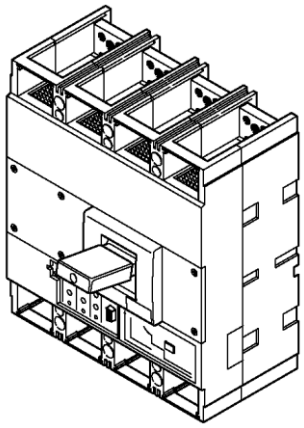
87045 LIMOGES Cedex
Phone :+33 05 55 06 87 87 – Fax :+33 05 55 06 88 88

DPX 1600

Electronic release

Reference(s) : **257 01/ 02/ 03/ 04/ 05/ 06/ 07/ 08/ 09/ 10/ 11/ 12/ 13/ 14/ 15/ 16/ 25/ 26/ 27/ 28/ 29/ 30/ 31/ 32/ 33/ 34/ 35/ 36/ 37/ 38/ 39/ 40/ 50/ 51/ 52/ 53/ 54/ 55/ 56/ 57/ 58/ 59/ 60/ 61/ 62/ 63/ 64/ 65**



CONTENTS

1. USE

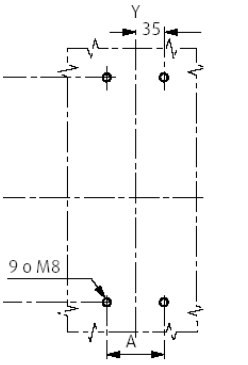
DPX "moulded case" offers optimal solutions to answer protection requirements of tertiary and industrial installations.

2. RANGE

		3P		4P	
Current	Version	50	70	50	70
630	S1	257 01	257 09	257 05	257 13
	S2	257 25	257 33	257 29	257 37
	Sg	257 50	257 58	257 54	257 62
800	S1	257 02	257 10	257 06	257 14
	S2	257 26	257 34	257 30	257 38
	Sg	257 51	257 59	257 55	257 63
1250	S1	257 03	257 11	257 07	257 15
	S2	257 27	257 35	257 31	257 39
	Sg	257 52	257 60	257 56	257 64
1600	S1	257 04	257 12	257 08	257 16
	S2	257 28	257 36	257 32	257 40
	Sg	257 53	257 61	257 57	257 65

3. DIMENSIONS

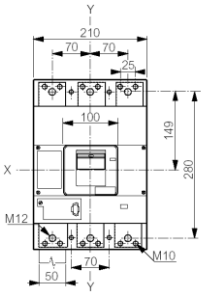
Implantation

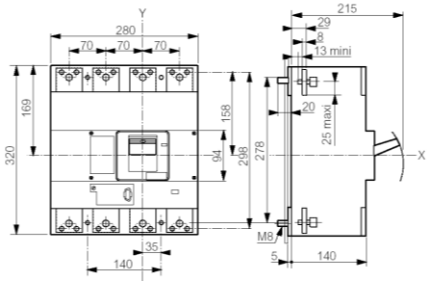


	A
3P	70
4P	140

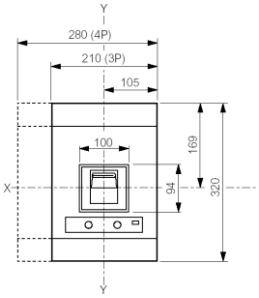
3. DIMENSIONS (NEXT)

Version fixe prises avant





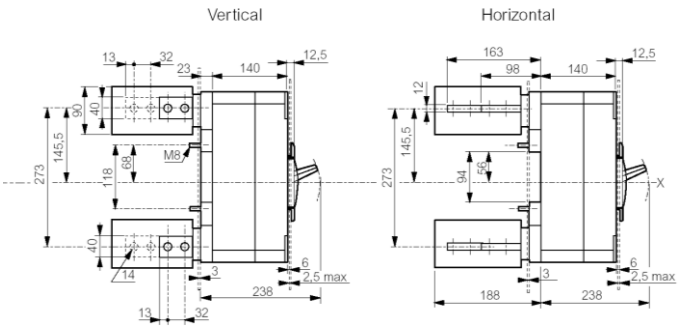
Version fixe prises arrière



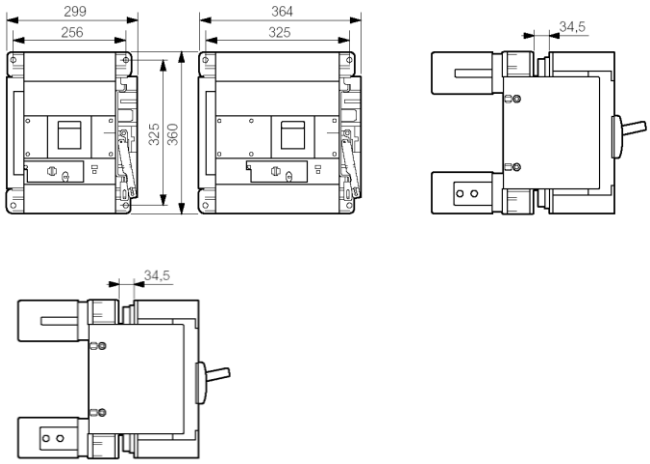
DPX 1600
Electronic release

Reference(s) : **257** **01/ 02/ 03/ 04/ 05/ 06/ 07/ 08/ 09/ 10/ 11/ 12/ 13/ 14/ 15/ 16/ 25/ 26/ 27/ 28/ 29/ 30/ 31/ 32/ 33/ 34/ 35/ 36/ 37/ 38/ 39/ 40/ 50/ 51/ 52/ 53/ 54/ 55/ 56/ 57/ 58/ 59/ 60/ 61/ 62/ 63/ 64/ 65**

3. DIMENSIONS (NEXT)



Version débrochable prises arrière



4. OVERVIEW

4.1 Supplied

Connection plates for bars :

- Width 50 mm max

Seals for adjustment (supplied)

4.2 Mounting possibility

On plate :

- Vertical
- Horizontal
- Supply invertor type

5. CONNECTION

See table B page 9.

6. ELECTRICAL AND MECHANICAL CHARACTERISTICS

DPX1600

Circuit breaker	**DPX 1600 /H/L**
Uninterrupted nominal current Iu (A)	1600
Short time admissible current Icw (kA) for 0,05 to 0,3s)	10 (DPX 1600 630-800A elec) - 15 (DPX 1600 1250A elec) - 20 (DPX 1600 1600A elec)
Isolated voltage Ui (Va.c.)	690
Maximum rated operating voltage Ue (Va.c)	690
Rated impulse withstand voltage Uimp (kV)	8
Nominal frequency (Hz)	50-60
Operating temperature (°C)	-25÷70
Endurance electrical / mechanical	3.000/10.000 (2000 for DPX1600 1600A elec)
Category of use	B
Type of trip	electronic
Electronic trip S1	yes
Electronic trip S2	yes
Electronic trip Sg	yes
Thermal adjustment (Ir)	(0.4, 0.5, 0.6, 0.7, 0.8, 0.9, 0.95, 1) x In
Magnetic adjustment (Im)	(1.5, 2, 3, 4, 5, 6, 8, 10) x Ir
Neutral adjustment	(0, 0.5, 1) x Ir
Dimensions (wxhxd) (mm)	210x320x140 (3P)
	280x320x140 (4P)
Weight (kg)	12,2 (3P) – 15,1 (4P) DPX630-800 18 (3P) – 23,4 (4P) DPX1250-1600

6.1 Main pieces constituting the circuit breaker

6.2 Breaking capacity (kA)

Breacking capacity Icu and Ics in AC (kA)			
	Ue		**H**
Icu (kA)	230V	80	100
	400V	**50**	**70**
	440V	45	65
	500V	35	45
	600V	25	35
	690V	20	25
Ics (%Icu)	-	100	75

Rated making capacity under short-circuit Icm (kA)			
Icm (kA)	400V	105	154

6.3 Nominal current (In) at 40 °C (A)

Assigned current trip		
	thermal	
In (A)	L1-L2-L3	N
630	630	0-315-630
800	800	0-400-800
1250	1250	0-625-1250
1600	1600	0-800-1600

6.4 Power losses per pole under In

Power losses per pole (W)				
In (A)	**630**	**800**	**1250**	**1600**
M630÷1250	13,89	22,4	46,88	76,8
Kit plug-in	11,91	19,2	46,88	76,8

6.5 Functioning in particular conditions

6.5.1 Temperature

For derating temperature with other configuration, see table A page 9.

6.5.2 Altitude

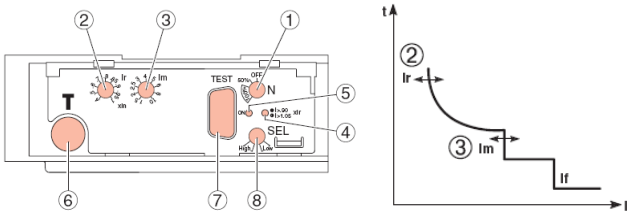
Altitude			
Altitude (mt)	**2000**	**3000**	**4000**
Ue (V)	690 V	600 V	480 V
In (A) (Ta=40°C)	In	0,96 x In	0,93 x In

6.5.3 Use in 400Hz or in D.C.

It is not possible with Electronic release.

6.6 ELECTRONIC RELEASE

6.6.1 Version S1 - Adjustment Ir, Im



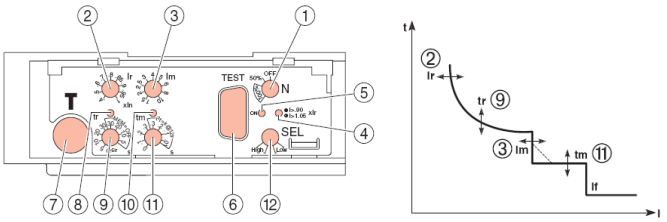
1 Adjustment neutral pole (only for 4P). **2** Adjustment long delay protection against overloads. **3** Adjustment short delay protection against short-circuits. **4** LED RED,. Fixed I≥0,9Ir ; flushing I≥1,05Ir **5** LED GREEN, normal operation minimum current for indicator lamp operation I≥0,3 In. **6** Mechanical test. **7** Connector for test unit. **8** Dynamic selectivity.
THERMIQUE AUTOPROTECTION
Intern temp, a probe advertise for anormal temp inside of the release (> 75°C). In case of temp increase, the two lamp flusjing together. **N.B.: Adjustment are protect by a transparent shield witch can be seal.**

Long delay protection against overloads with an adjustable threshold bases on the rms value of the current :
- Ir = 0,4 - 0,5 – 0,6 - 0,7 - 0,8 – 0,85 – 0,9 - 0,95 – 1 x In (9 steps)
- Tr = 5s (fixed at 6 tr)

Short delay protection against short-circuits with an adjustable Im threshold :
- Im = 1,5 - 2 – 2,5 - 3 - 4 - 5 - 6 - 8 – 10 x Ir (9 steps)
- Tm = 0,05s (fixed)

Instantaneous protection if with fixed threshold :
- 630,800A If = 10kA
- 1250A If= 15kA
- 1600A If= 20kA

6.6.2 Version S2 - Adjustment Ir, Tr, Im, Tm



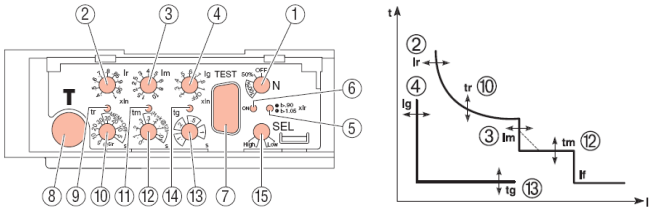
1 Adjustment neutral pole (only for 4P). **2** Adjustment long delay protection against overloads. **3** Adjustment short delay protection against short-circuits. **4** LED RED,. Fixed I≥0,9Ir ; flushing I≥1,05Ir **5** LED GREEN, normal operation minimum current for indicator lamp operation I≥0,2 In.. **6** Connector for test unit. **7** Mechanical test. **8 et 10** LED REDS, Tripping signal (Plan an alim 12V cc). **9** Adjustment time for long delay protection. **11** Adjustment time for short delay protection. **12** Dynamic selectivity. **N.B.: Adjustment are protect by a transparent shield witch can be seal.**

Long delay protection against overloads with an adjustable threshold bases on the rms value of the current :
- Ir = 0,4 - 0,5 – 0,6 - 0,7 - 0,8 – 0,85 – 0,9 - 0,95 – 1 x In (9 crans)
- Tr = 5 - 10 - 20 - 30s (à 6 Ir) (4 steps) (or 4 steps with mem. OFF)

Short delay protection against short-circuits with an adjustable Im threshold :
- Im = 1,5 - 2 – 2,5 - 3 - 4 - 5 - 6 - 8 – 10 x Ir (9 steps)
- Tm = 0,05 - 0,1 - 0,2 - 0,3s (4 steps)
- Tm = 0,05 - 0,1 - 0,2 - 0,3s à 12xIr (I2 t constant (4 steps)

Instantaneous protection if with fixed threshold : 630,800A If = 10kA, 1250A If= 15kA, 1600A If= 20kA

6.6.3 Version Sg - Adjustment Ir, Tr, Im, Tm, Ig, Tg



1 Adjustment neutral pole (only for 4P). **2** Adjustment long delay protection against overloads. **3** Adjustment short delay protection against short-circuits. **4** Adjustment for ground fault. **5** LED RED,. Fixed I≥0,9Ir ; flushing I≥1,05Ir **6** LED GREEN, normal operation minimum current for indicator lamp operation I≥0,2 In. **7** Connector for test unit. **8** Mechanical test .**9,11 et 14** LED REDS, Tripping signal (Plan an alim 12V cc). **10** Adjustment time for long delay protection. **12** Delay for ground fault. **13** Adjustment time for short delay protection. **15** Dynamic selectivity.
N.B.: Adjustment are protect by a transparent shield witch can be seal.

Long delay protection against overloads with an adjustable threshold bases on the rms value of the current :
- Ir = 0,4 - 0,5 – 0,6 - 0,7 - 0,8 – 0,85 – 0,9 - 0,95 – 1 x In (9 steps)
- Tr = 5 - 10 - 20 - 30s (à 6 Ir) (4 steps) (or 4 steps with mem. OFF)

Short delay protection against short-circuits with an adjustable Im threshold :
- Im = 1,5 - 2 – 2,5 - 3 - 4 - 5 - 6 - 8 – 10 x Ir (9 steps)
- Tm = 0,05 - 0,1 - 0,2 - 0,3s (4 steps)
- Tm = 0,05 - 0,1 - 0,2 - 0,3s à 12xIr (I2 t constant (4 steps)

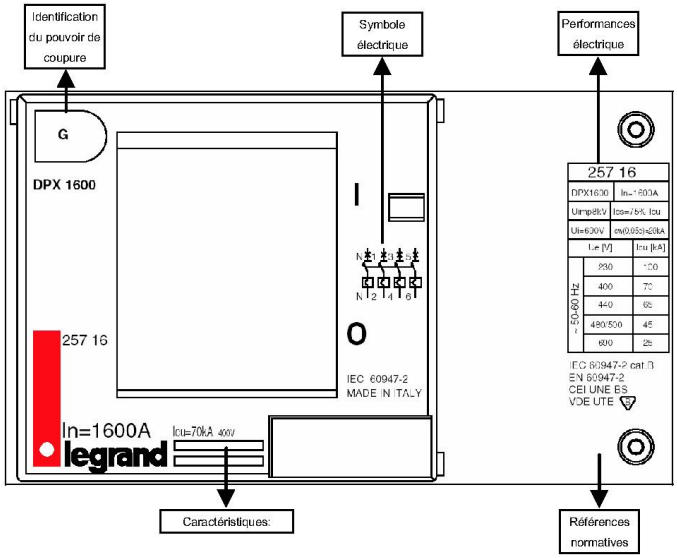
Instantaneous protection if with fixed threshold : 630,800A If = 10kA, 1250A If= 15kA, 1600A If= 20kA

Measure of ground fault :
- Ig : 0,2 - 0,3 - 0,4 - 0,5 - 0,6 - 0,7 - 0,8 -1xIn (8 steps)
- Tg : 0,1 - 0,2 - 0,5 - 1s (4 steps)

7. CONFORMITY

IEC 60 947-2 cat. B
EN 60947-2
NF C
VDE
BS
UNE
CEI
UTE

7.1 MARKING



" Tropical climate " :
- execution II (all climates) according to guide UTE C63100

8. EQUIPMENTS AND ACCESSORIES

8.1 Earth leakage modules:

Add residual current protection to DPX trip-free switches and DPX MCCBs equipped with release ;can use with coils.

- Residual current relay to clip on rail ref. 260 80
- Coils

Ø 35mm – 150 A max ref. 260 92
Ø 80mm – 400 A max ref. 260 93
Ø 110mm – 600 A max ref. 260 94
Ø 140mm – 1200 A max ref. 260 95
Ø 210mm – 1800 A max ref. 260 96
Ø 150mm open – 1200 A max ref. 260 97
Ø 300mm open – 2000 A max ref. 260 98

8.2 Releases :

- shunt releases (Power consumption= 300 VA) with voltage:

24 V a.c./d.c. ref. 261 64
48 V a.c./d.c ref. 261 65
110 V a.c./d.c ref. 261 66
230 V a.c./d.c ref. 261 67
400 V a.c./d.c ref. 261 68

- undervoltage releases (Power consumption = 5 VA) with voltage :

24 V d.c. ref. 261 80
24 V a.c. ref. 261 81
48 V d.c. ref. 261 82
110 V a.c. ref. 261 86
230 V a.c. ref. 261 83
400 V a.c. ref. 261 84

- time-lag undervoltage releases (800 ms) :

Time-lag modules with voltage :
24 V a.c./d.c ref. 261 92
230 V a.c. ref. 261 90
400 V a.c. ref. 261 91
Universal Release ref. 261 85

8.3 Auxiliary contact

Changeover switch 3 A – 240 V a.c. ref. 261 60
For signalling the state of the contacts or opening of the DPX on a fault:

Auxiliary contact (standard) **C**
Fault signal **S**

Auxiliary contact		
Nominal voltage (Vn)	(Va.c/d.c.)	24 to 250
Intensity (A)	24 Vd.c.	5
	48 Vd.c.	1,7
	110 Vd.c.	0,5
	230 Vd.c.	0,25
	110 Va.c.	4
	230/250 Va.c.	3

3 auxiliary contact + 1 fault signal (max.)

8.4 Rotary handles :

Direct on DPX
- Standard (black) ref. 262 61
- RI a Matrix ref. 262 62

Vari-deph handle IP55
- Standard (black) ref. 262 83
- For emergency use (red / yellow)

Adapting on standard handle ref. 262 84

Locking accessories
- Eurolocks for vari-deph handle ref. 262 92
- Profalux for vari-deph handle ref. 262 93
- Ronis for vari-deph handle ref. 262 94
- Eurolocks for direct handle ref. 262 25

8.5 Motor-driven handles:

Factory assembled

Front operated
- Voltage 230 V a.c. ref. 261 54

Customer assembled

Front operated
- Voltage 24 V a.c./d.c. ref. 261 24
- Voltage 48 V a.c./d.c. ref. 261 25
- Voltage 110 V a.c. ref. 261 26
- Voltage 220 V a.c. for ratting up to 1250A (In ≤ 1250A) ref. 261 23
- Voltage 230 V a.c. for 1600A (In=1600A) ref. 261 27

Locking accessories
- Ronis ref. 261 59
- Profalux ref. 261 58

8.6 Mechanical accessories :

Insulated shields
- Set of 3 ref. 262 66

Sealable terminal shields
- Set of 2 3P ref. 262 64
- Set of 2 4P ref. 262 65

Padlock
- Accessories for locking in open position ref. 262 60

8.7 Connection's accessories :

Cage terminals
- Set of 4 terminals for cables 2x240mm² max (rigid) or 2x185mm² max (flexible) (Cu/Al) ref 262 69
- Set of 4 terminals for cables 4x240mm² max (rigid) or 4x185mm² max (flexible) (Cu/Al) ref 262 70

Extended front terminals
- Short terminals for 630-1250A (2 bars max. per pole) ref 262 67
- Long terminals for 1600A (3 bars max. per pole) ref 262 68

Spreaders
- Set of 3 (incoming or outgoing 3P) ref 262 73
- Set of 4 (incoming or outgoing 4P) ref 262 74

Rear terminals
(use to connect fixed version with front terminals into fixed version with rear terminal)
- Set of swivel terminals, incoming or outgoing
  - 3P ref 263 80
  - 4P ref 263 82
- Set of flat rear terminals, incoming or outgoing
  - 3P ref 263 81
  - 4P ref 263 83

8.8 Draw-out version

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

Draw-out base

Base for DPX 1600 supplied with "Debro-lift" assembled a rigid slide and handle for drawing-out

- Front terminals
  - 3P ref 265 82
  - 4P ref 265 83
- Rear terminals
  - 3P ref 265 84
  - 4P ref 265 85

Key lock for "Debro-lift" mechanism

- One key Ronis for DPX only
  - Ronis ref 265 76
  - Profalux ref 263 48
- Two keys Ronis (one key supplied) for motorised DPX or with rotary handle
  - Ronis ref 265 80
  - Profalux ref 265 79

Accessories for « Debro-lift » mechanism

- Isolated handle for drawing-out ref 265 75
- Signalling contact (plugged-in / drawn-out) ref 265 74

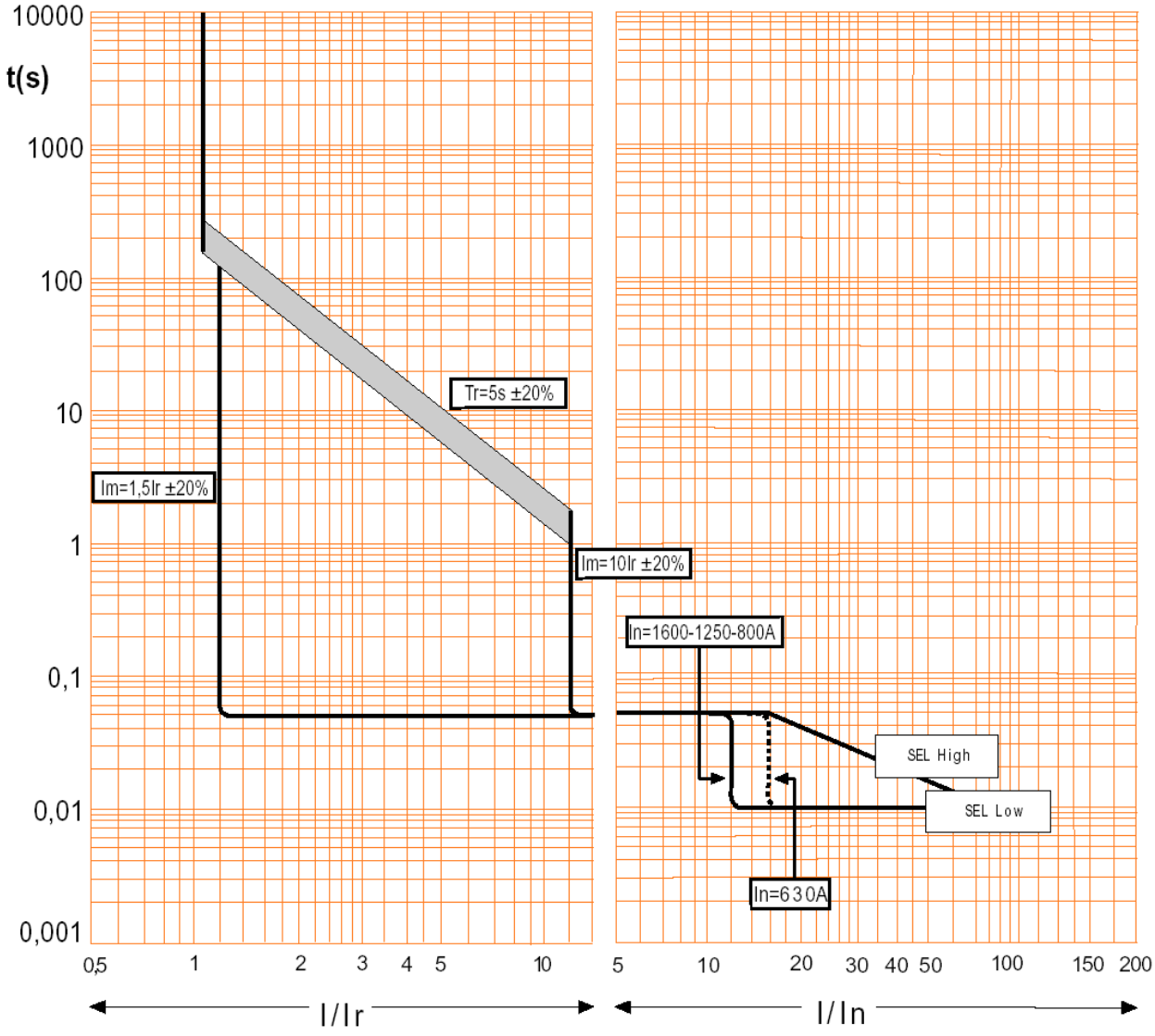
8.9 Supply

- Auxiliary supply by 421 083 (24 V ac/dc)

9. CURVES

9.1 Operating curve

DPX1600 ELE S1 - In max = 1600 A 400V a.c

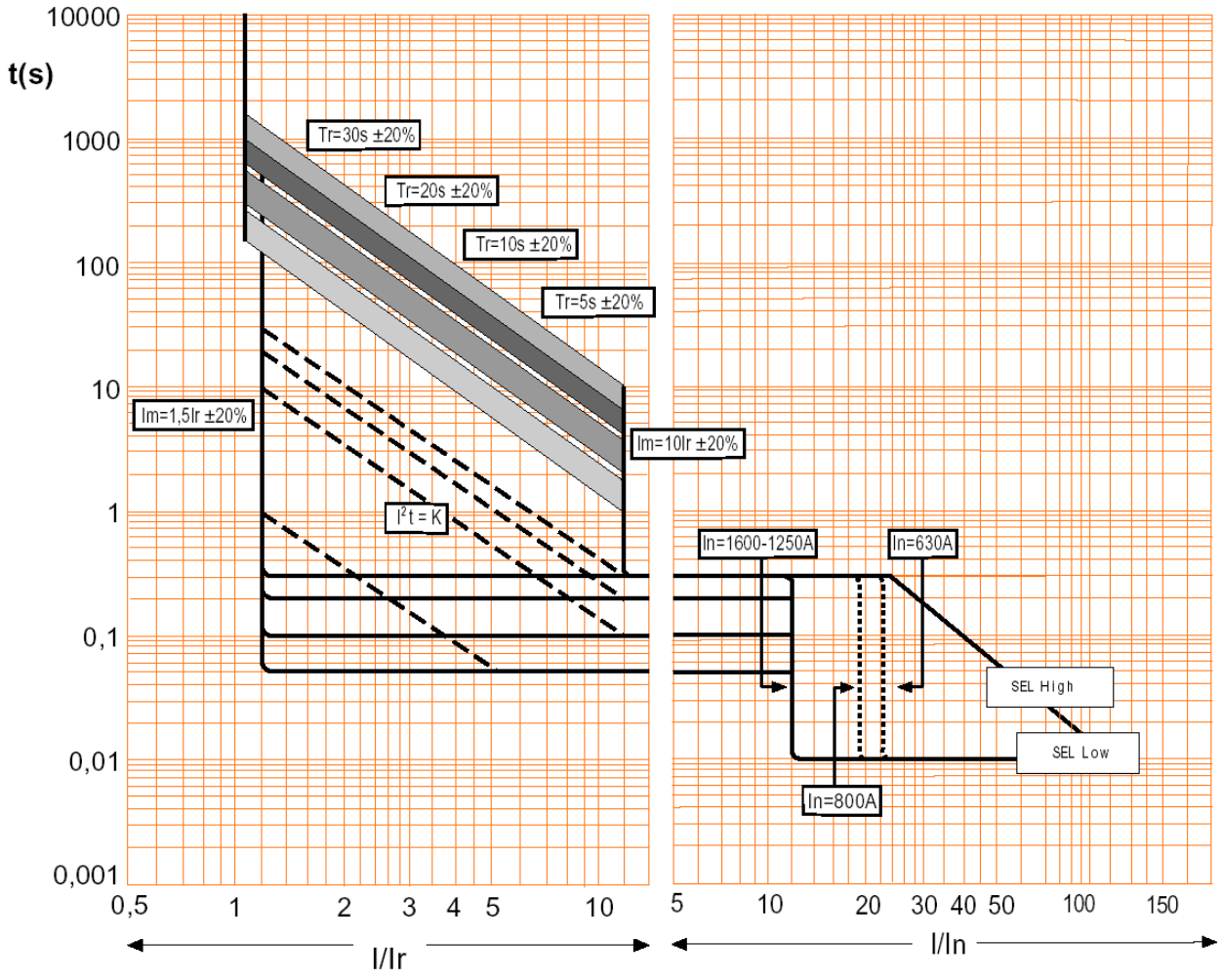


Ir = long time setting current
Tr =long time delay
Im = short time setting current
If = istantaneous intervention current

Reference(s) : **257** **01/ 02/ 03/ 04/ 05/ 06/ 07/ 08/ 09/ 10/ 11/ 12/ 13/ 14/ 15/ 16/ 25/ 26/ 27/ 28/ 29/ 30/ 31/ 32/ 33/ 34/ 35/ 36/ 37/ 38/ 39/ 40/ 50/ 51/ 52/ 53/ 54/ 55/ 56/ 57/ 58/ 59/ 60/ 61/ 62/ 63/ 64/ 65**

9.1 Operating curve (NEXT)

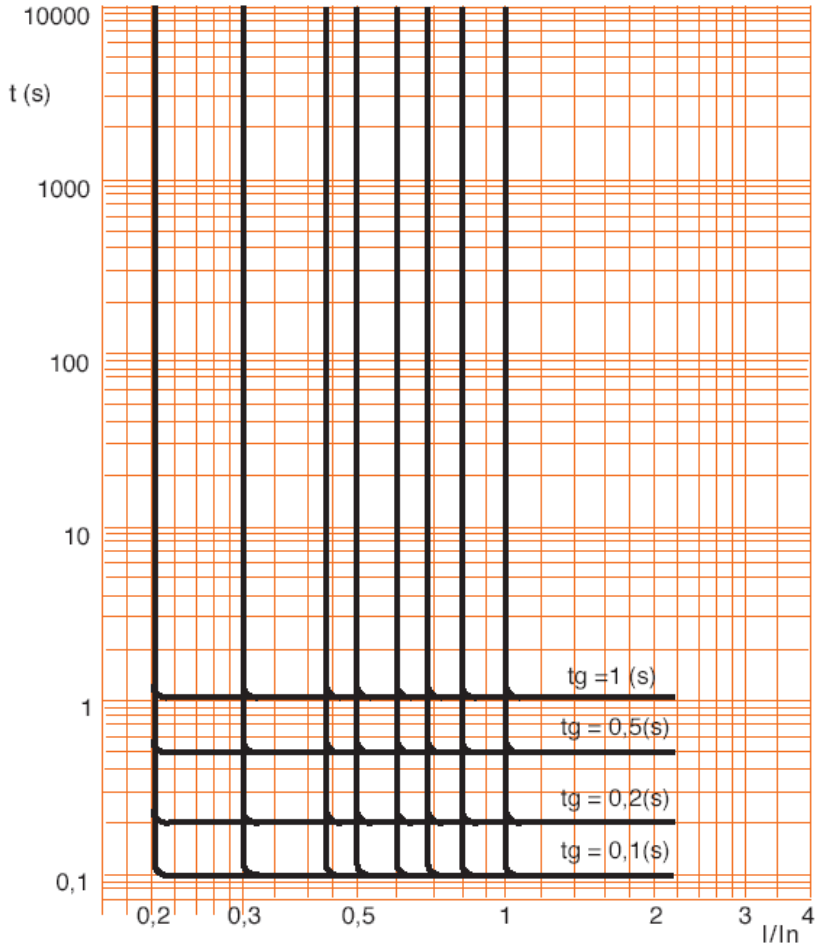
DPX1600 ELE S2 - In max = 1600 A 400V a.c



Ir = long time setting current
Tr =long time delay
Im = short time setting current
Tm = short time delay
If = istantaneous intervention current

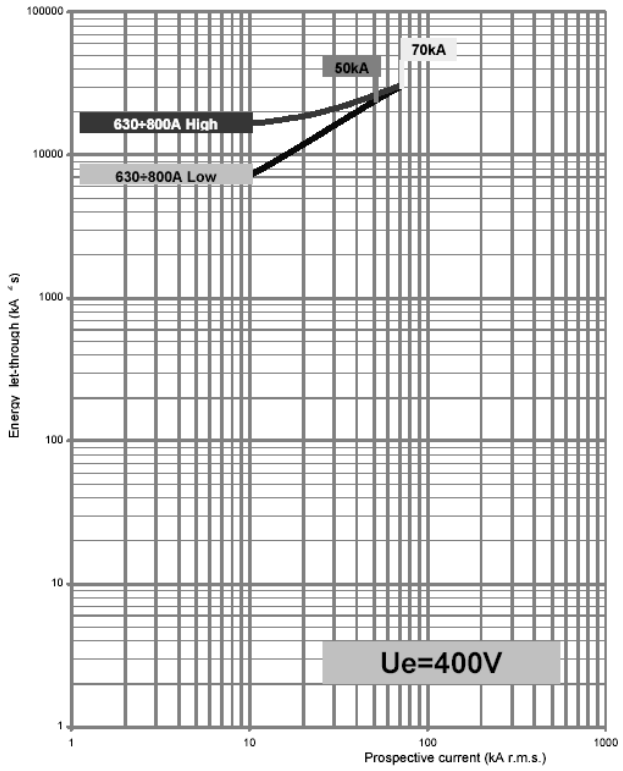
9.1 Operating curve (NEXT)

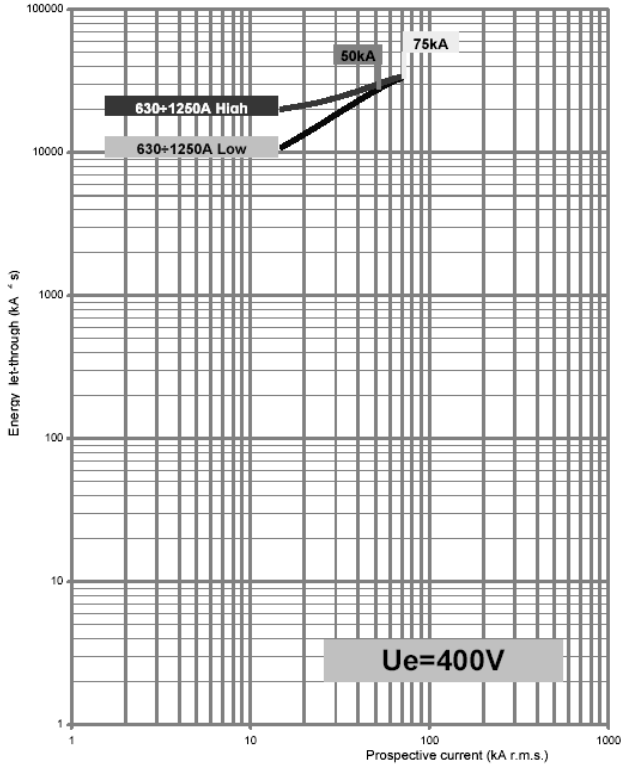
DPX1600 ELE Sg - In max = 1600 A 400V a.c

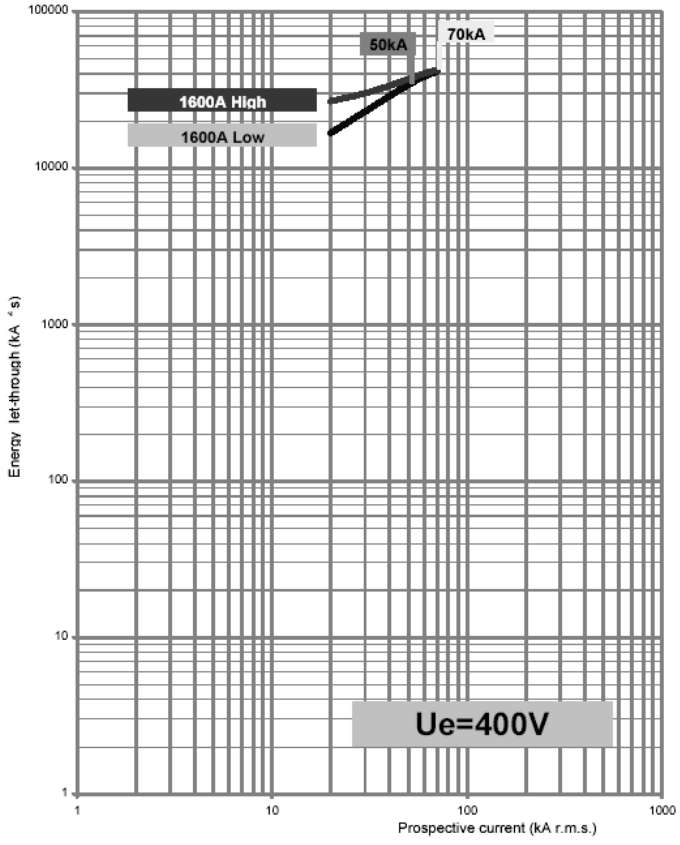


9.2 Restricted curve in thermal constraint

DPX1600 ELE - In max = 1600 A 400V a.c







DPX 1600
Electronic release

Reference(s) : **257** **01/ 02/ 03/ 04/ 05/ 06/ 07/ 08/ 09/ 10/ 11/ 12/ 13/ 14/ 15/ 16/ 25/ 26/ 27/ 28/ 29/ 30/ 31/ 32/ 33/ 34/ 35/ 36/ 37/ 38/ 39/ 40/ 50/ 51/ 52/ 53/ 54/ 55/ 56/ 57/ 58/ 59/ 60/ 61/ 62/ 63/ 64/ 65**

A) Derating Temperature and configurations

		40°C		50°C		60°C	
		Imax(A)	Ir/In	Imax(A)	Ir/In	Imax(A)	Ir/In
DPX 1600 fixed version electronic							
DPX 1250 - 630A	front	630	1	630	1	598	0,95
	rear	630	1	630	1	598	0,95
DPX 1250 - 800A	front	800	1	760	0,95	760	0,95
	rear	800	1	760	0,95	760	0,95
DPX 1250 - 1250A	front	1250	1	1187	0,95	1125	0,9
	rear	1250	1	1187	0,95	1125	0,9
DPX 1250 - 1600A	front	1600	1	1520	0,95	1440	0,9
	rear	1600	1	1520	0,95	1440	0,9
DPX 1600 Plug-in / Draw-out version electronic							
DPX 1600 - 630A	rear	630	1	598	0,95	598	0,95
DPX 1600 - 800A	rear	800	1	760	0,95	760	0,95

B) Connection

Connecting type	Bars Width (mm)	Cables Section (mm²) rigid	Cables Section (mm²) flexible	Standard lugs S - Ø (mm²-mm)	Compact copper S - Ø (mm²-mm)	Standard lugs S - Ø (mm²-mm)	Compact aluminium S - Ø (mm²-mm)
Direct plates	50			300-14		300-16	
Cage terminals 2 cables réf. 262 69		2 x 240	2 x 185				
Cage terminals 4 cables réf. 262 70		4 x 240	4 x 158				
Extended front terminals réf. 262 67/68	50			2 x 300-14		2 x 300-16	2 x 300-14
Spreaders réf. 262 73/74	80			4 x 300-14		2 x 300-16	2 x 300-14
Short rear terminal réf. 263 80/82	50			2 x 300-14		2 x 300-16	2 x 300-14
Long rear terminal réf. 265 81/83	50			3 x 300-14		3 x 300-16	3 x 300-14
Front terminal mounting base réf. 265 31/32/37	50			2 x 300-14	4 x 185-10	2 x 300-14	4 x 150-10
Rear terminal mounting base réf. 265 33/34/38	50			2 x 185-12		2 x 240-12	

C) Breaking capacity in DC

Short-circuit breaking capacity in D.C. current

			Breaking capacity I_{cu} (kA)					Protection	
Circuit breakers		Rated current	1 pole in series	2 poles in series	2 poles in series	3 poles in series	3 poles in series	thermal	magnetic
	LEGRAND SERIES		up to 55-60V	up to 110-125V	250V	400V	500V		
	DPX 1600-H / L (el. Rel.)	630-1600A	50 / 60	50 / 60	50 / 60	50 / 60	36 / 50	No protection	1,5 list AC