

Technical characteristics (at 40°)

MCCBs	DPX ³ 160 thermal magnetic				DPX ³ 160 with electronic earth leakage module				
	16 kA	25 kA	36 kA	50 kA	16 kA	25 kA	36 kA	50 kA	
Nominal current In (A)	16-25-40-63-80-100-125-160								
Rated insulation voltage (V)	50-60Hz				16-25-40-63-80-100-125-160				
Rated operational voltage (V)	50-60Hz				600				
Rated impulse withstand current Uimp (kV)	Continuous				500				
Category of use	8				8				
Ultimate breaking capacity (kA) in AC	220/240 V ±	25	35	50	65	25	35	50	65
	380/415 V ±	16	25	36	50	16	25	36	50
	440 V ±	10	18	25	30	10	18	25	30
	480/500 V ±	8	10	12	15	8	10	12	15
	690 V ±	5	5	8	10	5	5	8	10
Ultimate breaking capacity (kA) in DC	125 V = ⁽¹⁾	32	50	60	80	32	50	60	80
	250 V = ⁽¹⁾	16	25	30	40	16	25	30	40
	400 V = ⁽²⁾	16	25	30	40	16	25	30	40
	500 V = ⁽²⁾	10	20	25	35	10	20	25	35
Standard breaking capacity Ics (% Icu)	100								
Short-circuit making capacity Icm (kA)	415 V ±								
Breaking capacity on 1 pole Isu (kA) For IT neutral earthing system	220/240 V ±	6,25	8,75	12,5	16,3	6,25	8,75	12,5	16,3
	380/415 V ±	4	6,25	9	12,5	4	6,25	9	12,5
	440 V ±	2,5	4,5	6,25	7,5	2,5	4,5	6,25	7,5
	480/500 V ±	2	2,5	3	3,75	2	2,5	3	3,75
	690 V ±	1,25	1,25	2	2,5	1,25	1,25	2	2,5

MCCBs	DPX ³ 250 thermal magnetic				DPX ³ 250 electronic release				
	25 kA	36 kA	50 kA	70 kA	25 kA	36 kA	50 kA	70 kA	
Nominal current In (A)	100-160 -200-250								
Rated insulation voltage (V)	50-60Hz				40-100-160 -250				
Rated operational voltage (V)	50-60Hz				800 (with integrated e.l.c.bs: 500)				
Rated impulse withstand current Uimp (kV)	Continuous				690 (with integrated e.l.c.bs: 500)				
Category of use	500				500				
Ultimate breaking capacity (kA) in AC	220/240 V ±	40	60	80	100	40	60	80	100
	380/415 V ±	25	36	50	70	25	36	50	70
	440 V ±	20	30	40	60	20	30	40	60
	480/500 V ±	10	25	30	40	10	25	30	40
	690 V ±	8	16	18	20	8	16	-	20
Ultimate breaking capacity (kA) in DC	125 V = ⁽¹⁾	50	72	80	90	50	72	80	90
	250 V = ⁽¹⁾	25	36	40	45	25	36	40	45
	400 V = ⁽²⁾	30	45	50	55	30	45	50	55
	500 V = ⁽²⁾	25	36	40	45	25	36	40	45
Standard breaking capacity Ics (% Icu)	100								
Breaking capacity on 1 pole Isu (kA) For IT neutral earthing system	220/240 V ±	10	15	20	25	15	15	20	25
	380/415 V ±	6,25	9	12,5	17,5	6,25	9	12,5	17,5
	440 V ±	5	7,5	10	15	5	7,5	10	15
	480/500 V ±	2,5	6,25	7,5	10	2,5	6,25	7,5	10
	690 V ±	2	4	4,5	5	-	-	-	-

Temperature derating

DPX³ 160

In (A)	Temperature (°C)											
	-25	-20	-10	-5	0	10	20	30	40	50	60	70
16	23	22	21	21	20	19	18	17	16	15	15	14
25	37	35	34	33	32	30	28	26	25	23	22	21
40	55	54	52	51	50	47	43	42	40	38	36	34
63	88	87	84	83	81	76	69	66	63	60	57	55
80	115	113	111	109	107	97	87	84	80	78	75	72
100	135	133	130	123	115	108	100	100	100	95	90	85
125	160	158	155	153	150	138	125	125	125	118	112	105
160	224	221	214	210	205	192	176	168	160	152	145	139

DPX³ 250

In (A)	Temperature (°C)											
	-25	-20	-10	-5	0	10	20	30	40	50	60	70
40	54	53	51	50	49	48	45	41	40	38	36	34
100	135	132	128	126	123	120	112	102	100	94	90	84
160	216	211	205	201	197	192	179	163	160	151	143	134
200	270	264	256	251	246	240	224	203	200	189	179	168
250	338	330	320	314	308	300	280	254	250	236	224	210

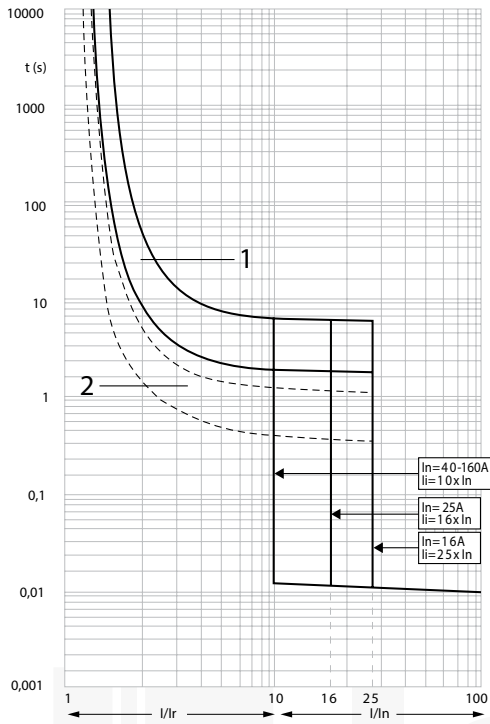
1: 2 poles in series
2: 3 poles in series

Derating at different altitudes

Altitude (m)	2000	3000	4000
Rated current (A)	1 x In	0,96 x In	0,93 x In
Rated voltage (V)	DPX ³ no e.l.c.bs	690	690
	DPX ³ with e.l.c.bs	500	500

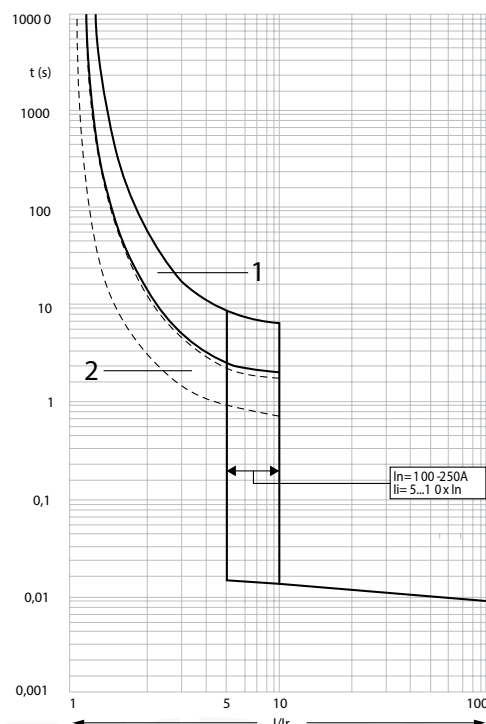
DPX³ 160/250

DPX³ 160 thermal-magnetic Tripping curve



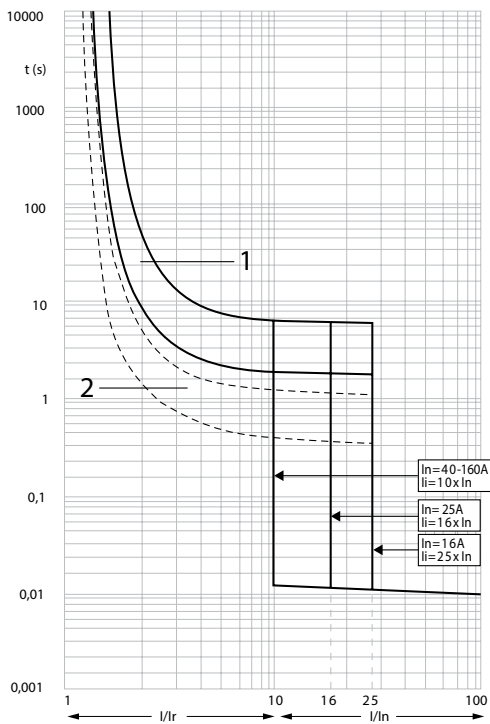
t: time
 I: rated current
 I_r: setting current
 Curve n°1: characteristic with cold start
 Curve n°2: characteristic with hot start

DPX³ 250 thermal-magnetic Tripping curves



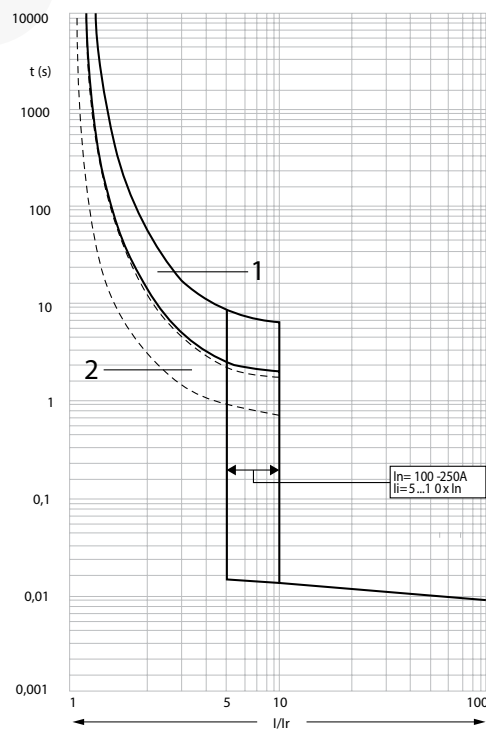
t: time
 I: rated current
 I_r: setting current
 Curve n°1: characteristic with cold start
 Curve n°2: characteristic with hot start

DPX³ 160 thermal-magnetic with integrated e.i.c.bs Tripping curves



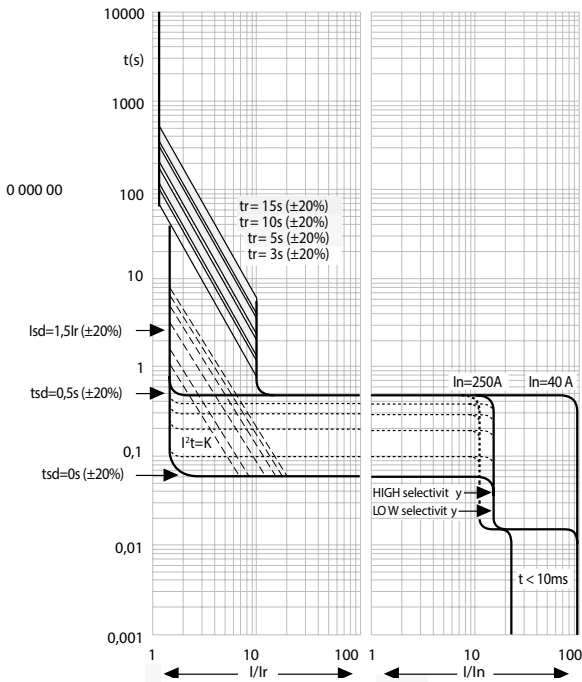
t: time
 I: rated current
 I_r: setting current
 Curve n°1: characteristic with cold start
 Curve n°2: characteristic with hot start

DPX³ 250 thermal-magnetic with integrated e.i.c.bs Tripping curves

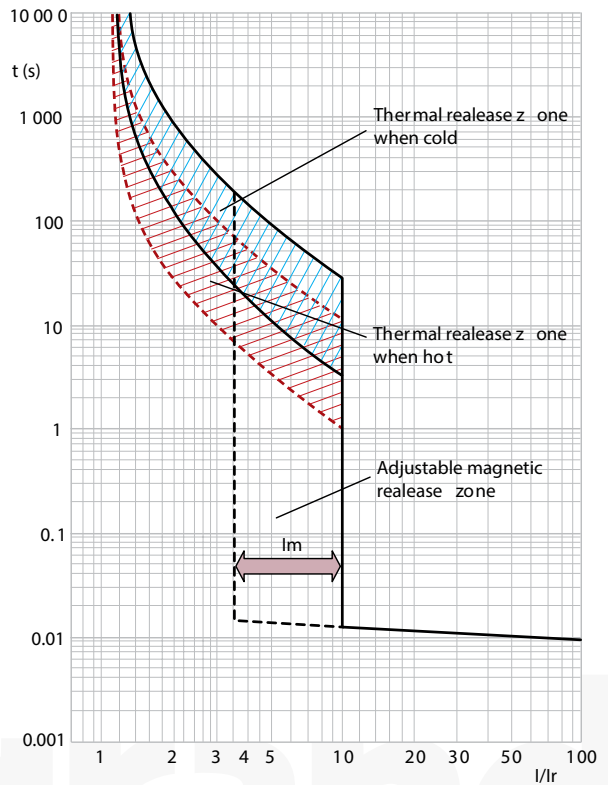


t: time
 I: rated current
 I_r: setting current

DPX³ 250 electronic release Tripping curves



Tripping curve for a DPX³ thermal-magnetic trip



Adjustment for thermal-magnetic DPX³

Setting	DPX ³ thermal magnetiac	DPX ³ with integrated e.i.c.bs
Ir overload trip threshold (thermal)	0.8 to 1 In	0.8 to 1 In
Im short-circuit trip threshold (magnetic)	fixed: 10 In ⁽¹⁾	fixed: 10 In ⁽¹⁾
I_{Δn} (A)	-	0.03 - 0.03 - 1 - 3
Δt (s)	-	0 - 0.3 - 1 - 3

1: 400 A for DPX³ 160 In 16 A and 25 A

I: actual current
 Ir: thermal protection against overloads (setting: Ir = x In)
 Im: magnetic protection against short-circuits (setting: Im = x In or Im = x Ir)
 As the abscissa of the curves represents the ratio I/Ir, modifying the setting of Ir will not change the graphical representation of the thermal trip. However, the magnetic setting can be read directly (between 3.5 and 10 in the example).

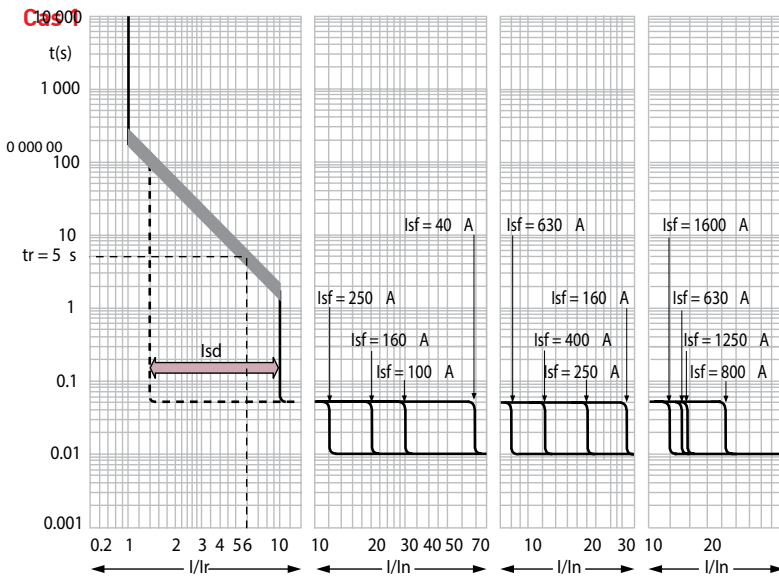
Adjustment for DPX³ electronic release

Setting	DPX ³	DPX ³ with integrated e.i.c.bs
Ir overload trip threshold (long delay)	0.4 to 1 In	
tr long delay trip time	3 - 5 - 10 - 15s	
Isd short-circuit trip threshold (short delay)	1.5 - 2 - 2.5 - 3 - 4 - 5 - 6 - 7 - 8 - 9 - 10 x Ir	
tsd short delay trip time	0.01 - 0.1 - 0.2 - 0.3 - 0.4 - 0.5s	
Ig	(0.2 - 0.3 - 0.4 - 0.5 - 0.6 - 0.7 - 0.8 - 1 - OFF) x In	
tg	0.1 - 0.2 - 0.5 - 1s	

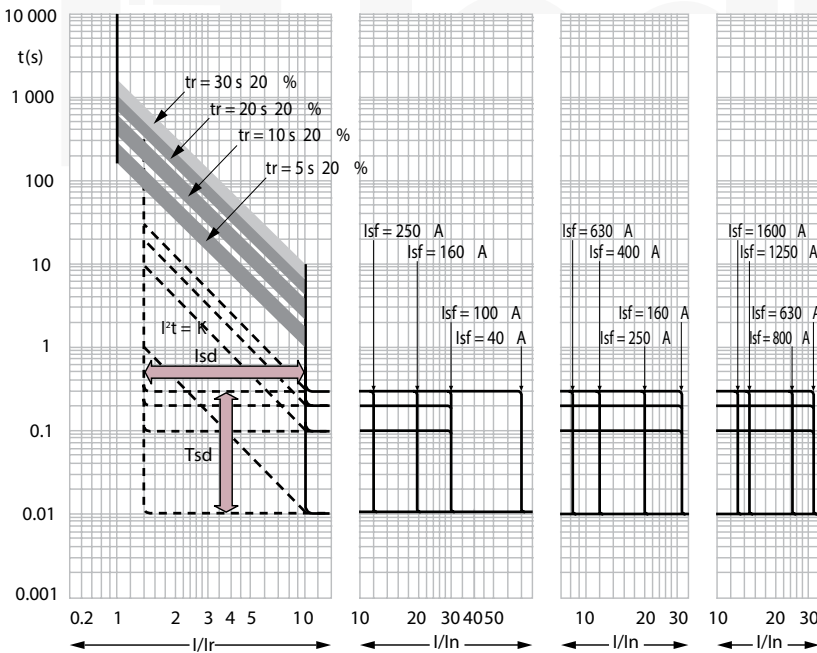
DPX³ 630/1600

reading DPX³ characteristic curves and adjustment ranges

Tripping curve for a DPX³ electronic release S1, adjustable Ir and Isd



Tripping curve for a DPX³ electronic release S2, adjustable Ir, Isd, tr and tsd



Adjustment for thermal-magnetic DPX³

Setting	DPX ³ 630	DPX ³ 1600
Ir overload trip threshold (thermal)	0.8 to 1 In	0.8 to 1 In
Im short-circuit trip threshold (magnetic)	5 to 10 In	5 to 10 In

Adjustment for DPX³ electronic release

Setting	DPX ³ 630 / 1600 S1	DPX ³ 630 / 1600 S2
Ir overload trip threshold (long delay)	(0.4 - 0.5 - 0.6 - 0.7 - 0.8 - 0.9 - 0.95 - 1) x In	
tr long delay trip time	fixed: 5 s (to 6 Ir)	5 - 10 - 20 - 30 s (to 6 Ir)
Isd short-circuit trip threshold (short delay)	(1.5 - 2 - 3 - 4 - 5 - 6 - 8 - 10) x Ir ⁽¹⁾	
tsd Short delay trip time	fixed: 0.05 s	0 - 0.1 - 0.2 - 0.3 s

1: 7.9 Ir for DPX³ 630 In 630 A

DPX³ MCCBs

with integrated ELM

DPX³ : MCCBs with integrated ELM

Current (A)	Breaking Capacity Icu (kA)	Frame	4P
16	16 kA	DPX ³ 160	4200 30
	25 kA	DPX ³ 160	4200 70
	36 kA	DPX ³ 160	4201 10
	50 kA	DPX ³ 160	4201 50
25	16 kA	DPX ³ 160	4200 31
	25 kA	DPX ³ 160	4200 71
	36 kA	DPX ³ 160	4201 11
	50 kA	DPX ³ 160	4201 51
40	16 kA	DPX ³ 160	4200 32
	25 kA	DPX ³ 160	4200 72
	36 kA	DPX ³ 160	4201 12
	50 kA	DPX ³ 160	4201 52
	25 kA	DPX ³ 250	4203 22
	36 kA	DPX ³ 250	4203 52
	50 kA	DPX ³ 250	4203 82
	70 kA	DPX ³ 250	4206 55
	25 kA	DPX ³ 250	4204 22
	36 kA	DPX ³ 250	4204 52
	50 kA	DPX ³ 250	4204 82
	70 kA	DPX ³ 250	4206 85
63	16 kA	DPX ³ 160	4200 33
	25 kA	DPX ³ 160	4200 73
	36 kA	DPX ³ 160	4201 13
	50 kA	DPX ³ 160	4201 53
80	16 kA	DPX ³ 160	4200 34
	25 kA	DPX ³ 160	4200 74
	36 kA	DPX ³ 160	4201 14
	50 kA	DPX ³ 160	4201 54
100	16 kA	DPX ³ 160	4200 35
	25 kA	DPX ³ 160	4200 75
	36 kA	DPX ³ 160	4201 15
	50 kA	DPX ³ 160	4201 55
	25 kA	DPX ³ 250	4202 25
	36 kA	DPX ³ 250	4202 55
	50 kA	DPX ³ 250	4202 85
	70 kA	DPX ³ 250	4206 25
	25 kA	DPX ³ 250	4203 25
	36 kA	DPX ³ 250	4203 55
	50 kA	DPX ³ 250	4203 85
	70 kA	DPX ³ 250	4206 57
	25 kA	DPX ³ 250	4204 25
	36 kA	DPX ³ 250	4204 55
	50 kA	DPX ³ 250	4204 85
	70 kA	DPX ³ 250	4206 87

Current (A)	Breaking Capacity Icu (kA)	Frame	4P
125	16 kA	DPX ³ 160	4200 36
	25 kA	DPX ³ 160	4200 76
	36 kA	DPX ³ 160	4201 16
	50 kA	DPX ³ 160	4201 56
160	16 kA	DPX ³ 160	4200 37
	25 kA	DPX ³ 160	4200 77
	36 kA	DPX ³ 160	4201 17
	50 kA	DPX ³ 160	4201 57
	25 kA	DPX ³ 250	4202 27
	36 kA	DPX ³ 250	4202 57
	50 kA	DPX ³ 250	4202 87
	70 kA	DPX ³ 250	4206 27
	25 kA	DPX ³ 250	4203 27
	36 kA	DPX ³ 250	4203 57
	50 kA	DPX ³ 250	4203 87
	70 kA	DPX ³ 250	4206 58
	25 kA	DPX ³ 250	4204 27
	36 kA	DPX ³ 250	4204 57
	50 kA	DPX ³ 250	4204 87
	70 kA	DPX ³ 250	4206 88
200	25 kA	DPX ³ 250	4202 28
	36 kA	DPX ³ 250	4202 58
	50 kA	DPX ³ 250	4202 88
	70 kA	DPX ³ 250	4206 28
250	25 kA	DPX ³ 250	4202 29
	36 kA	DPX ³ 250	4202 59
	50 kA	DPX ³ 250	4202 89
	70 kA	DPX ³ 250	4206 29
	25 kA	DPX ³ 250	4203 29
	36 kA	DPX ³ 250	4203 59
	50 kA	DPX ³ 250	4203 89
	70 kA	DPX ³ 250	4206 59
	25 kA	DPX ³ 250	4204 29
	36 kA	DPX ³ 250	4204 59
	50 kA	DPX ³ 250	4204 89
	70 kA	DPX ³ 250	4206 89



**DPX³ 630
thermal magnetic**

**DPX³ 630
electronic release**

**DPX³ 1600
thermal magnetic**

**DPX³ 1600
electronic release**

On plate

On plate

On plate

On plate

36 kA				50 kA				70 kA				100 kA			
36	50	70	100	36	50	70	100	36	50	70	100	36	50	70	100
70	100	120	170	70	100	120	170	70	100	120	170	70	100	120	170
100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100

50/60 Hz

690 V ±

690 V ±

690 V ±

690 V ±

A

A : In 630 A - B : In 200 to 400 A

A

B

0.8 to 1 In

-

0.8 to 1 In

-

5 to 10 In

-

5 to 10 In

-

	S2	Sg
I _r = 0.4 - 1 x I _n	•	•
t _r = 3-30 s	•	•
I _{sd} = 1.5 - 10 I _r	•	•
t _{sd} (I=K) = 0-500 ms	•	•
t _{sd} (I ² t=K) = 0-500 ms	•	•
I _g = 0.2 - 1 x I _n	•	•
t _g = 0.1 - 1 s	•	•

	S2	Sg
I _r = 0.4 - 1 x I _n	•	•
t _r = 3-30 s	•	•
I _{sd} = 1.5 - 10 I _r	•	•
t _{sd} (I=K) = 0-500 ms	•	•
t _{sd} (I ² t=K) = 0-500 ms	•	•
I _g = 0.2 - 1 x I _n	•	•
t _g = 0.1 - 1 s	•	•

300 mm² or 2 x 240 mm²

300 mm² or 2 x 240 mm²

2 or 4 x 240 mm²

2 or 4 x 240 mm²

240 mm² or 2 x 185 mm²

240 mm² or 2 x 185 mm²

2 or 4 x 185 mm²

2 or 4 x 185 mm²

32 mm

32 mm

50 mm

50 mm

15 Nm

20 Nm

250	320	400	500	630	250	320	400	500	630	500	630	800	1000	1250	500	630	800	1000	1250	1600
250	320	400	500	630	250	320	400	500	630	500	630	800	1000	1250	500	630	800	1000	1250	1600
250	320	400	500	630	0 - 50 - 100 % of phase value ⁽³⁾					500	630	800	1000	1250	0 - 50 - 100 % of phase value ⁽³⁾					
-	250	250	250	320	-					-	-	-	500	630	-					

Adjustable

250	320	400	500	630	-					500	630	800	1000	1250	-				
1250-2500	1600-3200	2000-4000	2500-5000	3150-6300	-					2500-5000	3150-6300	4000-8000	5000-10000	6250-12500	-				
1250-2500	1600-3200	2000-4000	2500-5000	3150-6300	-					2500-5000	3150-6300	4000-8000	5000-10000	6250-12500	-				
-	1000-2000	1250-2500	1600-2500	2000-4000	-					-	-	-	2500-5000	3150-5000	-				

5000

5000

4000

4000

10000

20000

10000




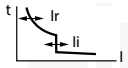
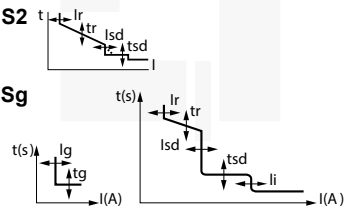
10000

downstream e.l.c.bs.

downstream e.l.c.bs.

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DEVICES	DPX ³ 160 thermal magnetic				DPX ³ 250 thermal magnetic				DPX ³ 250 electronic release							
Mounting	On rail 4 or on plate				On rail 4 or on plate				On rail 4 or on plate							
Breaking capacity (kA) (EN 60947-2 and IEC 60947-2)	16 kA	25 kA	36 kA	50 kA	25 kA	36 kA	50 kA	70 kA	25 kA	36 kA	50 kA	70 kA				
380/415 V±	16	25	36	50	25	36	50	70	25	36	50	70				
220/240 V±	25	35	50	65	40	60	100	100	40	60	100	100				
Breaking capacity (% Icu)	100	100	100	100	100	100	100	100	100	100	100	100				
Characteristic of use																
Nominal frequency	50/60 Hz															
Maximum rated operating voltage Ue	690 V (500 V with integrated e.l.c.bs)				690 V (500 V with integrated e.l.c.bs)				690 V (500 V with integrated e.l.c.bs)							
Category of use	A				A				A							
Thermal magnetic adjustment																
Thermal	0,8 to 1 I _n				0,8 to 1 I _n				-							
Magnetic	10 I _n (400 A for 16 A and 25 A sizes)				5 to 10 I _n				-							
																
Electronic protection adjustment																
S2	-				-				-							
Sg	-				-				I _r : 0,4 to 1 I _n I _{sd} : 1,5 to 10 I _r							
																
Maximum cable cross-section																
	Standard version				High capacity											
Rigid cable	95 mm ²				150 mm ²				150 mm ²							
Flexible cable	70 mm ²				120 mm ²				120 mm ²							
Copper bar and lug width	14 mm				18 mm				28.5 mm ⁽¹⁾							
Tightening torque	8 Nm				8 Nm				10 Nm							
Nominal current (I _n) at 40 °C (A)																
I _n (A)	16	25	40	63	80	100	125	160	100	160	200	250	40	100	160	250
Phase	16	25	40	63	80	100	125	160	100	160	200	250	40	100	160	250
N	16	25	40	63	80	100	125	160	100	160	200	250	0 - 50 - 100 % of phase value ⁽³⁾			
N/2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Magnetic threshold (I _m) (A) ⁽²⁾ of DPX ³ thermal magnetic																
	Fixed				Adjustable				Adjustable							
I _m (A)	16	25	40	63	80	100	125	160	100	160	200	250	-			
Phase	400	400	400	630	800	1000	1250	1600	125-250	200-400	315-630	500-1000	-			
N	400	400	400	630	800	1000	1250	1600	125-250	200-400	315-630	500-1000	-			
N/2	-	-	-	-	-	-	-	-	-	-	-	-	-			
Endurance (cycles)																
Electrical	8000				8000				8000							
Mechanical	25000				20000				20000							
Electronic earth leakage module																
Type	without or integrated				without or integrated				without or integrated							

1: Copper bars only

2: Trip current for 50/60 Hz. For direct current, multiply by 1.5

3: For maximum values related to I_n phase limit