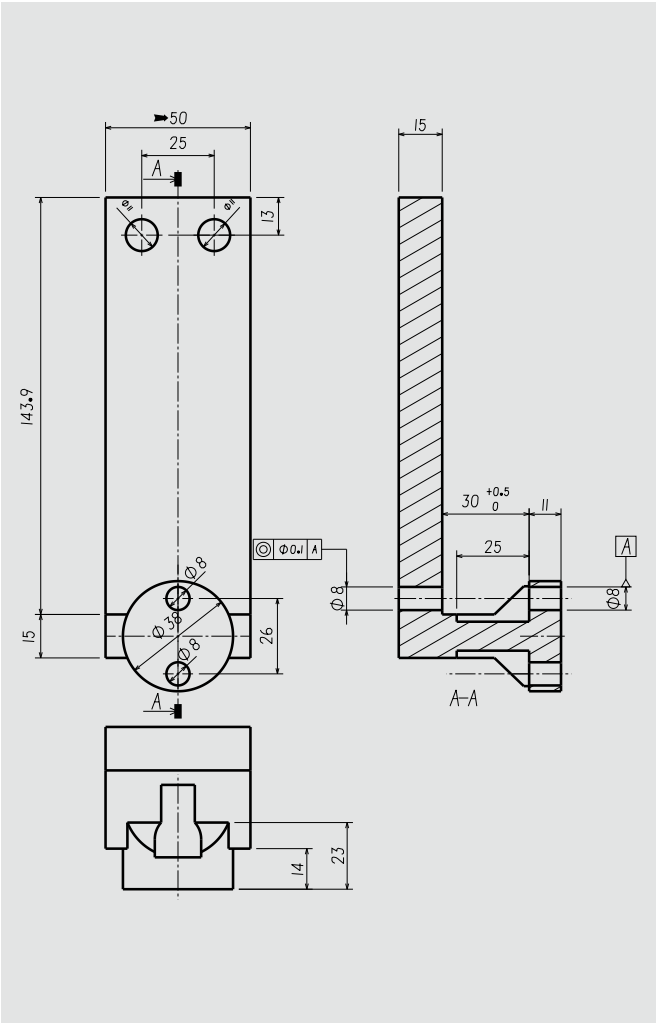


- **Plans Cat.Nos 0 281 47/48**

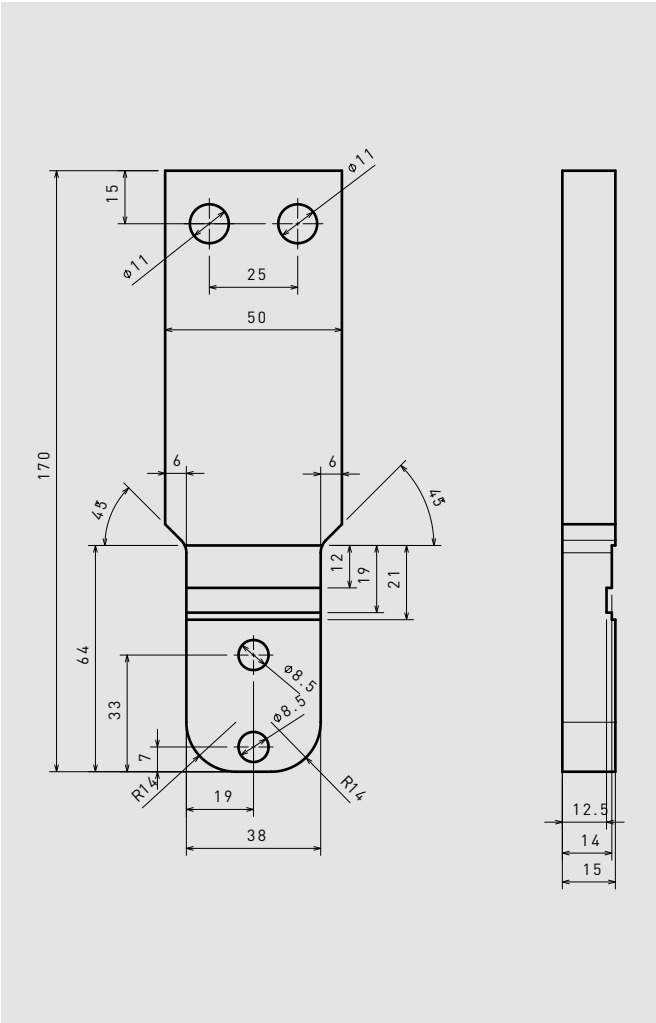


CONNECTION ACCESSORIES FOR POWER AND EARTHING CONNECTION

- **Plans Cat.Nos 0 281 55/56**

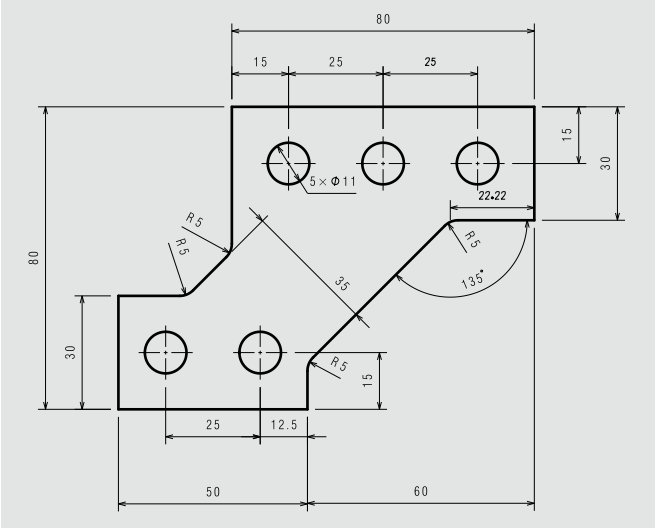


- **Plans Cat.Nos 0 281 57/58**

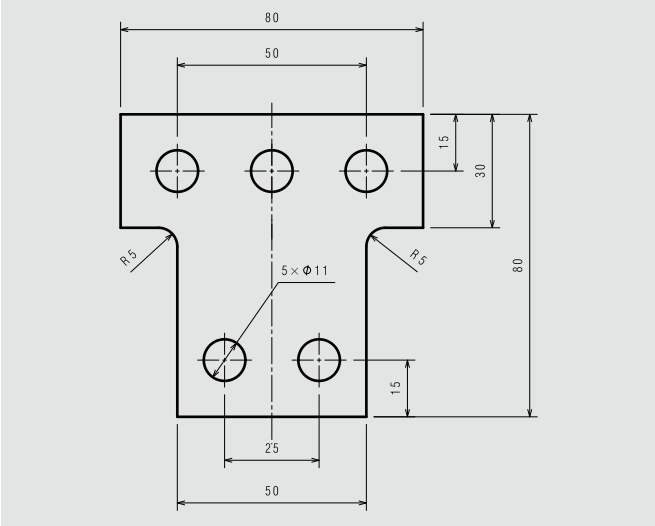


- **Plans Cat.No 0 281 59**

L1 & L3 (thickness → 15 mm)

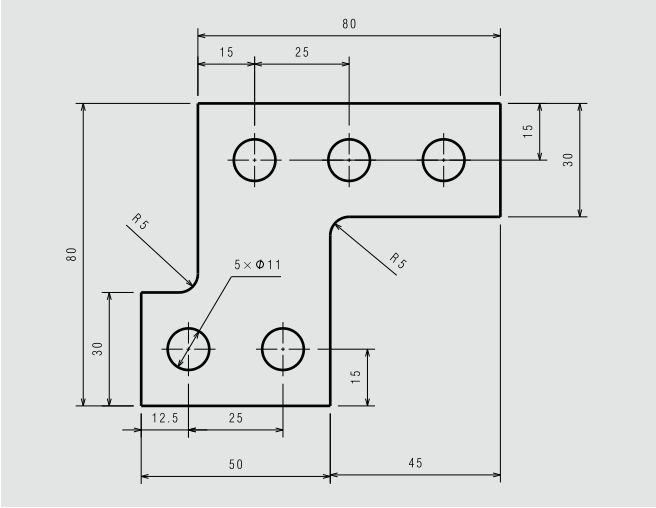


L2 (thickness → 15 mm)

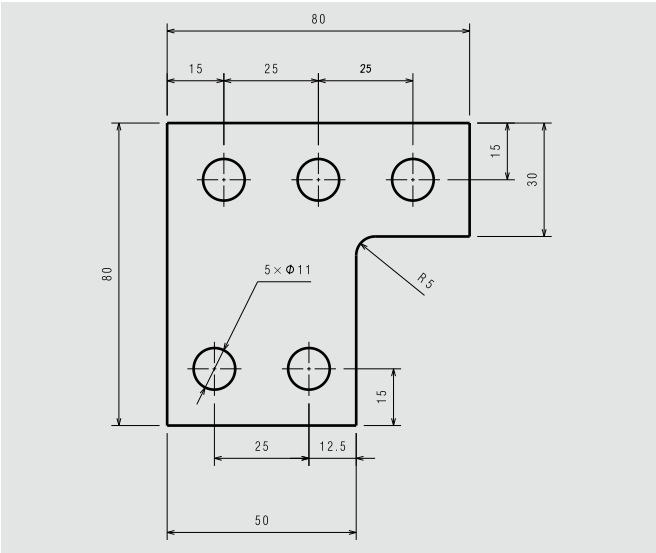


- **Plans Cat.No 0 281 60**

N & L3 (thickness → 15 mm)



L1 & L2 (thickness → 15 mm)

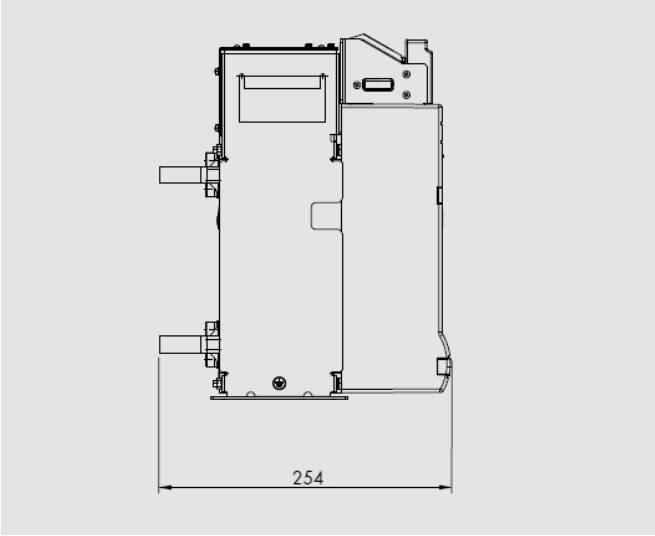


CONNECTION ACCESSORIES FOR POWER AND EARTHING CONNECTION

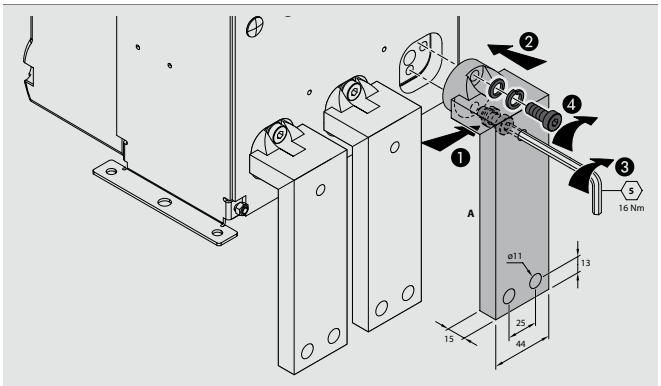
There are 2 types of connection for a DMX³ 1600 (fixed and draw-out): front connection (only vertical) and rear connection (horizontal and vertical).

DMX³ FIXED VERSION

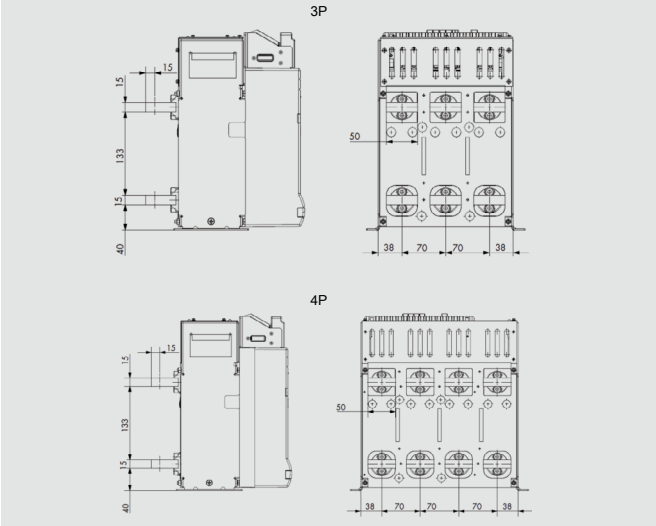
- **Dimensional depth of a fixed DMX³ 3P-4P DMX³ with rear terminals:**



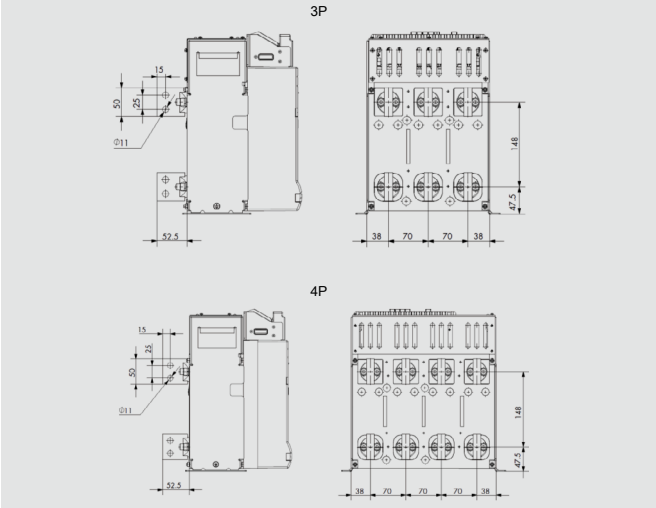
- **Connection with front terminals, vertical connections**



- **Connection with rear terminals, horizontal connections**

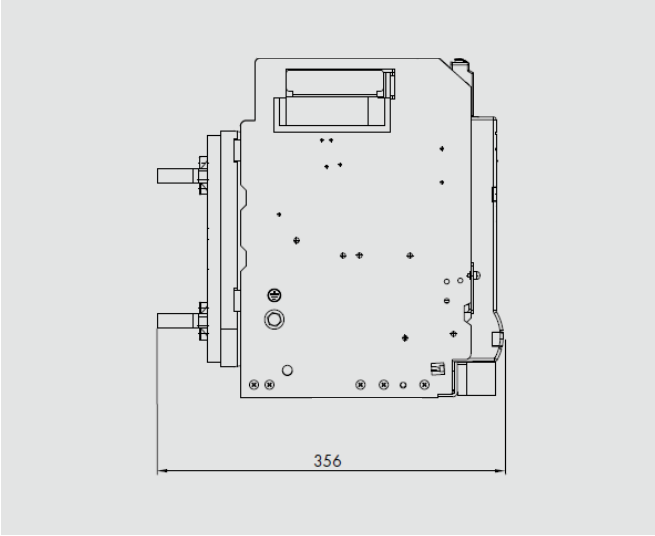


- **Connection with rear terminals, vertical connections**

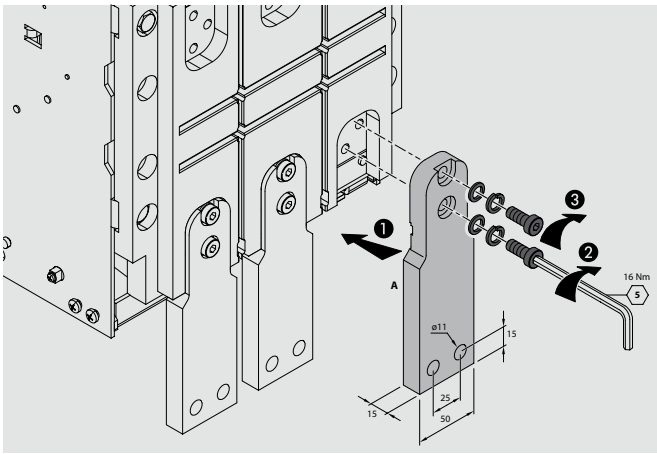


DMX³ DRAW-OUT VERSION

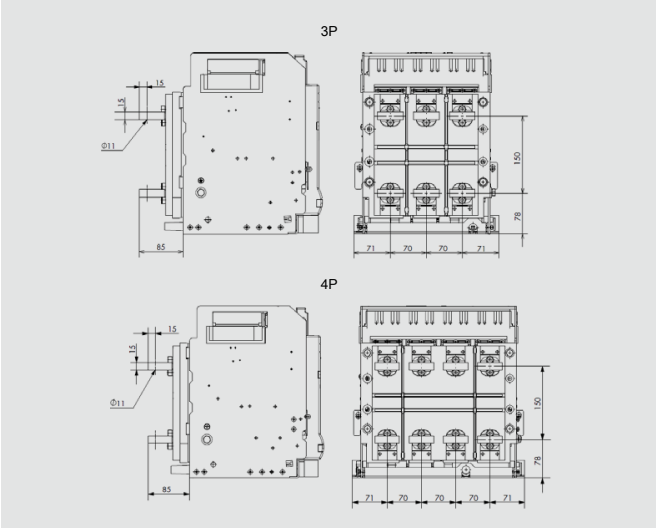
- **Overall depth of a 3P-4P DMX³ draw-out DMX³ with rear terminals:**



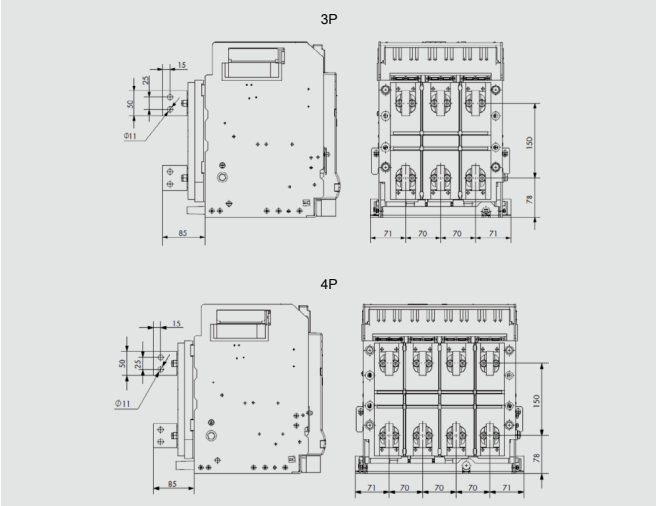
- **Connection with front terminals, vertical connections**



- **Connection with rear terminals, horizontal connections**



- **Connection with rear terminals, horizontal connections**



CONNECTION ACCESSORIES FOR POWER AND EARTHING CONNECTION

- **Minimum cross-section of COPPER bars per pole**

Fixed version

In (A)	Vertical bars (mm)	Horizontal bars (mm)
630	2 bars 40 x 5	2 bars 40 x 5
800	2 bars 50 x 5	2 bars 30 x 10
1000	1 bar 60 x 10 / 2 bars 60 x 5	2 bars 30 x 10
1250	1 bar 80 x 10 / 2 bars 40 x 10	2 bars 40 x 10
1600	2 bars 50 x 10	2 bars 50 x 10

Draw-out version

In (A)	Vertical bars (mm)	Horizontal bars (mm)
630	2 bars 40 x 5	2 bars 40 x 5
800	2 bars 50 x 5	2 bars 30 x 10
1000	2 bars 60 x 5	2 bars 30 x 10
1250	2 bars 80 x 5	2 bars 40 x 10
1600	2 bars 50 x 10	2 bars 50 x 10

- **Minimum cross-section of ALUMINIUM bars per pole**

Fixed version

In (A)	Vertical bars (mm)	Horizontal bars (mm)
630	2 bars 50 x 8	2 bars 50 x 10
800	2 bars 50 x 10	2 bars 50 x 10
1000	2 bars 60 x 10	4 bars 30 x 10
1250	2 bars 60 x 10	4 bars 50 x 10
1600	4 bars 50 x 10	5 bars 50 x 10

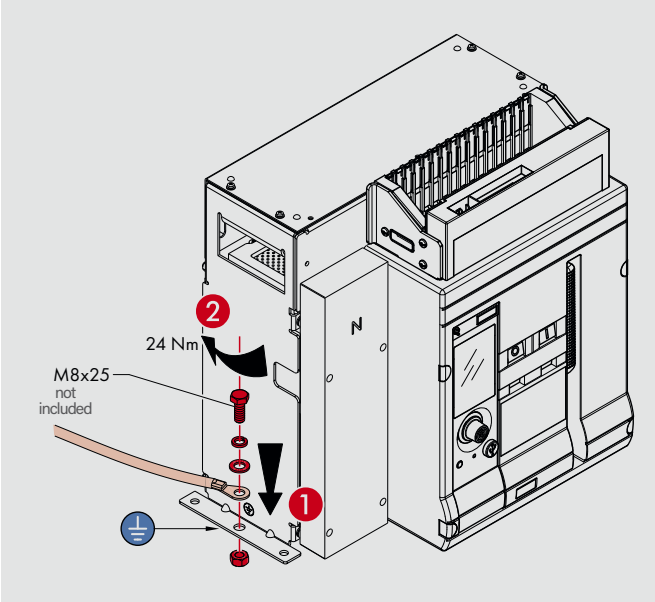
Draw-out version

In (A)	Vertical bars (mm)	Horizontal bars (mm)
630	2 bars 50 x 8	2 bars 50 x 10
800	2 bars 50 x 10	2 bars 50 x 10
1000	2 bars 60 x 10	4 bars 30 x 10
1250	2 bars 60 x 10	4 bars 50 x 10
1600	4 bars 50 x 10	5 bars 50 x 10

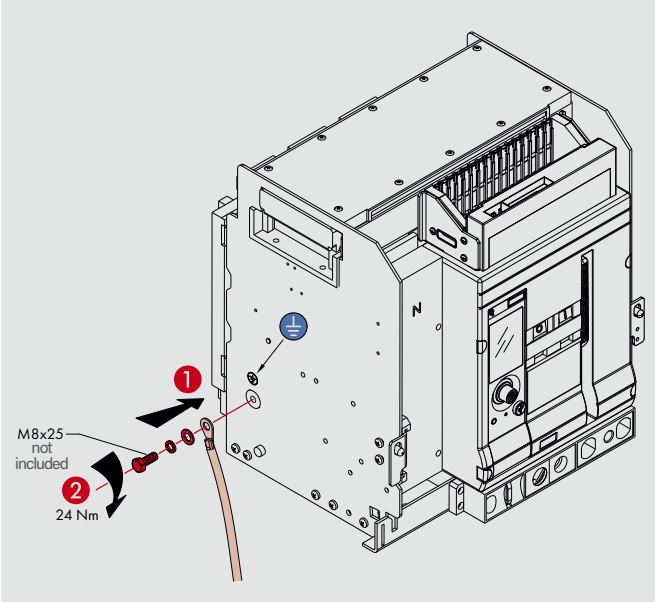
EARTHING CONNECTION:

To make the earth connection, use the hole provided and fix the cable connector (fixing kit included on the draw-out version, not included on the fixed version).

- **Fixed version**



- **Draw-out version**



Do not use the DMX³ fixing points as connection points.

DMX³ 1600 INSTALLATION IN ENCLOSURES

XL³ enclosure

The XL³ 4000 enclosures have special equipment for mounting DMX³ (see table below). Installation is easier thanks to XL Pro³ software.

The faceplates for XL³ 4000 enclosures are pre-drilled to fix the IP40 frames.

DMX³ OR DMX³-I 1600 FIXING		
24 mod.	36 mod.	Plate for fixed version
0 207 80		For 1 DMX³ or DMX³-I 1600
	0 207 81	For 1 or 2 DMX³ or DMX³-I 1600
		Plate for cable sleeves
0 207 79		For 1 DMX³ or DMX³-I 1600
METAL FACEPLATES FOR DMX³ OR DMX³-I 1600		
24 mod.	36 mod.	Faceplates for fixed version
0 210 84	0 210 86	For 1 DMX³ or DMX³-I 1600
		Faceplates for draw-out version
0 210 85	0 210 87	Pour 1 DMX³ ou DMX³-I 1600
		Faceplates for side by side version
	0 210 88	Fixed version For 2 DMX³ or DMX³-I 1600
	0 210 89	Draw-out version For 2 DMX³ or DMX³-I 1600
		Faceplates for cable sleeves
0 210 80		Fixed version For 1 DMX³ or DMX³-I 1600
0 210 81		Draw-out version For 1 DMX³ or DMX³-I 1600

With a 36-module plate (Cat.No 0 207 81), it is possible to install 2 DMX³ 1600 modules side by side:

- On the left on the plate → 3P or 4P, fixed or draw-out
- To the right of the plate → 3P only, fixed or draw-out

It is not possible to install 2 DMX³ 1600 4P side by side on the 36-module plate Cat.No 0 207 81.

It is possible to install a DMX³ 1600 only in 3P (fixed or draw-out) in a 475 mm wide cable sleeves thanks to the plate Cat.No 0 207 79.

XL³ S enclosure

The XL³ S 4000 enclosures have special equipment for mounting DMX³ (see table below). Installation is easier thanks to XL Pro³ software.

The faceplates for XL³ 4000 enclosures are pre-drilled to fix the IP40 frames.

PLATE FOR DMX³/DMX³-I FIXED OR DRAW-OUT		
16 mod.	24 mod.	36 mod.
3 391 01	3 391 03	3 391 05
FACEPLATES FOR DMX³/DMX³-I FIXED		
16 mod. (3P only)	24 mod. 3P/4P	36 mod. 3P/4P
3 391 20	3 391 23	3 391 25
FACEPLATES FOR DMX³/DMX³-I DRAW-OUT		
16 mod. (3P only)	24 mod. 3P/4P	36 mod. 3P/4P
3 391 30	3 391 33	3 391 35

It is not possible to install a DMX³ 1600 in a XL³S 630 enclosure and 2 DMX³ 1600 side by side in a XL³S 4000 enclosure.

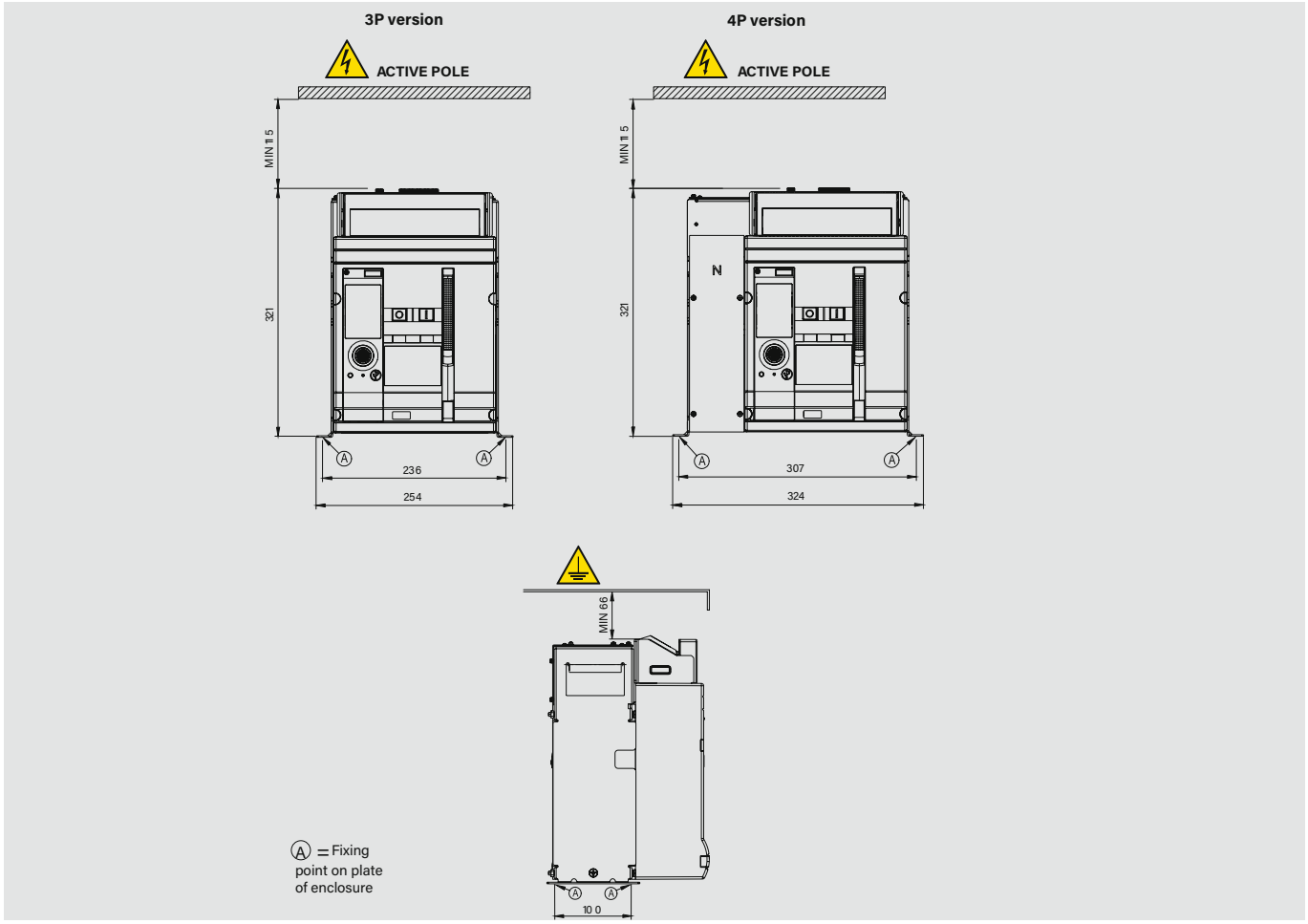
Enclosure other than XL³/XL³S

It is also possible to install the DMX³ 1600 in "builder" or locally manufactured enclosures. In this case, it is the panel builder's responsibility to adapt accessories for the correct implementation of the DMX³, taking into account the important weight of these products.

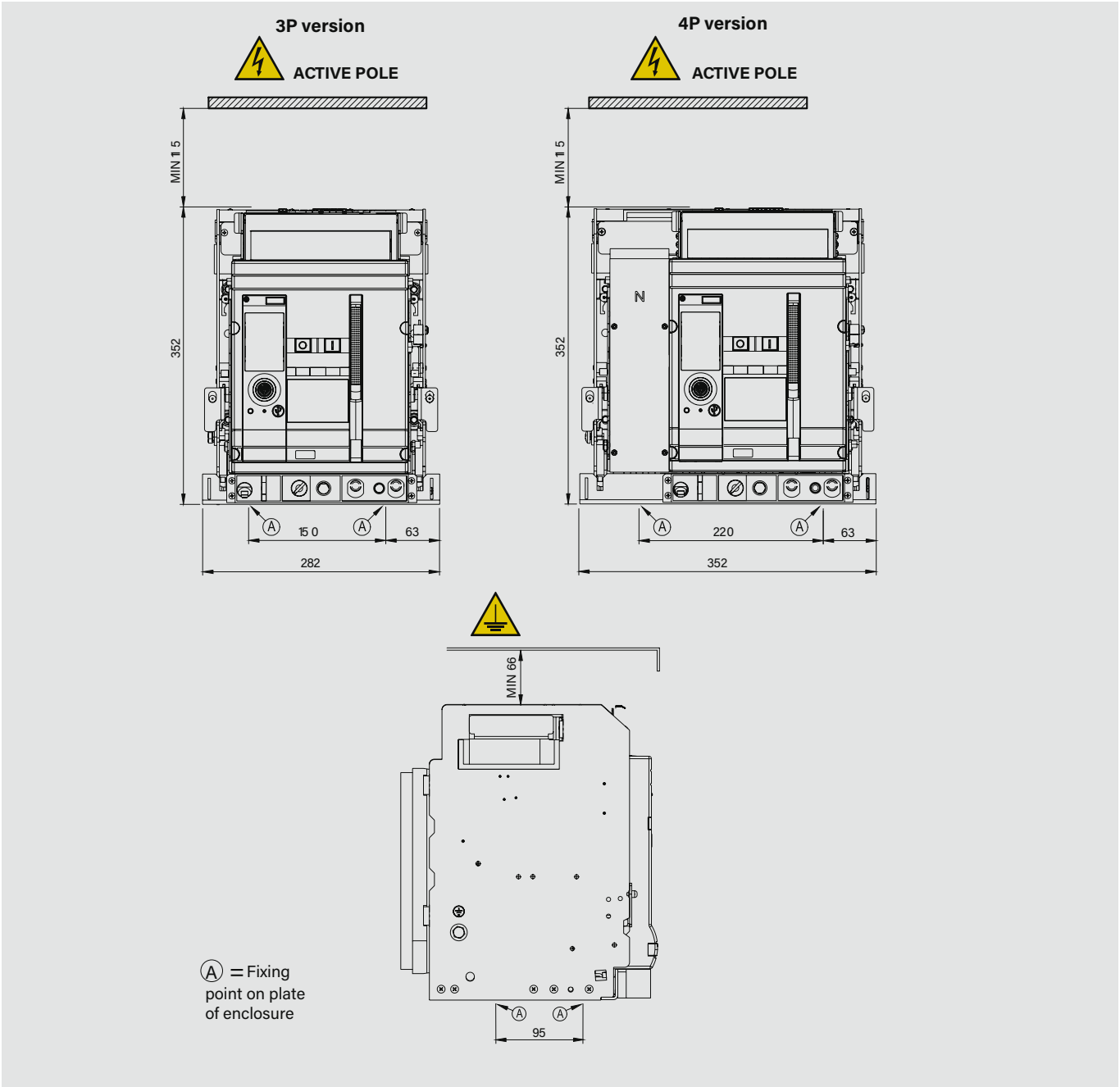
For enclosures other than XL³, it is necessary to respect the DMX³ installation position in depth in relation to its faceplate. Make sure that there is enough space between the DMX³ and the faceplate, and that the front of the DMX³ exceeds slightly so that the IP40 frame can be installed (see the drilling plans for the faceplate below depending on the type of device).*

The metal structure of the DMX³ 1600 must be connected to the ground of the enclosure. Fixing points should not be considered as connection points.

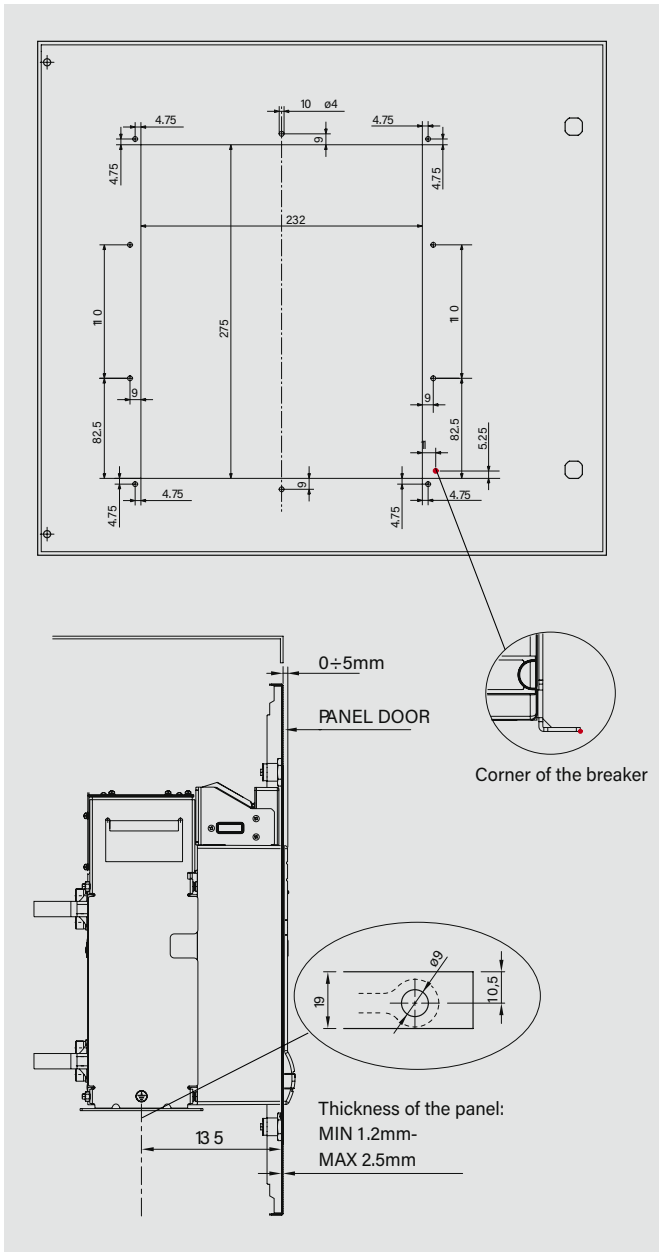
- **Overall and mounting dimensions of a DMX³ 3P and 4P fixed version**



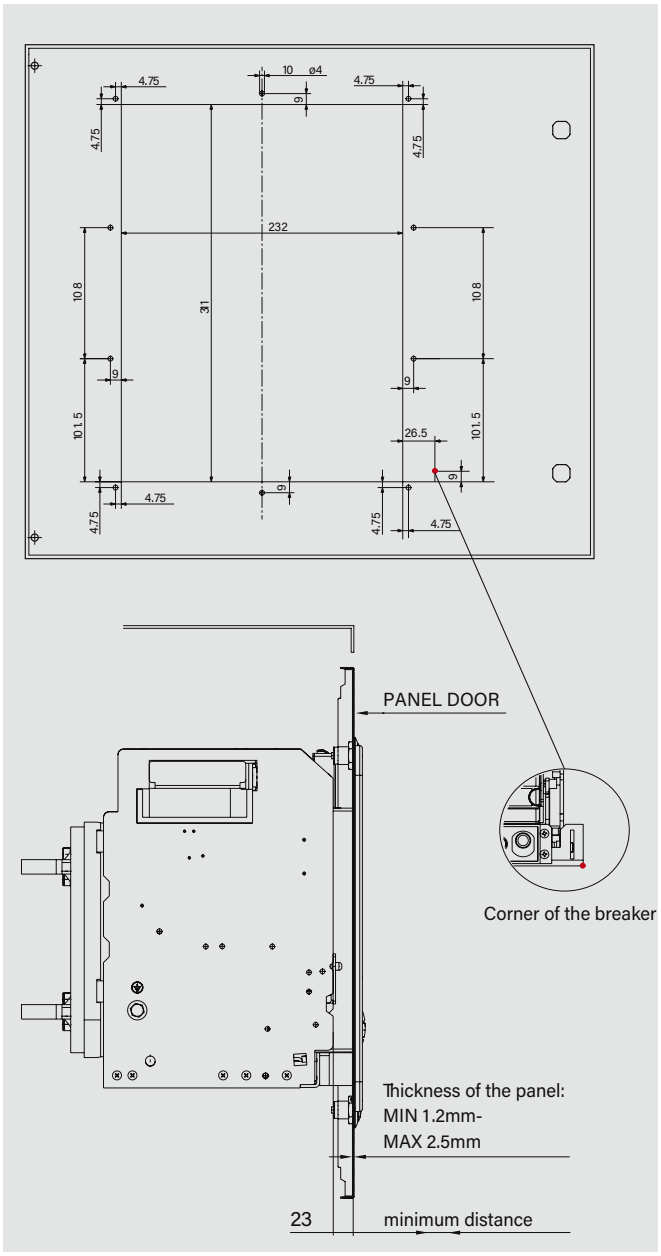
- **Overall and mounting dimensions of a DMX³ 3P and 4P DMX³ draw-out version**



- **Cutting, drilling and positioning of the faceplate for fixed version**



- **Cutting, drilling and positioning of the faceplate for draw-out version**

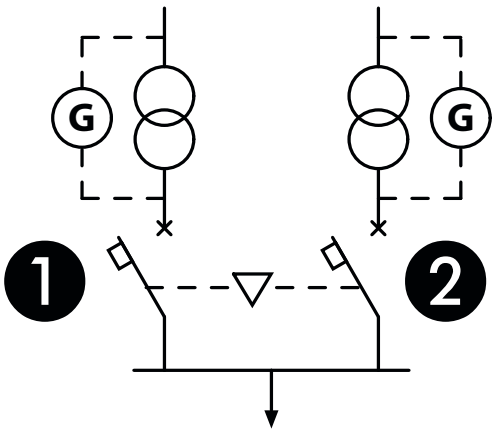


SUPPLY
INVERTERS

All DMX³ 1600 can be equipped with an interlocking kit that ensures “mechanical safety” when used as supply inverters. Connections between the DMX³ devices are provided by a system of cables and mechanisms attached to each device. This system can be adapted for use across the entire DMX³ range (air circuit breakers and trip-free switches, 3 and 4-pole, fixed or draw-out versions 42 kA or 50 kA) and offers the potential to combine different products from the range. The interlocking mechanism is used to create supply inverters up to a maximum of 2 devices.

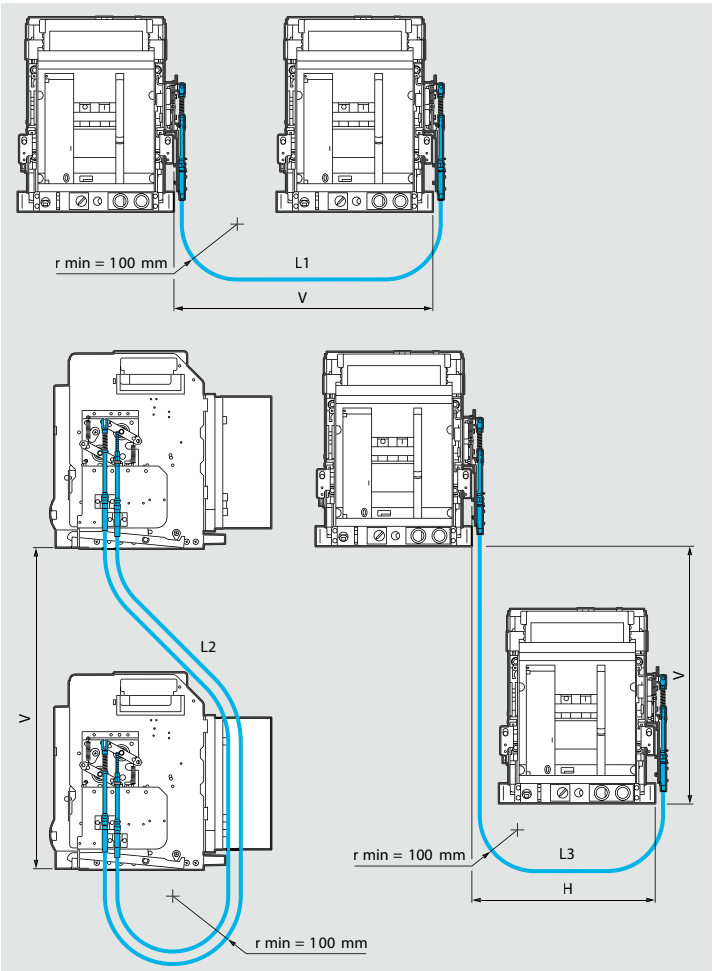
■ **Type A**
Ability to close one of the two devices only.
Using 2 interlocking cables.

DMX³ N° 1	DMX³ N° 2
0	0
1	0
0	1



INSTALLATION OF SUPPLY INVERTERS

Due to the presence of flexible connections ensuring mechanical interlocking, a supply inverter created using 2 DMX^3 devices must be installed in the same enclosure, or in a set of side-by-side enclosures.
It is possible to use up to 2 DMX^3 1600 vertically in the same enclosure. On the same horizontal plane, 2 DMX^3 devices, equipped with supply inverters may be located within a maximum of 4 meters.



Calculation of cable length
L1 ≥ 620 mm + H
L2 ≥ 950 mm + V
L3 ≥ 620 mm + H + V

For more details on interlock mounting and cable choice, please refer to p. 60 to 64

PROTECTION UNITS

Protection units cannot be removed from the circuit breakers. It is not possible to order a circuit breaker alone, without its protection unit, and vice versa.
They are factory assembled according to the circuit breaker on which they are installed.
It is therefore prohibited to substitute protection unit.

Protection units	WITHOUT MEASURE	WITH MEASURE
MP2.10	 Cat.No 0 283 00	 Cat.No 0 283 01
MP4.10	 Cat.No 0 283 02	 Cat.No 0 283 03

PROTECTION LED STATUS	PROTECTION STATUS
LED off	**Inactive**
Green LED continuously on	**Active: all parameters are under protection pre-alarm levels**
Red LED continuously on	**Active: overload warning, load is within 90% and 105% of the Ir value set for long delay**
Red flashing LED on	**Active: overload alarm, load exceeds 105% of the Ir value set for long time protection**
Green and Red LED alternate flashing	**Active with overtemperature alarm threshold (T > 90 °C)**
Any other operation of these LEDs indicates a protection unit malfunction; in this case, please consult us	

Protection units have built-in current transformers, allowing self-power, adjustment and data consultation of the circuit breaker out of load.
A battery kit (4 batteries CR2 lithium 3V) is integrated to MP4.10 protection unit

The battery compartment, located underneath the electronic protection unit, is accessible from the front panel

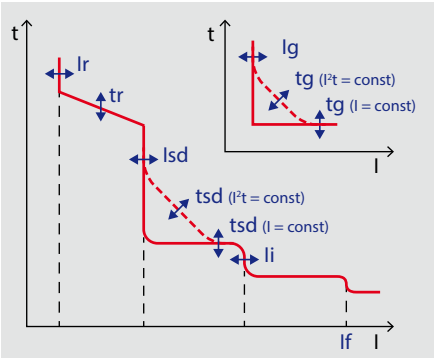
Protection units can also be powered by:
- power supply module CX^3 EMS Cat. No 4 149 45 (mendatory for the protection unit with measure).
- USB port input (PC, Power Bank, BLE Dongle Cat.No 0 283 10).

Above 95 °C, the protection unit trips (the temperature measured is that of the protection unit and not that of the power contacts).

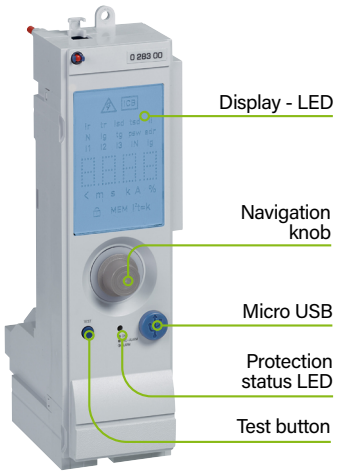
For more information concerning the EMS LED use, please consult the Instructions sheet available on e-catalogue.

ADJUSTMENT STEPS

VALUES	SETTINGS	INFORMATIONS
Ir	0,2 to 1 x In steps 1 A	Protection : ON/OFF
tr	40 ms to 30 s (@6Ir) steps 40ms	Thermal memory : ON/OFF
Isd	1,5 to 10 x Ir steps 1 A	Protection : ON/OFF
tsd	40 ms à 1 s steps 40ms (t=k and I^2t=k)	
Ig	0,2 to 1 x In steps 1 A	Protection : ON/OFF
tg	80 ms to 1 s steps 40 ms (t=k and I^2t=k)	
Ii	2 to 15 x In or Icw steps 1 A	Protection : ON/OFF
Neutral	Off-50%-100%-200%	
If	fixed (non adjustable)	



MP2.10 PROTECTION UNIT WITH LED SCREEN

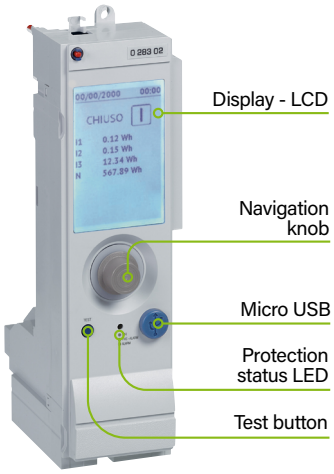


MP2.10 protection unit front face is the same for both Cat. Nos.
Once the protection unit is active, the LED display will be visible.
Consultation and parameters modification are possible by pushing the navigation knob.
To modify the parameters present in the secondary pages it is necessary to press the knob. Press again to confirm, and insert the password with 5 digits (by default «99999», only 4 digits visible).

For more information, please consult the instructions available on e-catalogue

MP2.10 protection unit is particulary suitable for operation in extreme conditions: temperatures between -50°C and +70°C, tropical climates and saline environments.

MP4.10 PROTECTION UNIT WITH LCD SCREEN



MP4.10 protection unit front face is the same for both Cat. Nos.
In the presence supply by battery only, it is necessary to press the button to switch on the device
In all other cases the protection unit switch on automatically
Access to the main menu and the related sub-menus, by pushing on the knob.
To change the parameters in the submenus, press the knob and increase or decrease the values by turning it.
Press again to confirm.

For more information, please consult the instructions available on e-catalogue

MP4.10 protection unit has intuitive use thanks to the LCD display.
Fitted with batteries so that it can display parameters and back up data if there is a power cut or the circuit breaker is open/ not connected.connecté.

PCS SOFTWARE AND APP

Protection units can be managed:
- directly on the protection units (using the rotary selector switch),
a PC pre-equipped with the Power Control Station software or on a tablet or smartphone via the EnerUp+ Project app. with the Bluetooth dongle Cat. No 0 283 10.

Power Control Station software for PCs or EnerUp+ Project app for smartphone/tablet can be used to exchange data with the protection unit of the DMX^3.
The software or the app can be used to:
- monitor the status of the breaker
- display information (firmware and device versions, alarms, measurements, parameters, fault history, settings)
- configure the different protections (1)
- update the firmware of the protection unit (2)
- generate reports based on the data stored and read by the protection unit (1)
- run diagnostic tests
- upload to the Cloud the data linked to your profile nd installation (only with EnerUp + Project app)

CONFIGURATION ON A PC (with the Power Control Station software) :

Example of Start menu
This menu displays the values of I1, I2, I3, IN and Ig, the type and status of the circuit breaker, the breaking capacity, the number of poles, the neutral position, the temperature and overtemperature intervention threshold.

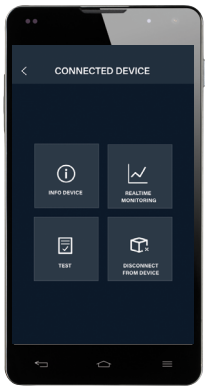
Example of Configuration menu
This menu can be used to set the different breaker parameters according to the tripping curves (time/current and ground fault curves).

(1) Only with Power Control Station software 5.0 or later
(2) Only for Legrand technical assistance via Power Control Station software

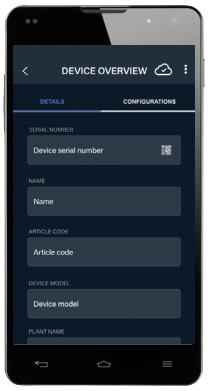
MANAGEMENT ON A SMARTPHONE/TABLET (ENERUP + PROJECT APP AVAILABLE FROM THE APPLE STORE AND GOOGLE PLAY) :

Any model in the MP2.10/MP4.10 range

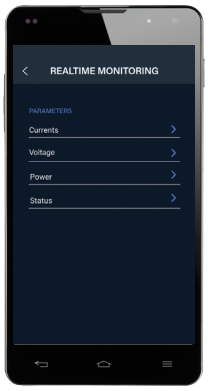
BLE Dongle S10 Cat.No 0 283 10 for MP2.10/MP4.10



Start menu
This menu gives access to different options like: overview of connected devices, real-time monitoring, device test, etc...



Device overview menu
This menu displays the essential information linked to the circuit breaker like: the name, serial number, location, status and the circuit breaker parameters.



Real-time monitoring menu
This menu displays the values of the current, voltage, power and the status of the circuit breaker.

FIRST COMMISSIONING

Before carrying out the first mechanical tests, and before switching on the DMX³ for the first time, for the safety of people and equipment, it is necessary to ensure that the rules of the trade and the recommended installation conditions are respected, and that only trained and authorised persons intervene. These persons must also ensure that there are no errors due to negligence and that there are no foreign objects inside the enclosure in accordance with the applicable standards.

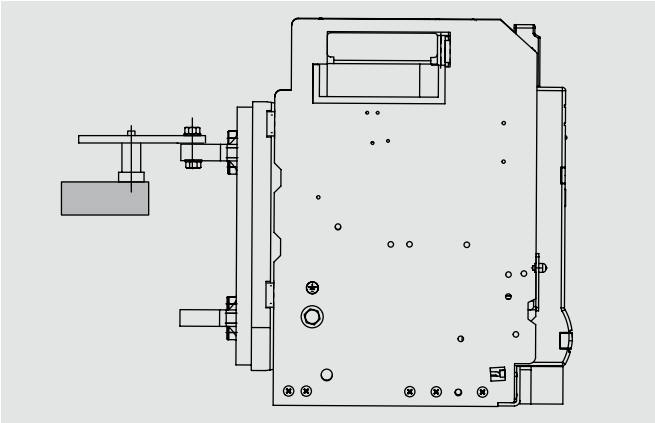
There are two types of commissioning checks:

- Offline controls
- Live controls

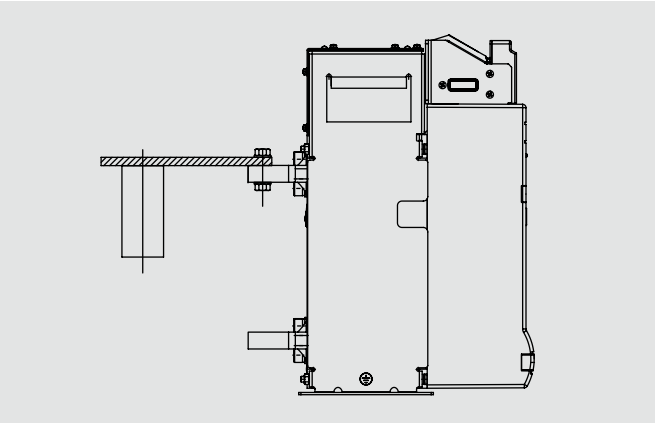
OFFLINE CONTROLS

- Check the physical integrity of the device. If any part is missing or damaged, it must be replaced. For a draw-out unit, check that it is possible to draw-out and re-insert the product without difficulty, with particular care being taken with the draw-out terminals of the electrical auxiliaries.
- Make sure that there are no metal parts, tools or machining waste near the device.
- Check the correspondence of the electrical accessories (coils, motors and protection unit) installed in relation to the electrical diagram of the assembly and to the instructions sheets of the products installed.
- Check that the tightening torque of the terminals is respected:

- **DMX³ draw-out**



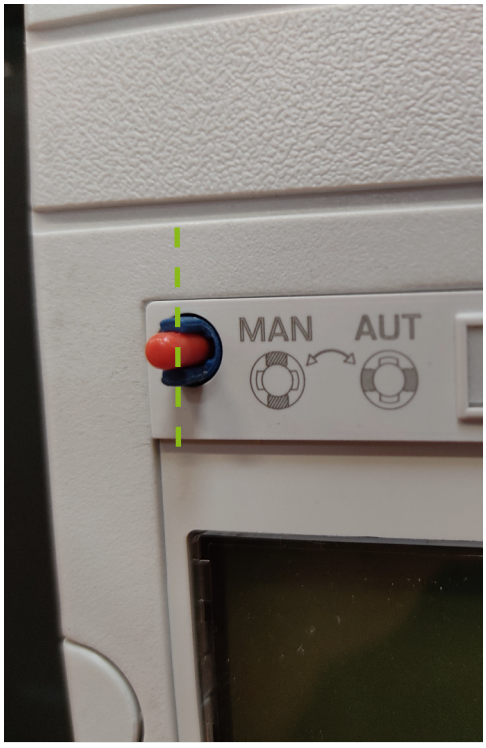
- **DMX³ fixed**



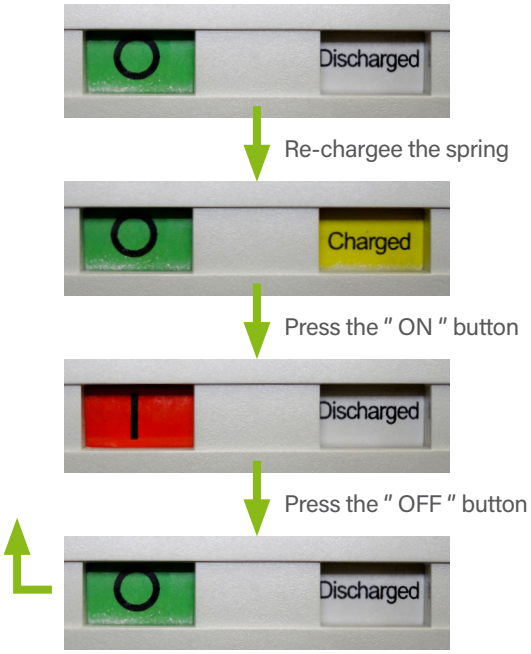
Ø nominal: 10 mm (M10 screw)
Ø hole: 11 mm
Tightening torque with flat washer or split washer: 37,5 Nm
Tightening torque with contact washers: 50 Nm

TABLE OF CONTENTS

- For circuit-breakers, check the correct operation of the protection unit:
- Switch on the protection unit via an external auxiliary power supply (Cat.No 0 281 72) or a protected direct power supply (see section 9 of the electrical accessories on pages 27 and 28).
- Set the Reset switch to the "MAN" position (vertical position, powered off).
- Close the circuit breaker and press the "T" test button on the protection unit for at least 2 seconds.
- Check that all lights are lit for about 1 second ("ON" light in orange and the other lights in red), and that the Reset switch comes out of its housing.
- The circuit breaker should trip and the lights go out.
- Remember to acknowledge the fault by pressing the Reset selector switch.



- Carry out two opening/closing cycles of the DMX³, always with the power off, specifically checking the indications on the front panel of the DMX³.



- When using DMX³ as a transfer switch, it is necessary to check that the operating logic (truth table) conforms to the requirements of the interlocking scheme.
- If locking accessories are installed on the DMX³ (open position, extracted position, etc ...), make sure that the function of each one is ensured.

LIVE CHECKS

- **Dielectric test**

Prior to testing under rated voltage, it is necessary to perform the dielectric test. This normative test must be carried out under certain conditions in order not to damage the DMX³ protection unit. First isolate all the electronic components from the line to be tested and then disconnect the direct or external power supply.

It is recommended to take all the necessary safety measures (sealing, recording, locking, marking, etc.) during the test operations in order to avoid possible material and/or physical accidents.

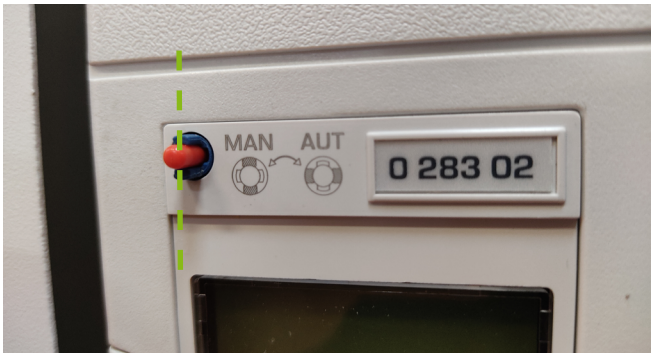
RESET BUTTON

Circuit breaker closing can be done locally or remotely after ensuring that the system and device conditions comply with safety procedures.

- **" MAN " position (manual)**

The DMX³ is delivered with the button in this position. When the product is triggered by the protection unit, it is required to press the red RESET button before being able to perform the closing manoeuvre.

MAN" position (blue selector switch in vertical position) and red RESET button in



To change from the "MAN" position to the "AUT" position, the following operations must be performed:
1-Press the red RESET button until the end of the stroke.
2-Hold it down and turn the blue selector 90° to the right to place it in the " AUT " position.

- **"AUT" position (automatic)**

This position is generally used in supervisory systems. Unlike the "MAN" position, it is possible to close the circuit breaker after a trip caused by the protection unit (the RESET button remains retracted). Before carrying out this operation, it is necessary to have analysed (and corrected) the fault that caused the product to open.

AUT" position (blue selector switch in horizontal position) and red RESET button pressed in:

MAINTENANCE

We strongly recommend that you keep an up-to-date maintenance log for each product, listing all the checks and maintenance operations carried out. The use of the mechanical counter is suggested to facilitate the planning of the periodic maintenance of the product.

Before any maintenance work, make sure that the DMX³/DMX³-I is switched off in the "OFF" position (power or auxiliary circuitry).Maintenance and periodic inspections must be carried out by qualified and trained personnel, they must ensure the safety for people and devices, using every tool and procedure

For a fixed version , the power supply should be disconnect upstream and downstrem, if not, make sure that live parts are inaccessible to the technician in charge of carrying out the work
For a draw-out version, the device must be locked in draw-out position..
For both versions, the charging spring must be discharged

PREVENTIVE MAINTENANCE

DMX³ are given for a number of cycles(1). This endurance can be increased if regular preventive maintenance is carried out on the DMX³.
It is important to carry out maintenance in order to :
- check the electrical and mechanical performance of the product
- Identify damaged or used parts and/or accessories.
- prevent breakdowns

Periodic maintenance and checks are recommended on the following parts:
- mechanism
- mechnical interlock
- padlocks
- charging spring
- arc chambers and arc splitters
- main power contacts
- draw-out base
- electrical auxiliaries terminal block
- electrical auxiliaries
- mechanical accessories
- electrical accessories
- proetction unit

(1) see next page

For any requests, you will be asked for the serial numbers or dates of manufacture of the DMX³ and its components.
The date of manufacture is coded as
"Year W Week" (for example: 19W31, is the 31st week of 2019).

Each time the product is used/installed in conditions different by IEC standards, it' s recommended to plan and schedule a periodical maintenance in order to:

- Verify product goodness.
- Identify damaged parts and/or accessories.
- Organize preventive actions to avoid emergencies.

There are 2 levels of maintenance (level 1 and level 2). The table below details level 1 maintenance actions and suggested frequency.
This maintenance level is intended to be performed by trained and qualified technicians, confident with safety standard requirements for circuit breakers on distribution systems.
For Level 2 actions (every 4 years), please contact Legrand

LEVEL 1			
CHECK	FREQUENCY TIME[2]	FREQUENCY CYCLES[2]	
		AT IN	WITHOUT CURRENT
1 - MECHANISM			
Correct operation and greasing	Yearly	3000	5000
Check the seals	Yearly	3000	5000
2 - ARC CHAMBERS	Yearly	3000	5000
3 - MAIN CONTACTS			
Visual check	Yearly	3000	5000
4 - DRAW-OUT SYSTEM			
Check the correct working	Yearly	3000	5000
Insulating shutters	Every 2 years	3000	5000
Base main contacts rear/front	Every 2 years	3000	5000
Terminal block contacts	Every 2 years	3000	5000
Greasing of the draw-out base	Every 2 years	3000	5000
Check the correct working of draw-out machanism	Every 2 years	3000	5000
5 - POWER TERMINALS	Yearly	3000	5000
6 - AUXILIARIES			
Visual check	Yearly	3000	5000
Functional check	Every 2 years	3000	5000
7 - MOTOR OPERATOR, UNDERVOLTAGE/ OVERVOLTAGE/CLOSING COIL			
Functional check	Yearly	3000	5000
Greasing of the motor drive mechanism	Every 2 years	3000	5000
8 - MECHANICAL ACCESSORIES			
Locking in open position	Yearly	-	-
Locking in draw-out position	Yearly	-	-
9 - MECHANICAL INTERLOCK	Every 2 years	-	-
10 - PROTECTION UNIT	Yearly	-	-

[2] Under normal conditions of use. For more information, please consult the maintenance guide

SPARE PARTS

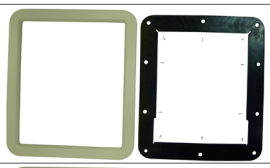
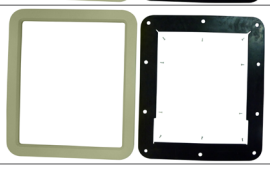
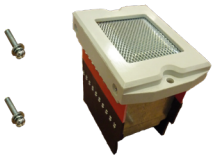
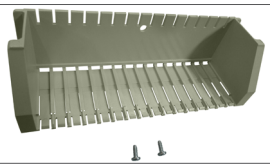
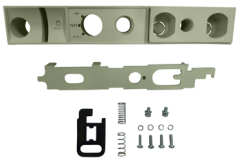
CAT. NOS	DESCRIPTION	CONTENTS		INFORMATION	NUMBER OF POLES
0 290 52	Fixed terminal block for connection	- Fixed terminal block for connection x 10 - Instructions		Kit required for 10 electrical auxiliaries	3P and 4P
9 815 00	Door seal	- Door seal - Door frame - Fixing screws - Instructions		Kit for DMX³ 1600 fixed version	3P and 4P
9 815 01	Door seal	- Door seal - Door frame - Fixing screws - Instructions		Kit for DMX³ 1600 draw-out version	3P and 4P
9 815 02	Arc chamber	- Arc chamber - Fixing screws - Instructions		Kit required for 1 pole	3P and 4P
9 815 05	Caps for front panel fixing screws	- Caps for screws x 10 - Instructions		Kit required for 5 DMX³	3P and 4P
9 815 06	Secondary front panels	- Covers for secondary front panels: - Fixing screws - Instructions		Kit required for 1 DMX³	4P
9 815 07	Support for terminal block	- Support for terminal block - Screw fixing kit - Instructions		Components for 1 DMX³ 1600	3P and 4P
9 815 10	Spring charging lever	- Lever for air circuit breaker (black) - Lever for trip-free switch (grey) - Spring charging mechanism - Benzing ring - Seiger ring - Springs - Instructions		Kit required for 1 device (air circuit breaker or trip-free switch)	3P and 4P

TABLE OF CONTENTS

CAT. NOS	DESCRIPTION	CONTENTS		INFORMATION	NUMBER OF POLES
9 815 11	Extraction crank	- Crank x 1 - Instructions		Kit required for 1 DMX³ 1600 draw-out version	3P and 4P
9 815 12	Connection clamps	- Connection clamp x 1 - Screws and washers - Instructions		Kit required for 1 pole of DMX³ 1600 draw-out base	3P and 4P
9 815 13	Insulating shutters	- Mobile shutter - Fixed shutter - Springs - Screws - Instructions		Kit required for 1 draw-out device	3P
9 815 14	Insulating shutters	- Mobile shutter - Fixed shutter - Springs - Screws - Instructions		Kit required for 1 draw-out device	4P
9 815 15	Power terminal block for DMX³ draw-out version	- 1 terminal block - Screws and washers		Kit required for 1 pole of DMX³ 1600 draw-out version	3P and 4P
9 815 16	Front panel blanking kit for draw-out base	- Front cover - Locking cover - Lock for padlocks - Front shutter - Springs - Screws and washers		Kit required for 1 DMX³ 1600 draw-out base	3P and 4P
9 815 17	Screw kit for power terminal blocks	- 16 screws + 32 washers - Instructions		Kit for 1 DMX³ 1600	3P and 4P
Contact Legrand	Grease	- Mechanical grease		Mechanical greasing kit (0,5Kg). Components enough for 10 DMX³ 1600	3P and 4P

Notes

Notes

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