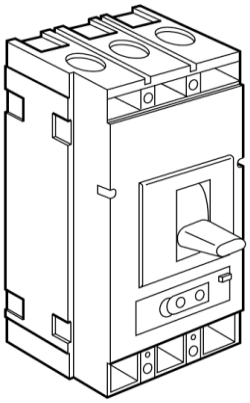
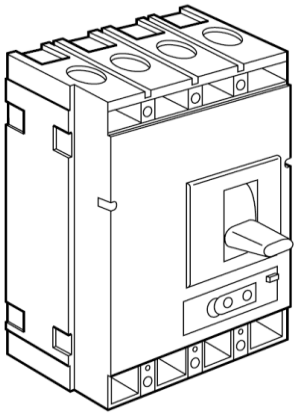
87045 LIMOGES Cedex
Phone :+33 05 55 06 87 87 – Fax :+33 05 55 06 88 88

DPX 250

Electronic release

Reference(s) : **254 01/ 03/ 04/ 05/ 07/ 09/ 10/ 11/ 13/ 15/ 16/ 17/ 19/ 21/ 22/ 23/ 25/ 27/ 28/ 29/ 31/ 33/ 34/ 35/ 40/ 41/ 42/ 43/ 45/ 46/ 47/ 48/ 50/ 51/ 52/ 53/ 55/ 56/ 57/ 58/ 60/ 61/ 62/ 63/ 65/ 66/ 67/ 68**





CONTENTS

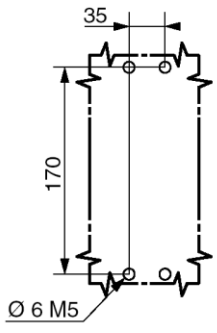
1. USE

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

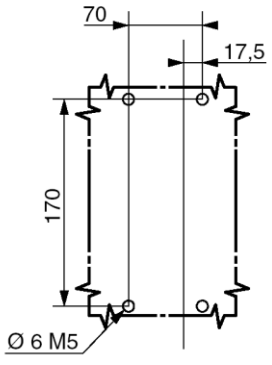
2. RANGE

Courants	Version	3P 36	3P 70	3P 100	4P 36	4P 70	4P 100
40	S1	254 01	254 13	254 25	254 07	254 19	254 31
	S2	254 40	254 50	254 60	254 45	254 55	254 65
	Sg						
100	S1	254 03	254 15	254 27	254 09	254 21	254 33
	S2	254 41	254 51	254 61	254 46	254 56	254 66
	Sg						
160	S1	254 04	254 16	254 28	254 10	254 22	254 34
	S2	254 42	254 52	254 62	254 47	254 57	254 67
	Sg						
250	S1	254 05	254 17	254 29	254 11	254 23	254 35
	S2	254 43	254 53	254 63	254 48	254 58	254 68
	Sg						

3. DIMENSIONS

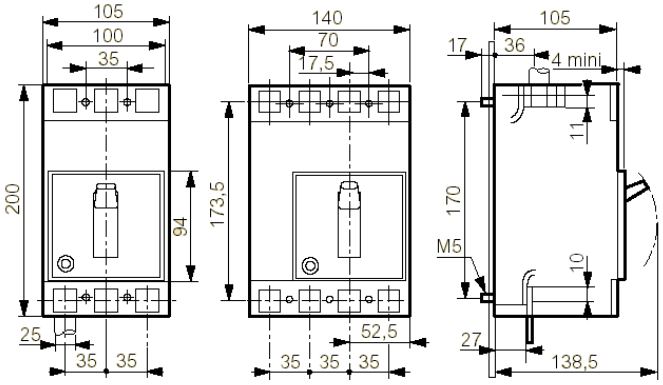


Tripolaire



Tétrapolaire

3. DIMENSIONS (NEXT)



4. OVERVIEW

4.1 Supplied

Connection plates for bars:

- Width 25 mm max

Seals for adjustment (supplied)

4.2 Mounting possibility

On plate :

- Vertical
- Horizontal
- Supply invertor type

5. CONNECTION

See table B.

DPX 250
Electronic release

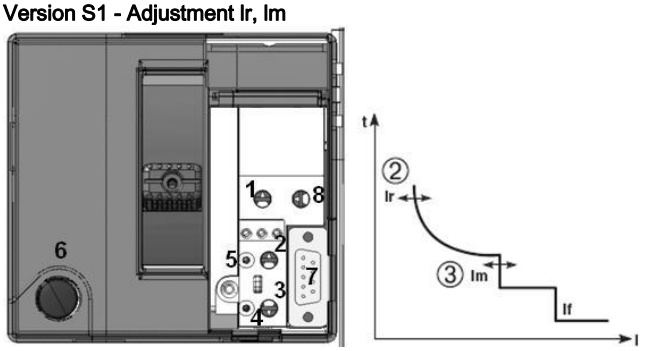
Reference(s) : **254 01/ 03/ 04/ 05/ 07/ 09/ 10/ 11/ 13/ 15/ 16/ 17/ 19/ 21/ 22/ 23/ 25/ 27/ 28/ 29/ 31/ 33/ 34/ 35/ 40/ 41/ 42/ 43/ 45/ 46/ 47/ 48/ 50/ 51/ 52/ 53/ 55/ 56/ 57/ 58/ 60/ 61/ 62/ 63/ 65/ 66/ 67/ 68**

6. ELECTRICAL AND MECHANICAL CHARACTERISTICS

Disjoncteurs	DPX 250 /H/L
Courant ininterrompu nominal Iu (A)	250
Tension d'isolement Ui (Va.c.)	690
Tension nominale maximum Ue (Va.c./d.c.)	690 V a.c. 250 V d.c.
Tension de tenue au choc Uimp (kV)	8
Fréquence nominale (Hz)	50-60
Température de fonctionnement (°C)	-25÷70
Endurance électrique/Tenue mécanique	8.000/20.000
Catégorie d'emploi	A
Type de déclencheur	magnéto-thermique
Réglage du thermique	0,64÷1 In
Réglage du magnétique	3,5÷10 In
Cotes d'encombrement (lxhxp) (mm)	105x200x105 (3P) 140x200x105 (4P)
Masse (kg)	2,5 (3P) – 3,7 (4P)

6.1.1 Electronic release

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 - 1xIn (9 steps)
- Tr = 5s (fixed at 6 tr)

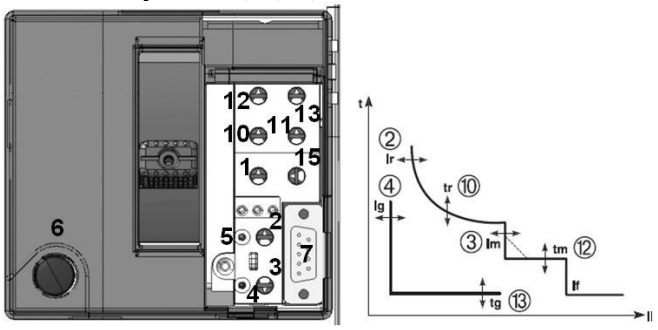
Short delay protection against short-circuits with an adjustable Im threshold :

- Im = 1,5 - 2 – 2,5 - 3 - 4 - 5 - 6 - 8 – 10 x Ir (9 steps)
- Tm = 0,1s (fixed)

Instantaneous protection if with fixed threshold :

- If = 3kA

Version S2 - Adjustment Ir, Tr, Im, Tm



6.1.1 Electronic release (NEXT)

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 9** LED REDS, Tripping signal (Plan an alim 12V cc). **10** 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 :

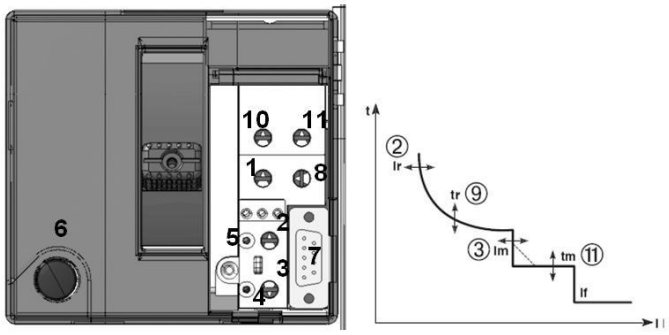
- Ir = 0,4 - 0,5 – 0,6 - 0,7 - 0,8 – 0,85 – 0,9 - 0,95 - 1xIn (9 steps)
- Tr = 5 - 10 - 20 - 30s (at 6 Ir) (4 steps) (or 4 steps with mem. OFF)

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 - 0,1 - 0,2 - 0,3s (4 steps)
- Tm = 0,01 - 0,1 - 0,2 - 0,3s à 12xIr (I2 t constante (4 steps)

Instantaneous protection if with fixed threshold : If = 3kA

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 10 11** LED REDS, Tripping signal (Plan an alim 12V cc). **12** Adjustment time for long delay protection. **13** Adjustment time for short delay protection. **14** Delay for ground fault. **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 - 1xIn (9 steps)
- Tr = 5 - 10 - 20 - 30s (à 6 Ir) (4 steps) (or 4 crans 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 - 0,1 - 0,2 - 0,3s (4 steps)
- Tm = 0,01 - 0,1 - 0,2 - 0,3s à 12xIr (I2 t constant (4 steps)

Instantaneous protection if with fixed threshold : If = 3kA

Measure of ground fault :

- Ig : 0,2 - 0,3 - 0,4 - 0,5 - 0,6 - 0,7 - 0,8 -1xIn (8 steps s, 0,2-0,3xIn possible only with auxiliary alim)
- Tg : 0,1 - 0,2 - 0,5 - 1s (4 steps)

6.2 Breaking capacity (kA)

Pouvoir de coupure Icu et Ics en AC (kA)				
	Ue	**DPX**	**H**	**L**
Icu (kA)	230V	60	100	170
	400V	**36**	**70**	**100**
	440V	30	60	70
	500V	25	40	45
	600V	20	25	28
	690V	16	20	22
Ics (%Icu)	-	100	75	50
Pouvoir assigné de fermeture en court-circuit Icm (kA)				
Icm (kA)	400V	75,6	154	220

DPX 250
Electronic release

Reference(s) : **254** **01/ 03/ 04/ 05/ 07/ 09/ 10/ 11/ 13/ 15/ 16/ 17/ 19/ 21/ 22/ 23/ 25/ 27/ 28/ 29/ 31/ 33/ 34/ 35/ 40/ 41/ 42/ 43/ 45/ 46/ 47/ 48/ 50/ 51/ 52/ 53/ 55/ 56/ 57/ 58/ 60/ 61/ 62/ 63/ 65/ 66/ 67/ 68**

6.3 Nominal current (In) at 40 °C (A)

Courant assigné des déclencheurs		
	thermique	
In (A)	L1-L2-L3	N
40	40	0-20-40
100	100	0-31,5-63
160	160	0-50-100
250	250	0-125-250

6.4 Power losses per pole under In

Puissance dissipée par pôle (W)				
In (A)	**40**	**100**	**160**	**250**
DPX 250 éle	2,4	3	7,68	18,75
Bloc. Diff.	0,05	0,3	0,77	1,88
Kit débrochable	0,19	1,2	3,07	7,5

La puissance dissipée totale est la somme
des valeurs relatives aux accessoires installés

6.5 Functioning in particular conditions

6.5.1 Temperature

For derating temperature , see table A.

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

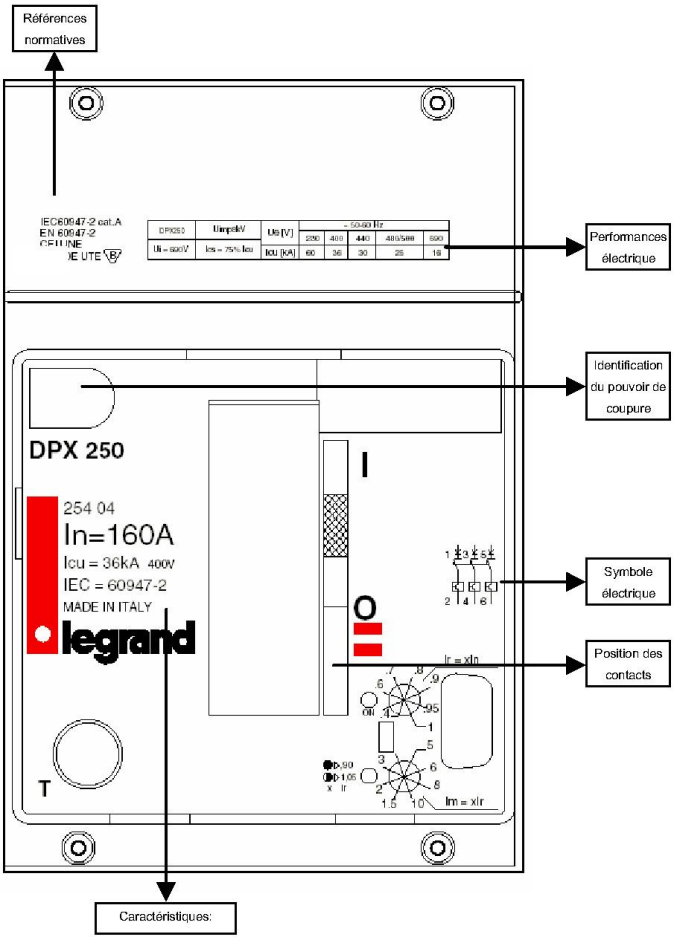
6.5.3 Use in 400Hz or in d.c.

It is not possible with an electronic release.

7. CONFORMITY

IEC 60 947-2
EN 60947-2
NF C
VDE
BS
UNE
CEI

7.1 MARKING



" Tropical climate " :

- execution II (all climates) according to guide UTE C63100

8. EQUIPMENTS AND ACCESSORIES

8.1 Earth leakage modules:

Caractéristiques blocs différentiels pour DPX 250			
	Standard	**avec LEDs**	**avec Ig**
Type	A-S	A-S	A-S
Courant assigné ininterrompue Iu (A)	250	250	250
Courant assigné differentiel Idn (A)	0.03÷3	0.03÷3	0.03÷3
Tension assignée d'isolement Ui (Va.c.)	500	500	500
Tension assignée Ue (Va.c.) (50-60Hz)	500	500	500
Tension d'emploi (Va.c.) (50-60Hz)	230÷500	110÷500	110÷500
Fréquence nominale (Hz)	50-60	50-60	50-60
Température de fonctionnement (°C)	-25÷70	-25÷70	-25÷70
Déclencheur	électronique	électronique	électronique
Réglage protection différentiel Idn (A)	0.03÷1	0.03÷2	-
Réglage temps pour déclenchement differentiel (s)	0-03-1-1	0-03-1-2	-
Pouvoir de coupure differentiel Idm (%Icu)	-	-	10÷100
Montage latérale	-	-	0÷3
Montage aval	60	60	60
Contact de signalation à distance de défaut différentiel 50% Idn	non	non	non
Montage sur rail DIN35	oui	oui	oui
Dimensions boîtier (lxhxp) (mm)	non	oui	oui
	non	non	non
Masse (kg)	140x108x105 (aval)	140x108x105 (aval)	140x108x105 (aval)
	1.4 (aval)	1.4 (aval)	1.4 (aval)

8.1 Earth leakage modules: (NEXT)

(Power losses, see table 6.4)

Standard

160A	4P	*ref. 260 51*
250A	3P	*ref. 260 54*
	4P	*ref. 260 55*

LED version

160A	4P	*ref. 260 53*
250A	4P	*ref. 260 57*

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 Contact auxiliaire

C 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)
Fault signal
Early auxiliary contact

Contact auxiliaire		
Tension nominale (Vn)	(Va.c/d.c.)	24 à 250
Intensitè (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

2 auxiliary contact + 1 fault signal (max.)

8.4 Rotary handles :

Direct on DPX

- Standard (black) ref. 262 22
- For emergency use (red / yellow)

Adapting on standard handle ref. 262 24

Deportées sur porte IP55

- Standard (black) ref. 262 79
- For emergency use (red / yellow)

Adapting on standard handle ref. 262 80

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 :

Front operated

- Voltage 24 V ~ et = ref. 261 30
- Voltage 230 V ~ ref. 261 34

Locking accessories

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

8.6 Mechanical accessories :

Insulated shields

- Set of 3 ref. 262 30

Sealable terminal shields

- Set of 2 3P ref. 262 26
- Set of 2 4P ref. 262 27

Padlock

- Accessories for locking in open position ref. 262 21

8.7 Connection's accessories :

Cage terminals

- Set of 4 terminals for cables185mm² max (rigid) or 150mm² max (flexible)) Alu cuivre ref. 262 35

Extended front terminals

- Set of 4 ref. 262 32

Distribution terminal 250A

- 4 outputs 35mm² flexible and 2 outputs 25mm² flexible – Isc peak 36KÂ ref. 048 68

Spreaders

- Set of 3 (incoming or outgoing 3P) ref. 262 33
- Set of 4 (incoming or outgoing 4P) ref. 262 34

Rear terminals

(use to connect fixed version with front terminals into fixed version with rear termina)

- Set of swivel terminals, incoming or outgoing
  - 3P ref. 263 31
  - 4P ref. 263 32
- Set of flat rear terminals, incoming or outgoing
  - 3P ref. 265 27
  - 4P ref. 265 28

8.8 Plug-in version

(A plug-in is a DPX fitted with tulip contacts mounted on a base)

Tulip contact

- Set of tulip contact (supplied with an incoming/outgoing protective cover)
  - 3P ref. 265 29
  - 4P ref. 265 30

Bases

- front terminal mounting base
  - 3P ref. 265 31
  - 4P ref. 265 32
- rear terminal mounting base with threaded rod
  - 3P ref. 265 33
  - 4P ref. 265 34
- flat rear terminal mounting base
  - 3P ref. 265 35
  - 4P ref. 265 36

Bases with earth leakage underneath mounting (4P)

- front terminal mounting base ref. 265 37
- rear terminal mounting base with threaded rod ref. 265 38
- flat rear terminal mounting base ref. 265 39

Accessories

- Set of 2 extractor handle ref. 263 43
- Set of connectors (6-pin) ref. 098 19
- Set of connectors (8-pin) ref. 263 99
- Signalling contact (plugged-in / drawn-out) ref. 265 74

8.9 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)

«Débro-lift » mechanism

- For DPX base only

3P	ref. 265 45
4P	ref. 265 46

- For DPX base with earth leakage module

4P	ref. 265 47

Key lock for « Debro-lift » mechanism

- For DPX only

3P	ref. 265 76
4P	ref. 263 48

- For motorised DPX or with rotary handle

3P	ref. 265 78
4P	ref. 265 77

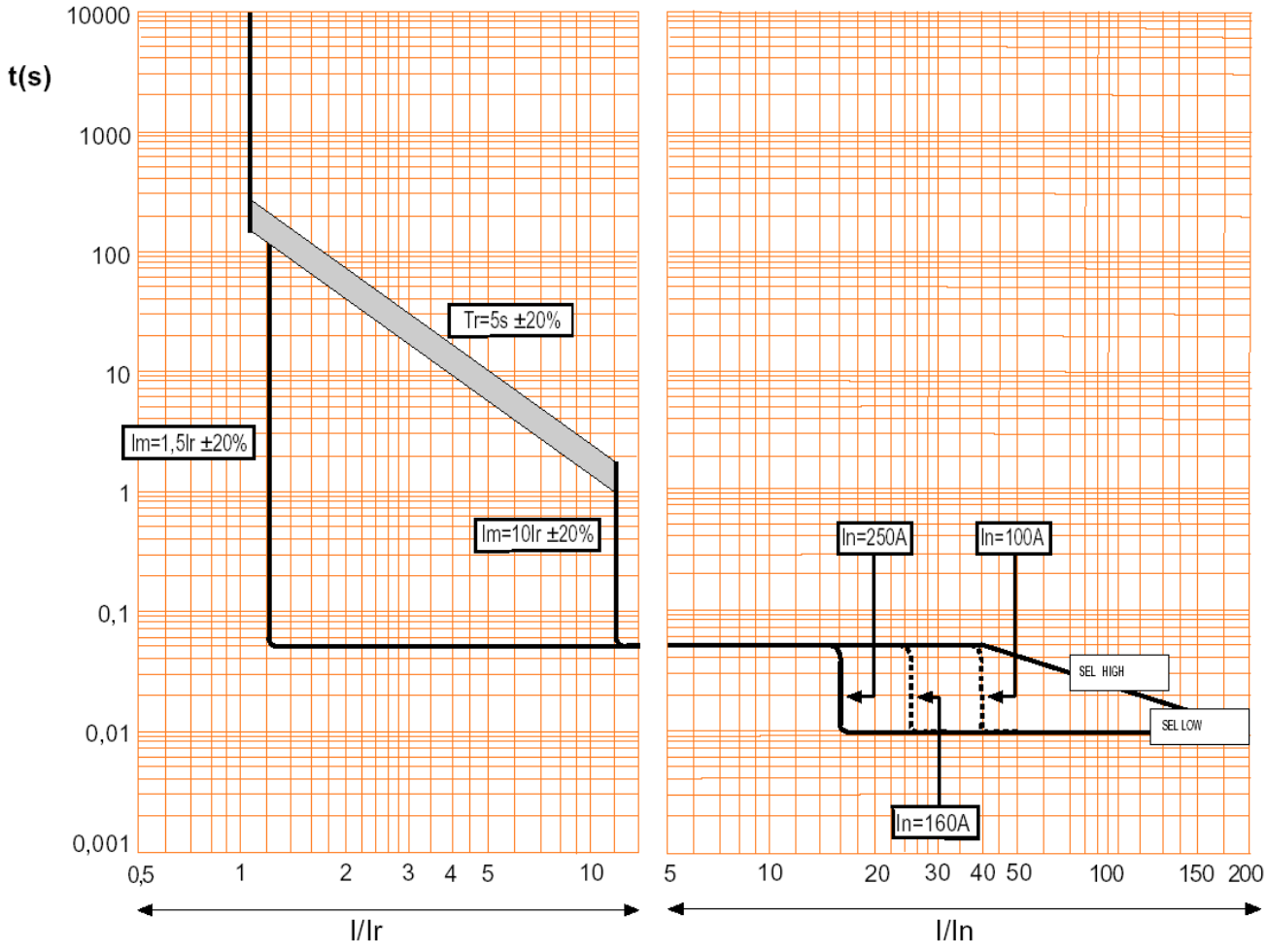
Accessories for « Debro-lift » mechanism

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

9. CURVES

9.1 Operating curve

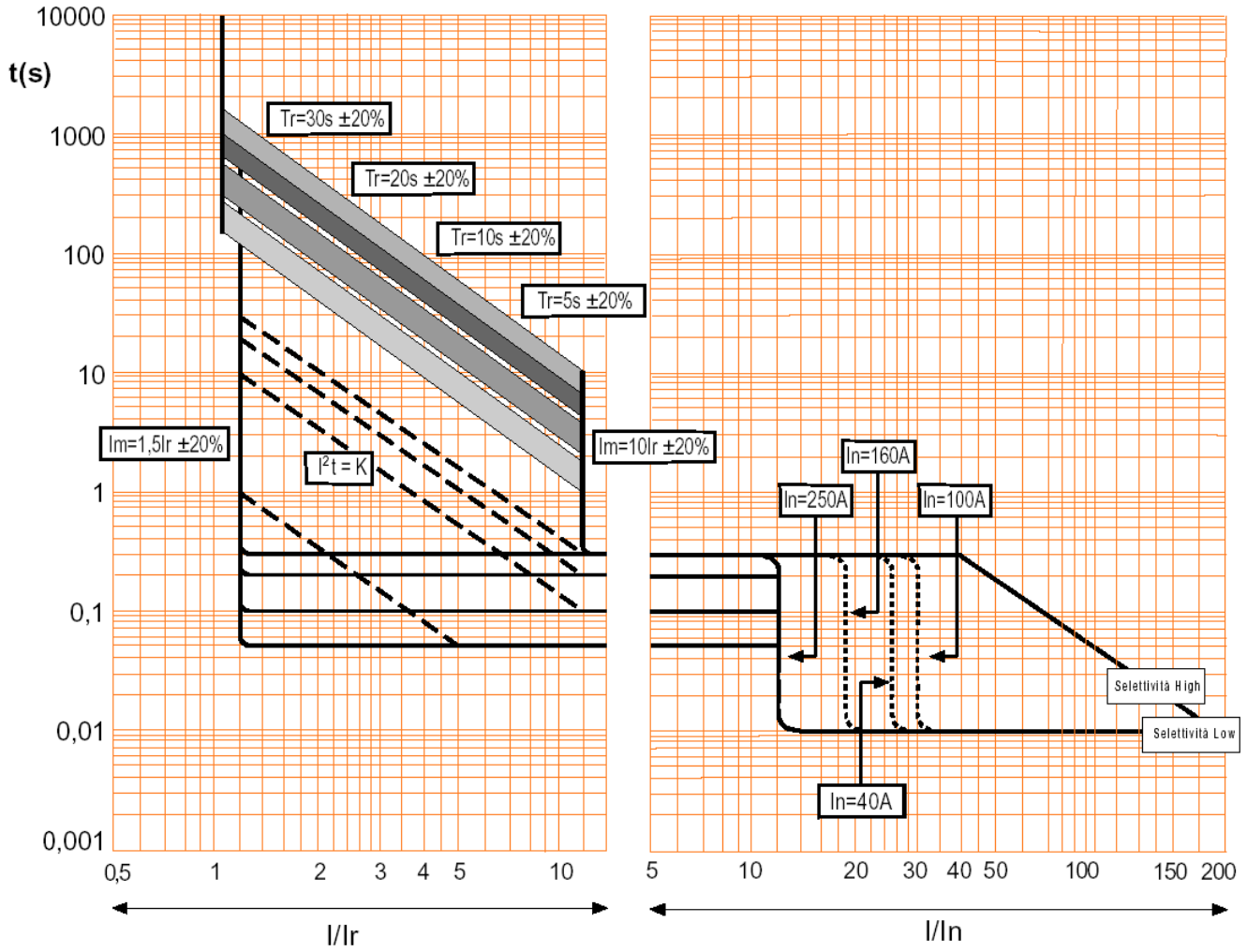
DPX250 ELE S1 - In max = 250 A 400V a.c



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

9.1 Operating curve (NEXT)

DPX250 ELE S2 - In max = 250 A 400V a.c

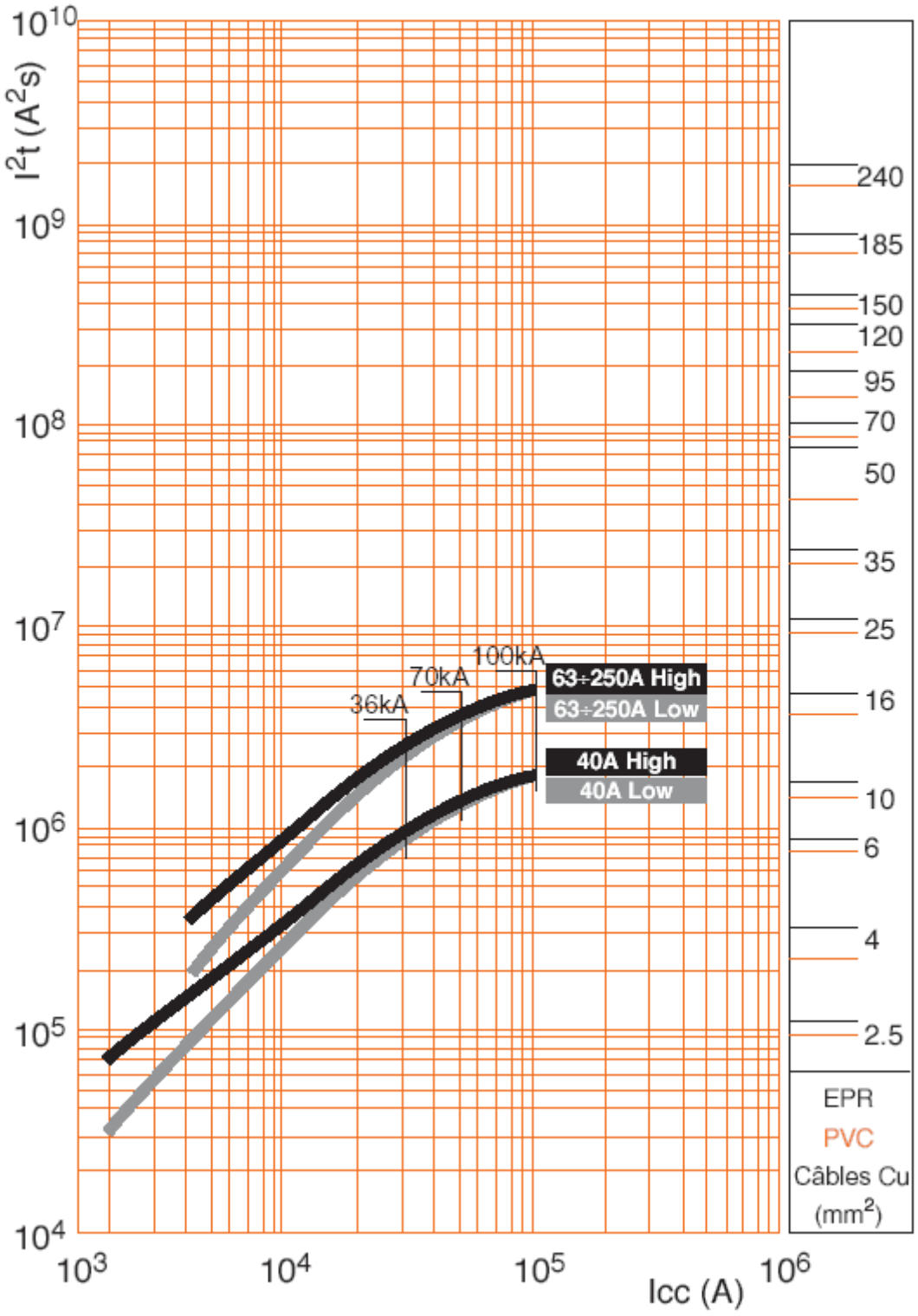


Ir = long time setting current
Tr =long time delay
Im = short time setting current
Tm = short time delay
If = istantaneous intervention current

n.b.: in-load condition

9.2 Restricted curve in thermal constraint

DPX250 ELE - In max = 250 A 400V a.c



DPX 250
Electronic release

Reference(s) : **254** **01/ 03/ 04/ 05/ 07/ 09/ 10/ 11/ 13/ 15/ 16/ 17/ 19/ 21/ 22/ 23/ 25/ 27/ 28/ 29/ 31/ 33/ 34/ 35/ 40/ 41/ 42/ 43/ 45/ 46/ 47/ 48/ 50/ 51/ 52/ 53/ 55/ 56/ 57/ 58/ 60/ 61/ 62/ 63/ 65/ 66/ 67/ 68**

A) Derating Temperature and configurations

		40°C Imax(A)	Ir/In	50°C Imax(A)	Ir/In	60°C Imax(A)	Ir/In
DPX 250 version fixe électronique							
DPX 250	avant	250	1	250	1	237,5	0,95
	arrière	250	1	250	1	237,5	0,95
DPX 250	avant	250	1	9,87847222	0,95	225	0,9
[illegible]	arrière	250	1	9,87847222	0,95	225	0,9
[illegible]tractible/débro électronique							
[illegible]	avant	237,5	0,95	225	0,9	200	0,8
	arrière	237,5	0,95	225	0,9	200	0,8
[illegible]	avant	225	0,9	225	0,9	200	0,8
avec bloc. diff.	arrière	225	0,9	225	0,9	200	0,8

B) Connection

Mode de raccordement	Barres Largeur (mm)	Conducteurs Section (mm²) rigide	souple	Cosses standard S - Ø (mm²-mm)	cuivre compacte S - Ø (mm²-mm)	Cosses standard S - Ø (mm²-mm)	aluminium compacte S - Ø (mm²-mm)
Direct sur plage	25			95-8	185-10		185-10
Bornes à cage réf.262 35	18	185	150				
Prolongateurs de plage réf. 262 32	25			150-12	300-10	240-12	300-10
Epanouisseurs réf. 262 33/34	32			185-12	300-10	240-12	300-10
Bornes de répartition réf.048 68			4 x 35 + 2 x 25				
Prises arrière réf. 263 31/32	25			185-12		240-12	
Prises arrière méplats réf. 265 27/28	25			95-10	185-10	150-12	185-10
Base prises avant réf. 265 31/32/37	20						
Base prises arrière réf. 265 33/34/38		25	185-12			240-12	
Base prises arrière méplats réf. 265 35/36/39	25			95-10	185-10	150-12	185-10
Base XL-Part 1600 réf. 098 25/26/27/28	20			2 x 95-8	2 x 195-10		2 x 185-10

C) Breaking capacity in DC

Short-circuit breaking capacity in D.C. current

Circuit breakers	Rated current	Breaking capacity I_{cu} (kA) 1 pole in series	2 poles in series	2 poles in series	3 poles in series	3 poles in series	Protection thermal	magnetic
LEGRAND SERIES		up to 55-60V	up to 110-125V	250V	400V	500V		
DPX 250 (el. rel.)	40-250A	40	40	36	40	36	No protection	1,5 list AC
DPX 250-H (el. rel.)	40-250A	45	45	40	45	40	No protection	1,5 list AC
DPX 250-L (el. rel.)	40-250A	50	50	45	50	45	No protection	1,5 list AC