

DPX³ 250 electronic release

MCCBs from 40 to 250 A



4 203 69



4 203 25

Electrical characteristics **see e-catalogue**
Dimensions **see e-catalogue**

Can be mounted on rail or on plate in XL³ cabinets and enclosures
MCCBs for switching, control isolation and protection of low voltage electrical lines
Supplied with fixing screws, connection plates for bars and cable lugs and insulated shileds (phase barriers)
Can be fitted with cage terminals 120 mm² max. (flexible cable) or 150 mm² max. rigid cable (p. 133)
and with DPX³ 160 and 250 common auxiliaires and accessories (p. 134)
Conform to IEC 60947-2

Pack	Cat.Nos		MCCBs - fixed version
			Protection against overloads: I _r adjustable from 0.4 to 1 x I _n t _r adjustable from 3 to 15s Protection against short circuits: I _{sd} adjustable from 1.5 to 10 x I _r t _{sd} adjustable from 0 to 0.5s
			Breaking capacity I_{cu} 25 kA (400 V\sim)
		In (A)	
1	3P 4 203 02	4P 4 203 12	40
1	4 203 05	4 203 15	100
1	4 203 07	4 203 17	160
1	4 203 09	4 203 19	250
			Breaking capacity I_{cu} 36 kA (400 V\sim)
1	4 203 32	4 203 42	40
1	4 203 35	4 203 45	100
1	4 203 37	4 203 47	160
1	4 203 39	4 203 49	250
			Breaking capacity I_{cu} 50 kA (400 V\sim)
1	4 203 62	4 203 72	40
1	4 203 65	4 203 75	100
1	4 203 67	4 203 77	160
1	4 203 69	4 203 79	250
			Breaking capacity I_{cu} 70 kA (400 V\sim)
1	4 206 35	4 206 45	40
1	4 206 37	4 206 47	100
1	4 206 38	4 206 48	160
1	4 206 39	4 206 49	250












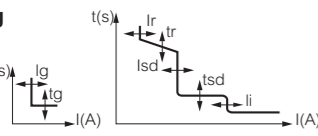
Pack	Cat.Nos	MCCBs with electronic earth leakage module - fixed version
		Protection against overloads: I _r adjustable from 0.4 to 1 x I _n t _r adjustable from 3 to 15s Protection against short circuits: I _{sd} adjustable from 1.5 to 10 x I _r t _{sd} adjustable from 0 to 0.5s Equipped with earth leakage module with LCD screen Adjustable sensitivity: 0.03 - 0.3 - 1 - 3 A Adjustable tripping: 0 - 0.3 - 1 - 3s (with 0.03 A possible only 0s)
		Breaking capacity I_{cu} 25 kA (400 V\sim)
		In (A)
	4P	
1	4 203 22	40
1	4 203 25	100
1	4 203 27	160
1	4 203 29	250
		Breaking capacity I_{cu} 36 kA (400 V\sim)
1	4 203 52	40
1	4 203 55	100
1	4 203 57	160
1	4 203 59	250
		Breaking capacity I_{cu} 50 kA (400 V\sim)
1	4 203 82	40
1	4 203 85	100
1	4 203 87	160
1	4 203 89	250
		Breaking capacity I_{cu} 70 kA (400 V\sim)
1	4 206 55	40
1	4 206 57	100
1	4 206 58	160
1	4 206 59	250

Dimensions
see e-catalogue



DPX³

electrical characteristics

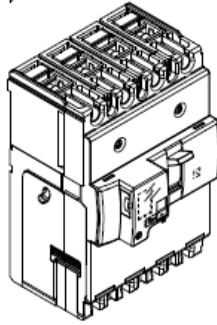
																																																																																				
DEVICES	DPX ³ 160 thermal magnetic				DPX ³ 250 thermal magnetic				DPX ³ 250 electronic release				DPX ³ 630 thermal magnetic				DPX ³ 630 electronic release				DPX ³ 1600 thermal magnetic				DPX ³ 1600 electronic release																																																											
Mounting	On rail  or on plate				On rail  or on plate				On rail  or on plate				On plate				On plate				On plate				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	36 kA	50 kA	70 kA	100 kA	36 kA	50 kA	70 kA	100 kA	36 kA	50 kA	70 kA	100 kA	36 kA	50 kA	70 kA	100 kA																																																								
380/415 V~	16	25	36	50	25	36	50	70	25	36	50	70	36	50	70	100	36	50	70	100	36	50	70	100	36	50	70	100																																																								
220/240 V~	25	35	50	65	40	60	100	100	40	60	100	100	70	100	120	170	70	100	120	170	70	100	120	170	70	100	120	170																																																								
Breaking capacity (% Icu)	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100																																																								
Characteristic of use	50/60 Hz												50/60 Hz																																																																							
Nominal frequency	50/60 Hz												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)				690 V~				690 V~				690 V~				690 V~																																																											
Category of use	A				A				A				A				A: In 630 A - B: In 200 to 400 A				A				B																																																											
Thermal magnetic adjustment	0,8 to 1 In												0,8 to 1 In																																																																							
Thermal	0,8 to 1 In				0,8 to 1 In				-				0,8 to 1 In				-				0,8 to 1 In				-																																																											
Magnetic	10 In (400 A for 16 A and 25 A sizes)				5 to 10 In				-				5 to 10 In				-				5 to 10 In				-																																																											
Electronic protection adjustment	-												-																																																																							
S2													-																																																																							
Sg													-																																																																							
	-												Ir : 0,4 to 1 In I _{sd} : 1,5 to 10 Ir												-																																																											
	-												-												S2 Sg Ir = 0,4 - 1 x In • • Ir = 3-30 s • • I _{sd} = 1,5 - 10 Ir • • tsd (I=K) = 0-500 ms • • tsd (I≠K) = 0-500 ms • • I _g = 0,2 - 1 x In • • I _g = 0,1 - 1 s • •												-																																															
Maximum cable cross-section	150 mm ²				150 mm ²				150 mm ²				300 mm ² or 2 x 240 mm ²				300 mm ² or 2 x 240 mm ²				2 or 4 x 240 mm ²				2 or 4 x 240 mm ²																																																											
Rigid cable	150 mm ²				150 mm ²				150 mm ²				300 mm ² or 2 x 240 mm ²				300 mm ² or 2 x 240 mm ²				2 or 4 x 240 mm ²				2 or 4 x 240 mm ²																																																											
Flexible cable	120 mm ²				120 mm ²				120 mm ²				240 mm ² or 2 x 185 mm ²				240 mm ² or 2 x 185 mm ²				2 or 4 x 185 mm ²				2 or 4 x 185 mm ²																																																											
Copper bar and lug width	18 mm				28.5 mm ⁽¹⁾				28.5 mm ⁽¹⁾				32 mm				32 mm				50 mm				50 mm																																																											
Tightening torque	8 Nm				10 Nm				10 Nm				15 Nm				15 Nm				20 Nm				20 Nm																																																											
Nominal current (In) at 40 °C (A)	16 25 40 63 80 100 125 160												100 160 200 250												250 320 400 500 630												250 320 400 500 630												500 630 800 1000 1250												500 630 800 1000 1250 1600																							
In (A)	16 25 40 63 80 100 125 160				100 160 200 250				40 100 160 250				250 320 400 500 630				250 320 400 500 630				500 630 800 1000 1250				500 630 800 1000 1250 1600																																																											
Phase	16 25 40 63 80 100 125 160				100 160 200 250				40 100 160 250				250 320 400 500 630				250 320 400 500 630				500 630 800 1000 1250				500 630 800 1000 1250 1600																																																											
N	16 25 40 63 80 100 125 160				100 160 200 250				40 100 160 250				250 320 400 500 630				0 - 50 - 100 % of phase value				500 630 800 1000 1250				0 - 50 - 100 % of phase value																																																											
N/2	-				-				-				-				-				-				-																																																											
Magnetic threshold (Im) (A) ⁽²⁾ of DPX ³ thermal magnetic	Fixed				Adjustable				Adjustable				Adjustable																																																																							
In (A)	16 25 40 63 80 100 125 160				100 160 200 250				-				250 320 400 500 630				-				500 630 800 1000 1250				-																																																											
Phase	400 400 400 630 800 1000 1250 1600				125-250 200-400 315-630 500-1000				-				1250-2500 1600-3200 2000-4000 2500-5000 3150-6300				-				2500-5000 3150-6300 4000-8000 5000-10000 6250-12500				-																																																											
N	400 400 400 630 800 1000 1250 1600				125-250 200-400 315-630 500-1000				-				1250-2500 1600-3200 2000-4000 2500-5000 3150-6300				-				2500-5000 3150-6300 4000-8000 5000-10000 6250-12500				-																																																											
N/2	-				-				-				-				-				-				-																																																											
Endurance (cycles)	8000												8000												5000												5000												4000												4000																							
Electrical	8000				8000				8000				5000				5000				4000				4000																																																											
Mechanical	25000				20000				20000				10000				20000				10000				10000																																																											
Electronic earth leakage module	without or integrated												without or integrated												without or integrated												downstream e.l.c.bs.												downstream e.l.c.bs.												-												-											
Type	without or integrated				without or integrated				without or integrated				downstream e.l.c.bs.				downstream e.l.c.bs.				-				-																																																											

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

 For DPX³ magnetic release only, Please, consult us

DPX³ 250 Electronic

Reference(s): 420 302/305/307/309/312/315/317/319/332/335/
 337/339/342/345/347/349/362/365/367/369/372/375/377/379/635/637/
 638/639/645/647/648/649/502/505/507/509/512/515/517/519/522/525/
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 697/699/702/705/707/709/402/405/407/409/412/415/417/419/432/435/
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 667/668/669/675/677/678/679



CONTENTS	PAGES
1. USE	1
2. RANGE	1
3. DIMENSIONS	1
3. DIMENSIONS (NEXT)	2
4. ELECTRICAL AND MECHANICAL CHARACTERISTICS	3
5. CONFORMITY	4
6. MARKING	4
7. NAVIGATION	4
8. EQUIPMENTS AND ACCESSORIES	4
9. CURVES	6

1. USE

DPX³ "moulded case" offers optimal solutions to answer protection requirements of tertiary and industrial installations.

2. RANGE

DPX³ ELECTRONIC

In (A)	25 kA		36 kA		50 kA		70 kA	
	3P	4P	3P	4P	3P	4P	3P	4P
40	420302	420312	420332	420342	420362	420372	420635	420645
100	420305	420315	420335	420345	420365	420375	420637	420647
160	420307	420317	420337	420347	420367	420377	420638	420648
250	420309	420319	420339	420349	420369	420379	420639	420649

DPX³ ELECTRONIC + Ig tg

In (A)	25 kA		36 kA		50 kA		70 kA	
	3P	4P	3P	4P	3P	4P	3P	4P
40	420502	420512	420522	420532	420542	420552	420692	420702
100	420505	420515	420525	420535	420545	420555	420695	420705
160	420507	420517	420527	420537	420547	420557	420697	420707
250	420509	420519	420529	420539	420549	420559	420699	420709

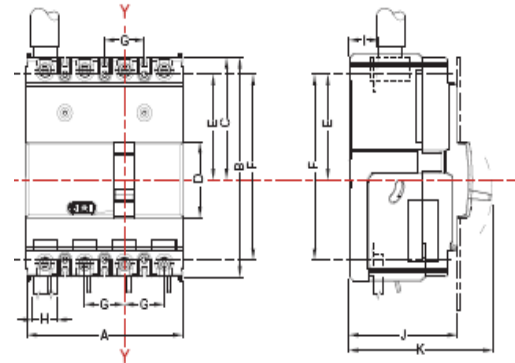
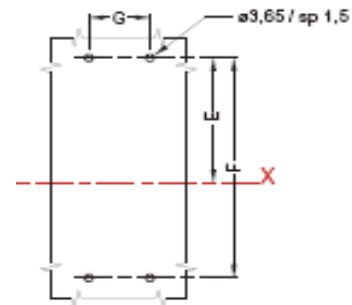
DPX³ ELECTRONIC + MEASURE

In (A)	25 kA		36 kA		50 kA		70 kA	
	3P	4P	3P	4P	3P	4P	3P	4P
40	420402	420412	420432	420442	420462	420472	420665	420675
100	420405	420415	420435	420445	420465	420475	420667	420677
160	420407	420417	420437	420447	420467	420477	420668	420678
250	420409	420419	420439	420449	420469	420479	420669	420679

3. DIMENSIONS

3.1 Fixed version

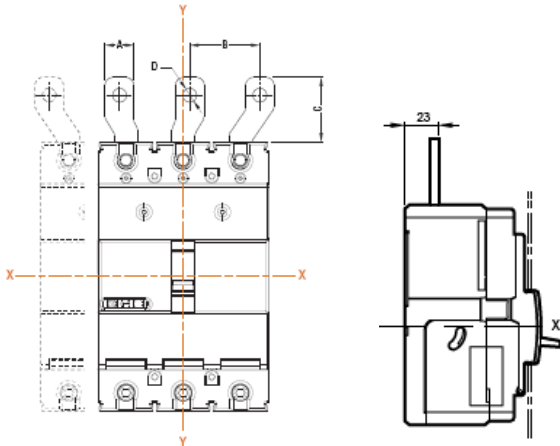
	A	B	C	D	E	F	G	H	I	J	K
250 4P	140	165	82,5	45	61,5	123	35	28,5	18	74	97



DPX³ 250 Electronic

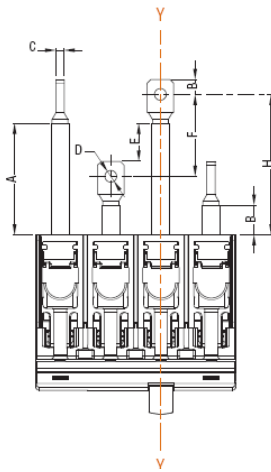
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 697/699/702/705/707/709/402/405/407/409/412/415/417/419/432/435/
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 667/668/669/675/677/678/679

3.2 Fixed version, front terminals



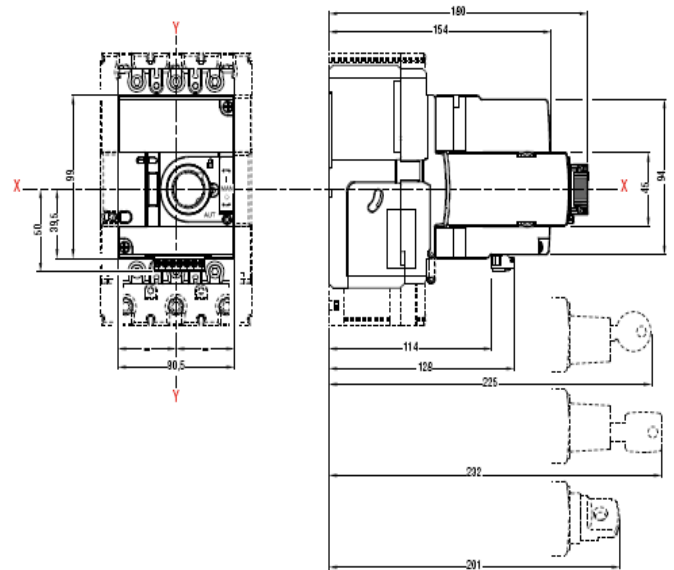
	A	B	C	D
250	33	48,5	54,75	13

3.3 Fixed version, rear terminals

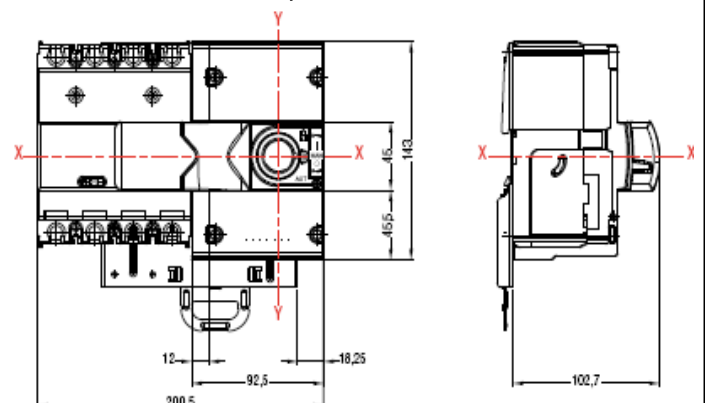


	A	B	C	D	E	F	G	H
250	66,5	22,5	6	8,4	15,5	44	15	80

3.4 Fixed version, front motor operator



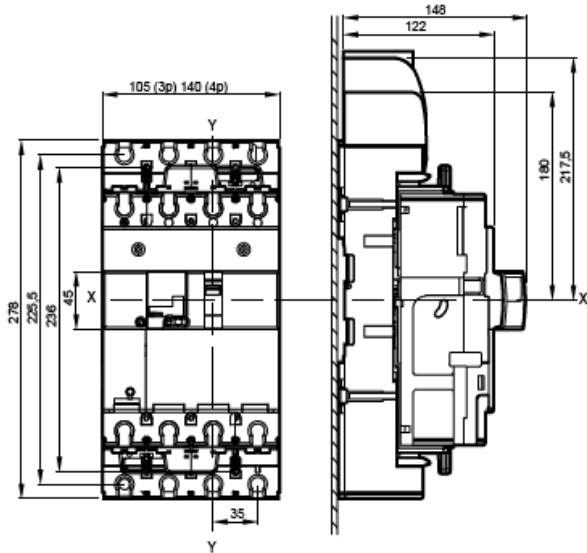
3.5 Fixed version, side motor operator



DPX³ 250 Electronic

Reference(s): 420 302/305/307/309/312/315/317/319/332/335/
337/339/342/345/347/349/362/365/367/369/372/375/377/379/635/637/
638/639/645/647/648/649/502/505/507/509/512/515/517/519/522/525/
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697/699/702/705/707/709/402/405/407/409/412/415/417/419/432/435/
437/437/439/442/445/447/449/462/465/467/469/472/475/477/479/665/
667/668/669/675/677/678/679

3.6 Plug-in version



4. ELECTRICAL AND MECHANICAL CHARACTERISTICS

4.1 Breaker technical characteristics

Circuit breaker	DPX ³ 250
Rated current I _n (A)	40-250
Rated insulation voltage U _i (V)	800
Rated operational voltage U _e (V)	690 V (ac)
Rated impulse withstand voltage U _{imp} (kV)	8
Ambient temperature (°C)	40
Endurance electrical / mechanical	8000/20000
Utilization category	A
Releases type	electronic
Nominal frequency (Hz)	50-60
Thermal adjustment	0,4 ÷ 1 I _n
Magnetic threshold	1,5 ÷ 10 x I _r

4.2 Breaking capacity (KA)

Breaking capacity I _{cu} and I _{cs} in AC (kA)					
	U _e	25 kA	36 kA	50 kA	70 kA
I _{cu} (kA)	220/240V	40	60	80	100
	380/415V	25	36	50	70
	440V	20	30	40	60
	480/500V	10	25	30	40
	690V	8	16	18	20
I _{cs} (%I _{cu})	-	100	100	100	100

4.3 Derating temperature Ta (°C)

Influence of ambient temperature Ta(°C)				
I _n (A)	40	50	60	70
40	40	37	34	30
100	100	92	84	76
160	160	147	134	122
250	250	230	210	190

There is no derating below 40°C.

4.4 Breaker power loss (W)

Power loss DPX ³ 250 ELE(W)				
I _n (A) ---->	40	100	160	250
Cage terminals	0,3	2,0	5,1	12,5
Lugs	0,3	2,0	5,1	12,5
External terminals	0,3	2,0	5,1	12,5
Spreaders	0,3	2,0	5,1	12,5
Rear terminals	0,3	2,0	5,1	12,5
Plugin version	0,6	4,0	10,2	25,0

4.5 Altitude

Altitude (m)				
	Altitude (m)	≤2000	3000	4000
DPX ³ 250	Rated current (A)	1 x I _n	0,96 x I _n	0,93 x I _n
	Rated voltage (V)	500	500	400

4.6 Loads operation

Loads operation	
Rated current (A)	I _n =250
Opening (N)	45
Closing (N)	78
Reset (N)	75

4.7 Measure

Current	phase and neutral	I1,I2,I3,IN	Class I according to IEC 61557-12
	phases average	Iavg	Class I according to IEC 61557-12
	higher phase	I _{max}	Class I according to IEC 61557-12
	current unbalance	%Iavg	Class I according to IEC 61557-12
Voltage	Phase/phase	U12,U23, U31	0.50%
	Phase/neutral	V1N,V2N,V3N	0.50%
	phase/phase avg.	Uavg	0.50%
	Phase/neutral avg.	Vavg	0.50%
	Phases rotation	123,132	0.50%
Frequency	Electrical network	F	0.10%
Power	active	P,tot & for phase	Class II according to IEC 61557-12
	reactive	Q,tot & for phase	Class II according to IEC 61557-12
	apparent	R,tot & for phase	Class II according to IEC 61557-12

DPX³ 250 Electronic

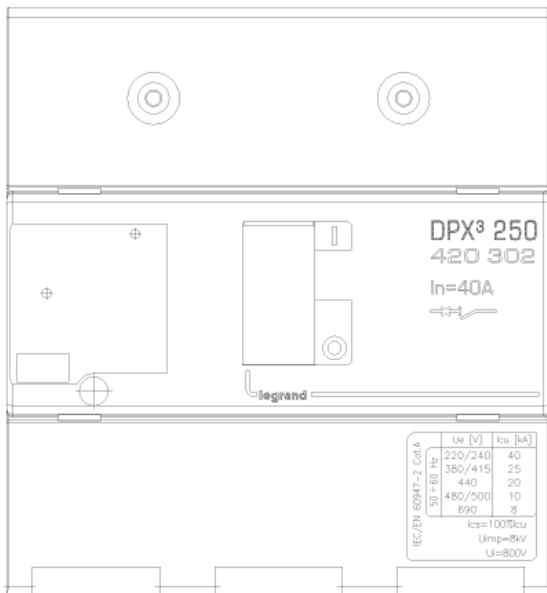
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638/639/645/647/648/649/502/505/507/509/512/515/517/519/522/525/
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437/437/439/442/445/447/449/462/465/467/469/472/475/477/479/665/
667/668/669/675/677/678/679

Energy	active	Last reset	Class II according to IEC 61557-12
	reactive	Last reset	Class II according to IEC 61557-12
	apparent	Last reset	Class II according to IEC 61557-12
THD	voltage	Pha./pha. & phase/neutral	Range 1 to 15°
	current	Phase/neutral	Range 1 to 15°

5. CONFORMITY

IEC 60947-2
EN 60947-2

6. MARKING



7. NAVIGATION

I_r	0.4 x I _n ÷ 1 x I _n
t_r	3 – 5 – 10 – 15 – MEM 3 – MEM 5 – MEM 10 – MEM 15
I_{sd}	1.5I _r – 2I _r – 2.5I _r – 3I _r – 4I _r – 5I _r – 6I _r – 7I _r – 8I _r – 9I _r – 10I _r
t_{sd}	0-100-200-300-400-500- I _t =K 0 500
N	OFF – 50% - 100%
sel	Lo - Hi
I1	I L1 measured value present
I2	I L2 measured value present
I3	I L3 measured value present
IN	I N measured value present
MEM I_r	Measured value of last intervention

8. EQUIPMENTS AND ACCESSORIES

8.1 Releases

- Shunt releases with voltage:
 - 12 Vac/dc ref. 421 012
 - 24 Vac/dc ref. 421 013
 - 48 Vac/dc ref. 421 014
 - 110-130 Vac ref. 421 015
 - 200-277 Vac ref. 421 016
 - 380-480 Vac ref. 421 017

- undervoltage releases with voltage:
 - 12 Vac/dc ref. 421 018
 - 24 Vac/dc ref. 421 019
 - 48 Vac/dc ref. 421 020
 - 110 Vac ref. 421 021
 - 200-240 Vac ref. 421 022
 - 277 Vac ref. 421 023
 - 380-415 Vac ref. 421 024
 - 440-480 Vac ref. 421 025

- auxiliary contact:
 - set of connectors for aux contacts ref. 421 044
 - aux contacts and fault signal ref. 421 011
 - aux contacts (1NC and 1 NO) for all rotary handles ref. 421 010
 - inserted device signal ref. 421 048

8.2 Rotary handles :

- Direct:
- DPX³ direct rotary handle ele / earth leakage ref. 421 001
 - DPX³ emergency direct rotary handle ele / earth leakage ref. 421 003

- Vari-depht:
- DPX³ vari depth rotary handle ref. 421 004
 - DPX³ emergency vari depth rotary handle ref. 421 005

- Locking accessories
- locking acc. for direct rotary handle - ronis ref. 421 006
 - locking acc. for direct rotary handle - profalux ref. 421 007
 - locking acc. for vari depth rotary handle - ronis ref. 421 008
 - locking acc. for vari depth rotary handle – profalux ref. 421 009

8.3 Mechanical accessories :

- Insulated shields
- Set of 3 ref. 421 070

- Sealable terminal shields
- sealable terminal shield for rear terminals 250 3P ref. 421 052
 - sealable terminal shield for rear terminals 250 4P ref. 421 053
 - sealable terminal shield for front spreaders 250 3P ref. 421 056
 - sealable terminal shield for front spreaders 250 4P ref. 421 057

- Padlocks
- DPX³ padlock accessory for handle (off) ref. 421 049

- Interlock:
- DPX³ interlock mounting plate ref. 421 058
 - DPX³ interlock for plug-in / draw-out version ref. 421 059

8.4 Connection's accessories :

- Cage terminals
- cage terminals for al or cu cables kit (3) - flex 1x120mm², rigid 1x150mm², bar/cable lug 18mm ref. 421 030
 - cage terminals for al or cu cables kit (4) - flex 1x120mm², rigid 1x150mm², bar/cable lug 18mm ref. 421 031

DPX³ 250 Electronic

Reference(s): 420 302/305/307/309/312/315/317/319/332/335/
337/339/342/345/347/349/362/365/367/369/372/375/377/379/635/637/
638/639/645/647/648/649/502/505/507/509/512/515/517/519/522/525/
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667/668/669/675/677/678/679

Front spreaders

- DPX³ front spreaders for 3P DPX³ 250 (3) ref. 421 034
- DPX³ front spreaders for 4P DPX³ 250 (4) ref. 421 035

Rear terminals

- DPX³ flat rear terminals for 3P DPX³ 250 (3) ref. 421 038
- DPX³ flat rear terminals for 4P DPX³ 250 (4) ref. 421 039

8.5 Plug-in version

Bases

- front/rear terminals plug-in base 3P DPX³250 ref. 421 042
- front/rear terminals plug-in base 4P DPX³ 250 ref. 421 043

Locking accessories

- locking accessory for plug-in base – ronis ref. 421 045
- locking accessory for plug-in base – profalux ref. 421 046
- padlock accessory for plug-in base ref. 421 047

8.6 Motor operator

- side motor operator 24-230 Vac - 24-230 Vdc ref. 421 060
- front motor operator 24-230 Vac - 24-230 Vdc ref. 421 061

Locking accessories for front motor operator:

- locking acc. for front motor operator - ronis ref. 421 062
- locking acc. for front motor operator – profalux ref. 421 063
- padlock selector for front motor operator ref. 421 064

Locking accessories for side motor operator:

- locking acc. for side motor operator - ronis ref. 421 065
- locking acc. for side motor operator – profalux ref. 421 066
- padlock selector for side motor operator ref. 421 067

Din plate:

- DPX³ din plate for motor operator DPX³ 250 ref. 421 069

8.7 Mounting on rail fixing plate

- DPX³ din rail fixing plate DPX³ 250 3P/4P ref. 421 072

8.8 Communication interface

- DPX³ communication interface (Modbus) ref. 421 075

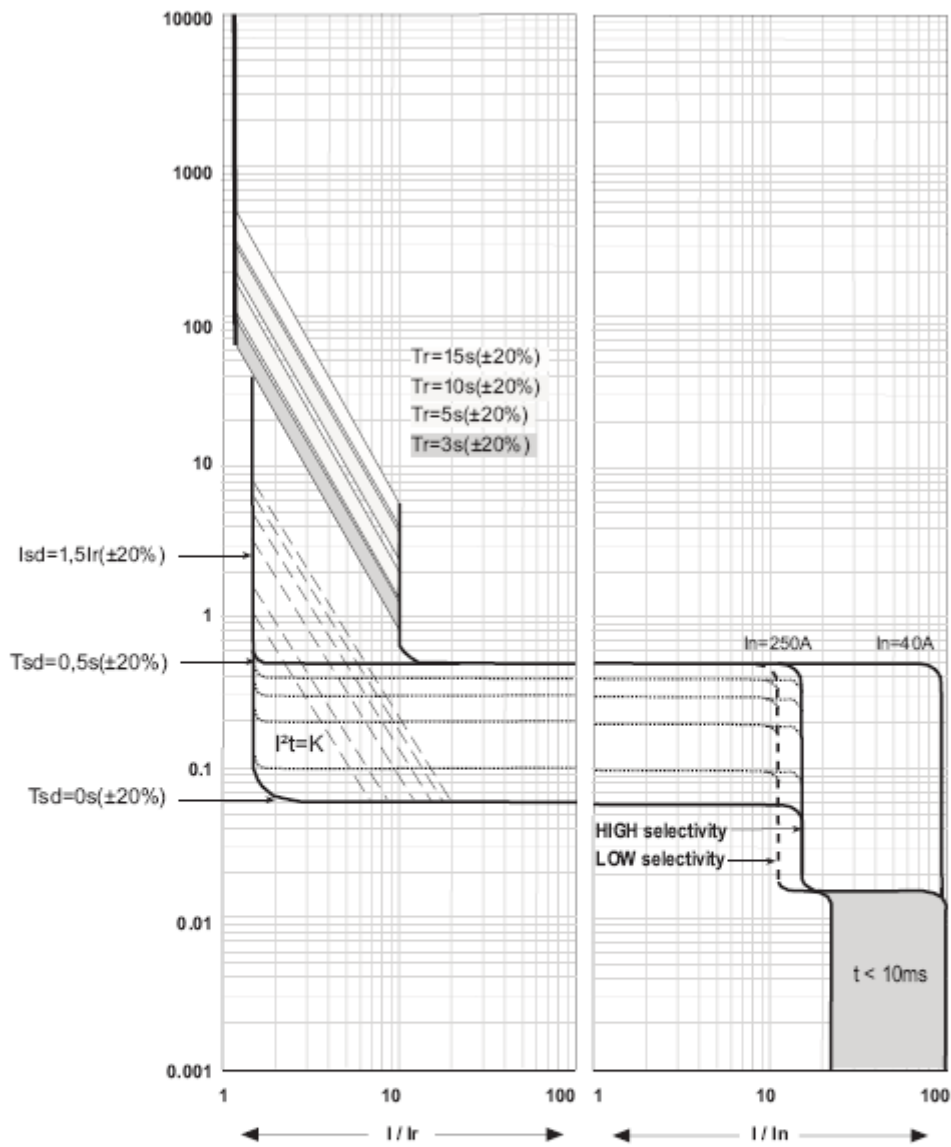
8.9 Supply

- Lithium battery CR1616 3V x 2 ref. 421 082
- External power supply 12V ref. 288 06

- Minimum current for electronic card supply : $0.2 \times I_n$
- Auxiliary supply by 421 075 (24 V ac/dc);

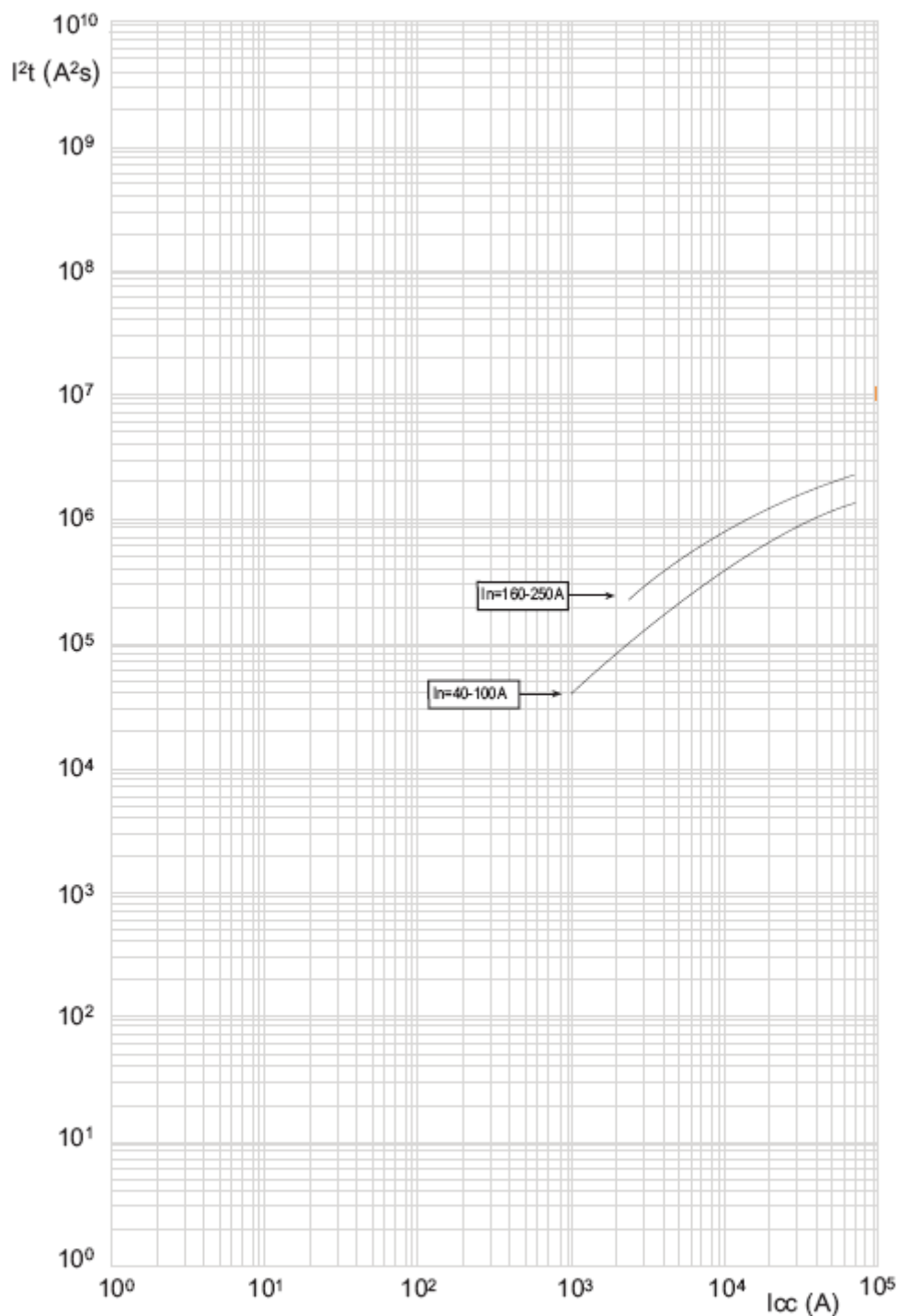
9. CURVES

9.1 TRIPPING CURVE



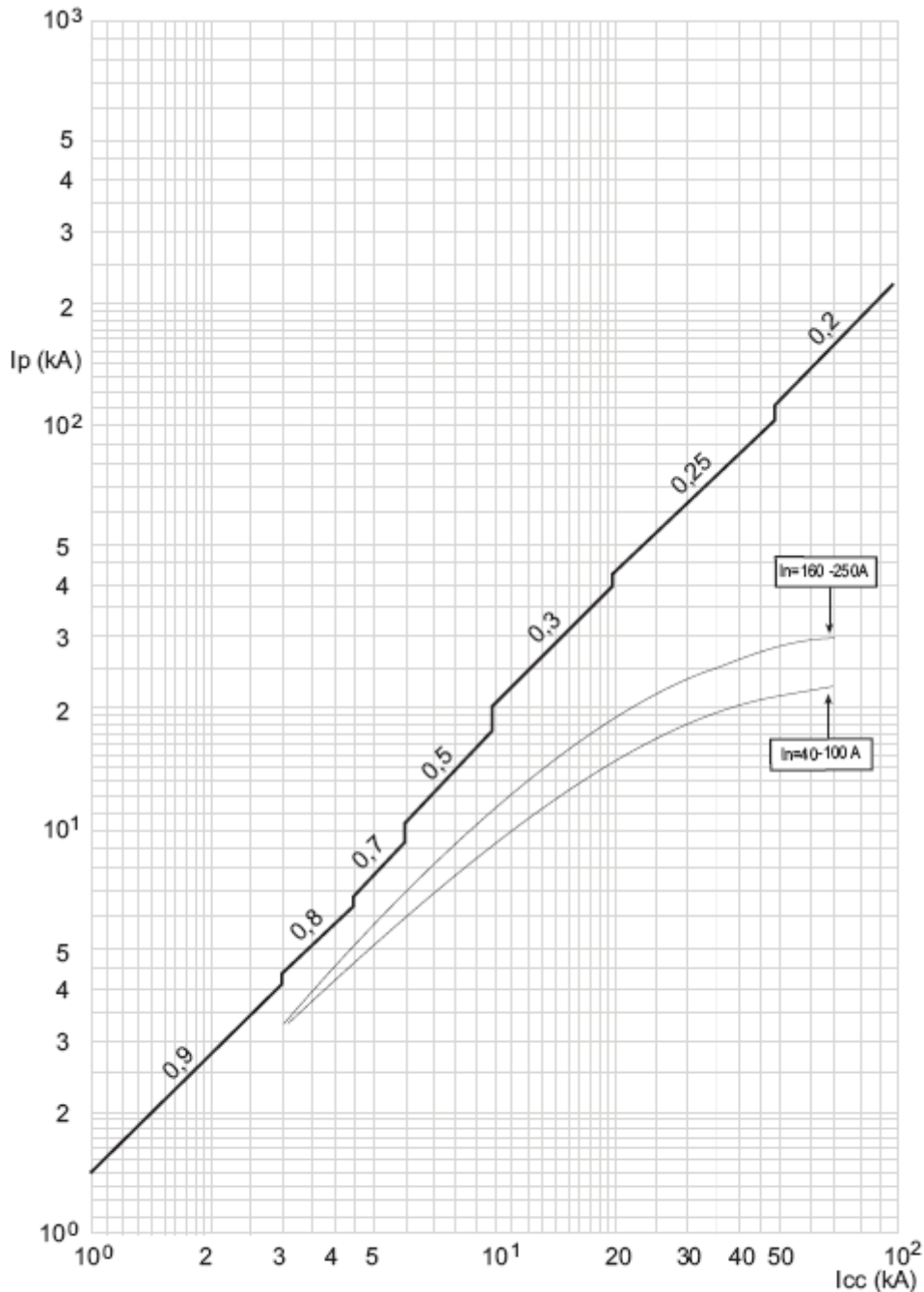
t = time
 I = rated current □
 Ir = setting current
 curve number 1 = characteristic with cold start
 curve number 2 = characteristic with hot start

9.2 Energy curve



I_{cc} = estimated short circuit symmetrical current (RMS value)
 I²t (A²s) = pass-through specific energy

9.3 Restricted current curve

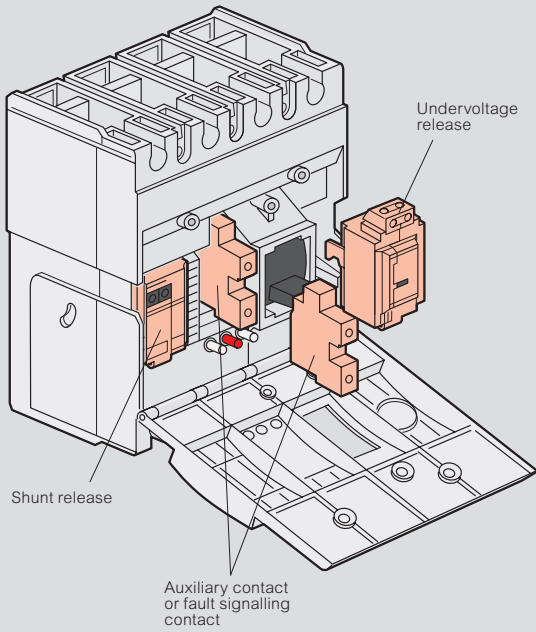


I_{cc} = estimated short circuit symmetrical current (RMS value)
 I_p = maximum short circuit peak current
 - - - - - maximum prospective short circuit peak current
 corresponding at the power factor
 ——— maximum real peak short circuit current

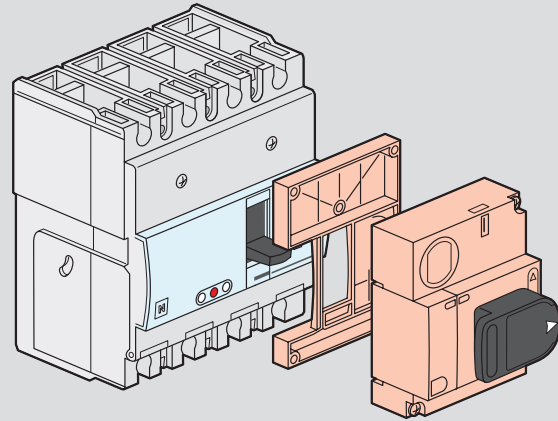
DPX³ 160/250

installation principle

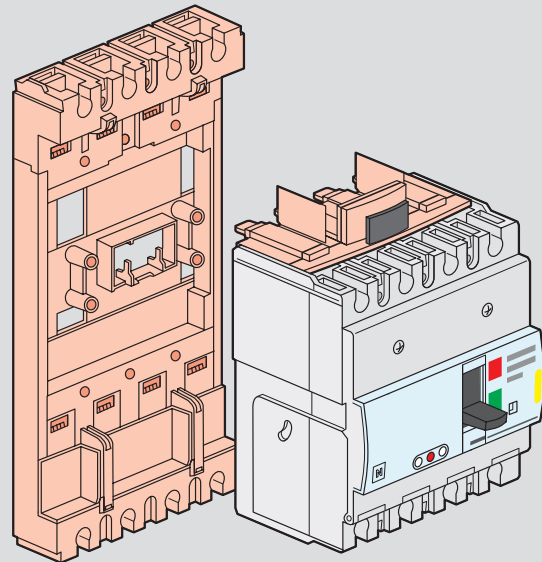
Auxiliaries mounting



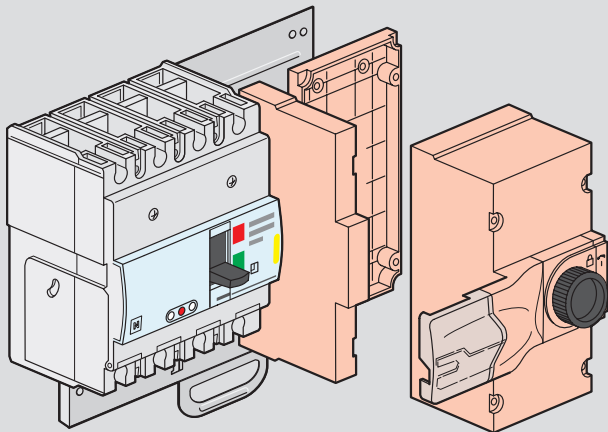
Direct rotary handle



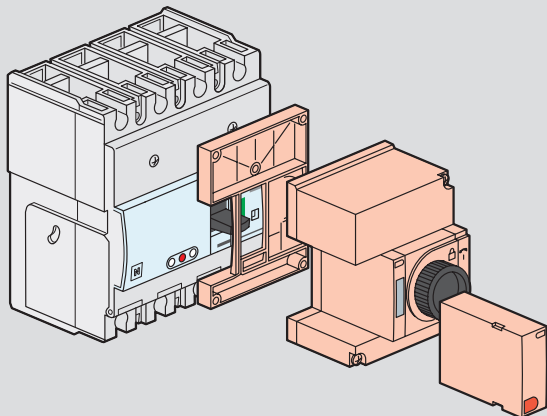
Plug-in version



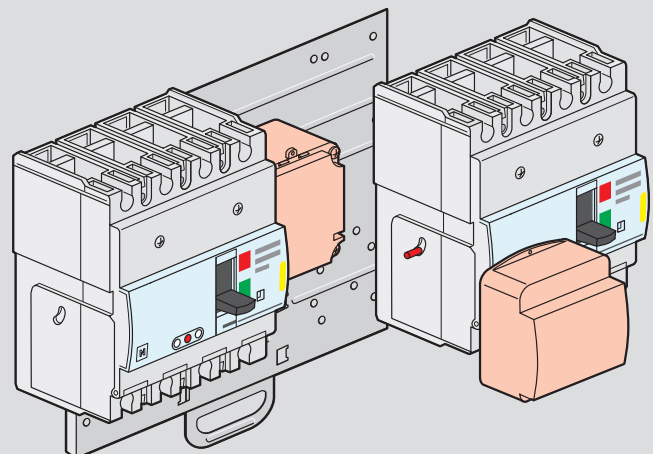
Side mounting motor-driven handle

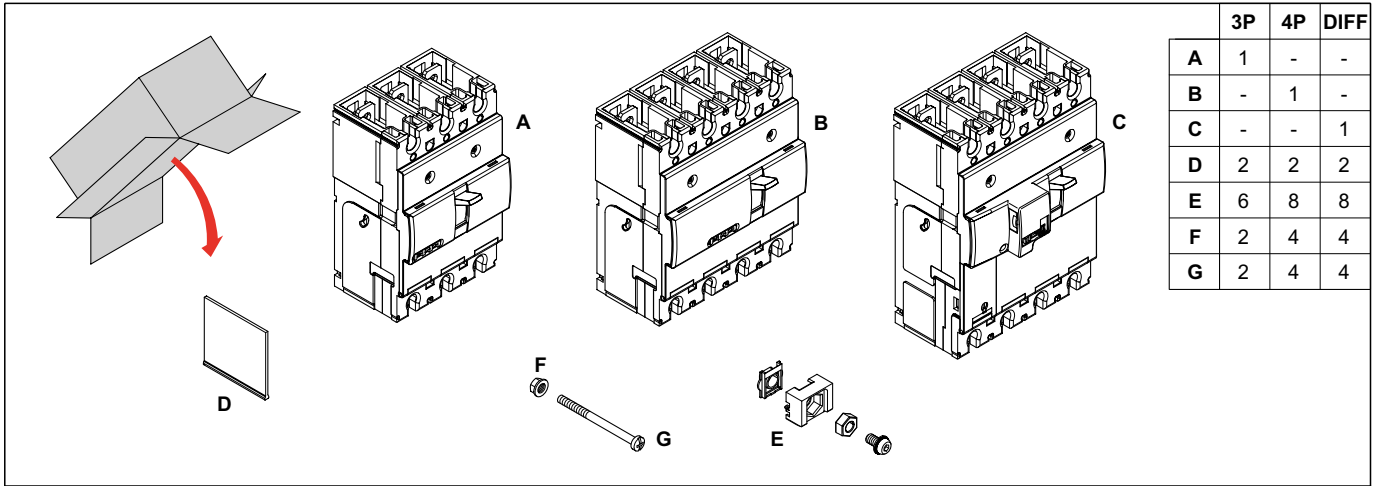


Front mounting motor-driven handle



Supply inverter type





	3P	4P	DIFF
A	1	-	-
B	-	1	-
C	-	-	1
D	2	2	2
E	6	8	8
F	2	4	4
G	2	4	4

