

DPX³ 630 S10 electronic (display version) circuit breakers

Cat.Nos : from 4 228 20 to 4 228 99



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1. USE

DPX³ range has been developed to give a new solution of protection devices for a more precise approach in power installations in order to offer the correct answer for different project needs.

DPX³ range provides a complete project approach in premium market segment, offering a range completely suitable for high power application with high performance breakers in compact dimensions and at a competitive costs.

DPX³ S10 is a modern approach for electronic protection units that magnifies all flexibility allowed by technology.

2. RANGE

■ 2.1 DPX³ 630 S10

Icu	36 kA		50 kA	
In (A)	3P	4P	3P	4P
250	4 228 20	4 228 25	4 228 30	4 228 35
320	4 228 21	4 228 26	4 228 31	4 228 36
400	4 228 22	4 228 27	4 228 32	4 228 37
500	4 228 23	4 228 28	4 228 33	4 228 38
630	4 228 24	4 228 29	4 228 34	4 228 39

Icu	70 kA		100 kA	
In (A)	3P	4P	3P	4P
250	4 228 40	4 228 45	4 228 50	4 228 55
320	4 228 41	4 228 46	4 228 51	4 228 56
400	4 228 42	4 228 47	4 228 52	4 228 57
500	4 228 43	4 228 48	4 228 53	4 228 58
630	4 228 44	4 228 49	4 228 54	4 228 59

■ 2.2 DPX³ 630 S10 with measurement function

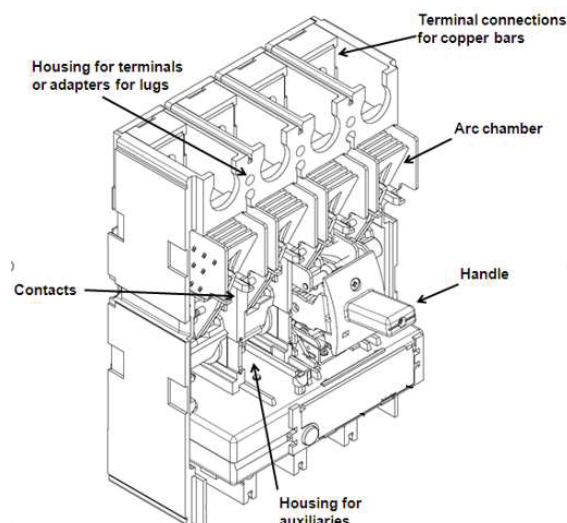
Icu	36 kA		50 kA	
In (A)	3P	4P	3P	4P
250	4 228 60	4 228 65	4 228 70	4 228 75
320	4 228 61	4 228 66	4 228 71	4 228 76
400	4 228 62	4 228 67	4 228 72	4 228 77
500	4 228 63	4 228 68	4 228 73	4 228 78
630	4 228 64	4 228 69	4 228 74	4 228 79

Icu	70 kA		100 kA	
In (A)	3P	4P	3P	4P
250	4 228 80	4 228 85	4 228 90	4 228 95
320	4 228 81	4 228 86	4 228 91	4 228 96
400	4 228 82	4 228 87	4 228 92	4 228 97
500	4 228 83	4 228 88	4 228 93	4 228 98
630	4 228 84	4 228 89	4 228 94	4 228 99

■ 2.3 Composition

DPX³ 630 S10 are supplied with:

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



3. TECHNICAL CHARACTERISTICS

■ 3.1 Electrical characteristics

Rated current	250 A, 320 A, 400 A, 500 A, 630 A
Poles	3P - 4 P
Pole pitch	42 mm
Rated insulation voltage at 50/60Hz (Ui)	800 V
Rated operating voltage (50/60Hz) (Ue)	690 V
Rated impulse withstand current (Uimp)	8 kV
Rated frequency	50 - 60 Hz
Operating temperature	-25 to +70 °C
Electrical endurance at In (cycles)	4000
Electrical endurance at 0.5 In (cycles)	8000
Utilization category	B (In ≤ 400A); A (In ≥ 500A)
Suitable for isolation	Yes
Reverse feed	Yes

The maximum temperature allowed on power terminals is 125°C (absolute). For detail, see IEC 60947-1 and 60947-2.

Breaking capacity (3P and 4P)

IEC 60947-2	Breaking capacity (kA) & Ics				
	Ue	Icu			
		36kA	50kA	70kA	100kA
	220/240 V~	70	100	105	150
	380/415 V~	36	50	70	100
	440/460 V~	30	40	60	70
	480/500 V~	25	30	40	50
	480/550 V~	20	22	25	28
	600 V~	20	22	25	28
	690 V~	14	18	20	22
	Ics(% Icu)	100	100	100	70
Rated making capacity under short circuit Icm					
	Icm (kA) at 415V	76.5	105	154	220

Rated current (In) at 40°C / 50°C

Phases limit trip current				
Thermal (I _r)			Magnetic (I _i)	
In (A)	0.2 x In	1 x In	1.5 x I _r	10 x I _r
250	50	250	375	2500
320	64	320	480	3200
400	80	400	600	4000
500	100	500	750	5000
630	126	630	945	6300

* For neutral adjustment, please consider the values ratios 100% on set currents.

■ 3.2 Mechanical characteristics

Mechanical endurance (cycles): 20000

Mechanical endurance with motor control (cycles): 10000

Load operations

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

■ 3.3 Electrodynamic forces

The table below shows an indication of suggested distances to keep between the breaker and the first fixing point of the conductor and bars in order to reduce the effects of the electrodynamic stresses that may be created during a short circuit. In the realization of anchorage system it is recommend the use of isolators suitable for the type of conductor used and the operating voltage.

Icc (kA)	Maximum Distance (mm)
36	350
50	300
70	250
100	200

According to conductor type and bar system (except Legrand bar kits), the choice of the distance to keep is to be calibrated by the installer. Also installer must take into account the weight of the conductors so that this does not affect the electrical junction between the conductor itself and the connection point.

■ 3.4 Power losses per pole under In (W)

In (A)	250		320		400		500		630	
	Ph	N	Ph	N	Ph	N	Ph	N	Ph	N
Lugs	7.5	7.5	12.3	12.3	19.2	19.2	22.1	22.1	35.0	35.0
Cage terminals	7.5	7.5	12.3	12.3	19.2	19.2	22.1	22.1	35.0	35.0
High capacity cage terminals	8.2	8.2	13.5	13.5	21.1	21.1	25.1	25.1	39.8	39.8
Spreaders	9.0	9.0	14.7	14.7	22.9	22.9	26.7	26.7	42.3	42.3
Rear terminals	8.7	8.7	14.2	14.2	22.3	22.3	26.9	26.9	42.7	42.7
Plug-in version	15.0	15.0	24.7	24.7	38.5	38.5	52.3	52.3	83.0	83.0
Version with RCD	10.6	10.6	17.4	17.4	27.2	27.2	34.6	34.6	54.9	54.9

Note: power loss in the table above are referred and measured as described in the standard IEC 60947-2 (Annex G) for circuit-breakers. Values in the table are referred to a single phase.

■ 3.5 Electronic protection S10 characteristics

Type of protection	Electronic (with display)
Thermal type protection	Adjustable (Mem On/Off)
Ability to enable thermal protection	On/Off
Magnetic type protection	Adjustable
Ability to enable magnetic protection	On/Off
Fixed instantaneous override	I _{sf} =5kA
Earth leakage trip type	A - External module
Earth leakage trip IΔn [A]	0.03-0.3-1-3/0.2 to 1 (steps 0.1 In)
Earth leakage trip tΔ [s]	0-0.3-1-3/0.08 to 1 (steps 40 ms)

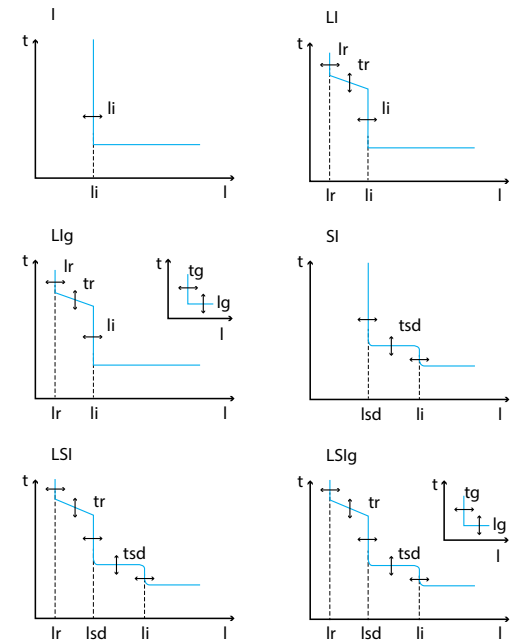
3. TECHNICAL CHARACTERISTICS (continued)

3.5 Electronic protection S10 characteristics (continued)

Electronic DPX³ circuit breakers equipped with S10 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 (tripping time delays and currents), or by altering the different trip thresholds. The tripping curve is therefore fully customised to suit the real-life conditions of each project.

Thanks to the internal battery, the protection unit can be set even if the circuit breaker is de-energised. Parameters and fault histories can be consulted directly via the LCD screens.

A single circuit breaker can operate according to different tripping curves depending on the settings, as explained in the following images:



- Ir Long time protection against overloads
- tr Long time protection delay
- Isd Short time protection against short circuits
- tsd Short time protection delay
- li Instantaneous protection against high-intensity short-circuits
- Ig Earth fault current
- tg Earth fault current protection delay
- IN Neutral protection

See relative instruction sheet for details.

Settings on S10 electronic protection
There are 2 options for configuring setting: locally on the circuit breaker or on a PC, smartphone or tablet:

Settings	Locally on the device	By software or app
Ir	0.2 to 1 x In, in steps of 1 A	0.2 to 1 x In - OFF, in steps of 1 A
tr	3, 5, 10, 15, 20, 25, 30s. @6Ir	from 40 ms to 30s with steps of 40ms @6Ir
Isd	1.5 to 3 x Ir, in steps of 0.5 x Ir; 3 to 10 x Ir, in steps of Ir	1.5 x Ir to 10 x In - OFF, in steps of 1 A*
tsd (t=k, I²t=k @12Ir)	40 to 480ms (7 steps)	40 to 480ms, in steps of 40ms
li (t=k)	OFF	2 to 15 x In - OFF, in steps of 1 A**
Ig	0.2 to 1 x In - OFF, in steps of 0.1 x In	0.2 to 1 x In - OFF, in steps of 0.1 x In

Settings	Locally on the device	By software or app
tg (t=k, I²t=k @12Ir)	80 to 480ms (5 steps) and 1s	80 to 480ms (steps of 40 ms) and 1s
Neutral protection for 4P (%Ith of phase pole)	OFF-50-100-150-200 50% not possible if Ir < 040% In or Ir = OFF; 150% not possible if Ir > 66,7% In or Ir = OFF; 200% not possible if Ir > 50% In or Ir = OFF;	

* I_{sd} = xIn if Ir=OFF (see instruction sheet for detail).
**Fixed delay 40ms.

There are several ways to configure the various settings: directly on the protection units (using the +/- and >/< buttons on the front face), on a PC with Power Control Station software installed, or on a tablet or smartphone via the EnerUp+ Project app.

It is possible to modify the energy and power direction (top / bottom).

Power Control Station software for PC and the EnerUp+ Project app for smartphone/tablet can be used to exchange data with the DPX³ S10 protection unit.

The software and app can be used to:

- monitor the status of the circuit breaker
- display information (firmware and device versions, alarms, measurements, parameters, fault log, settings)
- configure the different protection devices *
- update the protection unit firmware **
- generate reports based on the data stored and read by the protection unit *
- run diagnostic tests
- upload data linked to your profile and installation to the Cloud (with the EnerUp+ Project app only)

* With the Power Control Station software only
** For Legrand technical support via the Power Control Station software only

Together with above protections, activated in case of electric faults, the trip unit also integrates self-protection for:

- Over temperature: in case the internal temperature of protection unit exceed 95°C;
- Auto diagnostics: in case embedded watchdog circuit detects internal malfunctions, which could compromise the correct working of microcontroller.

With electronic DPX³ 630 S10 with integrated measurement, it is very easy to monitor the parameters and consumption of the different circuits in the installation.

Electronic DPX³ circuit breakers equipped with S10 protection units with integrated measurement can be used to display the current, voltage, active and reactive power, frequency and power factor values, as well as the energy consumption.

Alarms can be programmed on some parameters, including minimum and maximum voltage, phase unbalance, and minimum and maximum frequency.

The measured values are displayed directly on the LCD screen on the front of the equipment.

The measurement data can also be displayed on a PC equipped with Power Control Station software or remotely on a smartphone or tablet via the EnerUp+ Project app.

3. TECHNICAL CHARACTERISTICS (continued)

■ 3.5 Electronic protection S10 characteristics (continued)

In the electronic unit protection, an energy metering central unit is integrated. The possible parameters that can be measured are listed in the following table:

Measured	Unit	Description
L1	A	L1 realtime measured value
L2	A	L2 realtime measured value
L3	A	L3 realtime measured value
IN (4P)	A	N realtime measured value
IG	A	G realtime measured value
U12 U23 U31 (3P)	V	Phase to Phase Voltage
V12 V23 V31 (4P)	V	Phase voltage
Freq.	Hz	Frequency
PTot	kW	Active Power
QTot	kVar	Reactive Power
PF		Power Factor
Ep ↓	kWh	Incoming active energy
Ep ↑	kWh	Outgoing active energy
Eq ↓	kVar h	Incoming reactive energy
Eq↑	kVar h	Outgoing reactive energy
THDU12/THDU23/THDU31 (3P)	%	Chained Voltage THD
THDV1N/THDV2N/THDV3N (4P)	%	Voltage THD
THDI1/THDI2/THDI3/THDIN	%	Current THD
MEM	A - °C	Cause of the last intervention and its value

Function performance class according to IEC 61557-12

Function symbol	Performance class	Measurement range					Other complementary characteristics				
		DPX ³ 630A					I _{max} PMD				
In		250A	320A	400A	500A	630A	250A	320A	400A	500A	630A
P	2	0.3kW	0.3kW	0.3kW	0.3kW	0.3kW	300A	380A	480A	600A	750A
		360kW	460kW	580kW	720kW	900kW	I _b =250A, Un=400V, fn=50Hz				
QV	2	0.6kVar	0.6kVar	0.6kVar	0.6kVar	0.6kVar	300A	380A	480A	600A	750A
		360kVar	460kVar	580kVar	720kVar	900kVar	I _b =250A, Un=400V, fn=50Hz				
Ea	2	0...999 GWh					300A	380A	480A	600A	750A
ErV	2	0...999 GWh					300A	380A	480A	600A	750A
							I _b =250A, Un=400V, fn=50Hz				
f	0.02	50...60 Hz					-				
I	2	12.5A	12.5A	12.5A	12.5A	12.5A	300A	380A	480A	600A	750A
		300A	380A	480A	600A	750A	I _b =250A, Un=400V, fn=50Hz				
I _n	2	12.5A	12.5A	12.5A	12.5A	12.5A	300A	380A	480A	600A	750A
		300A	380A	480A	600A	750A	I _b =250A, Un=400V, fn=50Hz				
U(3P) V (4P)	0.05	88...690V					-				
PFA	0.05	-					300A	380A	480A	600A	750A
							I _b =250A, Un=400V, fn=50Hz				
THDu (3P) THDv (4P)	5	110...690V					-				
THDi	5	250A	250A	250A	250A	250A	-				
		250A	320A	400A	500A	630A					

3. TECHNICAL CHARACTERISTICS (continued)

■ 3.5 Electronic protection S10 characteristics (continued)

General remarks on protection unit

The protection units S10 are normally supplied by the internal current transformers (CTs).
When the current flowing through the circuit breaker is greater than 12% of the maximum power (20% of In for single phase load), the internal current supply ensures all operation of the protection unit, included LED status, display indications and diagnostic functions (e.g. trip test).
Display backlight and integrated measure (if available) are instead guaranteed starting from 20% of the maximum power of the trip rating (35% of In for single phase load), in absence of any other supply. In any case the external power supply is strongly recommended for the correct working of measurement, as well as RS485 communication.
To ensure the same performance when the load is less than 12% of the maximum power (20% of In for single phase load) to grant complete functions, one of the following optional power supplies can be used:
- external Auxiliary power supplier (4 210 83) or, alternatively, Modbus (Cat.No 4 210 75) /EMS (Cat.No 4 238 90 + 4 149 45) communication interface.

Device	Maximum power consumption [mA]
Interface EMS/DPX ³	50
ELE, ELE + RCD	125
ELE + PMD, ELE + PMD + RCD	150

ELE : Electronic trip unit
RCD : Residual Current Device
PMD : Power Metering Device

- power supply temporarily connected to frontal USB socket, connected to a 5V DC power bank, Dongle BLE or PC.

4. INSTALLATION RULES

According to IEC/EN 60947-1

Temperature derating

Rated current and his adjustment has to be considered relating to a rise or fall of ambient temperature and to a different version or installation conditions. The table below indicates the maximum long-time (LT) protection setting depending on the ambient temperature.

Temperature Ta (°C)			
In (A)	Up to 50	60	70
250	250	250	250
320	320	320	320
400	400	360	340
500	500	500	500
630	630	567	536

For derating temperature with other configurations, see table below.

Derating temperature and configurations

Ambient temperature	30°C		40°C		50°C		60°C		70°C	
	I _{max} (A)	I _r / I _n	I _{max} (A)	I _r / I _n	I _{max} (A)	I _r / I _n	I _{max} (A)	I _r / I _n	I _{max} (A)	I _r / I _n
DPX³ 630 fixed										
Cage terminals, flexible cable	630	1	630	1	630	1	567	0.90	567	0.90
Lugs, flexible cable	630	1	630	1	630	1	567	0.90	536	0.85
Lugs, rigid cable	630	1	630	1	630	1	599	0.95	567	0.90
Spreaders, flexible cable	630	1	630	1	630	1	536	0.85	504	0.80
Rear flat staggered terminals, flexible cable	630	1	630	1	630	1	567	0.90	536	0.85
DPX³ 630 fixed + RCD										
Cage terminals, flexible cable + RCD	630	1	630	1	536	0.85	504	0.90	473	0.75
Lugs, flexible cable + RCD	599	0.95	599	0.95	536	0.85	504	0.80	473	0.75
Lugs, rigid cable + RCD	630	1	599	0.95	536	0.85	504	0.80	473	0.75
Staggered spreaders, flexible cable + RCD	630	1	630	1	536	0.85	504	0.80	473	0.75
Rear flat staggered terminals, flexible cable + RCD	630	1	630	1	536	0.85	504	0.80	473	0.75
DPX³ 630 draw-out										
Cage terminals, flexible cable	599	0.95	567	0.90	536	0.85	504	0.80	441	0.70
Cage terminals, rigid cable	599	0.95	567	0.90	536	0.85	504	0.80	441	0.70
Rear flat terminals, flexible cable	599	0.95	567	0.90	536	0.85	504	0.80	441	0.70
Rear flat terminals, rigid cable	599	0.95	567	0.90	536	0.85	504	0.80	441	0.70
Rear flat terminals, Cu bars, vertical	599	0.95	567	0.90	536	0.85	504	0.80	441	0.70
DPX³ 630 draw-out + RCD										
Cage terminals, flexible cable + RCD	504	0.80	441	0.70	410	0.65	378	0.60	347	0.50
Cage terminals, rigid cable + RCD	504	0.80	441	0.70	410	0.65	378	0.60	347	0.50
Rear flat terminals, flexible cable + RCD	504	0.80	441	0.70	410	0.65	378	0.60	347	0.50
Rear flat terminals, rigid cable	504	0.80	441	0.70	410	0.65	378	0.60	347	0.50
Rear flat terminals, Cu bars, vertical + RCD	504	0.80	441	0.70	410	0.65	378	0.60	347	0.50

For further technical information, please contact Legrand technical support.

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

Electromagnetic disturbances (EMC): for DPX³ 630 circuit breakers, according to IEC/EN 60947-2 Annex F

Pollution degree: degree 3 for DPX³ 630 circuit breakers, according to IEC/EN 60947-2.

Altitude

Altitude derating for DPX³ and DPX³-I

Altitude (m)	2000	3000	4000	5000
U _e (V)	690	590	520	460
I _n (A) (Ta = 40°C/50°C)	1 x I _n	0.98 x I _n	0.93 x I _n	0.9 x I _n

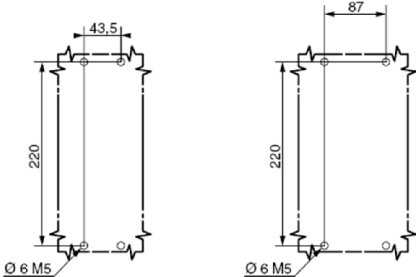
5. DIMENSIONS AND WEIGHT

■ 5.1 Dimensions

3P (W x H x D): 140 x 260 x 105

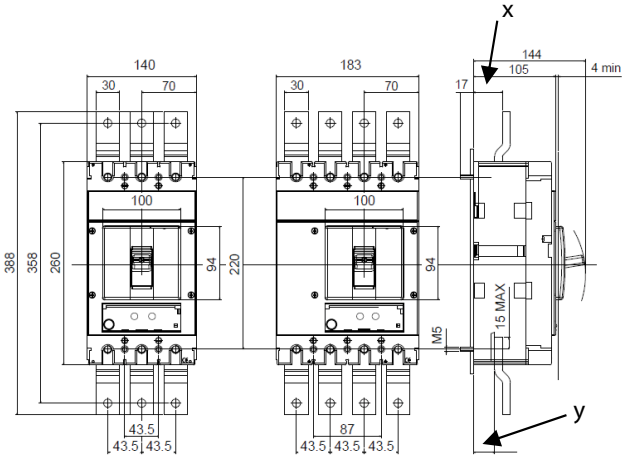
4P (W x H x D): 183 x 260 x 105

Implantation



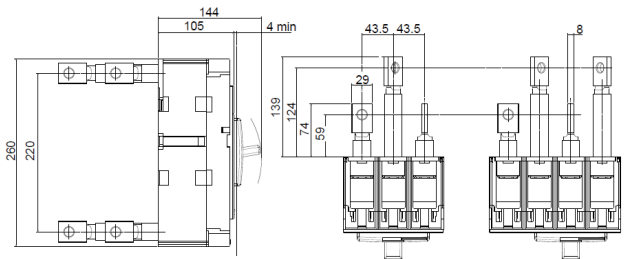
Fixed version

- with front terminals



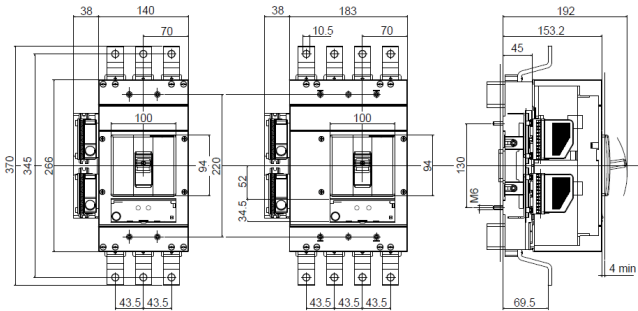
	In<400	In≥500A
x	37	39
y	27	29

- with flat rear terminal

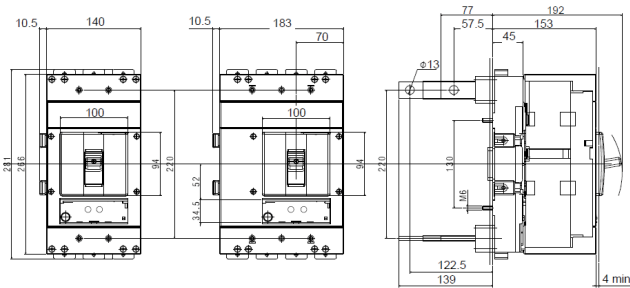


Plug-in version

- with cage terminals

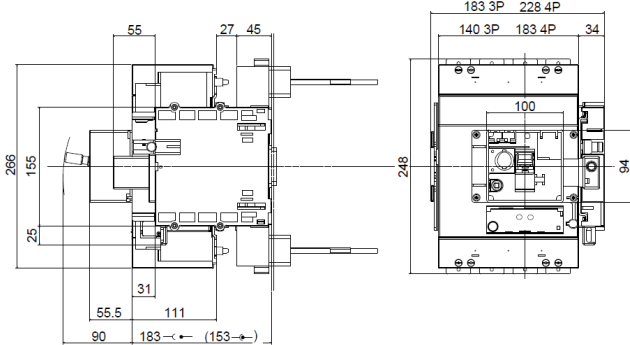


- without front terminals

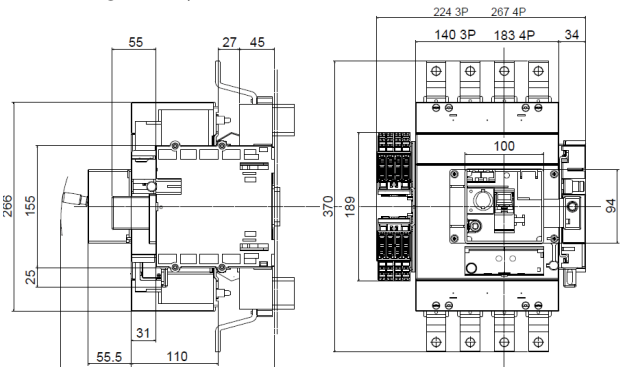


Draw-out version

- flat rear terminals

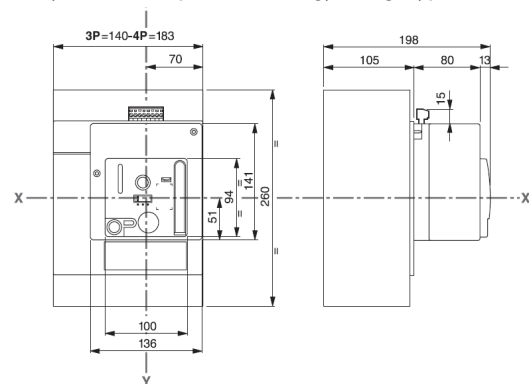


- with sliding auxiliary contacts



Motor operator

- for synchronized operations (energy storage type)

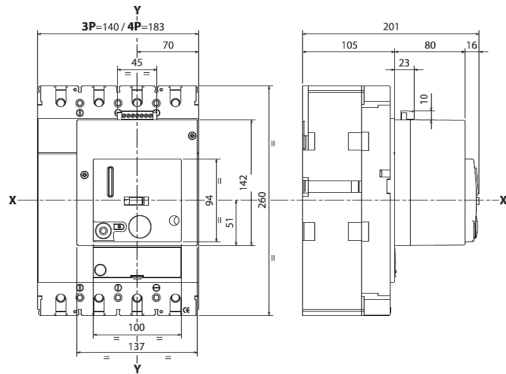


5. DIMENSIONS AND WEIGHT (continued)

■ 5.1 Dimensions (continued)

Motor operator (continued)

- for general purpose operations (direct action type)



■ 5.2 Weights

In	3P		4P	
	≤ 400A	≥ 500A	≤ 400A	≥ 500A
Circuit breaker (fixed version)	5.80	6.20	7.30	7.80
Plug-in (with front terminals)*	3.35	3.35	4.29	4.29
Plug-in (with rear terminals)*	3.55	3.55	4.79	4.79
Draw-out *	2.30	2.30	5.50	5.50

* to add to fixed version

6. CONNECTIONS

To ensure the circuit breaker's connection, it is possible to use:

- busbars;
- lugs;
- spreaders;
- cage terminals;

For detailed mounting procedures, see instruction sheet.

7. EQUIPMENTS AND ACCESSORIES

■ 7.1 Earth leakage modules

There are two types of leakage modules:

Standard

In ≤ 400A	3P	Cat.No 0 260 60
	4P	Cat.No 0 260 61

In = 500A-630A	3P	Cat.No 0 260 64
	4P	Cat.No 0 260 65

LED version

In ≤ 400A	4P	Cat.No 0 260 63
In = 500A-630A	4P	Cat.No 0 260 67

	Standard	With LED
Type	A - S	A - S
Uninterrupted nominal current I _n (A)	Up to 630	Up to 630
Rated isolated voltage U _i (V AC)	500	500
Rated operating voltage U _e (V AC) (50-60Hz)	500	500
Operating voltage (V AC) (50-60Hz)	230 to 500	110 to 500
Nominal frequency (Hz)	50 - 60	50 - 60
Operating temperature (°C)	-25 to 70	-25 to 70
Trip	Electronic	Electronic
Earth leakage time adjustments (s)	0 - 0.3 - 1 - 3	0 - 0.3 - 1 - 3
Earth leakage breaking capacity I _{dm} (% I _{cu})	60	60
Earth leakage protection adjustments I _{Δn} (A)	0.03 to 3	0.03 to 3
Side-by-side mounting	No	No
Underneath mounting	Yes	Yes
50% Earth fault detection contact I _{Δn}	No	Yes
Clip on rail DIN 35	No	No
Dimensions (W x H x D) (mm) for 4P	183 x 152 x 105	183 x 152 x 106

■ 7.2 Releases

There are 3 types of releases (suitable for DPX³ 630/1600):

Shunt releases with voltage

24V ~/-	Cat.No 4 222 39
48V ~/-	Cat.No 4 222 40
110 to 130V ~/-	Cat.No 4 222 41
220 to 250V ~/-	Cat.No 4 222 42
380 to 440V ~/-	Cat.No 4 222 43

Rated voltage (U _e)	Both ~/- : 24V / 48V / 110 to 130V / 220 to 250V / 380 to 440V
Voltage range (%U _e)	70 to 110
Intervention time (ms)	≤ 50
Power consumption (W/VA)	300
Minimum opening time (ms)	50
Insulation voltage (kV)	2,5

Undervoltage releases with voltage:

24V =	Cat.No 4 222 44
24V ~	Cat.No 4 222 45
48V =	Cat.No 4 222 46
110 to 125V ~	Cat.No 4 222 47
220 to 240V ~	Cat.No 4 222 48
380 to 415V ~	Cat.No 4 222 49

Rated voltage (U _c)	~ : 24V / 110 to 125V / 220 to 240V 380 to 415V = : 24V/48V
Voltage range (%U _c)	85 to 110
Power consumption (W/VA)	1.6 / 5
Minimum opening time (ms)	50

7. EQUIPMENTS AND ACCESSORIES (continued)

■ 7.2 Releases (continued)

Time-lag undervoltage releases (800 ms)

Time-lag modules with voltage:

230 V ~	Cat.No 0 261 90
400 V ~	Cat.No 0 261 91
Universal Release	Cat.No 4 226 23

(to be equipped with a time-lag module Cat.Nos 0 261 90/91)

■ 7.3 Auxiliary contacts

The auxiliary contacts are suited for DPX³ 630/DPX³ 1600.

Changeover switch 3A – 250V ~ Cat.No 4 210 11

To show the state of the contacts or opening of DPX³/DPX³-I on a fault:

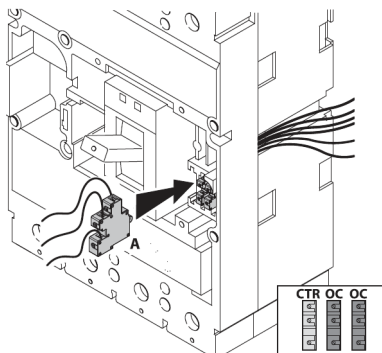
- an auxiliary contact (standard): OC

- a fault signal: CTR

Rated voltage (Vn)	Intensity (A)
24V =	5
48V =	1.7
110V =	0.5
230V =	0.25
110V ~	4
230/250 V ~	3

Configurations

DPX³ 630 → 2 auxiliary contacts + 1 fault signal + 1 release



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

■ 7.4 Universal keylocks

These keylocks must be used for all the accessories that can be locked:

- rotary handle
- motor operator
- plug-in mechanism
- draw-out mechanism

For each of these, a specific accessory (indicated in the specific section of this datasheet) must be added in order to get the complete locking kits for the specific application.

- 1 lock + 1 flat key with random mapping	Cat.No 4 238 80
- 1 lock + 1 flat key with fixed mapping (EL43525)	Cat.No 4 238 81
- 1 lock + 1 flat key with fixed mapping (EL43363)	Cat.No 4 238 82
- 1 lock + 1 star key with random mapping	Cat.No 4 238 83

■ 7.5 Rotary handles

There are many types of suited rotary handles:

Direct on DPX³ (with auxiliary option)

- Standard (black)	Cat.No 0 262 41
- For emergency use (red / yellow)	Cat.No 4 222 38

adapting on standard handle

Direct on DPX³ (no auxiliary option and door defeat function)

- Standard (black)	Cat.No 4 201 62
- For emergency use (red / yellow)	

adapting on standard handle Cat.No 4 201 65

Vary depth handle IP55 (with auxiliary option)

- Standard (black)	Cat.No 0 262 81
- For emergency use (red / yellow)	Cat.No 0 262 82

adapting on standard handle

Vary depth handle IP55 (no auxiliary option and door defeat function)

- Standard (black)	Cat.No 4 201 63
- For emergency use (red / yellow)	Cat.No 4 201 76

adapting on standard handle

They can be locked with:

Locking accessories (for vary depth handle with auxiliary option)

Key lock accessory for vary depth rotary handle Cat.No 4 228 07

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

Locking accessories (for direct handle)

Key barrel and flat key Cat.No 0 262 25

■ 7.6 Motor operators (front operated)

There are two types of motor operators:

For general purpose operations (direct action type):

- 230V ~	Cat.No 4 226 30
----------	-----------------

For synchronized operations (energy storage type):

- 24V ~/=	Cat.No 0 261 40
- 48V ~/=	Cat.No 0 261 41
- 110V ~	Cat.No 0 261 42
- 110V =	Cat.No 4 226 26
- 230V ~	Cat.No 0 261 44
- 230V =	Cat.No 0 261 48

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

7. EQUIPMENTS AND ACCESSORIES (continued)

■ **7.6 Motor operators (front operated) (continued)**
Locking accessories
- Mechanical support Cat.No 4 228 06

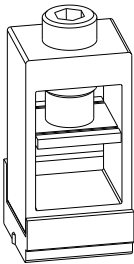
Which must be used with universal keylocks to get the complete locking kit for motor operator.

■ **7.7 Mechanical accessories**
There are many types of mechanical accessories:
- Padlock (for locking in "OPEN" position) Cat.No 0 262 40
- Insulated shields (phase insulators) Cat.No 0 262 30

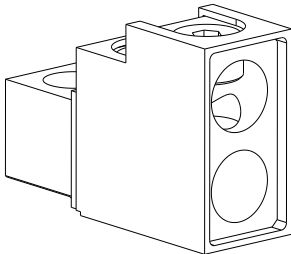
- Sealable terminal shields:
Set of 2 (for 3P) Cat.No 0 262 44
Set of 3 (for 4P) Cat.No 0 262 45

- Terminal covers to guarantee IP20:
Set of 2 (for 3P) Cat.No 0 262 34
Set of 3 (for 4P) Cat.No 0 262 35

■ **7.8 Connection accessories**
Cage terminals
- Set of 4 terminals for cables 300 mm² max (rigid) Cat.No 0 262 50
or 240 mm² max (flexible) for Cu or 185 mm max for Al.



- Set of 4 high-capacity terminals for cables 2 x 240mm² max (rigid) or 2 x 185mm² max (flexible) Cu/Al Cat.No 0 262 51



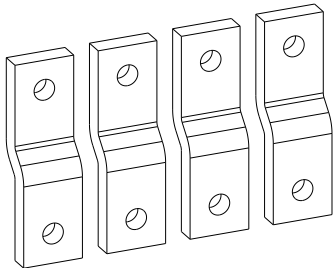
Type of cage terminal	Cable standard suggested cross section (mm ²)*		
	In(A)	Cu	Al
Standard Cat.No 0 262 50	250	120	185
	320	185	-
	400	240	-
	500	-	-
	630	-	-
High capacity Cat.No 0 262 51	250	120	185
	320	185	2x120
	400	240	2x150
	500	2x150	2x240
	630	2x185	-

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

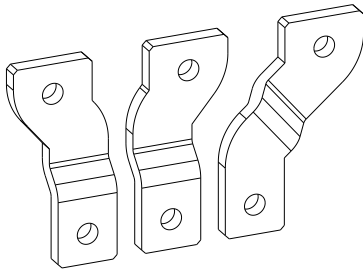
Type of cage terminal	Dimensions limits of cable for cage terminals	
	Min / Max cross section (mm ²)	
	Flexible	Rigid
Standard Cat.No 0 262 50	6mm ² / 240mm ²	4mm ² / 300mm ²
High capacity Cat.No 0 262 51	70mm ² / 185mm ²	35mm ² / 240mm ²

Note : when the cross-section exceeds the maximum value specified for the material in the table, the allowable current is limited to the indicated value.

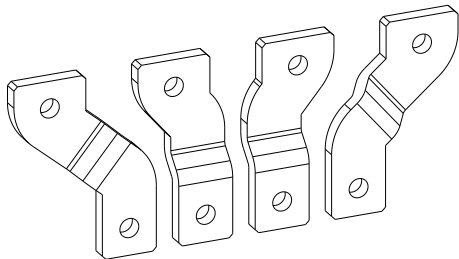
Extended front terminals
- Set of 4 Cat.No 0 262 47



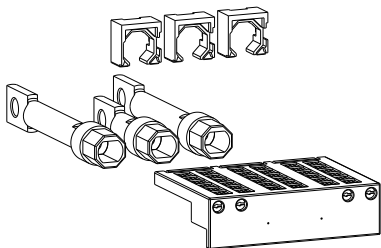
Spreaders (incoming or outgoing):
- Set of 2 (for 3P) Cat.No 0 262 48



- Set of 3 (for 4P) Cat.No 0 262 49



Rear terminals (incoming or outgoing):
They are used to convert the fixed version with front terminals into the fixed version with rear terminals:
- for 3P Cat.No 0 263 52

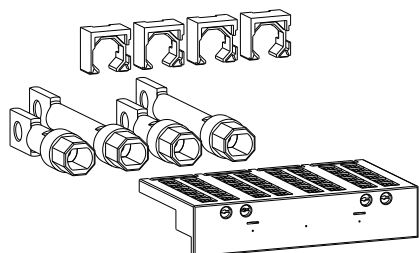


7. EQUIPMENTS AND ACCESSORIES (continued)

■ 7.8 Connection accessories (continued)

- for 4P

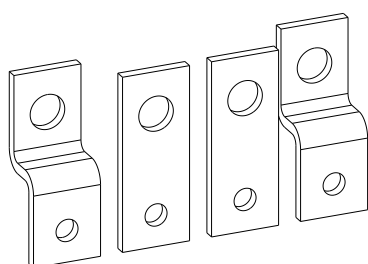
Cat.No 0 263 53



Adaptor for lug

They are used for connecting bare cables with lugs.
Set of 4 adaptors + insulated shields

Cat.No 0 262 46



■ 7.9 Plug-in version

A plug-in is a DPX³ fitted with special terminals and mounted on a plug-in base.

Special terminals for plug-in / draw-out base

They are suited for incoming and outgoing terminals.

- Set of 6 terminals (3P)

Cat.No 4 222 20

- Set of 8 terminals (4P)

Cat.No 4 222 21

Bases

Bases accept DPX³/DPX³-I fitted with special terminals.

- Front terminal mounting base for 3P

Cat.No 4 222 22

- Front terminal mounting base for 4P

Cat.No 4 222 23

- Flat rear terminal mounting base for 3P

Cat.No 4 222 24

- Flat rear terminal mounting base for 4P

Cat.No 4 222 25

Bases for breakers with mounted earth leakage module

- Front terminal mounting base for 4P

Cat.No 4 222 26

- Flat rear terminal mounting base for 4P

Cat.No 4 222 27

Accessories

- Set of 2 extractor handle

Cat.No 4 222 28

- Set of connectors (24-pin)

Cat.No 4 222 29

■ 7.10 Draw-out version

A DPX³ draw-out version is a plug-in DPX³ fitted with a "Debro-lift" mechanism which can be used to withdraw the DPX³ while keeping it on its base.

"Debro-lift" mechanism

Supplied with a rigid slide and handle for drawing-out:

- for base only (3P)

Cat.No 4 222 31

- for base only (4P)

Cat.No 4 222 32

- for base with earth leakage module (4P)

Cat.No 4 222 33

Mechanical support

- For locking motor-driven DPX³
or DPX³ equipped with rotary handle

Cat.No 4 228 08

- For locking DPX³ only

Cat.No 4 228 10

Cat.Nos 4 228 08 and 4 228 10 must be used with universal keylocks to get the complete locking kit for draw-out version

Accessories for "Debro-lift" mechanism

- Signalling contact (plugged-in / draw-out)

Cat.No 0 265 74

- Handle for drawing - out

Cat.No 0 265 75

Auxiliary contacts

Automatic auxiliary contacts for draw-out version
(up to 2 contacts per DPX³)

Cat.No 4 222 30

Plate for transfer switches (factory assembled)

A transfer switch plate is composed of one plate with interlock for 2 devices.

- Plate for breaker or trip-free switch fixed version

Cat.No 0 264 09

- Plate for breaker or trip-free switch plug-in and
draw-out version.

Cat.No 0 264 04

■ 7.11 Specific accessories for electronic version

Auxiliary power supply

For supplying electronic units

Cat.No 4 210 83

Is used to supply DPX³ electronic circuit breakers S10 with or without earth leakage module and with or without energy metering central unit.

It is mandatory in case of electronic breakers with integrated measure and not interconnected in a supervision system (MODBUS network not requested) to correctly manage the measure functions.

Technical characteristics:

Input voltage: 24V ~/ $\pm$ (+/- 10%)

Dimension: 2 DIN modules

Output: up to 250mA (to supply many circuit breakers according to the following table)

Cat.No 4 210 83 Iout MAX = 250 mA	Electronic/Electronic + RCD (S10)	70 mA
	Electronic/Electronic + RCD with power metering (S10)	83 mA

According to single absorptions, it can be possible to connect more than one breaker.

MODBUS communication

MODBUS communication works with:

MODBUS interface

Cat.No 4 210 75

It is used for sharing on MODBUS network all information managed by DPX³ electronic circuit breakers S10 with or without earth leakage module and with or without energy metering central unit.

Technical characteristics:

- USB local laptop connection

- Input voltage: 24V ~/ $\pm$ (+/- 10%)

- Dimension: 2 DIN module

- MODBUS address configuration / transmission mode /
transmission speed by physic configurators

- Output relay (220V – 0,2A): to signal tripped position

- Consumption: 90mA

It is possible to connect only one breaker to the interface.

In case of use of MODBUS interface Cat.No 4 210 75, the external power supply module Cat.No 4 210 83 is not necessary because the external power is already provided by the MODBUS module.

Electronic interface - EMS CX³

DPX³ electronic interface EMS CX³

Cat.No 4 238 90

It is used for connecting electronic DPX³ S10 to an EMS communication network. All the information managed by the circuit breaker's electronic card will be shared on the EMS network.

Dimension: 1 module

Power supply: with EMS CX³ power supply module Cat.No 4 149 45.

The address can be modified and set locally by DIP switches or remotely with the EMS configurator software.

7. EQUIPMENTS AND ACCESSORIES (continued)

■ 7.11 Specific accessories for electronic version (continued)

Bluetooth communication key

Cat.No 0 283 10

USB key for BLE communication with electronic DPX³ 630 S10 allows to configure, monitor and manage the circuit breaker remotely through an App.

Connection port USB on front of the circuit breaker. EnerUp + Project App for smartphone and tablet is available on Apple Store and Google Play.

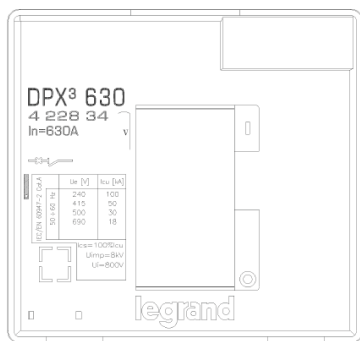
Configuration, monitoring and management software (PCS) is available for download via the e-catalog and does not require the use of Bluetooth communication key Cat.No 0 283 10.

8. MARKING

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

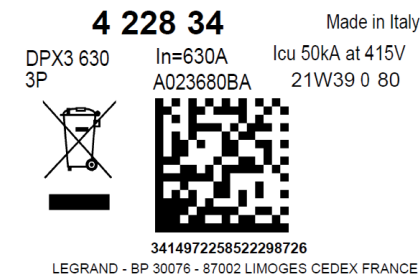
Product laser label on front

- Manufacturer
- Denomination, type product, code
- Standard conformity
- Standard characteristics declared
- Coloured identification of Icu at 415V



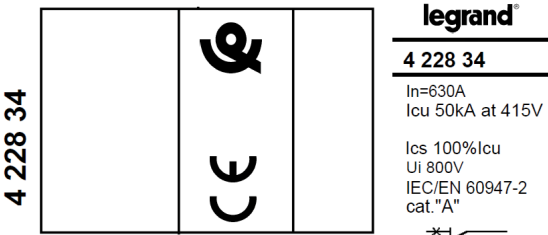
Product sticker label on side

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



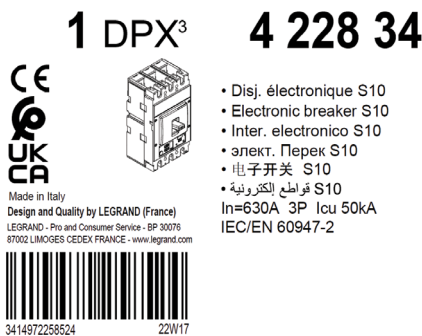
Mark sticker label on side

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



Packaging sticker label

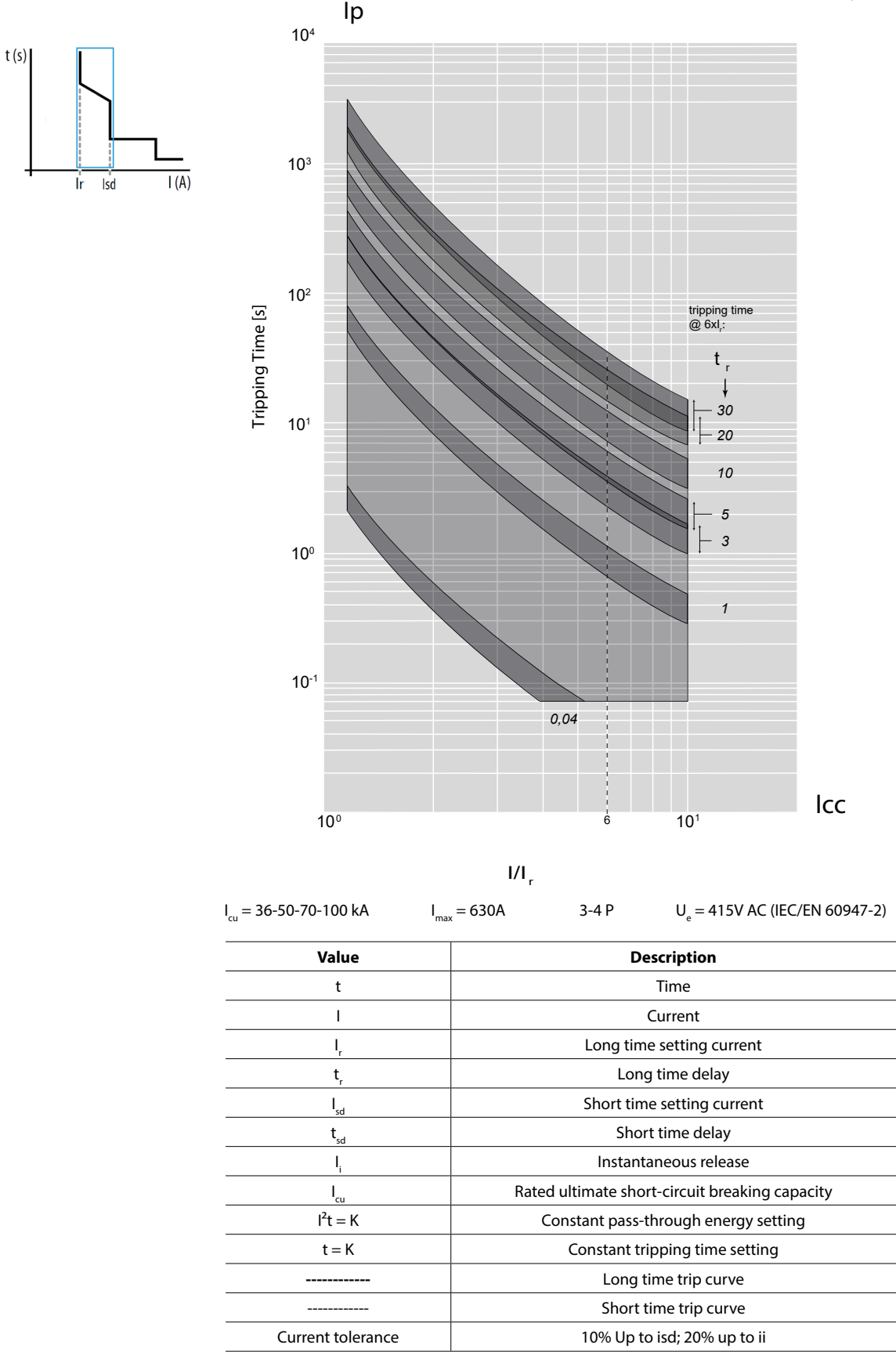
- Manufacturer
- Denomination and type product
- Standard conformity
- Mark/Licence (if any)
- Directive requirements
- Bar code identification product



9. CURVES

■ 9.1 Tripping curve (1/3)

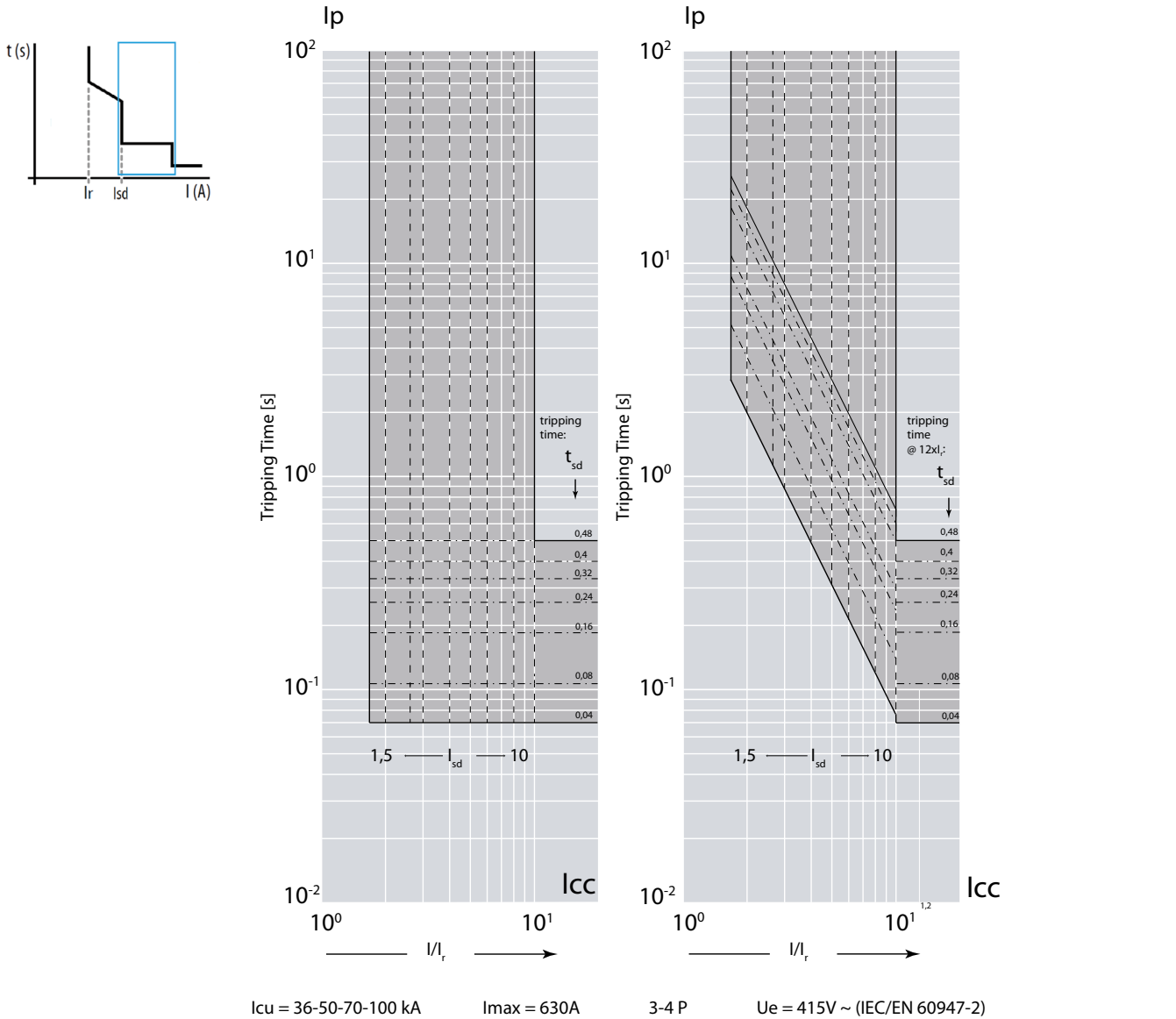
Update: 16/11/2022



9. CURVES (continued)

■ 9.2 Tripping curve (2/3)

Update: 17/11/2022

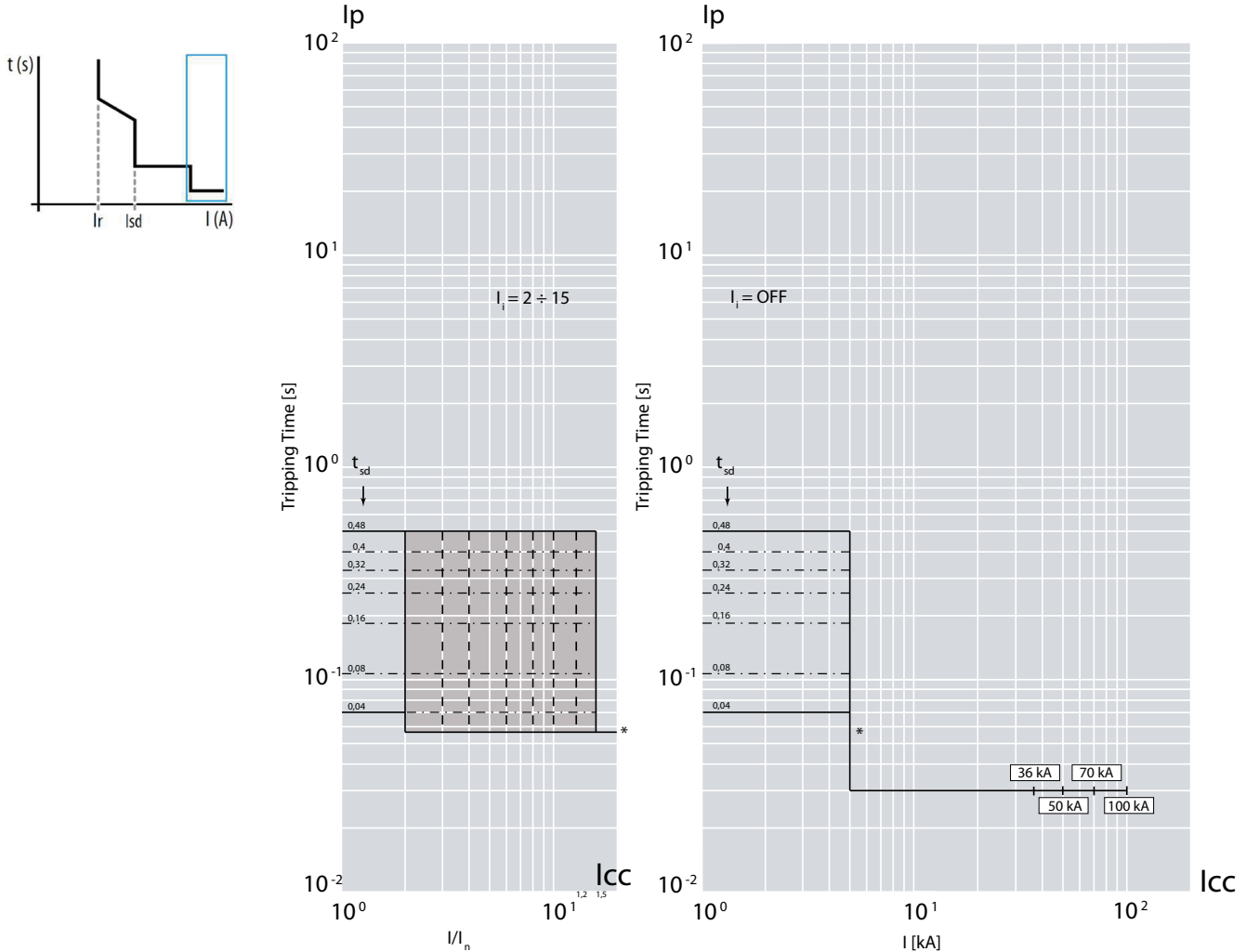


Value	Description
t	Time
I	Current
I _r	Long time setting current
t _r	Long time delay
I _{sd}	Short time setting current
t _{sd}	Short time delay
I _i	Instantaneous release
I _{cu}	Rated ultimate short-circuit breaking capacity
I ² t = K	Constant pass-through energy setting
t = K	Constant tripping time setting
-----	Long time trip curve
-----	Short time trip curve
Current tolerance	10% Up to I _{sd} ; 20% up to I _i

9. CURVES (continued)

■ 9.3 Tripping curve (3/3)

Update: 17/11/2022



Icu = 36-50-70-100 kA I_{max} = 630A 3-4 P Ue = 415V ~ (IEC/EN 60947-2)

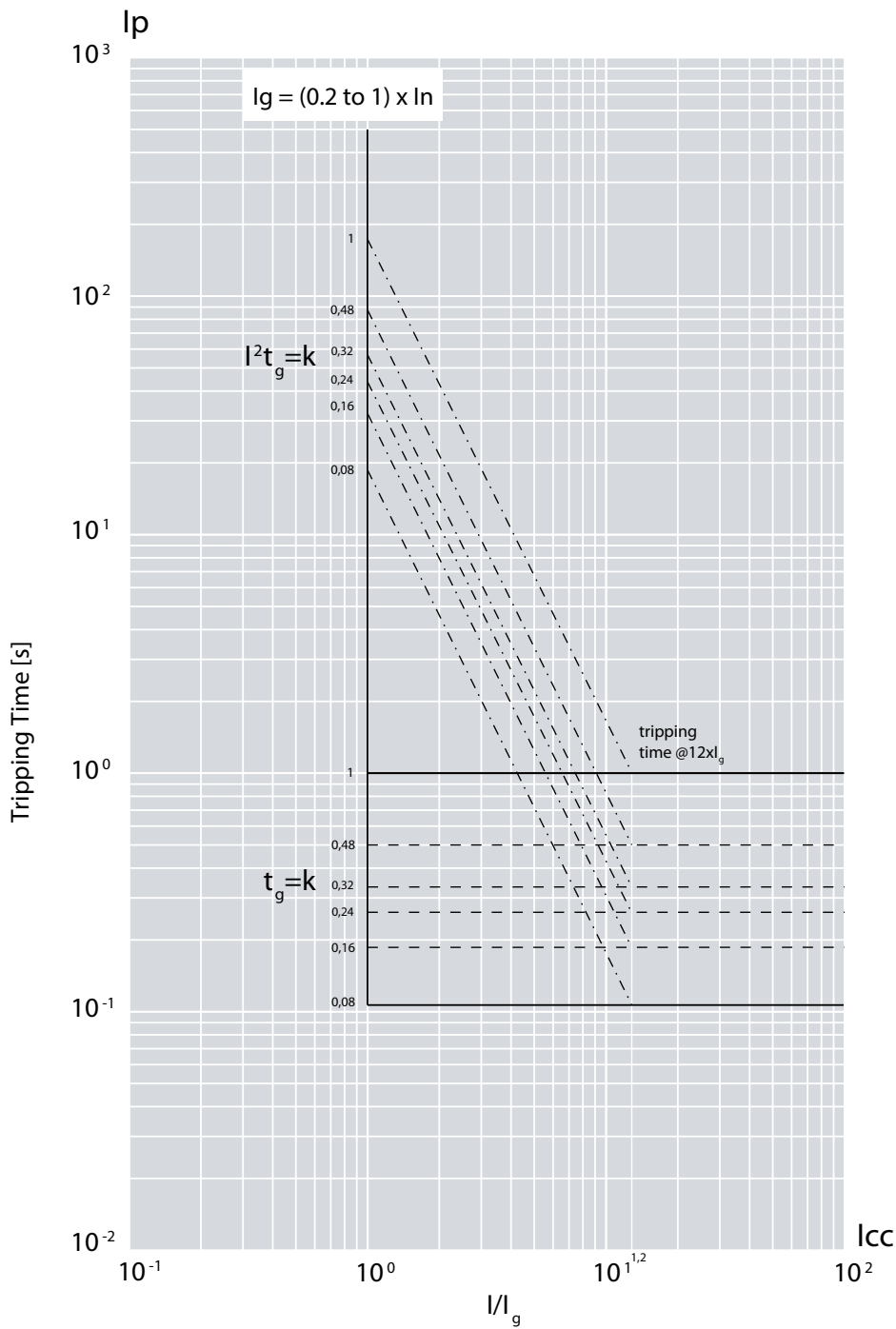
Fixed Instantaneous override I_{sf} = 5kA

Value	Description
t	Time
I	Current
I _r	Long time setting current
tr	Long time delay
I _{sd}	Short time setting current
tsd	Short time delay
I _i	Instantaneous release
Icu	Rated ultimate short-circuit breaking capacity
I ² t = K	Constant pass-through energy setting
t = K	Constant tripping time setting
-----	Long time trip curve
-----	Short time trip curve
Current tolerance	10% Up to Isd; 20% up to Ii

9. CURVES (continued)

■ 9.4 Ground fault curve

Update: 16/11/2022



Icu = 36-50-70-100 kA

I_{max} = 630A

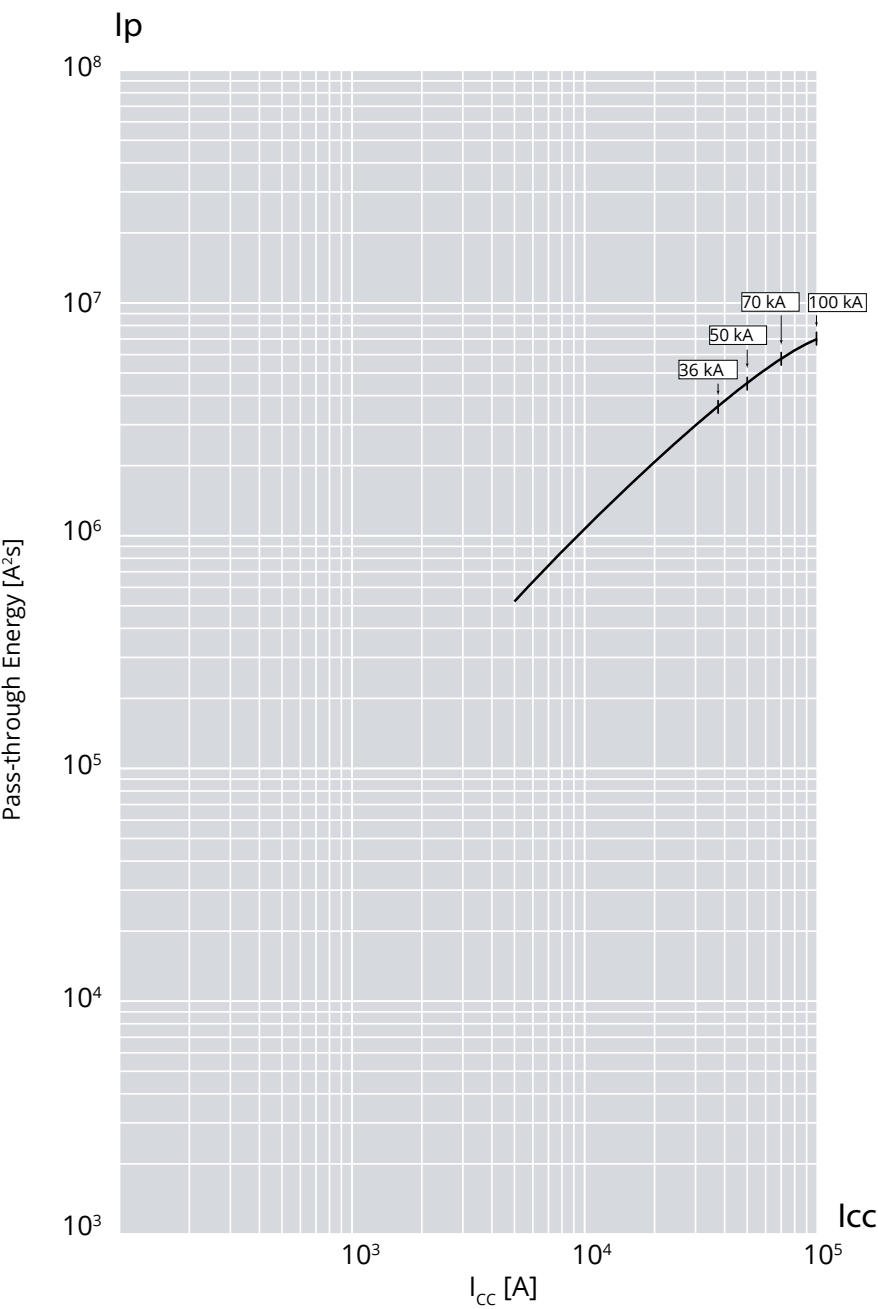
3-4P

Ue = 415V ~ (IEC/EN 60947-2)

9. CURVES (continued)

■ 9.5 Pass-through specific energy characteristic curve

Update: 03/07/2018



Icu = 36-50-70-100 kA

I_{max} = 630A

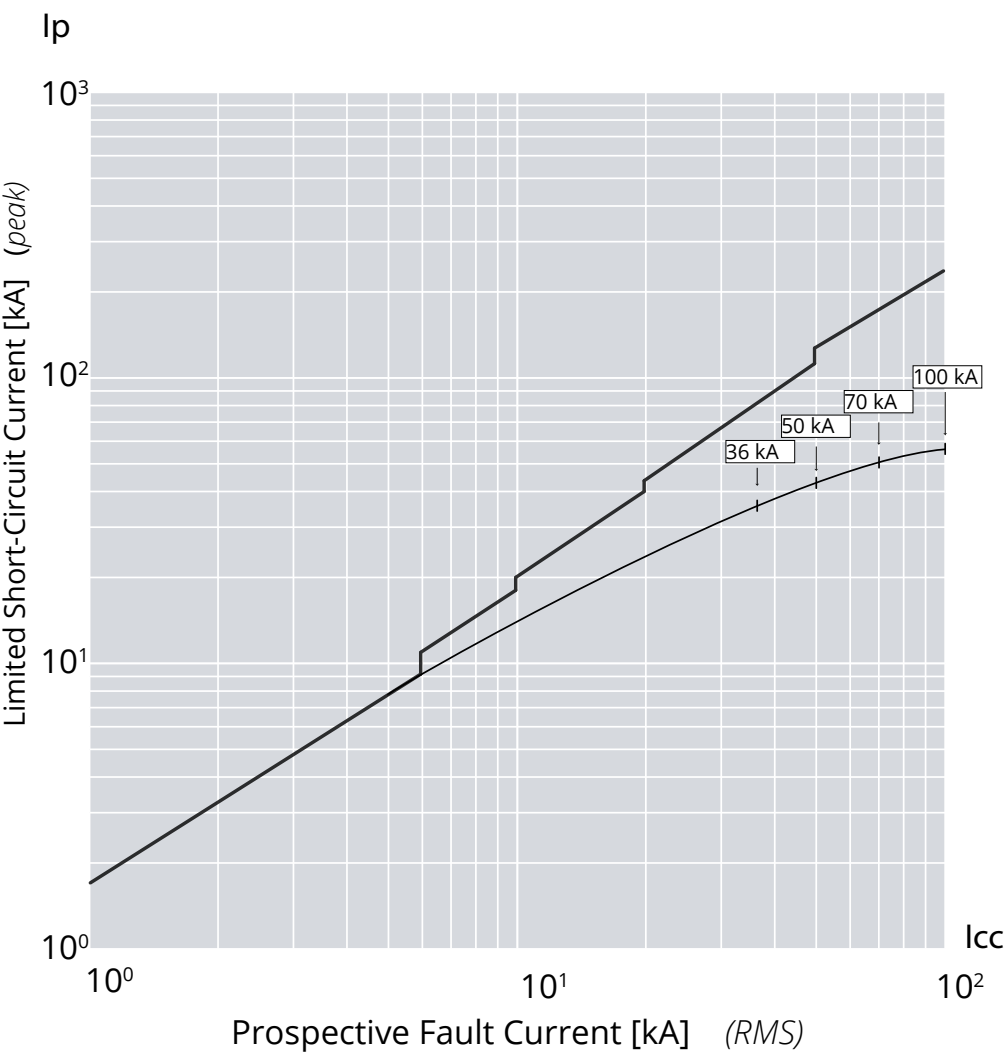
3-4P

Ue = 415V ~ (IEC/EN 60947-2)

Value	Description
I _{cc}	Short circuit current
I ² t (A ² s)	Pass-through specific energy

9. CURVES (continued)

■ 9.6 Cut-off peak current characteristic curve (kA)Update: 02/07/2018



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

Value	Description
Icc	Estimated short circuit symmetrical current (RMS value)
IP	Maximum short circuit peak current

10. STANDARDS AND REGULATIONS

DPX³ range of product concerning circuit-breakers exceed compliance with:

- IEC/EN standard 60947-2.
 - Certification available by IECEE CB-scheme or LOVAG Compliance scheme.
 - Marks as CCC (China), EAC (Eurasian Federation) or different local certification are available.
- DPX³ are in conformity with the Lloyds Shipping Register, RINA and Bureau Veritas Marine.

The range respects the European Directives:

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

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

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

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

Batteries: The batteries included in this product comply with the requirements set out in European Regulation 2023/1542, according to the application timing indicated therein.

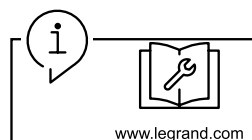
For specific information, please contact Legrand support.

11. OTHER INFORMATION

XLPro³ Calcul: Calculation notes creation software, addressed to installers, design office and maintenance operators. Definition of the electrical characteristics of a low voltage installation in compliance with the applicable standards

XLPro³ Tool Selectivity and backup/ Legrand Selectivity and backup: Software dedicated to installers, panelbuilders and design offices. Definition of the selectivity and backup values of an association of electrical devices and obtention of the tripping curves of the selected products.

XLPro³ Panels: Distribution panel design software, addressed to panelbuilders and electrical panel designers. Design of the electrical distribution of the panel, production of electrical diagrams, establishment of products and overall costing of the project.



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

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

PEP: available on e-catalog.

For further technical information, please contact Legrand technical support.

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

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