

## DMX<sup>3</sup> ACB's UP TO 6300 A

EFFICIENT PROTECTION  
AND CONTROL FOR ALL  
TYPE OF BUILDINGS



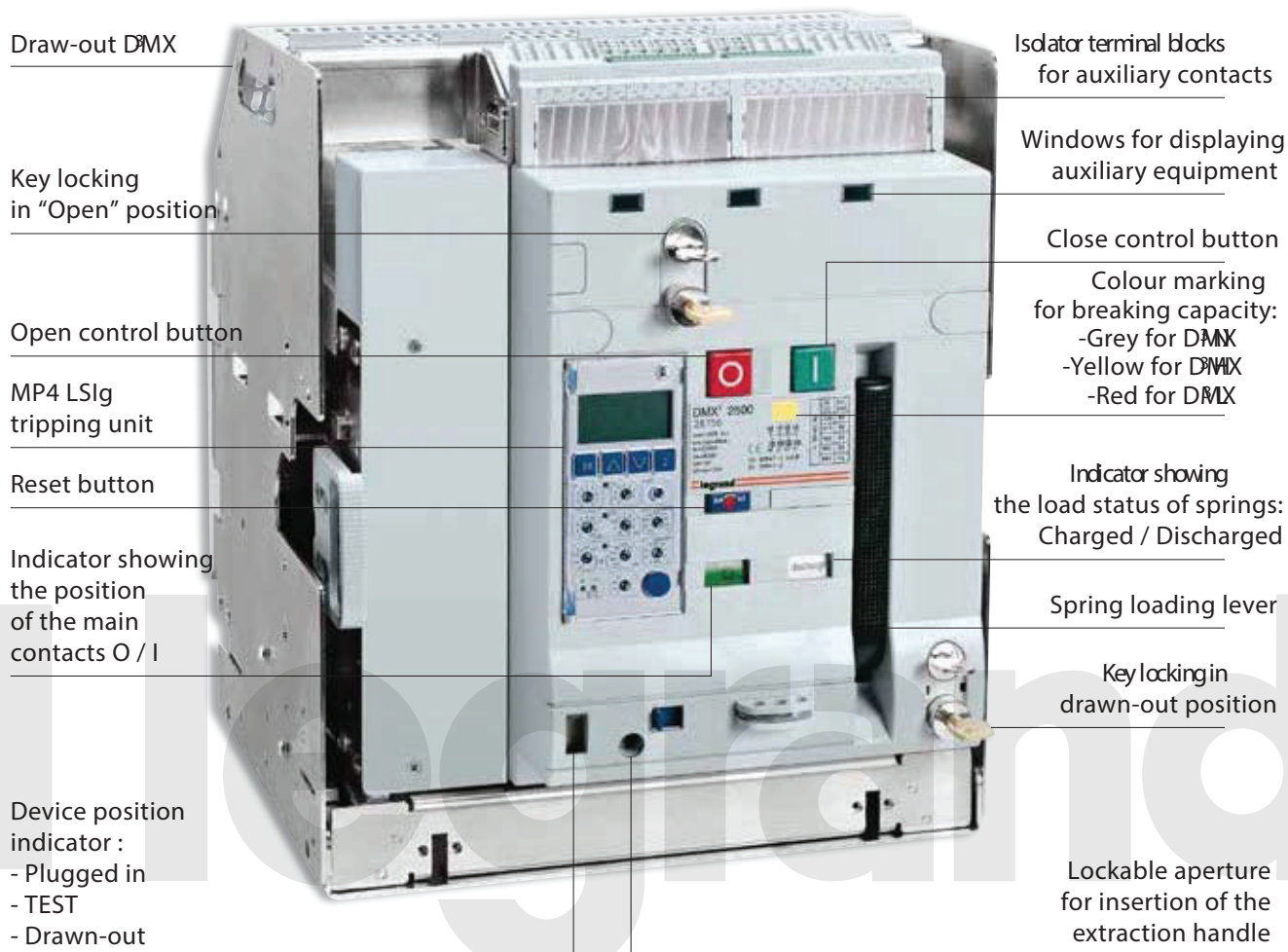


Electrical panel  
equipped with  
DPXMCCB's and  
modular MCB's  
up to 1600/A

Main electrical  
panel equipped  
with DMXCB's  
and DPXMCCB's  
up to 6300/A

Thanks to ~~DPX~~ range  
of MCCB's and to DX<sup>3</sup> MCB's you  
can benefit of the advantages  
of a complete protection system  
at any level of the installation





## Optimized performance up to 6300 A

- DMX<sup>3</sup> air circuit breakers are available in three frame sizes for three breaking capacities: 50 kA for the DMX<sup>3</sup> N designation, 65 kA for DMX<sup>3</sup> H and 100 kA for DMX<sup>3</sup> L.
- The range covers 11 rated currents, between 630 A and 6300 A.
- All range of DMX<sup>3</sup> air circuit breakers is available in fixed and draw-out version.

## BREAKING CAPACITIES AND RATED CURRENTS

|                     | 630 A                   | 800 A | 1000 A | 1250 A | 1600 A | 2000 A | 2500 A | 3200 A | 4000 A | 5000 A | 6300 A |
|---------------------|-------------------------|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| DMX <sup>3</sup> -N | 50 kA   FIXED/DRAW-OUT  |       |        |        |        |        |        |        |        |        | -      |
| DMX <sup>3</sup> -H | 65 kA   FIXED/DRAW-OUT  |       |        |        |        |        |        |        |        |        | -      |
| DMX <sup>3</sup> -L | 100 kA   FIXED/DRAW-OUT |       |        |        |        |        |        |        |        |        |        |

## OVERALL DIMENSIONS AND WEIGHT

### Fixed version

|   |    | Height | Depth  | Width   | Weight <sup>(1)</sup> |
|---|----|--------|--------|---------|-----------------------|
| FRAME 1:<br>DMX <sup>3</sup> -N 2500<br>DMX <sup>3</sup> -H 2500        | 3P | 419 mm | 354 mm | 273 mm  | 41 kg                 |
|   | 4P | 419 mm | 354 mm | 358 mm  | 48 kg                 |
| FRAME 2:<br>DMX <sup>3</sup> -L 2500<br>DMX <sup>3</sup> -N/H/L<br>4000 | 3P | 419 mm | 354 mm | 408 mm  | 59 kg                 |
|   | 4P | 419 mm | 354 mm | 538 mm  | 76 kg                 |
| FRAME 3:<br>DMX <sup>3</sup> -L 6300                                    | 3P | 419 mm | 354 mm | 797 mm  | 118 kg                |
|   | 4P | 419 mm | 354 mm | 1067 mm | 152 kg                |



### Draw-out version

|   |    | Height | Depth  | Width   | Weight <sup>(1)</sup> |
|---|----|--------|--------|---------|-----------------------|
| FRAME 1:<br>DMX <sup>3</sup> -N 2500<br>DMX <sup>3</sup> -H 2500        | 3P | 465 mm | 433 mm | 327 mm  | 77 kg                 |
|   | 4P | 465 mm | 433 mm | 412 mm  | 94 kg                 |
| FRAME 2:<br>DMX <sup>3</sup> -L 2500<br>DMX <sup>3</sup> -N/H/L<br>4000 | 3P | 465 mm | 433 mm | 425 mm  | 108 kg                |
|   | 4P | 465 mm | 433 mm | 555 mm  | 137 kg                |
| FRAME 3:<br>DMX <sup>3</sup> -L 6300                                    | 3P | 465 mm | 433 mm | 804 mm  | 216 kg                |
|   | 4P | 465 mm | 433 mm | 1064 mm | 274 kg                |



(1) For trip-free switches, please consult us

Note - Accuracy of dimensions = ± 2mm

## OTHER ELECTRICAL FEATURES

Rated operational voltage U<sub>e</sub>: 690 VAC 50/60 Hz  
 Rated insulation voltage U<sub>i</sub>: 1000 VAC 50/60 Hz  
 Rated impulse withstand voltage U<sub>imp</sub>: 12 kV  
 Category of use: B

Ambient temperature: -5° C to 70° C  
 Humidity: + 55° C with relative humidity of 95%,  
 conforms to IEC 68-2-30

## LEGRAND ADVANTAGE

The over all dimensions of the breaker contribute considerably to an efficient use of the space inside the electrical panel. The constant depth for all the rated currents facilitates connection of the busbars.



MP4 LSIg  
microprocessor based  
protection unit

Ig settings

Ii settings

Im settings

Ir settings

LEDs indicating  
correct operation

tg settings

tm settings

tr settings

Mini USB connector  
to PC for testing

Neutral  
protection

## Precise & user friendly LCD protection units

Besides their easy mounting and connection, strength and good continuity of operation, 2 types of electronic units allow precise adjustment of different limits for current values and time delay. The result is an efficient protection against electrical faults while maintaining total discrimination with downstream breakers.

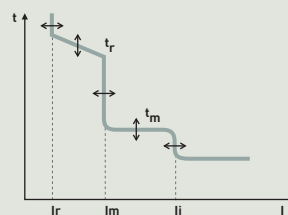
The LCD display lets you monitor the measured current values and informs you on fault adjustment and log (the cause of last trip and maintenance operations).

## MP4 LSI MICROPROCESSOR BASED PROTECTION UNIT CAT. N° 0288 01



The following settings are adjusted using rotary selector switches:

- Long time delay protection against overloads:  $I_r$  from 0.4 to  $1 \times I_n$  (6 + 6 steps) on two selectors (0.4-0.9, by steps of 0.1 and 0.0-0.1, by steps of 0.02)
- Long delay protection operation time:  $t_r$  - at  $6 \times I_r$  (4 + 4 steps)  $t_r = 5-10-20-30s$  (MEM ON)  $30-20-10-5s$  (MEM OFF)
- Short time delay protection against short circuits:  $I_m$  from 1.5 to  $10 \times I_r$  (9 steps)  $I_m = 1.5-2-2.5-3-4-5-6-8-10 \times I_r$
- Short time delay protection operation time:  $t_m$  from 0 to 0.3s (4 + 4 steps)  $t_m = 0-0.1-0.2-0.3s$  ( $t = \text{cost}$ ),  $0.3-0.2-0.1-0.01s$



( $I^2t = \text{cost}$ )

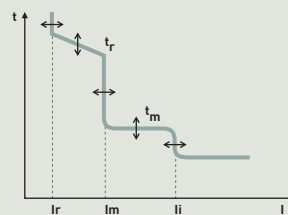
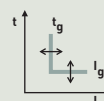
- Instantaneous protection against very high short circuits  $I_i$  from 2 to  $15 \times I_n$  or  $I_{cw}$  (9 steps)  $I_i = 2-3-4-6-8-10-12-15 \times I_n$  or  $I_{cw}$
- Neutral protection  $I_N = I-II-III-IV \times I_r$  (0-50-100-100 %)

## MP4 LSIg MICROPROCESSOR BASED PROTECTION UNIT CAT. N° 0288 02



The following settings are adjusted using rotary selector switches:

- Long time delay protection against overloads:  $I_r$  from 0.4 to  $1 \times I_n$  (6 + 6 steps) on two selectors (0.4-0.9, by steps of 0.1 and 0.0-0.1, by steps of 0.02)
- Long delay protection operation time:  $t_r$  - at  $6 \times I_r$  (4 + 4 steps)  $t_r = 5-10-20-30s$  (MEM ON)  $30-20-10-5s$  (MEM OFF)
- Short time delay protection against short circuits:  $I_m$  from 1.5 to  $10 \times I_r$  (9 steps)  $I_m = 1.5-2-2.5-3-4-5-6-8-10 \times I_r$
- Short time delay protection operation time:  $t_m$  from 0 to 0.3s (4 + 4 steps)  $t_m = 0-0.1-0.2-0.3s$  ( $t = \text{constant}$ ),  $0.3-0.2-0.1-0.01s$  ( $I^2t = \text{constant}$ )



( $I^2t = \text{constant}$ )

- Instantaneous protection against very high short circuits  $I_i$  from 2 to  $15 \times I_n$  or  $I_{cw}$  (9 steps)  $I_i = 2-3-4-6-8-10-12-15 \times I_n$  or  $I_{cw}$
- Earth fault current:  $I_g$  from 0,2 to  $1 \times I_n$  (9 steps)
- Time delay on earth fault tripping:  $t_g$  from 0,1 to  $1 \times I_n$  (4 steps) both for " $t$ " and " $I^2t$ " constant
- Neutral protection  $I_N = I-II-III-IV \times I_r$  (0-50-100-100 %)

### INFORMATION

All DMX<sup>3</sup> breakers are factory equipped with any MP4/MP6 protection unit LSI or LSIg according to your requirements. You just need to select and indicate the 2 catalogue numbers (1 for the breaker and 1 for the tripping unit).

### LEGRAND ADVANTAGE

All protection units are equipped with batteries so you can monitor the parameters even when the breaker is not connected.



LEDs indicating correct operation, pre-alarm and alarm for overload and temperature

Colour touch screen

Settings lock

Mini USB port for PC connection

ON button

## Innovative & user friendly touch screen protection units

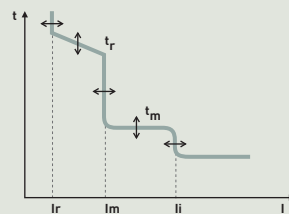
- MP6 electronic protection units are equipped with a colour touch screen, particularly user friendly, thanks to intuitive icon-based navigation system. The colour display provides a clear presentation of the parameters of the installation.
- Touch screen protection units integrate all the functions of LCD tripping units and have an advanced measurement function which, in addition to monitoring currents, can also be used to display voltages, active and reactive powers, frequency, power factor, harmonics and also energy.
- Alarms can be programmed on a number of these parameters: max. voltage, min. voltage, voltage imbalance, max. and min. frequency, etc.

## MP6 LSI TOUCH SCREEN PROTECTION UNIT CAT.NO 0288 03



The following settings are adjusted using the touch screen:

- Long time delay protection against overloads: **Ir**
- Long delay protection operation time: **tr**
- Short time delay protection against short circuits: **Im**
- Short time delay protection operation time: **tm**
- Instantaneous protection against very high short circuits: **Ii**
- Neutral protection: **N**



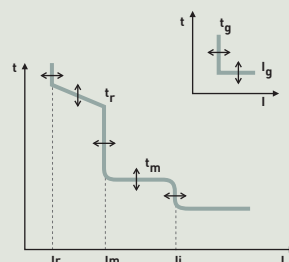
Tripping curve  
preview

## MP6 LSI TOUCH SCREEN PROTECTION UNIT CAT.NO 0288 04

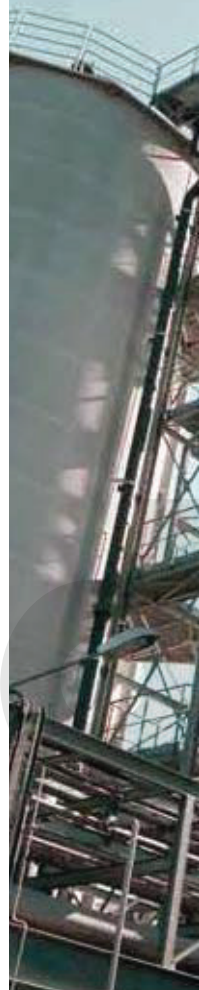


The following settings are adjusted using the touch screen:

- Long time delay protection against overloads: **Ir**
- Long delay protection operation time: **tr**
- Short time delay protection against short circuits: **Im**
- Short time delay protection operation time: **tm**
- Instantaneous protection against very high short circuits: **Ii**
- Earth fault current: **Ig**
- Time delay on earth fault tripping: **tg**
- Neutral protection: **N**



Earth fault tripping  
curve preview



### LEGRAND ADVANTAGE

The icon-based interface of the management software and the innovative touch screen technology used for MP6 tripping units simplify setting and preparing operations of the DMX<sup>3</sup> circuit breaker.

### INFORMATION

The MP4 and MP6 electronic protection units can communicate via an RS-485 port. This port is used for remote monitoring and management of the devices in the installation, using the MODBUS protocol. It is therefore possible to control circuit breaker opening and closing, display the electrical parameters and detect all the alarms generated by each device, from a PC.

## STARTING MENU

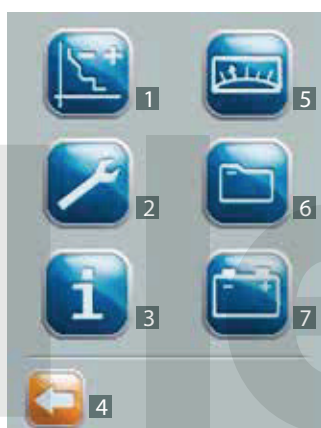


This menu displays the values of  $I_1$ ,  $I_2$ ,  $I_3$  and  $I_N$  as a diagram, the date and the hour, and the alarm icon. If the breaker opens following an electrical fault a specific icon will appear on the upper part of the screen. Pressing this icon will open a new window showing the cause of the last event.

Other possible actions:

- Right arrow icon: access the main menu
- Alarm icon: preview the cause of the alarm in course

## MAIN MENU



The main menu allows accessing different windows for setting different parameters of the breaker or previewing measured values, battery status, tripping history, etc.

The following accesses are possible:

- 1 Setting according to the tripping curves (current and time)
- 2 Access tripping unit settings (luminosity, contrast and sound volume)
- 3 Access to general information of the breaker
- 4 Back to the previous page
- 5 Access measured values menu
- 6 Access archives
- 7 Preview battery charging status

# Innovative & user friendly touch screen protection units (continued)

- | MP6 electronic protection units collect all the useful information in 5 sections, each one easily reachable via the main menu in order to allow an efficient control. Navigation through these sections is very simple thanks to the arrows at the bottom of each page.
- | MP6 electronic protection units have an intuitive graphical interface. All useful information and selected settings are easy to understand and visible at a glance. For example current values can be visualized on the starting page thanks to a histogram. Different other settings can be simultaneously displayed on the "settings" screen in order to have a global view.



## PROTECTIONS SETTING MENU



**Vertical arrows allow scrolling between different electrical parameters:**

Ii, Im, tm, Ir, tr, Ig, tg, etc.

Pressing horizontal icons gives access to corresponding windows allowing value settings. Each value can be increased/decreased, validated or suppressed.

The values need to be saved into memory at the end of the process, for each setting.

## MEASURED VALUES MENU



**This window allows previewing of measured values for:**

- Currents
- Voltages (Ph/N and Ph/Ph)
- Active and reactive powers
- Power factor (total and per phase)
- Active and reactive energy
- Harmonics ( for currents and voltages )

Pressing **I**, **m**, **M** and **avg** icons at the bottom of the window will display respectively: instantaneous, minimum, maximum and average value of electrical parameters.

## INFORMATION

• The following events and values are registered into memory and can be accessed via specific menu: cause of the last event, event counter, events history with date and hour, alarms history with date and hour

• MP6 tripping units allow following application: logical selectivity, management of non priority loads, contact management (with Cat.No 0288 12)

• MP6 tripping units allow following alarms: power reverse, current

imbalance, maximum and minimum voltage values U1N, U2N, U3N, maximum currents I1, I2, I3, voltage imbalance (phase-neutral), inversed phase rotation, maximum and minimum frequency values.

Undervoltage release

Shunt trip



Closing coil



Motor operators



## Fast clipping control accessories

- You can remotely control the DMX<sup>3</sup> with the help of its accessories: shunt trips, undervoltage releases, motor operators and closing coils.
- All the control accessories are simply clipped on to the front panel of the circuit breaker, which is especially configured in order to facilitate the clipping.
- Every type of accessory is compatible with its own location, in order to avoid any possible mistake.

All control accessories can be easily installed without any special tool and in a very short time. The installation is to be done on the front panel of the air circuit breaker. In that way, the separation between power and control circuits is guaranteed.

### SHUNT TRIP



Shunt trips are devices used for the remote instantaneous opening of the air circuit breaker. They are generally controlled through an NO type contact. The actual offer of shunt trips proposes different supply voltages (from 24 V to 415 V), compatibles with AC and DC currents. The shunt trips are already equipped with a special fast connector, to be directly inserted into auxiliary contacts block. An auxiliary contact is connected in series with the coil, cutting off its power supply when the main poles are open.

#### Technical characteristics:

- Nominal voltage  $U_n$ : 24 V A /= $\infty$ ; 48 V A /= $\infty$ ; 110 V A /= $\infty$ ; 220 V A /= $\infty$ ; 415 V A
- Tolerance on nominal voltage: 70 to 110%  $V_n$
- Maximum power consumption (max.power for 180 ms): 500 VA A /500 W =
- Continuous power: 5 VA A /5 W =
- Maximum opening time: 30 ms
- Insulation voltage: 2 500 V 50 Hz for 1 min
- Endurance on pulse: surge proof 4 kV 1.2/50  $\mu$ s

### UNDERVOLTAGE RELEASE



Undervoltage releases are devices which are generally controlled by an NC type contact. The trigger instantaneous opening of the circuit breaker if their supply voltage drops below a certain threshold and in particular if the control contact opens. These releases are equipped with a device for limiting their consumption after the circuit has been closed.

#### Technical characteristics:

- Nominal voltage  $U_n$ : 24 V A /= $\infty$ ; 48 V A /= $\infty$ ; 110 V A /= $\infty$ ; 220 V A /= $\infty$ ; 415 V A
- Tolerance on nominal voltage: 85 to 110%  $V_n$
- Maximum power consumption (max.power for 180 ms): 500 VA A /500 W =
- Continuous power: 5 VA A /5 W =
- Opening time: 60 ms
- Insulation voltage: 2500 V 50 Hz for 1 min
- Endurance on pulse: surge proof 4 kV 1.2/50  $\mu$ s

### CLOSING COILS



These coils are used for remotely controlling the closing of the power contacts of the circuit breaker. The springs of the circuit breaker are to be loaded prior to the action of the closing coils. They are controlled by an NO type contact.

#### Technical characteristics:

- Nominal voltage  $U_n$ : 24 V A /= $\infty$ ; 48 V A /= $\infty$ ; 110 V A /= $\infty$ ; 220 V A /= $\infty$ ; 415 V A
- Tolerance on nominal voltage: 70 to 110%  $V_n$
- Maximum power consumption (max.power for 180 ms): 500 VA A /500 W =
- Continuous power: 5 VA A /5 W =
- Maximum closing time: 50 ms
- Insulation voltage: 2500 V 50 Hz for 1 min
- Endurance on pulse: surge proof 4 kV 1.2/50  $\mu$ s

### LEGRAND ADVANTAGE

Electrical connection is made in no time thanks to the fast connector supplied on all above accessories.

### NUMBER OF CONTROL AUXILIARIES FOR DMX<sup>3</sup> = 3

Shunt trip: 1  
Undervoltage release: 1  
Closing coils: 1

## MOTOR OPERATORS



Motor operators, are used for remotely reloading the springs of the circuit breaker mechanism immediately after the device closes. The device can thus be re-closed almost immediately after an opening operation. To motorise a DMX<sup>3</sup> it is necessary to add a release coil (undervoltage release or shunt trip) and a closing coil. If the supply voltage of the controls fails, it is still possible to reload the springs manually. Motor-driven controls have "limit switch" contacts which cut off the power supply of their motor after the springs have been reloaded. Motor operators are easy to mount, with only three screws.

### Technical characteristics:

- Nominal voltage  $U_n$ :  
24 V A / = , 48 V A / = , 110 V A / = ,  
230 V A / = , 415 V A
- Tolerance on nominal voltage:  
85 to 110%  $V_n$
- Spring reloading time: 5s
- Maximum power consumption:  
140 VAA / 140 W =
- Starting current: 2 up to 3  $I_n$  0.1 s
- Maximum cycle: 2/min

## SAFETY AND PADLOCKING ACCESSORIES FOR AN INCREASED SECURITY

The DMX<sup>3</sup> circuit breakers draw-out types are delivered as standard with safety padlocking shutters preventing access to live terminals. They have a number of other safety devices, such as:

- Key-operated locks:  
Main contacts open  
Circuit breaker in draw-out position
- Padlocks for:  
Main contacts open  
Contact shutters closed (for draw-out position)
- Door locking in order to prevent the opening of the electrical switchboard door when the contacts of the ACB are closed.



Fixed version equipped with padlocking system



Draw-out version equipped with key-operated locks

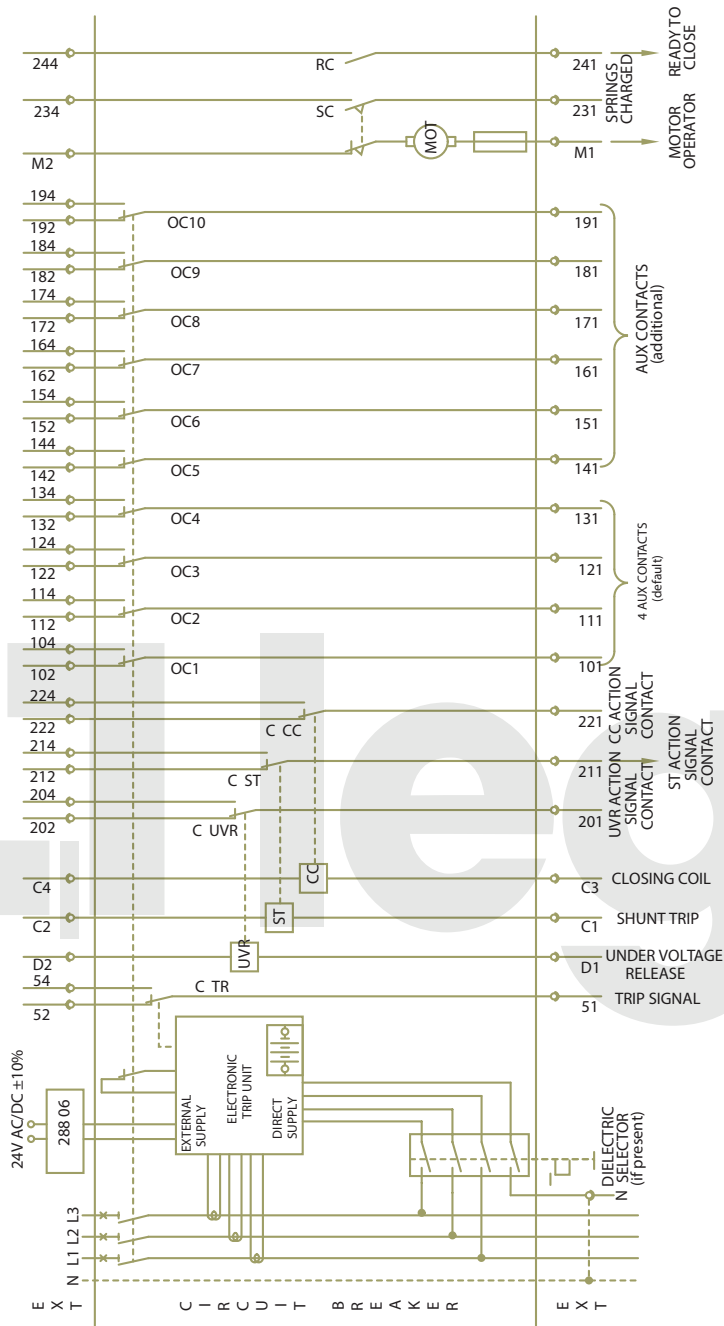
## Easy identification of control accessories

- | Electrical auxiliaries are connected on the front panel on terminal blocks provided for this purpose. Accessories are identified on the front panel.
- | As the cover has window, it is easy to know which devices are fitted on the device breaker.



## SIGNALLING CONTACTS

All DMX<sup>3</sup> air circuit breakers are equipped as standard with 4 auxiliary contacts (2 NO and 2 NC type) and one signalling contact for the shunt trip (NO type).





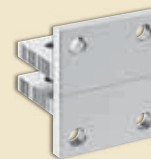
## FIXED VERSION-CHOOSE YOUR CONNECTION ACCESSORIES: 3 POSSIBILITIES

The type of rear terminals can be easily changed according to your needs.



The breaker is supplied with rear terminals for horizontal connection

### REAR TERMINALS FOR FLAT CONNECTION



| Frame 1:             | Frame 2:             | Frame 3:                 |
|----------------------|----------------------|--------------------------|
| 3P: Cat. N°. 0288 84 | 3P: Cat. N°. 0288 82 | 3P: Cat. N°. 0288 92 x 2 |
| 4P: Cat. N°. 0288 85 | 4P: Cat. N°. 0288 83 | 4P: Cat. N°. 0288 93 x 2 |

### REAR TERMINALS FOR VERTICAL CONNECTION

This type of connection uses 2 accessories: the previous rear terminals for flat connection, which must be equipped with the vertical ones.



| Frame 1:                       | Frame 2 and 3 <sup>(1)</sup> : |
|--------------------------------|--------------------------------|
| 3P: Cat. N°. 0288 84 + 0288 82 | 3P: Cat. N°. 0288 92 + 0288 94 |
| 4P: Cat. N°. 0288 85 + 0288 83 | 4P: Cat. N°. 0288 93 + 0288 95 |

(1) For frame 3 the quantity is multiplied by 2

### SPREADERS

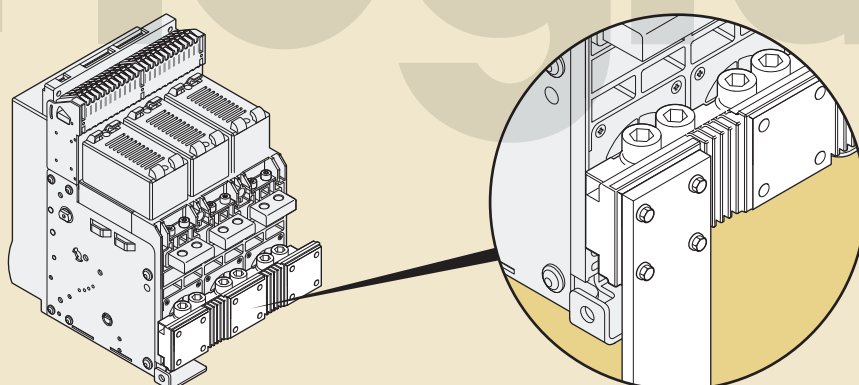
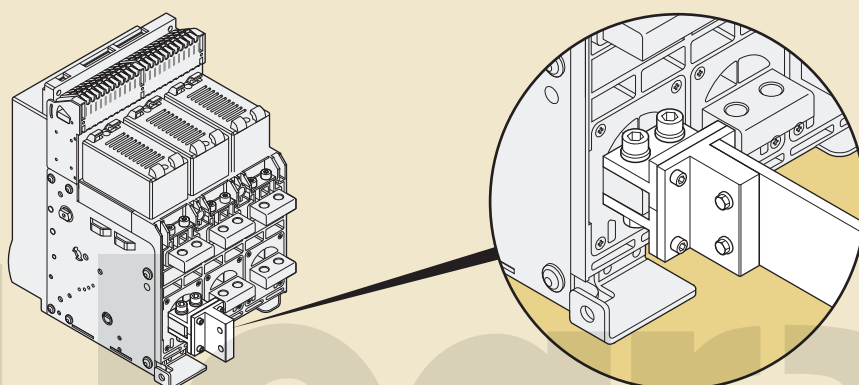
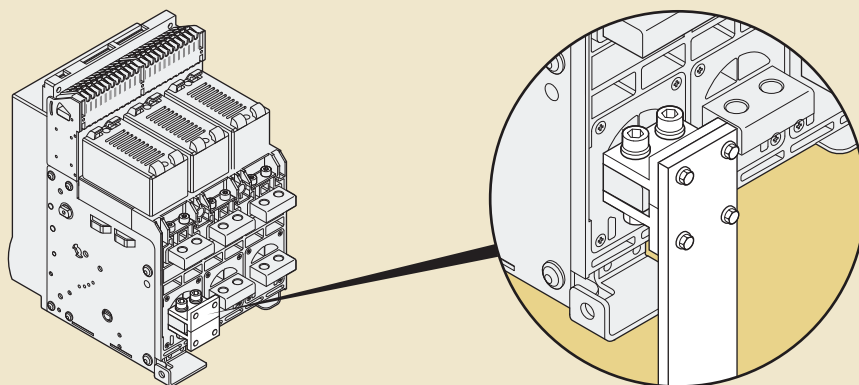
For any situation requiring a bigger width for a safe connection (i.e. aluminium bus bars).

| Frame 1:                    |
|-----------------------------|
| 3 types of accessories      |
| - For flat connection       |
| 3P: Cat. N°. 0288 86        |
| 4P: Cat. N°. 0288 87        |
| - For vertical connection   |
| 3P: Cat. N°. 0288 88        |
| 4P: Cat. N°. 0288 89        |
| - For horizontal connection |
| 3P: Cat. N°. 0288 90        |
| 4P: Cat. N°. 0288 91        |



## Connection: maximum adaptability

- | The fixed version of DMX<sup>3</sup> is equipped with rear terminals for horizontal connection with bars.
- | You can change connection type according to your needs.



## DRAW-OUT VERSION-CHOOSE YOUR CONNECTION ACCESSORIES

Draw-out version of the DMX<sup>3</sup> breakers is supplied with rear terminals for flat connection with bars. You can easily transform those terminals into vertical or horizontal type by using the unique reversible connector.



The breaker is supplied with rear terminals for flat connection

### 2 TYPES OF FIXING

Reversible connector for vertical or ...



... horizontal connection.



#### Frame 1:

3P: Cat. N°. 0288 95  
4P: Cat. N°. 0288 97

#### Frame 2:

3P: Cat. N°. 0288 93  
4P: Cat. N°. 0288 94

#### Frame 3:

3P: Cat. N°. 0288 94 x 2  
4P: Cat. N°. 0288 95 x 2

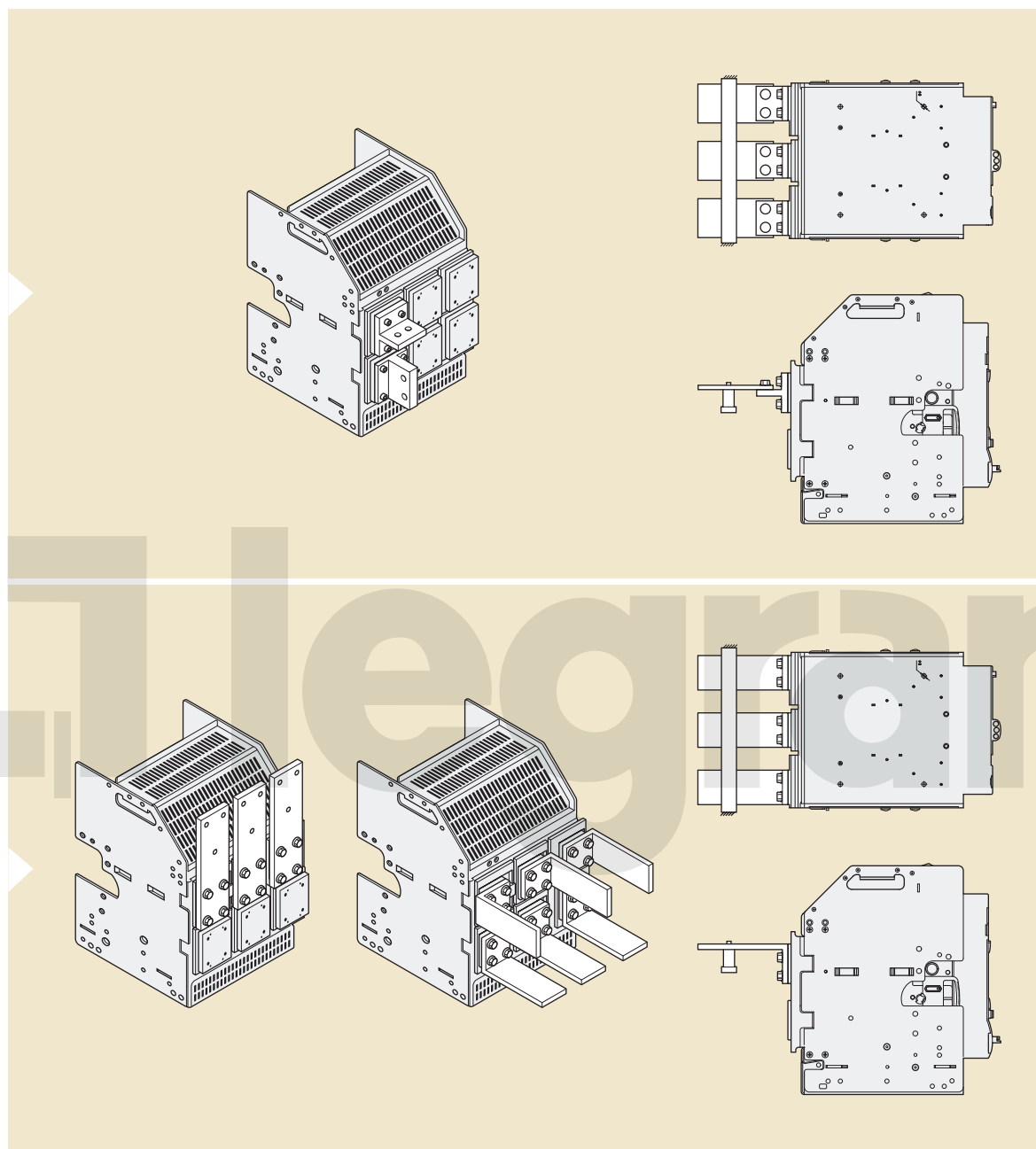
### FLAT CONNECTION USING THE REAR TERMINALS OF THE BREAKER

# Connection: maximum adaptability (continued)

| The draw-out version is equipped with rear terminals for flat connection with bars.

## DRAW-OUT VERSION: EXAMPLES OF CONNECTIONS

Draw-out version of the DMX<sup>3</sup> breakers is supplied with rear terminals for flat connection with bars. You can easily transform those terminals into vertical or horizontal type by using the unique reversible connector.



### CONNECTIONS: A FEW RECOMMENDATIONS !

Connections provide the electrical connection of equipment and are also responsible for a considerable proportion of their heat dissipation.

Connections must never be under-sized.

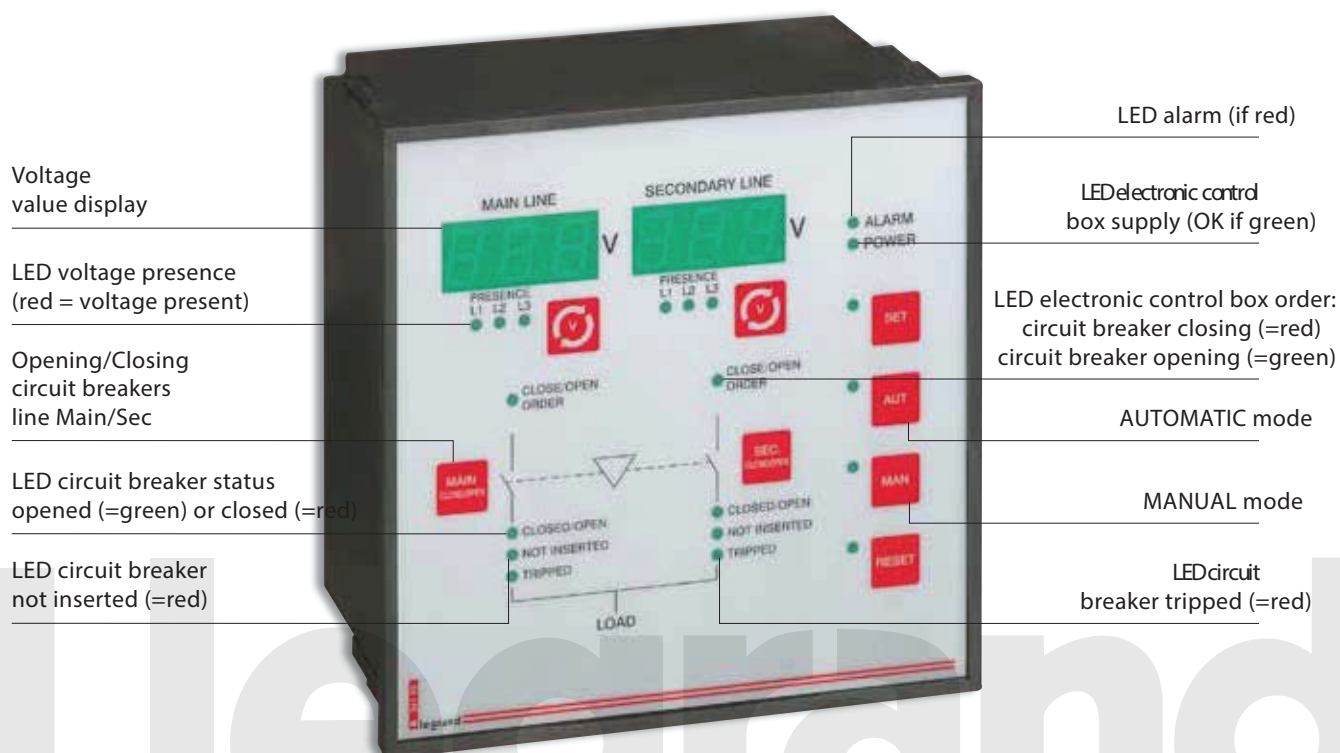
Plates or terminals must be used over a maximum area.

Heat dissipation is encouraged by arranging the bars vertically. If an uneven number of bars is connected, place the higher number of bars on the upper part of the terminal.

Avoid bars running side by side: this causes poor heat dissipation and vibrations.

Place spacers between the bars to maintain a distance between them which is at least equivalent to their thickness.





## Continuity of service and increased safety

Supply invertors answer the double need of continuity of service and greater safety (security). Traditionally used in hospitals, public buildings, industries with continuous manufacturing processes, airports and military applications, supply invertors become increasingly required for new applications such as telecommunications and computing treatment or in the management of energy sources, notably those say "renewable energies".



## AUTOMATIC SUPPLY INVERTORS

All DMX<sup>3</sup> air circuit breakers (fixed and draw-out version) can be fitted with an interlocking system which guarantees “mechanical safety” in the event of supply inversion. Interlocking is achieved using a cable system and interlocking units mounted on each circuit breaker. Every circuit breaker composing the supply inverter must be equipped with one interlocking unit.

This system allows devices of different sizes and types (3P, 4P, fixed, draw-out) to be interlocked. DMX<sup>3</sup> devices can be installed in different configurations inside the enclosure.

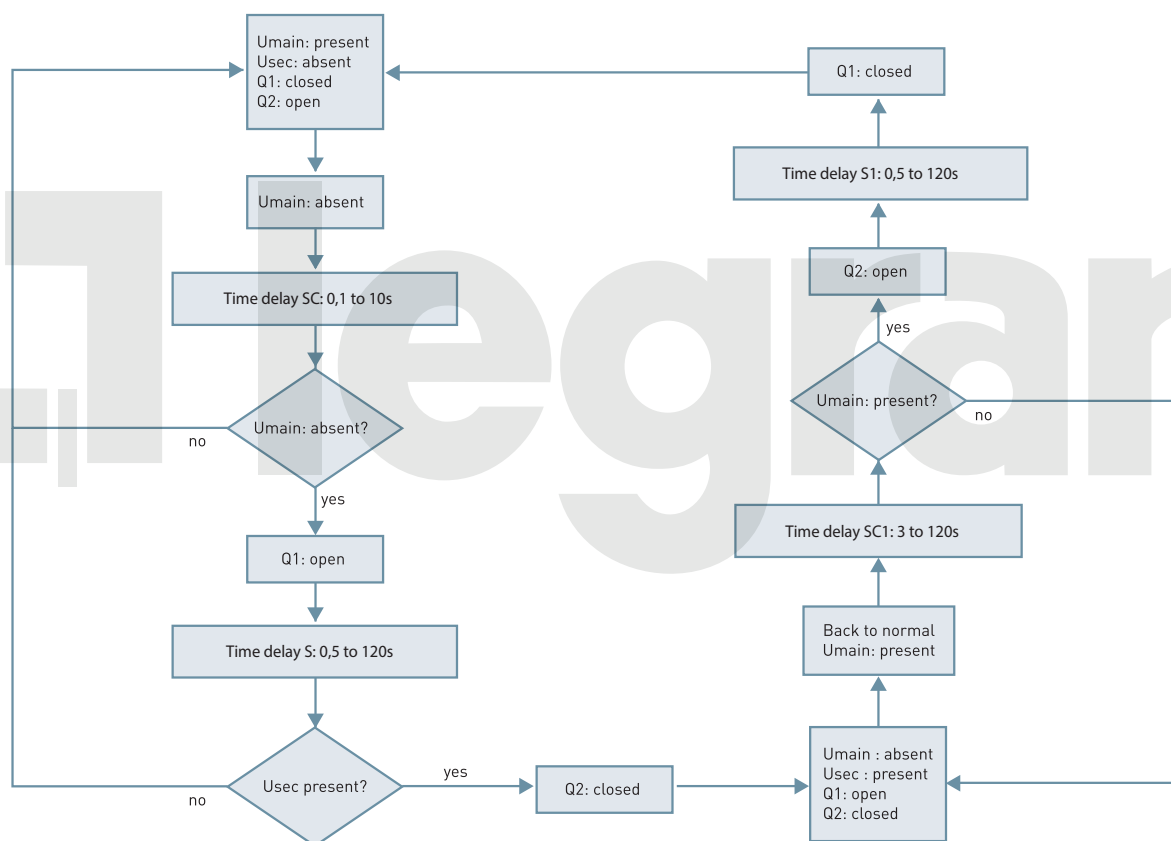
This mechanical interlocking system can be supplemented by motorised operators and an automation control unit making the inverter fully automatic.

The Legrand automatic control unit allows to easily manage the automatic switching of two sources.

Controlled by a microprocessor, the unit is fully programmable. All the parameters are adjustable: values of the thresholds of voltage, temporization between switching, starting up of a generator ...



Control panel of a supply inverter with automation control unit Cat. N°. 4226 80



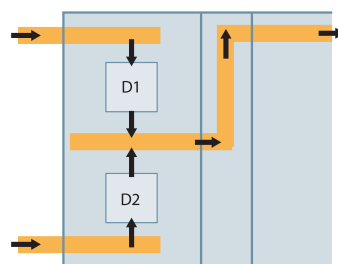
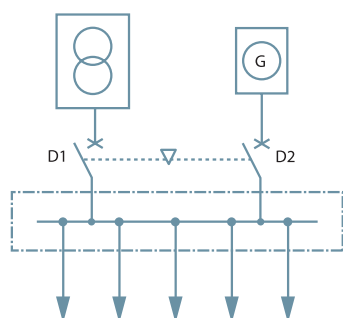
### Example of algorithm for the functioning of an automatic supply inverter

| CROSS REFERENCES |                 |   |
|------------------|-----------------|---|
| Old Cat.No       | New Cat.No      | Description   |
| 0261 93          | 422680          | 422680 is a basic control unit  |
| 0261 93          | 422682          | 4226 82 is an advance control unit which has additional features as compared to 0261 93 |
| 0261 94          | 422682 + 422689 | Add 422689 for Modbus communication   |

## LEGRAND ADVANTAGE

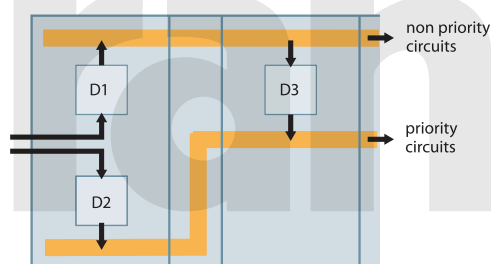
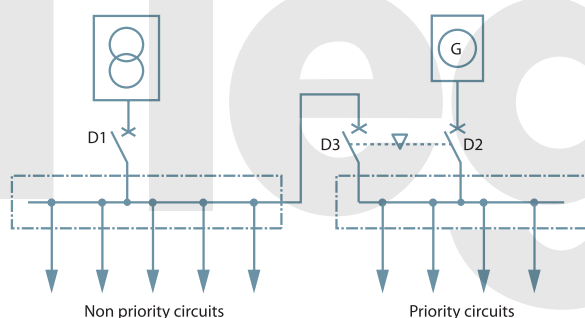
Thanks to its digital displays and different LEDs it is possible to watch permanently the state of the inverter, as well as the presence and the value of the voltages on each source.

## STAND-BY POWER SUPPLY (WITHOUT LOAD SHEDDING)



The two DMX<sup>3</sup> devices (D1 and D2) are connected to a central common busbar. Since they are not simultaneously on-load, they can be in the same enclosure.

## STAND-BY POWER SUPPLY (WITH LOAD SHEDDING)



The two DMX<sup>3</sup> devices (D1 and D2) are not on-load simultaneously and can therefore be installed in the same enclosure. D3 can be on-load at the same time as D1, and must be installed in another enclosure.

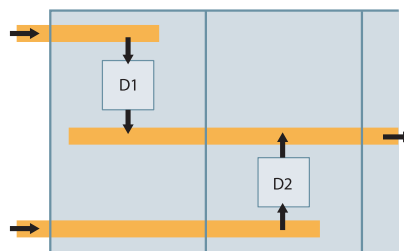
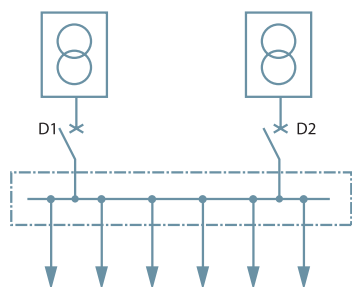
# Flexible configurations

## (Examples of supply invertors)

Supply inverter assures the following functions:

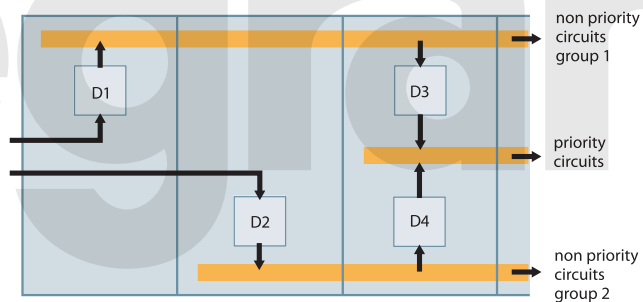
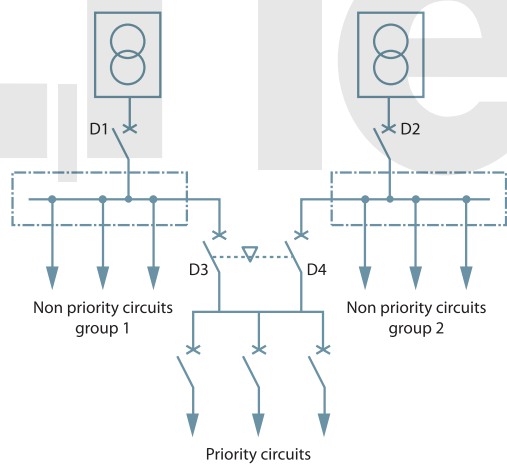
- Switching between a main source and a secondary source in order to supply the circuits requiring continuous service (for safety reasons) or for energy saving purpose (when the secondary source is different from the network).
- Management of the functioning of the secondary source (power generator) supplying the safety circuits.

## DUAL POWER SUPPLY (TOTAL POWER)



The two DMX<sup>3</sup> devices (D1 and D2) draw current on a common busbar. They can only be installed in the same enclosure if the sum of their currents does not exceed the permissible value for the recommended size.

## DUAL POWER SUPPLY (REDUCED POWER WITH PRIORITY LOADS)





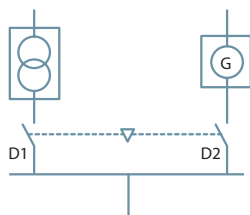
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## Flexible configurations (Examples of supply invertors) (continued)

| DMX<sup>3</sup> and DMX<sup>3</sup>-I devices can be fitted with an interlocking mechanism which guarantees “mechanical safety” in the event of supply inversion.

| Interlocking is achieved using interlocking units mounted on the side of the devices and a cable system.

## MECHANICAL INTERLOCK FOR 2 CIRCUIT BREAKERS

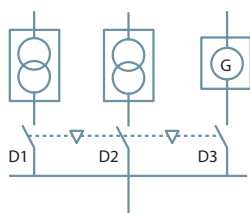


D1 is used for the main power supply of the installation (normal functioning), D2 for emergency power supply via power generator (in case of mains fault). For this configuration the two breakers can be simultaneously open, but can not be closed in the same time.

| D1 | D2 |
|----|----|
| 0  | 0  |
| 1  | 0  |
| 0  | 1  |

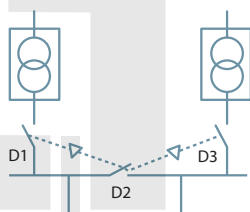
0 = circuit breaker is open  
1 = circuit breaker is closed

## MECHANICAL INTERLOCK FOR 3 CIRCUIT BREAKERS



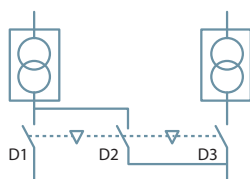
The three DMX<sup>3</sup> circuit breakers are connected to one common busbar. D1 and D2 breakers are supplying the energy from two different power transformers and D3 from a power generator (in case of emergency). For this configuration all the three breakers can be simultaneously open. At any time, only one single circuit breaker can be on-load. The following table presents all possible combinations of mechanical interlock of the 3 breakers.

| D1 | D2 | D3 |
|----|----|----|
| 0  | 0  | 0  |
| 1  | 0  | 0  |
| 0  | 1  | 0  |
| 0  | 0  | 1  |



The following example presents three circuit breakers with double mechanical interlock for D2 circuit breaker. D1 and D3 breakers are supplying the electricity from 2 power transformers. There are 6 interlocking combinations possible.

| D1 | D2 | D3 |
|----|----|----|
| 0  | 0  | 0  |
| 1  | 0  | 0  |
| 0  | 0  | 1  |
| 0  | 1  | 0  |
| 1  | 1  | 0  |
| 0  | 1  | 1  |
| 1  | 0  | 1  |



The following example presents three circuit breakers with double mechanical interlock for D2 circuit breaker. It is a possible version of the previous scheme, presenting four combinations. D1 and D3 breakers supply energy for independent circuits. D2 breaker is used in case of emergency for priority circuits.

| D1 | D2 | D3 |
|----|----|----|
| 0  | 0  | 0  |
| 1  | 0  | 0  |
| 0  | 0  | 1  |
| 1  | 0  | 1  |
| 0  | 1  | 0  |

0 = circuit breaker is open  
1 = circuit breaker is closed

### INFORMATION

This system allows devices of different sizes and types to be interlocked. The cable system provides the flexibility to install DMX<sup>3</sup> devices in a vertical configuration in the same enclosure or in a horizontal configuration in different columns.