

DMX³ 4000 AND DPX³ 250 - 1000 V \sim

Reliable protection for your
wind turbine, photovoltaic
and railway installations



ACBs AND
MCCBs
UP TO 4000 A
1000 V \sim



DMX³ 4000 AND DPX³ 250 - 1000 V \sim

These air circuit breakers and moulded case circuit breakers, specially designed to suit your performance requirements, effectively protect your wind turbine, photovoltaic or railway installations up to 4000 A and breaking capacities up to 65 kA. High performance, reliability and strength are the main advantages these ranges.

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DMX³ 4000 - 1000 V \sim ACBs
3 AND 4-POLE FIXED VERSION



DMX³ 4000 - 1000 V~ ACBs
3 AND 4-POLE DRAW-OUT
VERSION



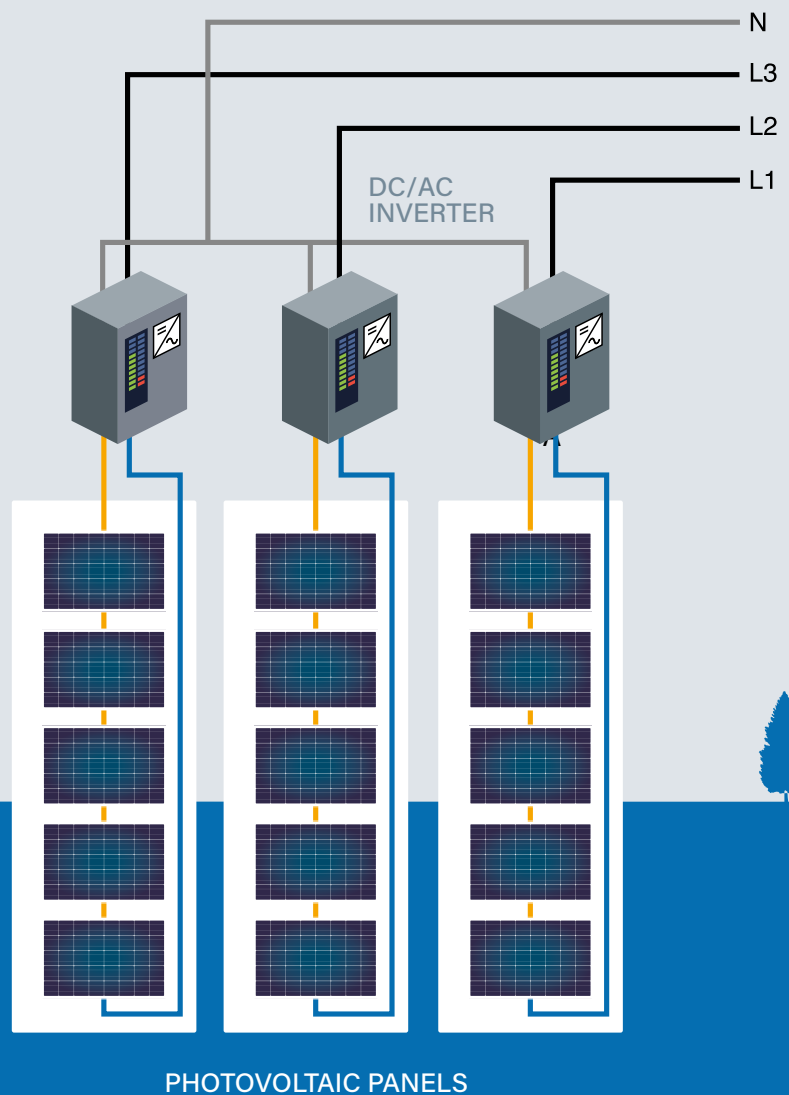
DPX³ 250 - 1000 V~ MCCBs
3 AND 4-POLE FIXED VERSION

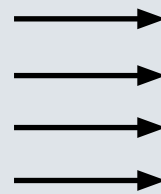
Dedicated, optimised solutions

OPERATE AT VOLTAGES
OF UP TO 1000 V \sim

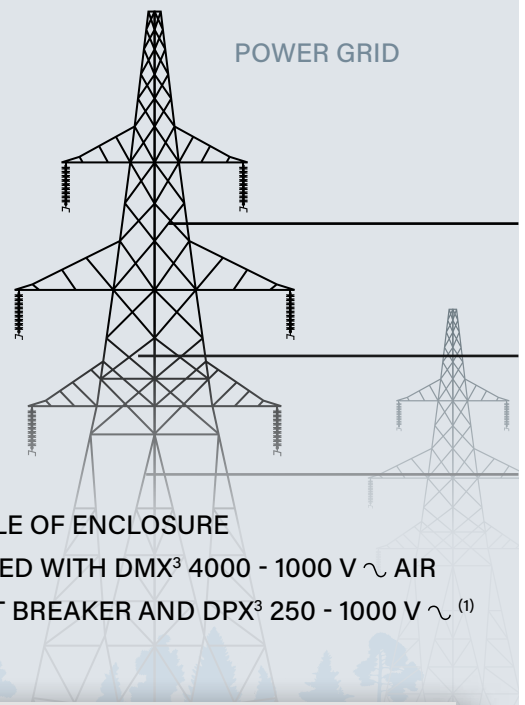
ABCs and MCCBs are used for incoming protection and control in specific wind, photovoltaic and railway sectors that need to operate at voltages of up to 1000 V \sim .

DMX³ 4000 - 1000 V \sim air circuit breakers DPX³ 250 - 1000 V \sim MCCBs⁽¹⁾ integrate seamlessly into XL³ DO enclosures to create different configurations according to the needs of the installation.





POWER GRID



EXAMPLE OF ENCLOSURE
EQUIPPED WITH DMX³ 4000 - 1000 V ~ AIR
CIRCUIT BREAKER AND DPX³ 250 - 1000 V ~ ⁽¹⁾



High performance, reliability and strength

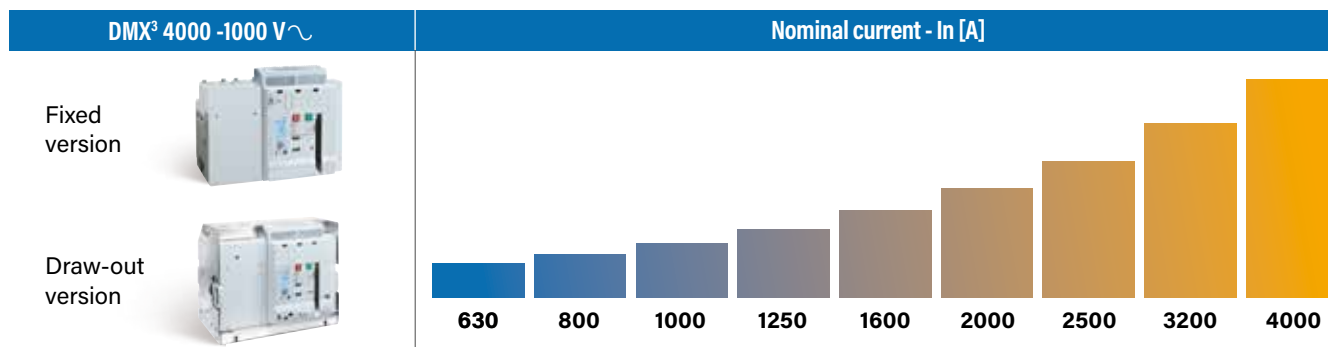
AVAILABLE IN 3 OR 4-POLE FIXED OR DRAW-OUT VERSIONS

These products are easy to use and to install, and provide effective protection for your installation. They are available with 3 and 4 poles, in fixed or draw-out versions, and come equipped with appropriate protection units depending on the desired performance level. This offer also includes a range of control and signalling auxiliaries and connection accessories for easy integration in any electrical installation, regardless of configuration.



DMX³ 4000 - 1000 V~
CONFORMING TO
STANDARD IEC 60947-2

RATED OPERATING VOLTAGE U _e	BREAKING CAPACITY I _{cu} (kA)
800 V~	65 kA
1000 V~	50 kA



DMX³ 4000 - 1000 V~ air circuit breakers have been specially designed to ensure excellent performance, including when used at high altitude and in extreme temperature conditions. When installed at above 2000 m altitude, the air pressure decreases, making it harder for heat to be exchanged between the circuit breaker and its environment. Derating must therefore be applied.

Altitude (m)	2000	3000	4000	5000
Nominal current at 40°C I _n (A)	I _n	0.98 x I _n	0.94 x I _n	0.90 x I _n
Rated voltage U _e (V)	1000	880	750	690
Insulation voltage U _i (V)	1250	1100	950	850
Impulse withstand voltage (U _{imp})	3500	3200	2500	2000



DMX³ 4000 - 1000 V~ air circuit breakers can be used in ambient temperature conditions between -25°C and +70°C, which is ideal for existing wind and solar power installations. They can also be installed in industrial environments. For temperatures above 40°C, derating must be applied.

TEMPERATURE															
DMX ³ 4000 -1000 V~ Fixed version								DMX ³ 4000 -1000 V~ Draw-out version							
≤ 40°C		50°C		60°C		70°C		≤ 40°C		50°C		60°C		70°C	
I _{max}	I _r /I _n	I _{max}	I _r /I _n	I _{max}	I _r /I _n	I _{max}	I _r /I _n	I _{max}	I _r /I _n	I _{max}	I _r /I _n	I _{max}	I _r /I _n	I _{max}	I _r /I _n
630	1	630	1	630	1	630	1	630	1	630	1	630	1	630	1
800	1	800	1	800	1	800	1	800	1	800	1	800	1	800	1
1000	1	1000	1	1000	1	1000	1	1000	1	1000	1	1000	1	1000	1
1250	1	1250	1	1250	1	1250	1	1250	1	1250	1	1250	1	1250	1
1600	1	1600	1	1600	1	1600	1	1600	1	1600	1	1600	1	1600	1
2000	1	2000	1	2000	1	2000	1	2000	1	2000	1	2000	1	2000	1
2500	1	2500	1	2500	1	2500	1	2500	1	2500	1	2500	1	2500	1
3200	1	3200	1	3200	1	3040	0.95	3200	1	3200	1	3200	1	2880	0.9
4000	1	3920	0.98	3680	0.92	3120	0.78	4000	1	3760	0.974	3440	0.86	2960	0.74

Protection units that adapt perfectly to your project

EFFECTIVE PROTECTION AGAINST ELECTRICAL FAULTS

Besides their easy mounting and connection, strength and good continuity of operation, 2 types of configurable electronic units, with or without integrated measurement function, allow precise adjustment of different limits for current values and time delay. The result is efficient protection against electrical faults and perfect adaptation to each type of installation, while maintaining total discrimination with downstream breakers. The display lets you monitor the measured current values and informs you about fault adjustments and logs (the cause of last trip and maintenance operations).

MP 4.10/4.10 M

electronic protection unit



Display – LCD screen for common measurements and settings

Rotary selector switch for setting trip thresholds and navigating around the menu

Micro USB port for either:

- connecting the protection unit to a computer (to run tests, configure or manage the protection unit using a PC equipped with the Power Control Station software)
- or fitting it with a Bluetooth communication key Cat.No 0 283 10 (to run tests, display parameters or manage the protection unit using a tablet or smartphone, equipped with the EnerUp+ Project app)

LED indicating that the protection unit is in good working order or an alarm has tripped

Test button

THE RANGE

Protection units for DMX³ 2500, 4000 and 6300 and DMX³ 4000 - 1000 V ~

MP 4.10/4.10 M



Without measurement	With measurement
0 283 06	0 283 07

All DMX³ breakers are factory-equipped with MP 4.10/4.10 M protection units. You just need to select and indicate the 2 catalogue numbers when placing the order (1 for the breaker and 1 for the trip unit).



LEGRAND
ADVANTAGE

MP 4.10/4.10 M protection unit is 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. Intuitive use thanks to the LCD display.

Breaking capacities and rated currents

	630 A	800 A	1000 A	1250 A	1600 A	2000 A	2500 A	3200 A	4000 A
1000 VAC	50 kA FIXED/DRAW-OUT								
800 VAC	65 kA FIXED/DRAW-OUT								

OVERALL DIMENSIONS AND WEIGHT

Fixed version

		Height	Depth	Width	Weight ⁽²⁾
4000 FRAME 50 / 65 / 100 kA	3P	419 mm	354 mm	408 mm	59 kg
	4P	419 mm	354 mm	538 mm	76 kg



Draw-out version

		Height	Depth	Width	Weight ⁽³⁾
4000 FRAME 50 / 65 / 100 kA	3P	465 mm	433 mm	425 mm	108 kg
	4P	465 mm	433 mm	555 mm	137 kg



LEGRAND ADVANTAGE

The overall dimensions of the breaker contribute considerably to an efficient use of the space inside the distribution board. The constant depth for all rated currents for the 2500, 4000 and 6300 frames make it easier to configure the enclosures and connect the busbars.



OTHER ELECTRICAL FEATURES

Rated operational voltage U_e: 690 Vac 50/60 Hz
 Rated insulation voltage U_i: 1000 Vac 50/60 Hz
 Rated impulse withstand voltage U_{imp}: 12 kV
 Utilisation category: B
 Ambient temperature: -25°C to +70°C
 Humidity: +55°C with relative humidity of 95%, conforms to IEC 68-2-30

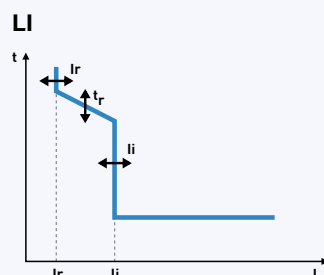
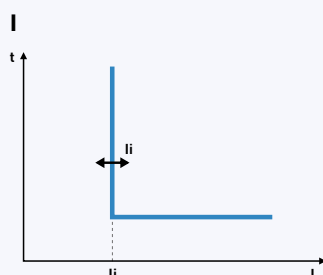
(2) For trip-free switches, please consult us. (3) Including base.

Configure your protection devices in complete freedom

NEW FULLY CONFIGURABLE PROTECTION UNITS

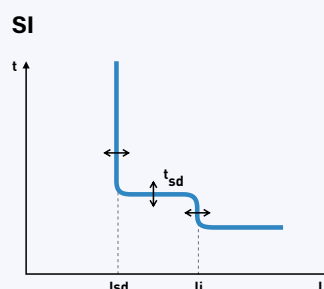
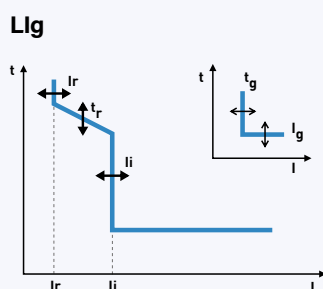
The new MP 4.10/4.10 M protection units are fully configurable. They can be used to adapt settings as closely as possible to the requirements of your installation, either by enabling/disabling the different protection devices (currents and tripping times), or by altering the different trip thresholds. The tripping curve is thus fully customised to suit the real-life conditions of each project. Protection units with integrated measurement function can also be used to display voltages, active and reactive powers, frequency, power factor, and also energy, in addition to monitoring currents. Alarms can be programmed on a number of these parameters: max. voltage, min. voltage, voltage unbalance, max. and min. frequency, etc.

EXAMPLES OF TRIPPING CURVES



I_r Long time delay protection against overloads
I_r from 0.2 to 1 x I_n with steps of 1 A
Protection: ON/OFF

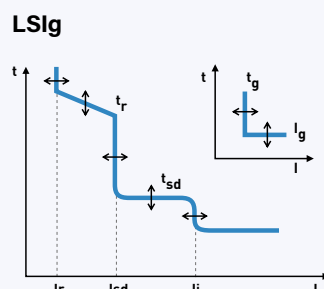
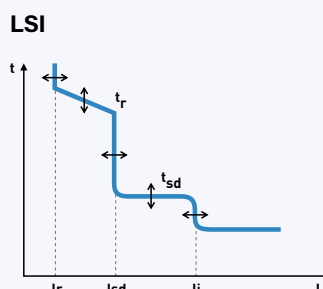
t_r Long delay protection operation time
t_r from 40 ms to 30 s (@6I_r) with steps of 40 ms
Thermal memory: ON/OFF



I_{sd} Short time delay protection against short-circuits
I_{sd} from 1.5 to 10 x I_r with steps of 1 A
Protection: ON/OFF

t_{sd} Short time delay protection operation time
t_{sd} from 40 ms to 1 s with steps of 40 ms
(both t=k and I2t=k)

I_i Instantaneous protection against very high short-circuits
I_i from 2 to 15 x I_n or I_{cw} with steps of 1 A
Protection: ON/OFF



I_g Earth fault current
I_g from 0.2 to 1 x I_n with steps of 1 A
Protection: ON/OFF

t_g Time delay on earth fault tripping
t_g from 80 ms to 1 s with steps of 40 ms
(both t=k and I2t=k)

IN Neutral protection
OFF - 50% - 100% - 200%

MANAGEMENT WITH SOFTWARE AND APP

Protection units can be managed: directly on the protection units (using the rotary selector switch), on a PC pre-equipped with the Power Control Station software or on a tablet or smartphone via the EnerUp+ Project app.

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 DMX³.

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 and installation (only with EnerUp + Project App.)

(1) Only with Power Control Station software

(2) Only for Legrand technical assistance via Power Control Station software

CONFIGURATION ON A PC WITH THE POWER CONTROL STATION SOFTWARE



Any model in the MP 4.10/4.10 M range

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).

MANAGEMENT ON A SMARTPHONE/TABLET:

EnerUp + Project app available from the Apple Store and Google Play



Any model in the MP 4.10/4.10 M range

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.

EnerUp + Project App.
available on App Store
and Google Play

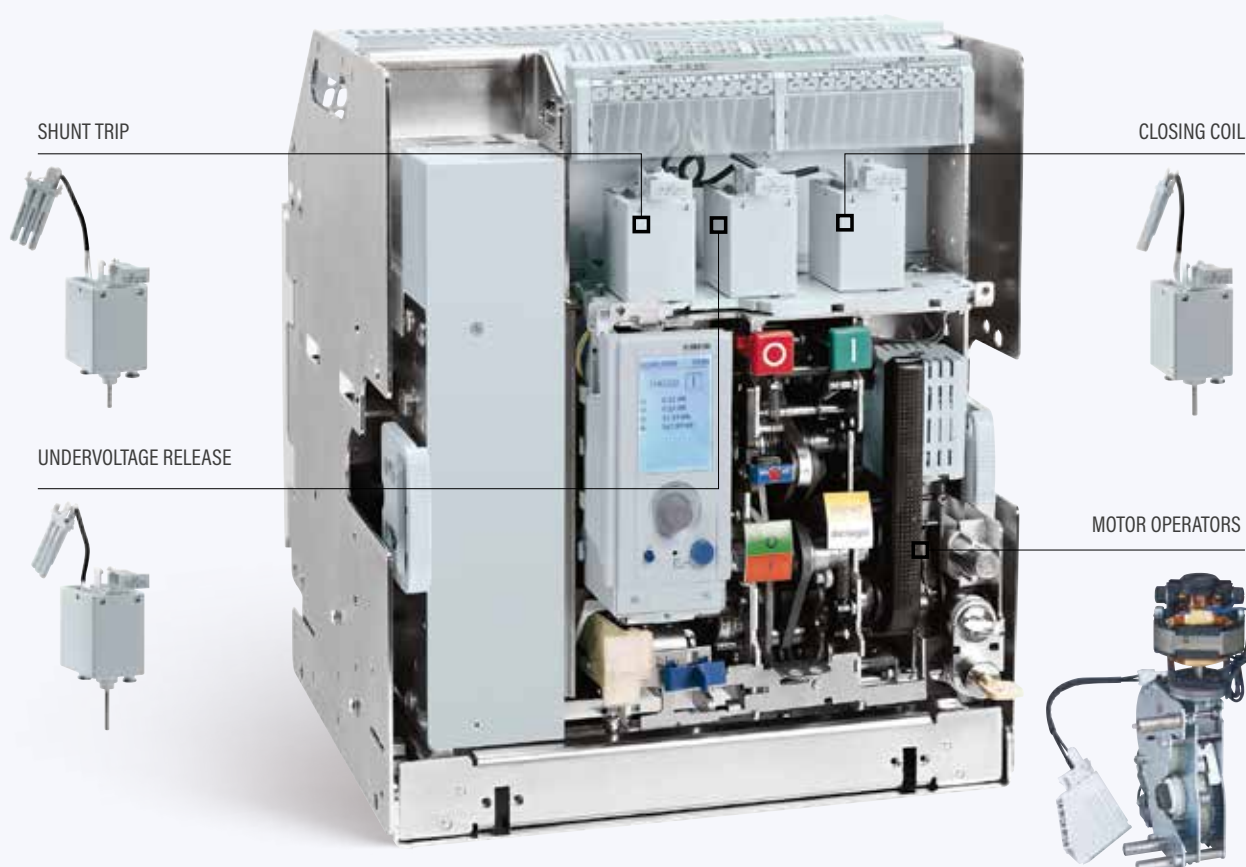


DMX³ 4000 - 1000 V \sim // CONTROL AND SIGNALLING AUXILIARIES

Simplicity and time-saving installation

THEY SIMPLY CLIP INSIDE THE CIRCUIT BREAKER

The complete range of control and signalling auxiliaries (shunt releases or undervoltage releases, motor operators, auxiliary contacts, etc) can be used to control DMX³ 4000 - 1000 V \sim air circuit breakers remotely and relay information concerning the status of the device contacts. All the control auxiliaries simply clip inside the circuit breaker after removing the front panel. They are fitted with quick-connect connectors for maximum time saving when wiring the terminal block provided for this purpose.



ALL THE CONTROL ACCESSORIES CAN EASILY BE INSTALLED WITHOUT A SPECIAL TOOL IN A MATTER OF MINUTES. THEY SHOULD BE INSTALLED ON THE FRONT PANEL OF THE AIR CIRCUIT BREAKER. THIS ENSURES SEPARATION BETWEEN THE POWER AND CONTROL CIRCUITS.

SHUNT RELEASES

Shunt releases are devices used for remote instantaneous opening of the air circuit breaker. They are usually controlled by an NO type contact. The shunt releases are fitted with a special quick-release connector, to be directly inserted into the auxiliary contact block.



Rated voltage U_n (V)	24 V \sim / ∞ 48 V \sim / ∞ 110 - 130 V \sim / ∞ 220 - 250 V \sim / ∞ 415 - 440 V \sim
Operating threshold % U_n	70 to 100
Maximum consumption (W/VA)	500/500
Pulse duration (ms)	180
Hold-in consumption (W/VA)	5/5
Response time (ms)	30
Insulation voltage (kV)	2.5

UNDervOLTAGE RELEASES

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



Rated voltage U_n (V)	24 V \sim / ∞ 48 V \sim / ∞ 110 - 130 V \sim / ∞ 220 - 250 V \sim / ∞ 415 - 440 V \sim
Operating threshold % U_n	85 to 110
Maximum consumption (W/VA)	500/500
Pulse duration (ms)	180
Hold-in consumption (W/VA)	5/5
Response time (ms)	60
Insulation voltage (kV)	2.5

CLOSING COILS

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



Rated voltage U_n (V)	24 V \sim / ∞ 48 V \sim / ∞ 110 - 130 V \sim / ∞ 220 - 250 V \sim / ∞ 415 - 440 V \sim
Operating threshold % U_n	85 to 110
Maximum consumption (W/VA)	500/500
Pulse duration (ms)	180
Hold-in consumption (W/VA)	5/5
Response time (ms)	50
Insulation voltage (kV)	2.5

MOTOR OPERATORS



Rated voltage U_n (V)	24 V \sim / ∞ 48 V \sim / ∞ 110 - 130 V \sim / ∞ 220 - 250 V \sim / ∞ 415 - 440 V \sim 480 V \sim
Operating threshold % U_n	85 to 110
Maximum consumption (W/VA)	240/240
Max. peak current	2 to 3 x I_n for around 80 ms
Spring reloading time (s)	5
Number of operations/minute	2

Maximum adaptability in the distribution board

DIFFERENT CONFIGURATIONS POSSIBLE

The connection accessories are quick to install and are totally adaptable to different busbar configurations in the distribution board: flat, vertical or horizontal connection. In addition the catalogue numbers are the same to those for the DMX³ range, which helps to optimise management.



FIXED VERSION

DMX³ air circuit breakers are factory-fitted with rear terminals for horizontal connection. For flat connection, simply add rear terminals Cat.Nos 0 288 92/93 which fit directly on to the built-in horizontal terminals. With vertical connection, 2 accessories are used: reversible rear terminals Cat.Nos 0 288 94/95 are fitted onto the rear terminals for flat connection Cat.Nos 0 288 84/85.

DRAW-OUT VERSION

DMX³ air circuit breakers are factory-fitted with rear terminals for flat connection. You can easily reconfigure the circuit breaker for vertical or horizontal connection using reversible rear terminals Cat.Nos 0 288 94/95.

COMPACT, OPTIMISED DIMENSIONS

The compact dimensions of DMX³ 4000 - 1000 V \sim air circuit breakers optimise the use of space inside the enclosure so the most appropriate size of enclosure can be chosen.

Dimensions (mm)	DMX ³ 4000 - 1000 V \sim			
	Fixed version		Draw-out version	
	3P	4P	3P	4P
Height	419	419	465	465
Width	408	538	425	555
Depth	354	354	433	433

DMX³ 4000 -1000 V~ FIXED VERSION



Flat connection

Cat.Nos 0 288 92/93

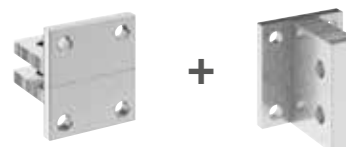


Horizontal connection

Directly on the device

Vertical connection

Cat.Nos 0 288 92/93 + 0 288 94/95



DMX³ 4000 -1000 V~ DRAW-OUT VERSION

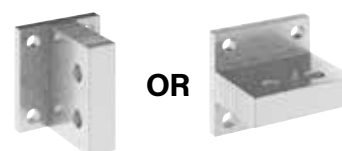


Flat connection

Directly on the device

Horizontal connection

Cat.Nos 0 288 94/95



Vertical connection

Cat.Nos 0 288 94/95



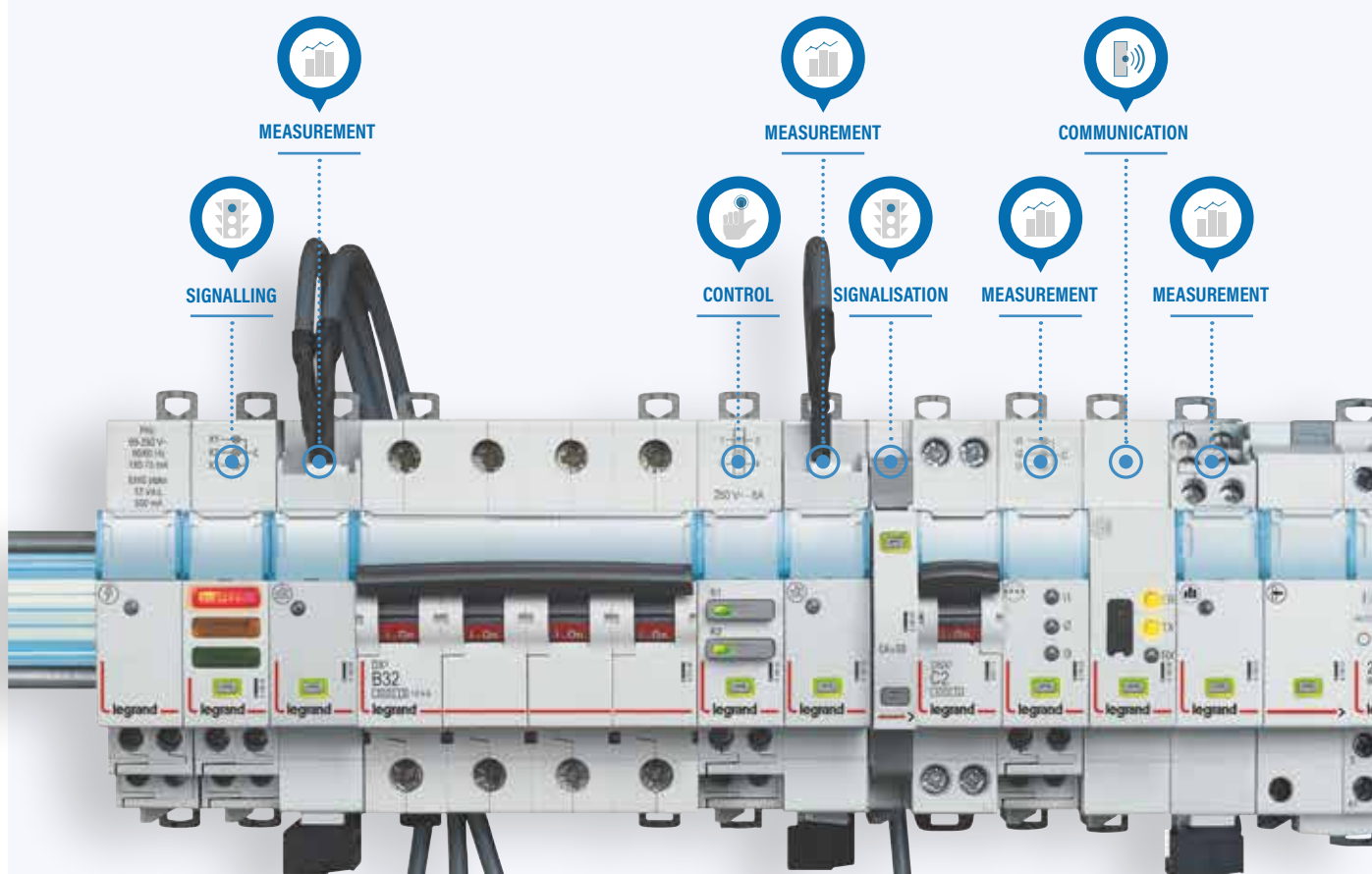
DMX³ 4000 - 1000 V~ // CX³ EMS

CX³ EMS, a universal, innovative system for energy management

MONITOR AND MANAGE ENERGY CONSUMPTION

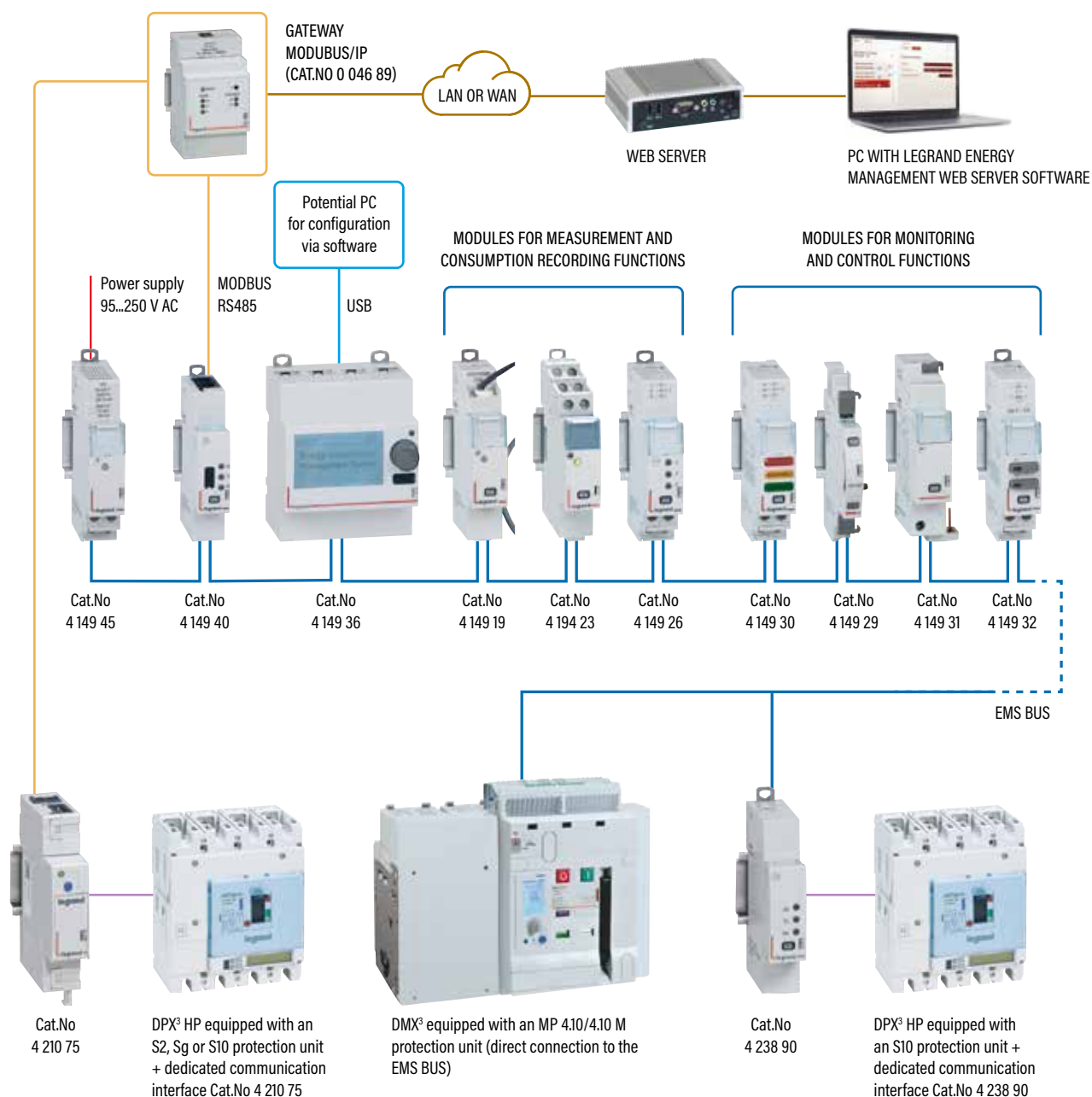
The CX³ EMS energy management system is used to supervise and manage a building's energy consumption, ensuring reliability and continuity of service, for optimum installation efficiency. It offers the option of viewing, measuring and controlling the installation remotely and/or locally. Thanks to the innovative automatic connection process, this autonomous and fully integrated system simplifies mounting and does not require changes to the existing distribution boards wiring.

The CX³ EMS system consists of modules to be mounted on a DIN rail. There is no minimum number of modules and it can also be used to perform very basic supervision tasks. Thanks to its scalability, new functions can be added at any time to suit the needs of the installation.



SCHEMATIC DIAGRAM

CX³ EMS modules are compatible with all Legrand protection devices, from the simple DIN rail mounting circuit breaker, to DPX³ MCCBs or DMX³ ACBs.



LEGRAND ADVANTAGE

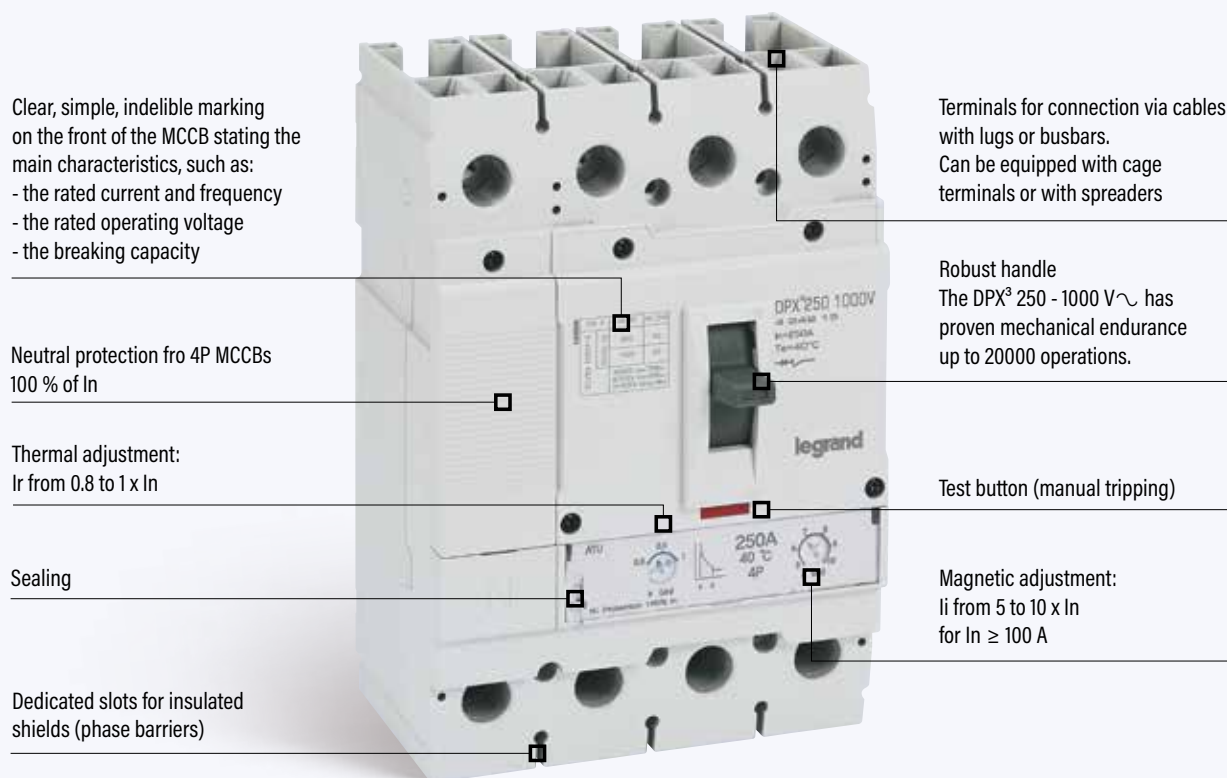
For DPX³ and DMX³ devices equipped with protection units with integrated measurement, the measured values are automatically fed back to the Legrand Energy Management Web Server software.

DPX³ 250 - 1000 V \sim // MOULDED CASE CIRCUIT BREAKERS FROM 63 A TO 250 A

Efficient and reliable protection up to 250 A

AVAILABLE IN 3 OR 4-POLE FIXED VERSION

The DPX³ 250 - 1000 V \sim range of thermal magnetic circuit breakers has been designed to meet your requirements when it comes to protecting an electrical installation up to 250 A, especially when it comes to photovoltaic plants, railway infrastructures or tunnels. The robust design of the range, the adjustable protection, the different accessories for connection and remote tripping have made it the right choice in terms of efficiency and reliability.



DPX³ 250 - 1000 V \sim
Conforming to
standard IEC 60947-2

RATED OPERATING VOLTAGE U _e	BREAKING CAPACITY I _{cu} (kA)
800 V \sim	40 kA
1000 V \sim	20 kA

THE RANGE



Rated current In (A)		63 A	80 A	100 A	160 A	200 A	250 A
Breaking capacity (Icu) at 1000 V~		20 kA					
Breaking capacity (Icu) at 800 V~		40 kA					
Adjustable protection	Thermal Ir (A)	0.8 - 0.9 - 1 x In					
	Magnetic Ii (A)	Fixed: 10 x In		Adjustable : 5 - 6 - 7 - 8 - 9 - 10 x In			
Number of poles		3P and 4P					

THERMAL-MAGNETIC PROTECTION



The tripping thresholds for the thermal and magnetic protection can be easily adjusted thanks to the dedicated thumbwheel on the front of the MCCBs.

TEMPERATURE DERATING

DPX³ 250 – 1000 V~ moulded case circuit breakers can be used in ambient temperature conditions between -25°C and +70°C, which is ideal for existing wind and solar power installations. They can also be installed in industrial environments. For temperatures above 40°C, derating must be applied.

I_n (A)	Maximum rated current in accordance with ambient temperature I_{max} (A)									
	-20 °C	-10 °C	0 °C	10 °C	20 °C	30 °C	40 °C	50 °C	60 °C	70 °C
63	90	86	81	77	72	68	63	60	57	54
80	114	109	103	98	92	86	80	76	72	68
100	143	136	129	122	115	108	100	95	90	85
160	229	218	206	195	184	173	160	152	144	136
200	286	272	258	244	230	216	200	190	180	170
250	358	340	322	305	287	270	250	238	225	213

DPX³ 250 - 1000 V \sim // MOULDED CASE CIRCUIT BREAKERS FROM 63 A TO 250 A

Easy to install auxiliaries and connection accessories

SIMPLY CLIP ON

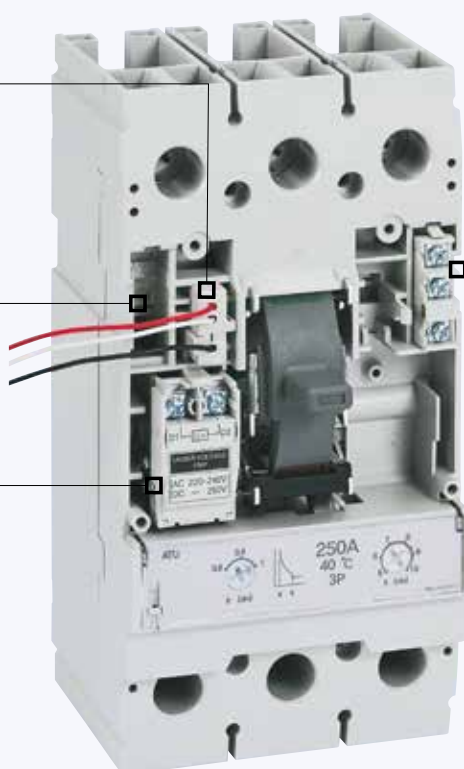
The DPX³ 250 - 1000 V \sim circuit breakers can very easily be fitted with a comprehensive range of electrical auxiliaries to provide emergency breaking, automatic or remote control, and feedback on the status of the device. All auxiliaries are installed in dedicated slots under the front panel of the MCCB. Connexion accessories complete the range.

Alarm contact
Changeover contact 1 NO + 1 NC



Dédicated slot for an additional auxiliary contact

Undervoltage or shunt release
Allow remote tripping of the MCCB
Available in:
- 24 V \sim / \equiv and
- 230 V \sim / \equiv



Auxiliary contact
Changeover contact 1 NO + 1 NC



CONNECTION WIRES

DPX³ 250 - 1000 V \sim

Offer different options for outgoing connection wires on the side or on the upper part of the MCCB.



CONNECTION ACCESSORIES FOR MULTIPLE CONFIGURATIONS



DPX³ 250 - 1000 V~

Have the accessories needed for upstream and downstream connection using cables or bars in different configurations.

SPREADERS



These can be used for connection with large cross-section cables. Available in 3P and 4P versions.

CAGE TERMINALS



Cage terminals can be used for connection with large cross-section copper or aluminium cables. Available in 3P and 4P versions.

TERMINAL COVERS



These provide IP 30 protection for the connections. Available in 3P and 4P versions.

DPX³ 250 - 1000 V \sim // MOULDED CASE CIRCUIT BREAKERS FROM 63 A TO 250 A

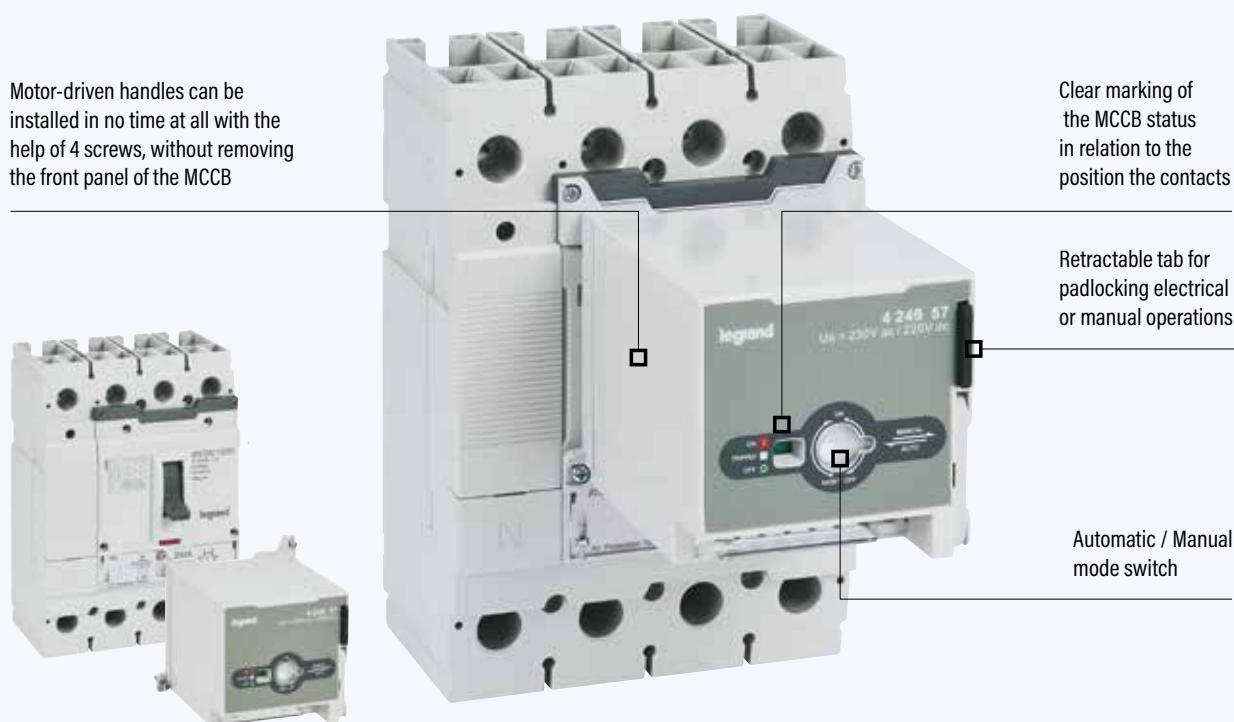
Simplified operation

DIRECT OR REMOTE CONTROL

Motor driven handles for DPX³ HP 250 - 1000 V \sim enable devices to be tripped and reset remotely to provide a simple answer to operating requirements. They are available in front version and offer a choice between two supply voltages: 24 V \rightleftharpoons or 230 V \sim / 220 V \rightleftharpoons . A rotary handle direct on DPX³ and a vari-depth handle provide the utmost convenience and can be locked using padlocks to ensure the safety of maintenance operations. The rotary handle direct on DPX³ can be locked also with the help of keylock.

MOTOR-DRIVEN HANDLE

Motor-driven handles can be installed in no time at all with the help of 4 screws, without removing the front panel of the MCCB

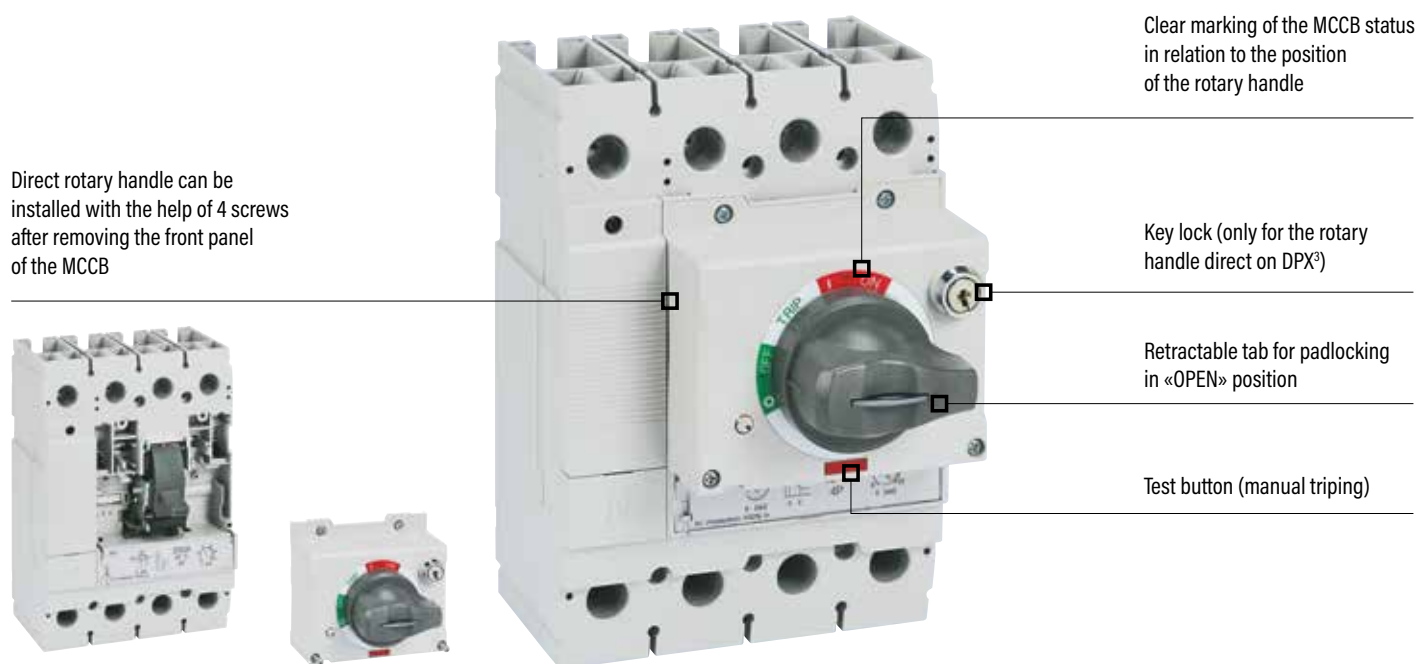


THE MOTOR-DRIVEN HANDLE

Connection terminal is easily accessible in its lower part. Wiring operations are simplified thanks to the wiring diagram marked on the product.



ROTARY HANDLES



DIRECT AND VARI-DEPTH ROTARY HANDLE

Are supplied with all required accessories to facilitate installation.



Air circuit breakers DMX³ 4000 - 1000 V_~ - from 630 A to 4000 A

Electronic protection units for DMX³ 4000 - 1000 V_~



DMX3232N4EF4NZ

DMX3240N4ED4NZ

Dimensions **p. 25-26**
Electrical characteristics **p. 24**

Automatic air circuit breakers must be equipped with electronic protection unit (see opposite), imperatively ordered together for factory assembly
Please ask for DMX³ order form
Conform to IEC 60947-2
Suitable for wind turbine, photovoltaic or railway installations

Pack	Cat.Nos		Fixed version
	Frame 4000 Manual Fixed		Supplied with - 4 auxiliary contacts: NO/NC - rear terminals for horizontal connection with bars - door sealing Breaking capacity I _{cu} 50 kA (1000 V _~) In (A)
	3P	4P	
1	DMX3206N3MF4NZ	DMX3206N4MF4NZ	630
1	DMX3208N3MF4NZ	DMX3208N4MF4NZ	800
1	DMX3210N3MF4NZ	DMX3210N4MF4NZ	1000
1	DMX3212N3MF4NZ	DMX3212N4MF4NZ	1250
1	DMX3216N3MF4NZ	DMX3216N4MF4NZ	1600
1	DMX3220N3MF4NZ	DMX3220N4MF4NZ	2000
1	DMX3225N3MF4NZ	DMX3225N4MF4NZ	2500
1	DMX3232N3MF4NZ	DMX3232N4MF4NZ	3200
1	DMX3240N3MF4NZ	DMX3240N4MF4NZ	4000
	Electrical Fixed		
1	DMX3206N3EF4NZ	DMX3206N4EF4NZ	630
1	DMX3208N3EF4NZ	DMX3208N4EF4NZ	800
1	DMX3210N3EF4NZ	DMX3210N4EF4NZ	1000
1	DMX3212N3EF4NZ	DMX3212N4EF4NZ	1250
1	DMX3216N3EF4NZ	DMX3216N4EF4NZ	1600
1	DMX3220N3EF4NZ	DMX3220N4EF4NZ	2000
1	DMX3225N3EF4NZ	DMX3225N4EF4NZ	2500
1	DMX3232N3EF4NZ	DMX3232N4EF4NZ	3200
1	DMX3240N3EF4NZ	DMX3240N4EF4NZ	4000

Pack	Cat.Nos		Draw-out version
	Frame 4000 Manual Draw Out		Supplied with - 4 auxiliary contacts: NO/NC - draw-out base and kit - flat rear terminals for connection with bars - door sealing Breaking capacity I _{cu} 50 kA (1000 V _~) In (A)
	3P	4P	
1	DMX3206N3MD4NZ	DMX3206N4MD4NZ	630
1	DMX3208N3MD4NZ	DMX3208N4MD4NZ	800
1	DMX3210N3MD4NZ	DMX3210N4MD4NZ	1000
1	DMX3212N3MD4NZ	DMX3212N4MD4NZ	1250
1	DMX3216N3MD4NZ	DMX3216N4MD4NZ	1600
1	DMX3220N3MD4NZ	DMX3220N4MD4NZ	2000
1	DMX3225N3MD4NZ	DMX3225N4MD4NZ	2500
1	DMX3232N3MD4NZ	DMX3232N4MD4NZ	3200
1	DMX3240N3MD4NZ	DMX3240N4MD4NZ	4000
	Electrical Draw-Out		
1	DMX3206N3ED4NZ	DMX3206N4ED4NZ	630
1	DMX3208N3ED4NZ	DMX3208N4ED4NZ	800
1	DMX3210N3ED4NZ	DMX3210N4ED4NZ	1000
1	DMX3212N3ED4NZ	DMX3212N4ED4NZ	1250
1	DMX3216N3ED4NZ	DMX3216N4ED4NZ	1600
1	DMX3220N3ED4NZ	DMX3220N4ED4NZ	2000
1	DMX3225N3ED4NZ	DMX3225N4ED4NZ	2500
1	DMX3232N3ED4NZ	DMX3232N4ED4NZ	3200
1	DMX3240N3ED4NZ	DMX3240N4ED4NZ	4000



DMX³ circuit breakers must be equipped with electronic protection units (to be ordered together for factory assembly) enabling very precise adjustments of the protection conditions, while maintaining total discrimination with downstream devices

Pack	Cat.Nos	MP4.10/4.10 M protection units with LCD screen
1	0 283 06	Integrated LCD screen for displaying electrical values, settings and log Equipped with batteries for powering in case of main fault or when the breaker is open or not connected Adjustment via rotating encoder Adjustment of I _r , t _r , I _{sd} , t _{sd} , I _{li} , I _g and t _g Possibility to enable/disable protections
1	0 283 07	Without measure With measure and display Instantaneous, maximum and average values of different electrical values and protection conditions Fault signaling and log
		Protection unit MP4.10 & MP 4.10 with measure LSig • Long time delay protection against overloads I _r from 0.2 to 1 x I _n (Step 1A) - OFF • Long delay protection operation time t _r = 40 ms ÷ 30 s (step 40 ms) • Short time delay protection against short circuits I _{sd} from 1,5I _r to 10 I _r - OFF (step 1A) • Short time delay protection operation time (t=k, I ₂ t=k) t _{sd} = 40 ms ÷ 1 s (step 40 ms) • Instantaneous protection against very high short circuits I _{li} from 2 to 15 I _n - OFF (step 1A) • Earth fault current I _g from 0.2 ÷ 1I _n - OFF (step 0.1I _n) • Time delay on earth fault tripping (t=k, I₂t=k) t _g from 80 ms ÷ 1s (step 40 ms) • Neutral protection I _N = 50% - 100% - 150% - 200% - OFF Bluetooth communication key USB key for Bluetooth communication with DMX ³ protection units. Needed to remotely configure, monitor and manage the DMX ³ protection units through EnerUp + Project App USB connection port on front of protection unit
1	0 283 102	
		Power supply module 500 mA 12V _~ stabilized power supply module for CX ³ energy management system Number of modules: 1
1	4 149 45	
		Communication interface RS485 / CX ³ energy management system conversion Consumption: 0.344 W - 28.7 mA (12 V _~) Number of modules: 1
1	4 149 40	
		External neutral For DMX ³ 4000 - 1000 V _~
1	0 281 983	

1. For the correct working of metering function it's necessary to connect a CX³ EMS power supply module Cat. No 4 149 45
2. EnerUp + Project App for smartphone and tablet available on Apple Store and Google Play. Configuration, monitoring and management software (PCS) available for download via e-catalogue (does not require the use of Bluetooth communication key Cat.No 0 283 10)
3. Optional accessories if required to be factory fitted, need to be ordered separately along with DMX³ ACB.
4. The cat. ref ending with 4NZ and 4MZ includes MP4.10 and MP4.10M Protection Units respectively.
5. The Cat.ref of EF and EDO ACBs include internal accessories Shunt opening Coil - 240VAC/DC, closing Coil 240V AC/DC, ECD 240 VAC/DC
6. For Internal Accessories with Auxiliary/control Voltages other than 220 - 240 VAC and DC, please contact sales office.

Auxiliaries and accessories for DMX³ 4000 - 1000 V~



Pack	Cat.Nos	Control and signalling auxiliaries
		Shunt trip When energised the circuit breaker will be tripped
1	0 288 48	24 V~/=
1	0 288 49	48 V~/=
1	0 288 50	110 - 130 V~/=
1	0 288 51	220 - 250 V~/=
1	0 288 52	415 - 480 V~
		Undervoltage releases When the coil is de-energised, the circuit breaker will be tripped
1	0 288 55	24 V~/=
1	0 288 56	48 V~/=
1	0 288 57	110 - 130 V~/=
1	0 288 58	220 - 250 V~/=
1	0 288 59	415 - 480 V~
		Module for delayed tripping To be used with above undervoltage releases
1	0 288 62	110 V~/=
1	0 288 63	230 V~/=
		Motor operators To motorize a DMX ³ , it is possible to attach, to the motor operators, a release coil (undervoltage or trip on energising) and a closing coil
1	0 288 34	24 V~/=
1	0 288 35	48 V~/=
1	0 288 36	110 - 130 V~/=
1	0 288 37	220 - 250 V~/=
1	0 288 38	415 - 440 V~
1	0 288 40	480 V~/=
		Closing coils Enables remote closing of the circuit breaker if the closing spring is charged
1	0 288 41	24 V~/=
1	0 288 42	48 V~/=
1	0 288 43	110 - 130 V~/=
1	0 288 44	220 - 250 V~/=
1	0 288 45	415 - 480 V~
		Signalling contact for auxiliaries Signalling contact for shunt trips, undervoltage releases and closing coils
1	0 288 16	
		Signalling contact for draw-out version Inserted / test / draw-out signalling contact
1	0 288 13	3 changeover contacts per position

Pack	Cat.Nos	Locking
		Universal key locks To be used in combination with key locking supports Cat.Nos 0 281 94/0 288 28
1	4 238 80	Key barrel and flat key with random mapping
1	4 238 81	Key barrel and flat key with fixed mapping EL43525
1	4 238 82	Key barrel and flat key with fixed mapping EL43363
1	4 238 83	Key barrel and star key with random mapping
		Key locking support in "open" position For locking a DMX ³ in "open" position To be equipped with universal keylocks Cat.Nos 4 238 80/81/82/83
1	0 288 28	
		Key locking support in draw-out position For locking a DMX ³ in draw-out position To be equipped with universal keylocks Cat.Nos 4 238 80/81/82/83
1	0 281 94	
		Door locking Prevents opening of the door with the circuit breaker closed Left-hand and right-hand side mounting
1	0 288 20	
		Padlocks in "open" position Padlocking system for ACB (padlock not supplied)
1	0 288 21	
		Padlock for buttons
1	0 288 24	
		Padlocking system for shutters (padlock not supplied)
1	0 288 26	
		Equipment for conversion of a fixed device into draw-out device
		Bases for draw-out device For DMX ³ /DMX ³ -I frame 4000
1	3P 0 289 04 4P 0 289 05	
		Transformation kit for draw-out version For DMX ³ /DMX ³ -I frame 4000
1	0 289 11 0 289 12	
		Accessories
1	0 288 17	Inserted/Test/Draw-out lock button
1	0 288 25	Rating mis-insertion device Prevents the insertion of a draw-out circuit breaker in an incompatible base
1	0 288 23	Operations counter Counts total number of operation cycles of the device
1	0 288 14	Contact "ready to close" with charged springs
1	0 288 15	Additional signalling contact
1	0 288 79	Lifting plate

Rear terminals for DMX³ 4000 - 1000 V~ DMX³ 4000 - 1000 V~

technical characteristics



Dimensions p. 25-26

Pack	Cat.Nos		Rear terminals
1	3P 0 288 92	4P 0 288 93	For DMX³ frame 4000, 6300 and DMX³ 4000 - 1000 V~ fixed version For flat connection with bars To be fixed onto horizontal rear terminals of the circuit breaker 2 sets are required for frame 6300
1	0 288 94	0 288 95	For DMX³ frame 4000, 6300 and DMX³ 4000 - 1000 V~ fixed or draw-out version On DMX ³ fixed version: - For vertical connection with bars - To be fixed onto Cat.Nos 0 288 92/93 according to the number of poles On DMX ³ draw-out version: - For vertical or horizontal connection with bars - To be fixed directly onto plate rear terminals of the circuit breaker 2 sets are required for frame 6300
1	3P 0 288 98	4P 0 288 99	Insulation shields For fixed version Insulation shields for DMX ³ /DMX ³ -I frames 2500 / 4000 / 6300 and DMX ³ 4000 - 1000 V~
1	0 288 18	0 288 19	For draw-out version Insulation shields for DMX ³ /DMX ³ -I frames 2500 / 4000 / 6300 and DMX ³ 4000 - 1000 V~

Technical characteristics

DMX ³ according to IEC 60947-3	DMX ³ 4000 - 1000 V~	
Release type	electronic	
Number of poles	3P - 4P	
Pole pitch (mm)	130	
Rated current I _n (A)	630/800/1000/1250/1600/2000/2500/3200/4000	
Rated insulation voltage U _i (V)	1250	
Rated impulse withstand voltage U _{imp} (kV)	12	
Rated operational voltage (50/60Hz) U _e (V)	1150	
Frame	4000	
Rated ultimate short-circuit breaking capacity I _{cu} (kA)	800 V AC	65
	1000 V AC	50
Rated service short-circuit breaking capacity I _{cs} (% I _{cu})	100%	
Rated short-circuit making capacity I _{cm} (kA)	800 V AC	143
	1000 V AC	105
Rated short time withstand current I _{sw} (kA) for t = 1s	800 V AC	65
	1000 V AC	50
Rated short time withstand current I _{sw} (kA) for t = 3s	800 V AC	65
	1000 V AC	50
Category of use	B	
Suitable for insulation	Yes	

Derating at different altitudes

Air circuit breaker	DMX ³ 4000 - 1000 V~			
Altitude (m)	2000	3000	4000	5000
Rated current (at 40°C) I _n (A)	I _n	0.98 x I _n	0.94 x I _n	0.9 x I _n
Rated voltage U _e (V)	1000	880	750	690
Rated insulation voltage U _i (V)	1250	1100	950	850
Dielectric withstand (V)	3500	3200	2500	2000

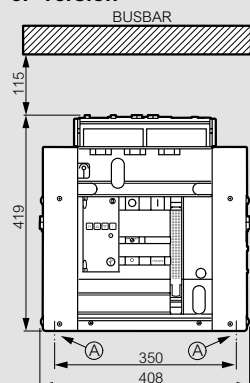
DMX³ 4000 - 1000 V_~ - frame 4000

dimensions

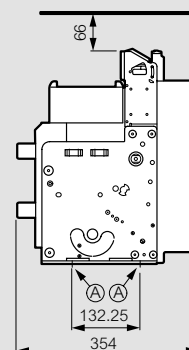
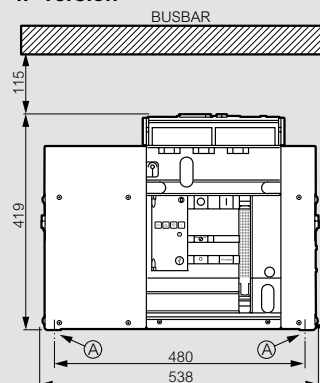
Fixed version - frame 4000

Overall dimensions

3P version

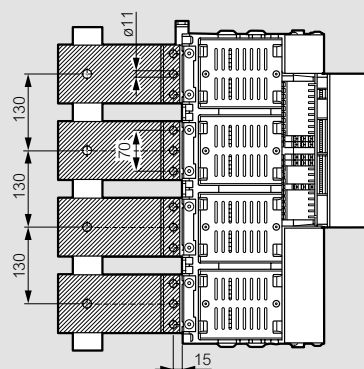
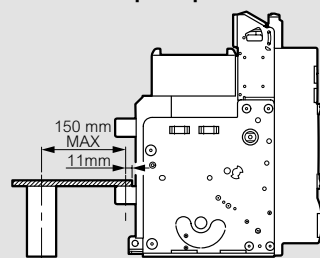


4P version



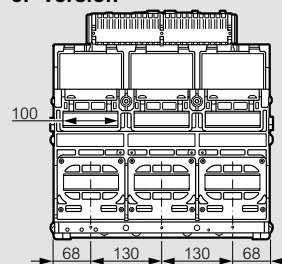
A = fixing point on plate of enclosure

Connection principle

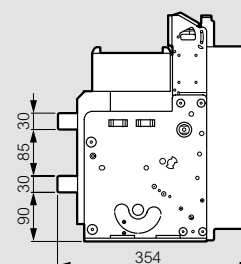
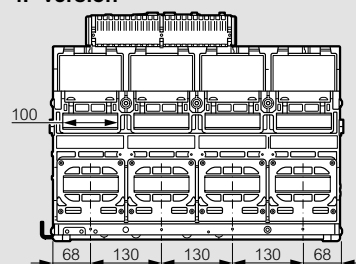


Rear terminals

3P version



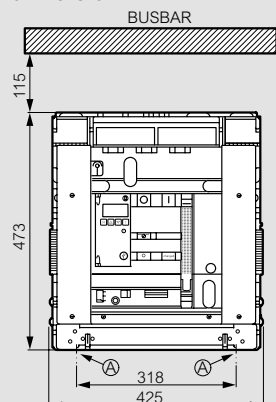
4P version



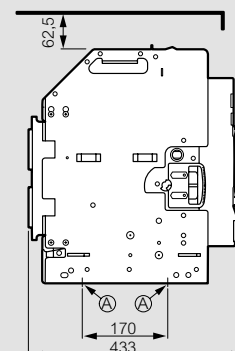
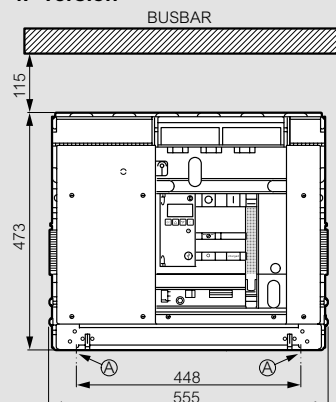
Draw-out version - frame 4000

Overall dimensions

3P version



4P version



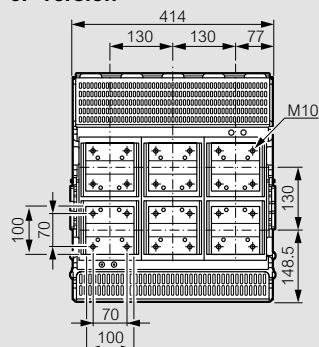
DMX³ 4000 - 1000 V_~ - frame 4000

dimensions (continued)

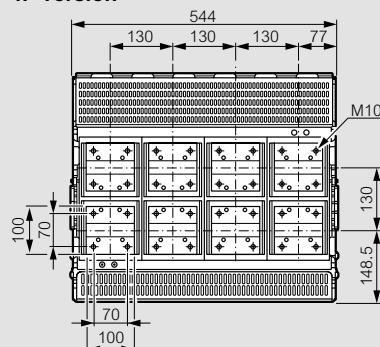
Draw-out version - frame 4000 (continued)

Rear terminals for flat connection with bars

3P version



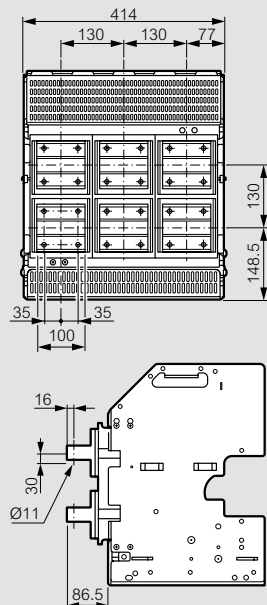
4P version



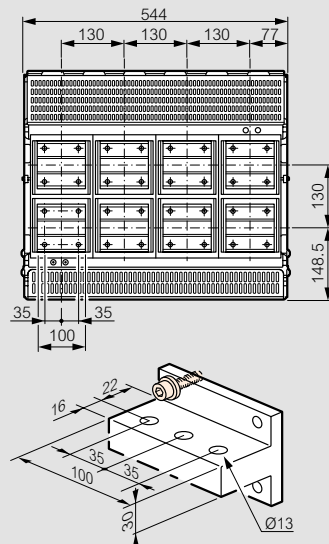
Rear terminals for horizontal connection with bars

Cat.Nos 0 288 92/93

3P version



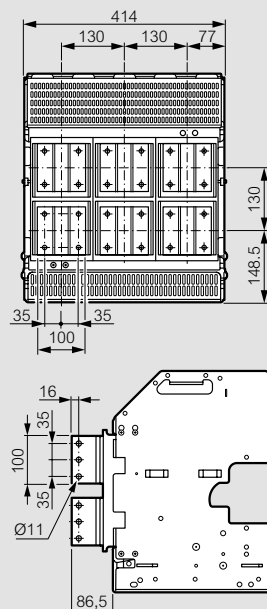
4P version



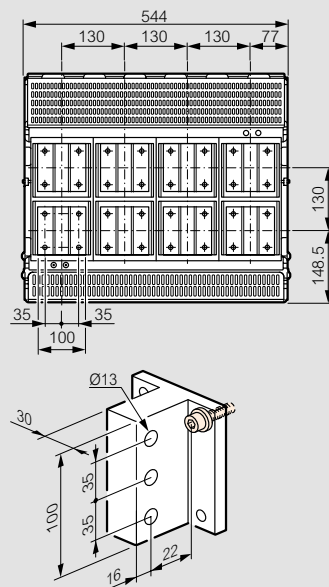
Rear terminals for vertical connection with bars

Cat.Nos 0 288 92/93

3P version



4P version



DPX³ 250 - 1000 V~

thermal magnetic release MCCBs from 63 to 250 A - fixing on plate



4 249 05



4 249 15



Dimensions **p. 29**
Technical characteristics **p. 28**

Moulded case MCCBs for switching, control isolation and protection of low voltage electrical lines
Suitable for renewable energy (photovoltaic, wind turbine) or railway installations

Can be fitted with auxiliaries (p. 28)

Supplied with: screws for connections, fixing screws, and insulated shields (phase barriers)

Can be fitted with cage terminals for Cu/Al cables

Conform to IEC 6094/-2 - sealable adjustment

Can be mounted on plate in XL³ HP cabinets and enclosures

Pack.	Cat.Nos		MCCBs thermal magnetic release - fixed version
	3P	4P	
			Thermal adjustable from 0,8 to 1 x I _n Magnetic: - fixed 10 x I _n for I _n = 63 A and 80 A - adjustable from 5 to 10 x I _n for I _n = 100 A to 250 A Breaking capacity I _{cu} 20 kA (1000 V~)
1	4 249 00	4 249 10	63
1	4 249 01	4 249 11	80
1	4 249 02	4 249 12	100
1	4 249 03	4 249 13	160
1	4 249 04	4 249 14	200
1	4 249 05	4 249 15	250

DPX³ 250 - 1000 V~

accessories



4 249 58



4 249 57



4 249 64



4 249 61



4 249 62

Pack.	Cat.Nos		Rotary handles
1	4 249 58		Direct on DPX³ Standard (grey)
1	4 249 59		Vari-depth handle Standard (grey)
			Motor-driven handles
			Front installation motor operators For DPX ³ 250 - 1000 V~ 3P / 4P 24 V ~ 230 V~ / 220 V~
			Connection accessories
			Sealable terminal shields (for front terminals) Set of 2 For DPX ³ 250 - 1000 V~ 3P For DPX ³ 250 - 1000 V~ 4P
1	4 249 64		
1	4 249 65		
			Cage terminals For flexible or rigid Cu/Al cables Cu: 120 - 150 mm ² Al: 150 mm ² max.
1	4 249 61		Set of 3 terminals for DPX ³ 250 - 1000 V~ 3P
1	4 249 66		Set of 4 terminals for DPX ³ 250 - 1000 V~ 4P
			Spreaders For incoming bars or cable lugs
1	4 249 62		Set of 3 spreaders for DPX ³ 250 - 1000 V~ 3P
1	4 249 63		Set of 4 spreaders for DPX ³ 250 - 1000 V~ 4P

DPX³ 250 - 1000 V_~

control and signalling auxiliaries



Pack.	Cat.Nos	Auxiliary contact
1	4 249 50	Auxiliary contact
1	4 249 51	Alarm contact
1	4 249 52	Shunt releases
1	4 249 53	Allow remote tripping of a DPX ³ 250 - 1000 V _~ 24 V _~ / =
1	4 249 54	Undervoltage releases
1	4 249 55	Allow remote tripping of a DPX ³ 250 - 1000 V _~ 230 V _~ / =

DPX³ 250 - 1000 V_~

technical characteristics

Technical characteristics

MCCBs		DPX ³ 250 - 1000 V~
Rated current I _n (A)		63, 80, 100, 160, 200, 250
Number of poles		3P - 4P
Rated insulation voltage U _i (Vac)		1000
Rated operating voltage U _e (Vac)		1000
Rated impulse withstand voltage U _{imp} (kV)		8
Rated frequency (Hz)		50-60
Rated ultimate short-circuit breaking capacity I _{cu} (kA)	800 V~	40
	1000 V~	20
Rated service short-circuit breaking capacity I _{cs} (% I _{cu})	800 V~	75
	1000 V~	50
Rated short-circuit making capacity I _{cm} (kA)	800 V~	84
	1000 V~	40
Reference ambient temperature (°C)		40
Operating temperature (°C)		-25 to 70
Mechanical endurance (cycles)		20000
Electrical endurance at I _n (cycles)		1000
Category of use		A
Suitable for isolation		Yes
Release type		thermal-magnetic
Thermal adjustment I _t (A)		0.8 to 1 x I _n
Magnetic adjustem _t I _Δ (A)		10 x I _n for I _n = 63 and 80 A 5 to 10 x I _n for I _n = 100 to 250 A
Neutral protection for 4P MCCBs (% of I _n of phase pole)		100 %

Temperature derating

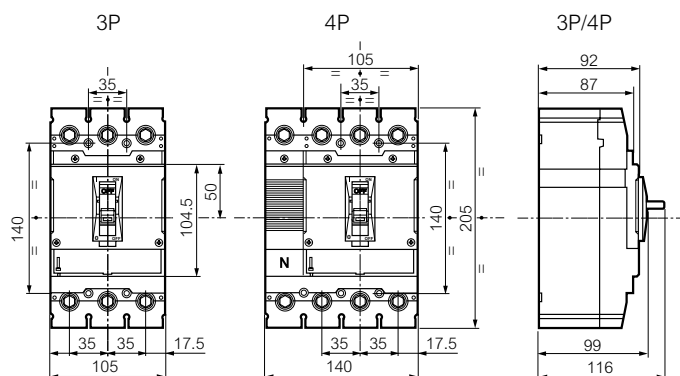
I _n (A)	Compensated rated current in accordance with ambient temperature (A)									
	-20 °C	-10 °C	0 °C	10 °C	20 °C	30 °C	40 °C	50 °C	60 °C	70 °C
63	90	86	81	77	72	68	63	60	57	54
80	114	109	103	98	92	86	80	76	72	68
100	143	136	129	122	115	108	100	95	90	85
160	229	218	206	195	184	173	160	152	144	136
200	286	272	258	244	230	216	200	190	180	170
250	358	340	322	305	287	270	250	238	225	213

DPX³ 250 - 1000 V_~

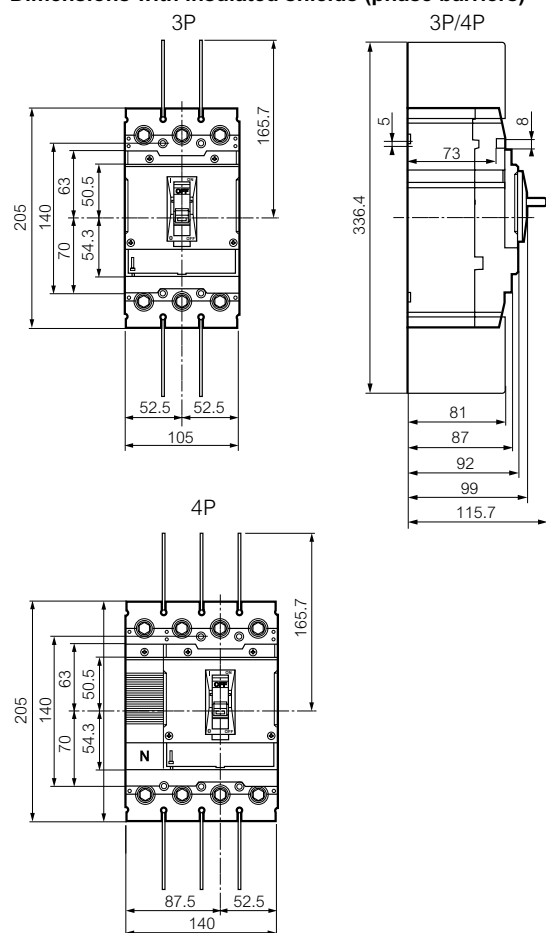
dimensions

■ Dimensions

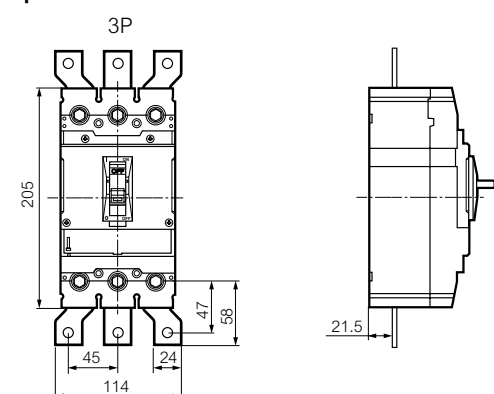
Fixed version



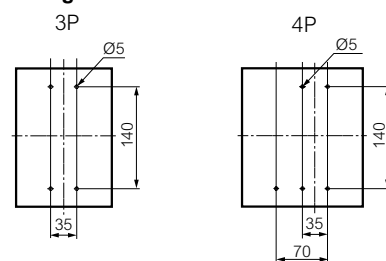
Dimensions with insulated shields (phase barriers)



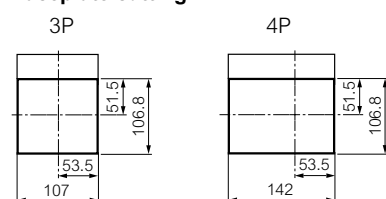
Spreaders Cat.Nos 4 249 62/63



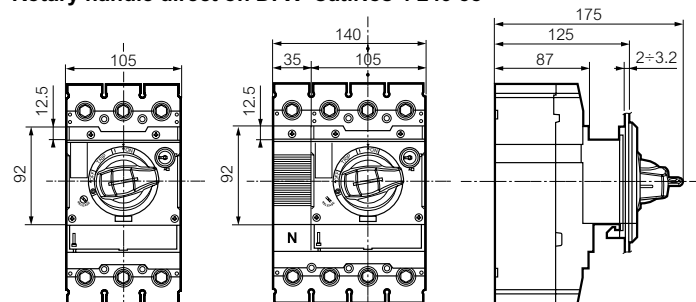
Fixing



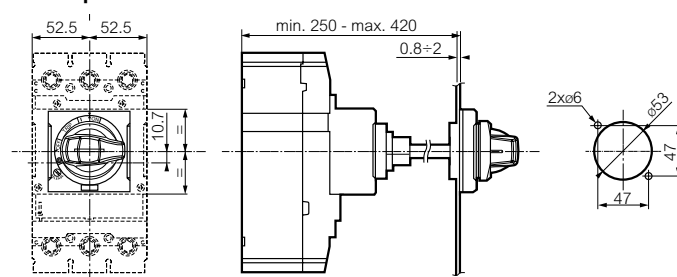
Faceplate cutting



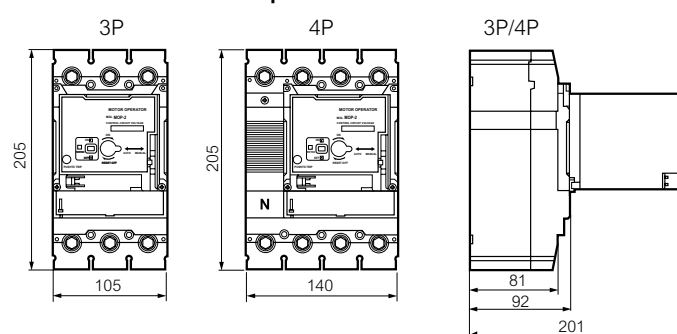
Rotary handle direct on DPX³ Cat.Nos 4 249 58



Vari-depth handle Cat.Nos 4 249 59

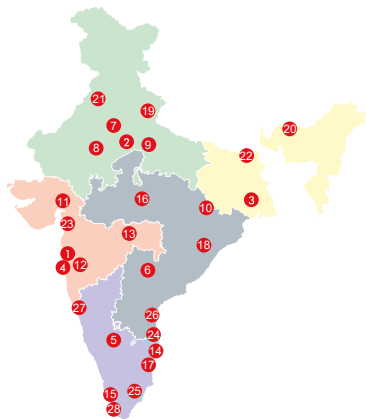


Front installation motor operators Cat.Nos 4 249 56/57



Notes

[illegible]



Head offices

1. 61 & 62, 6th Floor,
Kalpataru Square, Kondivita Road,
Off Andheri-Kurla Road, Andheri (E),
MUMBAI – 400 059.
Tel.: (022) 3041 6200
Fax : (022) 3041 6201
Website : www.legrand.co.in

Regional sales offices

2. B-225, 4th Floor, Okhla Industrial Area, Phase -1,
NEW DELHI – 110020.
Tel.: (011) 3990 2200
Fax : (011) 2699 0047 [INNOVAL](#)
3. Unit no 1203, Ambuja Neotia EcoCentre, Street No. 13, EM Block, Sector V, Bidhannagar, Ambuja Neotia EcoCentre,
KOLKATA – 700 091. [INNOVAL](#)
Tel.: (033) 4021 3535
4. C/203, Corporate Avenue, Atul Projects, Near Mirador Hotel, Chakala, Andheri - Ghatkopar Link Road, Andheri – (E), **MUMBAI** – 400 099.
Tel.: (022) 6230 1000 [INNOVAL](#)
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Tel.: (040) 4567 1717
7. Unit No. 203, Tower B Bestech Business Towers, Sector-66, Mohali,
CHANDIGARH – 160 017.
Tel.: (0172) 5019 008 [INNOVAL](#)
8. Building No-128, Mansarovar Link Road, Gopalpura Bypass, Mohan Nagar, Near Ridhi Sidhi Flyover, **JAIPUR** – 302018
Tel.: 0141-2208665 [INNOVAL](#)
9. 209-A, 2nd Floor, Cyber Heights, Opp. Indira Gandhi Pratishthan, Vibhuti Khand, Gomti Nagar,
LUCKNOW – 226 010.
Tel.: (0522) 431 9316 [INNOVAL](#)
10. 202 & 203, Sunrise, Forum 100, Burdwan Compound, Lalpur,
RANCHI – 834 001.
Tel.: (651) 660 5400
11. A 101-102, Mondeal Heights, Besides Novotel Hotel, Sarkhej Gandhinagar Highway (S G Highway),
AHMEDABAD – 380 015.
Tel.: (079) 6134 0555 [INNOVAL](#)
12. 8th Floor, Pinnacle Park Avenue, Opp. Law College, Law College Road Next To German Bakery, Shivaji Nagar, **PUNE** – 411004.
Tel.: (020) 6729 5601 / 600 [INNOVAL](#)
13. Plot No.95, 2nd Floor, Shreyash Heights, VIP Road, Ramdaspeth,
NAGPUR – 440 010.
Tel.: (0712) 2440 900
14. 10 B, Prestige Center Court, Office Block, Vijaya Forum Mall, #183, N.S.K. Salai, Vadapalani, **CHENNAI** – 600 026.
Tel.: (044) 6612 2800 [INNOVAL](#)
15. J. B. Manjooran Estate, Door No. 50/1107 A9, 3rd Floor, Bye Pass Junction, Edappally,
COCHIN – 682 024.
Tel.: (0484) 6604 700 [INNOVAL](#)
16. 204-205, Megapolis Square, 579, M G Road,
INDORE – 452 001.
Tel.: (0731) 4999 891
17. MF-2, Datta's Lords House, Jammi Chettu Street, Mogalrajapuram,
VIJAYAWADA – 520 010.
Tel.: (0866) 248 2393/6393

18. Plot No. 359, Saheed Nagar, 2nd Floor,
BHUBANESWAR – 751 007.
Tel.: (0674) 254 0623
19. Unit - 1 & 2, Vijay Park, Main Chakrata Road,
DEHRADUN - 248 001.
Uttarakhand.
Tel.: (0135) 661 6100. [INNOVAL](#)
20. 509, Sri Kamakhya Tower, G.S. Road, Christian Basti,
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21. SCO 50-51, 2nd Floor Lodhi Club Road Shaheed Bhagat Singh Nagar, **LUDHIANA** – 141 013.
Tel.: (0161) 277 0301 [INNOVAL](#)
22. 94, Uddham Singh Sarani, Ground Floor, Ashrampara,
SILIGURI – 734 001.
Tel.: (353) 264 1067
23. A-207, Universal Business Center, Near Madhuvan Circle, L.P. Savani Road, Adajan,
SURAT – 395 009.
Tel.: (0261) 263 3861 [INNOVAL](#)
24. Aparna Towers, 1st Floor, 2/3, Bypass Road,
MADURAI – 625 010.
Telefax : (0452) 230 8414
25. 43-9-205, 3rd Floor, Plot No. 10, Subbalakshmi Nagar, Opp. More Super Market,
VISAKHAPATNAM – 530 016.
Tel.: (0891) 273 5652 / 2739363 [INNOVAL](#)
26. B-5, 1st Floor, Thirumalai Towers, 723, Avanashi Road,
COIMBATORE – 641 018.
Tel.: (0422) 668 3200 [INNOVAL](#)
27. 515 & 516, Gera Imperium Grand, Patto centre , Panaji **GOA** – 403 001 [INNOVAL](#)
28. 1st Floor, Cordial Bharathi, Nanthancodu, **Thiruvanthapuram**, KERALA - 695 003 [INNOVAL](#)

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