



CATALOGUE

2007-2008

PRODUCTS AND SYSTEMS
FOR ELECTRICAL INSTALLATIONS
AND INFORMATION NETWORKS

 **legrand**[®]



Lexic Din-rail equipment

Protection:
- LR
- DX
- DX-H
- DX-D
- DX-L

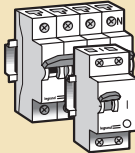
Voltage surge
protectors, fuse
carriers and fuses

Switches and
remote control

Power supply,
heating and
dimmers



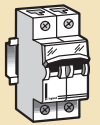
P. 120
Presentation
of LR MCBs



P. 121
LR **6000** MCBs from
6 to 63 A and RCD



P. 122
Presentation
of Lexic



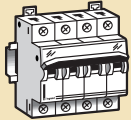
P. 124
DX-E **6000** 6 kA
MCBs from
6 to 63 A



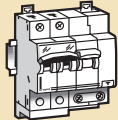
P. 125
DX-IS
isolating
switches



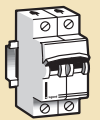
P. 126
DX RCD



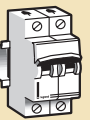
P. 128
DX **6000** 10 kA
MCBs from
0.5 to 63 A



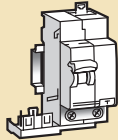
P. 129
DX **6000** 10 kA
RCBO



P. 130
DX-H **10000** 25 kA
MCBs from
2 to 125 A



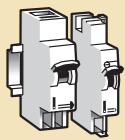
P. 131
DX **6000** 15 kA
MCBs from
1 to 125 A



P. 132
DX
add-on modules



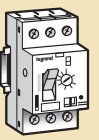
P. 133
DX-L 50 kA MCBs
from 10 to 63 A



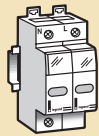
P. 133
DX
auxiliaries,
remote control



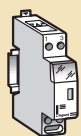
P. 134
Technical
characteristics



P. 137
MPCBs



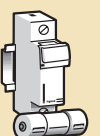
P. 138
Voltage surge
protectors



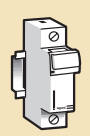
P. 139
Voltage surge
protectors for
telephone lines



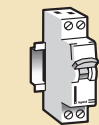
P. 140
Technical
characteristics



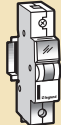
P. 144
Domestic fuse
carriers, domestic
cartridge fuses



P. 145
Isolating fuse
carriers



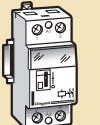
P. 145
Changeover
switches



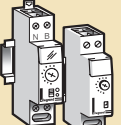
P. 146
Push-buttons,
control switches,
indicators



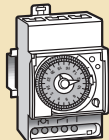
P. 146
Pulse operated
latching relays



P. 148
Power
contactors



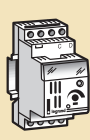
P. 150
Time-lag switches,
time delay relays



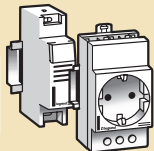
P. 152
Time switches with
analogue dial



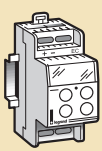
P. 153
Time switches with
digital display



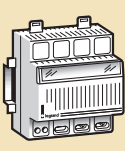
P. 154
Light sensitive
switches



P. 155
Transformers,
buzzers/bells,
socket outlets,
special supports



P. 156
Dimmers



P. 158
Power
supplies

New in 2007



MPCBs
(p. 137)



Time delay relays
(p. 151)



Dimmers
(p. 156)

LR: MCBs and RCDs

The LR range provides a simple solution for the protection requirements of people and property on the domestic market. It is easy to incorporate in NX distribution cabinets: an efficient, high-performance system

The range

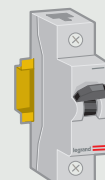
RCDs

- AC and A type
- Ratings: 25, 40 and 63 A
- Sensitivity: 30, 100 and 300 mA
- 2P and 4P
- Surface mounted cylindrical test button



MCBs

- B and C curves
- Ratings: 2 to 63 A
- 1P, 1P+N, 2P, 3P, 3P+N, 4P
- Breaking capacity:
IEC 60947-2
10 000 A on 127/220 V~
6 000 A on 230/400 V~



NX flush mounting distribution cabinets

- From 4 to 36 modules
- White and transparent plastic door



LEGRAND ADVANTAGES

- 1 Complete, short range
- 2 Special marking on front panel
- 3 Clamps at the bottom for fixing on rail



See the on-line catalogue:
instructions, technical data sheets, etc.

MCBs and RCDs LR™ 6000

thermal magnetic MCBs from 6 A to 63 A - B and C curves
RCDs AC and A types



6048 96



6048 50



6021 93



6021 53



Dimensions (p. 159)

• MCBs: Conform to IEC 60898

Breaking capacity: 6000 - IEC 60898 - 230/400 V~ / 6 kA - IEC 60947-2 - 230/400 V~

10000 - IEC 60898 - 127/220 V~ / 10 kA - IEC 60947-2 - 127/220 V~

Do not accept auxiliaries, and add-on modules

• RCDs: Conform to IEC 61008-1

Do not accept auxiliaries

Pack	Cat.Nos		MCBs	
10			Single pole - 230/400 V~	
	B curve	C curve	In	Number of modules
	6049 02	6048 02	6 A	1
	6049 03	6048 03	10 A	1
	6049 04	6048 04	13 A	1
	6049 05	6048 05	16 A	1
	6049 06	6048 06	20 A	1
	6049 07	6048 07	25 A	1
	6049 08	6048 08	32 A	1
	6049 09	6048 09	40 A	1
	6049 10	6048 10	50 A	1
	6049 11	6048 11	63 A	1
		Single pole + neutral ⁽¹⁾ - 230 V~		
5	C curve		In	Number of modules
	6048 90		6 A	2
	6048 91		10 A	2
	6048 92		13 A	2
	6048 93		16 A	2
	6047 90		20 A	2
	6047 91		25 A	2
5	6047 92		32 A	2
		2-pole - 400 V~		
5	B curve	C curve	In	Number of modules
	6049 17	6048 17	6 A	2
	6049 18	6048 18	10 A	2
	6049 19	6048 19	13 A	2
	6049 20	6048 20	16 A	2
	6049 21	6048 21	20 A	2
	6049 22	6048 22	25 A	2
	6049 23	6048 23	32 A	2
	6049 24	6048 24	40 A	2
	6049 25	6048 25	50 A	2
5	6049 26	6048 26	63 A	2
		3-pole - 400 V~		
1	B curve	C curve	In	Number of modules
	6049 32	6048 32	6 A	3
	6049 33	6048 33	10 A	3
	6049 34	6048 34	13 A	3
	6049 35	6048 35	16 A	3
	6049 36	6048 36	20 A	3
	6049 37	6048 37	25 A	3
	6049 38	6048 38	32 A	3
	6049 39	6048 39	40 A	3
	6049 40	6048 40	50 A	3
1	6049 41	6048 41	63 A	3
		3-pole + neutral ⁽¹⁾ - 400 V~		
1	C curve		In	Number of modules
	6047 96		6 A	4
	6048 94		10 A	4
	6048 95		13 A	4
	6048 96		16 A	4
	6048 97		20 A	4
	6048 98		25 A	4
	6048 99		32 A	4
	6047 97		40 A	4
	6047 98		50 A	4
1	6047 99		63 A	4

Pack	Cat.Nos		MCBs (continued)	
	C curve		4-pole - 400 V~	
1	6048 47		In	Number of modules
1	6048 48		6 A	4
1	6048 50		10 A	4
1	6048 51		16 A	4
1	6048 52		20 A	4
1	6048 53		25 A	4
1	6048 54		32 A	4
1	6048 55		40 A	4
1	6048 56		50 A	4
1	6048 56		63 A	4

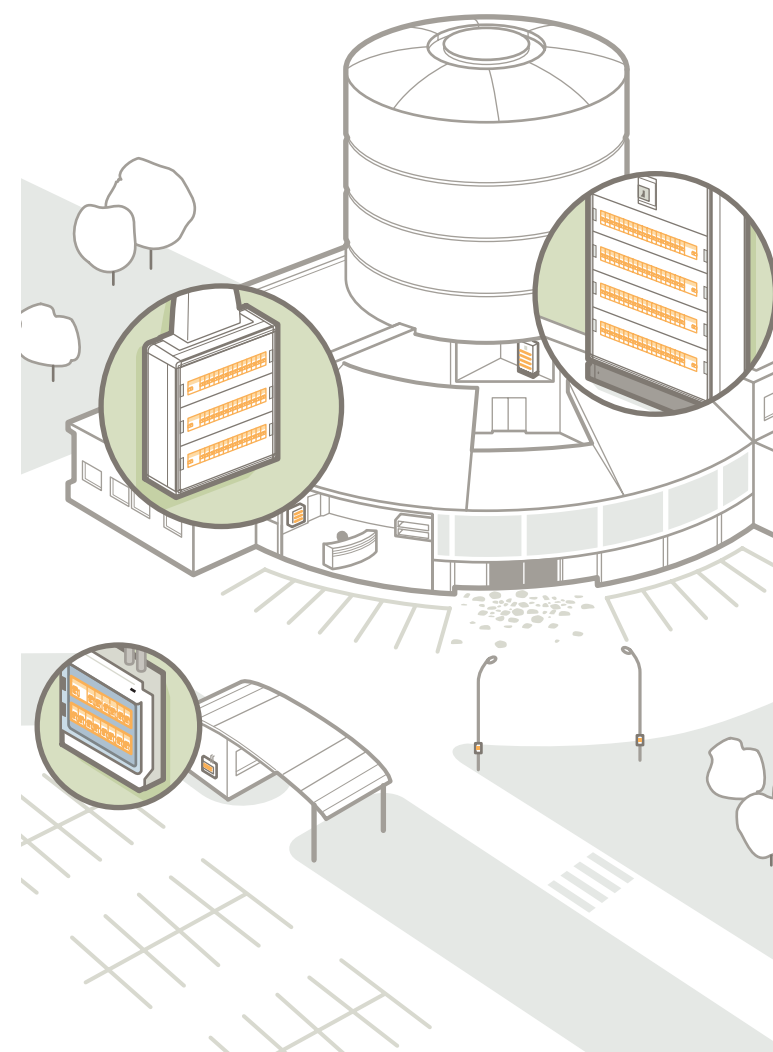
	AC type	A type	RCDs	
			2-pole - 230 V~ - 30 mA	
			Nominal rating (A)	Number of modules
1	6021 36	6021 93	25	2
1	6021 37		40	2
1	6021 38		63	2
2-pole - 230 V~ - 100 mA				
1	6021 39	6021 94	25	2
1	6021 40		40	2
2-pole - 230 V~ - 300 mA				
1	6021 42	6021 95	25	2
1	6021 43		40	2
1	6021 44		63	2
4-pole ⁽¹⁾ - 400 V~ - 30 mA				
1	6021 46	6021 94	25	4
1	6021 47		40	4
1	6021 48		63	4
4-pole ⁽¹⁾ - 400 V~ - 100 mA				
1	6021 49	6021 95	25	4
1	6021 50		40	4
4-pole ⁽¹⁾ - 400 V~ - 300 mA				
1	6021 52	6021 95	25	4
1	6021 53		40	4

(1) Neutral on right-hand side

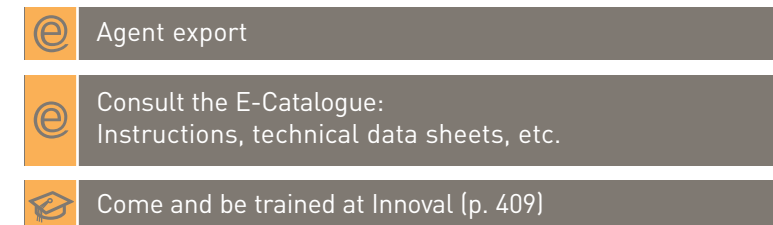
Lexic modular din-rail equipment

Lexic, Legrand's modular wiring accessories for rails U_T , give you the freedom to organise your distribution board as you please, and give you a complete and innovative choice of functions

Choice



>>> distribution cabinets (p. 162)

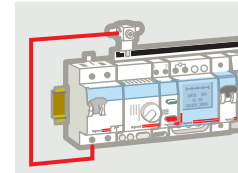


FREEDOM OF INSTALLATION

- Busbar attachment
- Organisation of rows
- Distribution via busbar
- Alignment quality of rows

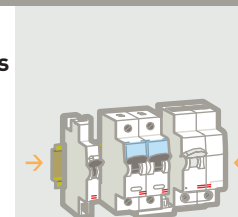


- Labelling using integrated label-holder on the device.

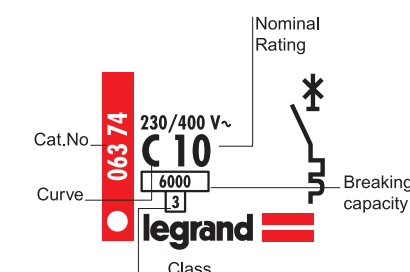


SIMPLICITY OF INSTALLATION

- The auxiliaries common to MCBs, isolating switches and RCDs, are mounted to the left of the devices
- Add-on modules are mounted to the right of MCBs
- Each device can be removed independently, without unscrewing.

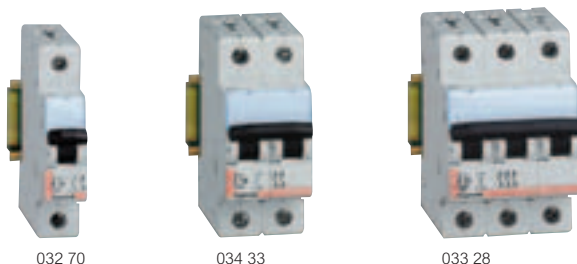


STANDARDISED INFORMATION



MCBs DX-E 6 000 - 6 kA

thermal magnetic MCBs from 6 to 63 A
B and C curves



Dimensions (p. 159)
Technical characteristics (p. 134)

Breaking capacity
6 000 - IEC 60898 - 400 V
6 kA - IEC 60947-2 - 400 V
Do not accept add-on modules

Pack	Cat.Nos		Single pole - 230/400 V~	
	B curve	C curve	Nominal rating (A)	Number of modules
10	032 66	033 82	6	1
10	032 68	033 84	10	1
10	032 69	033 85	13	1
10	032 70	033 86	16	1
10	032 71	033 87	20	1
10	032 72	033 88	25	1
10	032 73	033 89	32	1
10	032 74	033 90	40	1
10	032 75	033 91	50	1
10	032 76	033 92	63	1

	B curve	C curve	Nominal rating (A)	Number of modules
5	033 08	034 29	6	2
5	033 10	034 31	10	2
5	033 11	034 32	13	2
5	033 12	034 33	16	2
5	033 13	034 34	20	2
5	033 14	034 35	25	2
5	033 15	034 36	32	2
5	033 16	034 37	40	2
5	033 17	034 38	50	2
5	033 18	034 39	63	2

	B curve	C curve	Nominal rating (A)	Number of modules
1	033 22	034 47	6	3
1	033 24	034 49	10	3
1	033 25	034 50	13	3
1	033 26	034 51	16	3
1	033 27	034 52	20	3
1	033 28	034 53	25	3
1	033 29	034 54	32	3
1	033 30	034 55	40	3
1	033 31	034 56	50	3
1	033 32	034 57	63	3

	B curve	C curve	Nominal rating (A)	Number of modules
1	033 68	034 89	6	4
1	033 70	034 91	10	4
1	033 71	034 92	13	4
1	033 72	034 93	16	4
1	033 73	034 94	20	4
1	033 74	034 95	25	4
1	033 75	034 96	32	4
1	033 76	034 97	40	4
1	033 77	034 98	50	4
1	033 78	034 99	63	4

Auxiliaries and accessories for MCBs (p. 133)

Supply busbars (p. 231)

XL PRO²



The software for distribution panel designers

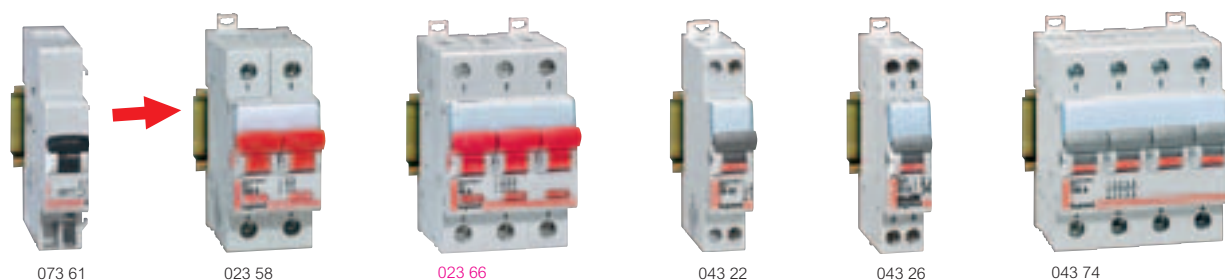
Designed as a veritable digital workshop, XL PRO² software significantly boosts distribution panel administration



- > Select the required products
- > Calculate the corresponding types of enclosures
- > View the layout of the products in the enclosures
- > Automatically generate the wiring diagram for your installation
- > Work out the cost

isolating switches DX™ - IS

16 to 125 A



Dimensions (p. 159)
Technical characteristics (p. 127)

Mounting on rail EN 60715
Breaking capacity AC 22 A according to IEC 60947 - 3
Double break contacts

Pack	Cat.Nos	Remote trip head isolating switches	
		Visible load break Visual indication of the actual state of the contacts: • Closed position or fault (red Light I-ON) • Open position (green Light O-OFF) on handle In the event of a fault on opening, the red position indicator signals the faulty pole, the handle in the central position Red handle (incoming device) Common auxiliaries to DX (p. 133)	
		2P - 400 V~	
		Nominal rating (A)	Number of modules
2	023 56	40	2
2	023 57	63	2
2	023 58	100	2
2	023 59	125	2
		3P - 400 V~	
1	023 66	40	3
1	023 67	63	3
1	023 68	100	3
1	023 69	125	3
		4P - 400 V~	
1	023 76	40	4
1	023 77	63	4
1	023 78	100	4
1	023 79	125	4

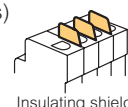
Pack	Cat.Nos	Isolating switches	
		1P - 250 V~	
		Nominal rating (A)	Number of modules
10	043 01	16	1
10	043 02	20	1
10	043 05	32	1
10	043 07	40	1
10	043 10	63	1
10	043 14	100	1
		1P with indicator - 250 V~ Supplied with lamp	
10	043 03	20	1
		2P - 400 V~	
10	043 21	16	1
10	043 22	20	1
10	043 25	32	1
5	043 27	40	2
5	043 30	63	2
5	043 34	100	2
5	043 38	125	2
		2P with indicator - 250 V~ Supplied with lamp	
10	043 23	20	1
10	043 26	32	1

Pack	Cat.Nos	Isolating switches (continued)	
		3P - 400 V~	
		Nominal rating (A)	Number of modules
5	043 42	20	2
5	043 45	32	2
3	043 47	40	3
3	043 50	63	3
3	043 54	100	3
3	043 58	125	3
		4P - 400 V~	
5	043 62	20	2
5	043 65	32	2
2	043 67	40	4
2	043 70	63	4
2	043 74	100	4
2	043 78	125	4

Pack	Cat.Nos	Command auxiliaries	
		Mounting on left-hand side of remote trip head isolating switches	
		Shunt releases	Number of modules
1	073 60	12 to 48 V~/~	1
1	073 61	110 to 415 V~/~	1
		Undervoltage releases	
1	073 68	Time delay adjustable from 0 to 300 ms 230 V~	1

Pack	Cat.Nos	Signalling auxiliaries	
		Mounting on all isolating switches DX-IS	
1	073 50	Auxiliary changeover switch 6 A - 250 V~	0.5
1	073 54	Auxiliary changeover switch 6 A - 250 V~ + fault signalling switch	1
		Can be modified to 2 auxiliary changeover switches	

Pack	Cat.Nos	Accessories	
2	044 42	Support for Ø5 mm and Ø6 mm padlock	
1/3	044 43	Padlock Ø5 mm	
1	227 97	Padlock Ø6 mm	
2	044 44	Sealable screw cover (4 separate poles)	
6	044 47	Insulating shield	



For three-phase version, please consult us

Bold pack quantities: Minimum quantities to be ordered
Red catalogue numbers: New products

RCDs - DX™

residual current devices AC, A and Hpi types



6027 10



090 53



090 74



091 47

Dimensions (p. 159)
Technical characteristics (p. 127, 134)

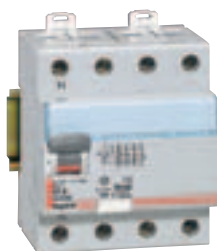
- AC type: detect AC component faults
 - A type: detect AC and DC component faults
 - Hpi type (High immunity): detect AC and DC component faults
- Enhanced immunity to unwanted tripping in disturbed environments
Conform to IEC 61008 - 1

Pack	Cat.Nos	2-pole - 230 V~	
		AC type	10 mA
		Nominal rating (A)	Number of modules
1	089 06	16	2
		AC type	30 mA
		Nominal rating (A)	Number of modules
1	089 09	25	2
1	089 10	40	2
1	089 11	63	2
1	089 12	80	2
1	6027 10	100	2
		AC type	100 mA
		Nominal rating (A)	Number of modules
1	089 15	25	2
1	089 16	40	2
1	089 17	63	2
1	089 18	80	2
		AC type	300 mA
		Nominal rating (A)	Number of modules
1	089 27	25	2
1	089 28	40	2
1	089 29	63	2
1	089 30	80	2
1	6027 12	100	2
		A type	10 mA
		Nominal rating (A)	Number of modules
1	090 53	16	2
		A type	30 mA
		Nominal rating (A)	Number of modules
1	090 56	25	2
1	090 57	40	2
1	090 58	63	2
1	090 59	80	2
		A type	300 mA
		Nominal rating (A)	Number of modules
1	090 74	25	2
1	090 75	40	2
1	090 76	63	2
1	090 77	80	2
		Hpi type	30 mA
		Nominal rating (A)	Number of modules
1	088 22	25	2
1	088 23	40	2
1	088 24	63	2

Pack	Cat.Nos	4-pole - 400 V~ - Neutral on right-hand side	
		AC type	30 mA
		Nominal rating (A)	Number of modules
1	089 93	25	4
1	089 94	40	4
1	089 95	63	4
1	089 96	80	4
		AC type	100 mA
		Nominal rating (A)	Number of modules
1	089 99	25	4
1	090 00	40	4
1	090 01	63	4
1	090 02	80	4
		AC type	300 mA
		Nominal rating (A)	Number of modules
1	090 11	25	4
1	090 12	40	4
1	090 13	63	4
1	090 14	80	4
		AC type	300 mA (s)
		Nominal rating (A)	Number of modules
1	090 18	40	4
1	090 19	63	4
		AC type	500 mA
		Nominal rating (A)	Number of modules
1	090 23	25	4
1	090 24	40	4
1	090 25	63	4
1	090 26	80	4
		A type	30 mA
		Nominal rating (A)	Number of modules
1	091 40	25	4
1	091 41	40	4
1	091 42	63	4
1	091 43	80	4
1	091 44	100	4
		A type	100 mA
		Nominal rating (A)	Number of modules
1	091 46	25	4
1	091 47	40	4
1	091 48	63	4
1	091 49	80	4
1	091 50	100	4
		A type	300 mA
		Nominal rating (A)	Number of modules
1	091 58	25	4
1	091 59	40	4
1	091 60	63	4
1	091 61	80	4
1	091 62	100	4

RCDs - DX™

residual current devices AC, A and Hpi types (continued)



086 95



Dimensions (p. 159)

Technical characteristics (p. 127, 134)

- AC type: detect AC component faults
 - A type: detect AC and DC component faults
 - Hpi type (High immunity): detect AC and DC component faults
- Enhanced immunity to unwanted tripping in disturbed environments
Conform to IEC 61008 - 1

Pack	Cat.Nos	4-pole - 400 V~ - Neutral on right-hand side (continued)	
		A type	300 mA (s)
		Nominal rating (A)	Number of modules
1	091 65	40	4
1	091 66	63	4
		A type	500 mA
1	091 71	40	4
1	091 72	63	4
1	091 73	80	4
1	091 74	100	4
		Hpi type	30 mA
1	6021 08	25	4
1	6021 09	40	4
1	6021 10	63	4

		4-pole - 400 V~ - Neutral on left-hand side	
		AC type	30 mA
		Nominal rating (A)	Number of modules
1	086 93	25	4
1	086 94	40	4
1	086 95	63	4
		A type	30 mA
1	090 98	25	4
1	090 99	40	4
1	091 00	63	4

DX™- IS isolating switches and DX-RCDs performance of circuit breakers

■ DX - IS isolating switches

Approvals: USE, VDE (except 63 A in process), BBJ and KEMA (in process)

Electrical characteristics

Thermal rating (Hh)	16 - 32 A	40 - 63 A	100 - 125 A
Connection	flexible	1.5 to 25 mm ²	6 to 35 mm ²
	rigid	1.5 to 35 mm ²	4 to 50 mm ²
Isolating voltage (Hi)	250 - 400 V~	250 - 400 V~	250 - 400 V~
Impulse withstand voltage (Uimp)	4 kV	4 kV	4 kV
Category of use ⁽¹⁾	AC 22 A AC 23 A	AC 22 A AC 23 A	AC 22 A AC 23 A
Permissible nominal current (Icn)	750 A	1 700 A	2 500 A
Breaking capacity in short-circuit (Icm)	1 500 A	3 000 A	3 700 A
No. of electrical operations	> 30 000	> 30 000	> 30 000
Protection index	IP 2X wired	IP 2X wired	IP 2X (> 25 mm ²)

(1) test conditions according to IEC 60947-3
AC 22 A: combined motor/resistor breaking
AC 23 A: inductive motor breaking

■ DX - RCDs (residual circuit devices)

Connection cross-section

RCDs	Cable (mm ²)	
	rigid	flexible
Connection at top and bottom	50	35

■ AC type - Standard applications

AC type RCDs detect AC residual currents
In the majority of cases (standard applications), they are used for AC current detection at 50/60 Hz

■ A type - Specific applications: dedicated lines

In addition to the characteristics of AC type RCDs, A type RCDs also detect DC residual currents
They are used whenever fault currents are not sinusoidal
They are particularly suitable for the following specific applications (dedicated lines) or materials may produce DC fault currents, speed drives with frequency inverters, etc.

■ Hpi type - Special applications

Type Hpi RCDs are devices which offer additional immunity to unwanted tripping which significantly exceeds the level required by the standard
They are also able to detect AC and DC residual currents (A type)
Operation between - 25 °C and + 40 °C
They are used in special applications where:
• Loss of information is potentially damaging, e.g. power supply lines for computer equipment (banks, equipment on military bases, flight reservation centres, etc.)
• Loss of operation is potentially damaging (automated machinery, medical equipment, freezer cable, etc.)
They are also used:
• On sites where there is an increased risk of lightning strikes (see p. 141)
• On sites where cables are subject to high levels of interference (use of fluorescents, etc.)
• On sites where very long cables are used

MCBs DX™ 6000 - 10 kA

thermal magnetic MCBs from 0.5 to 63 A
B and C curves



063 72



062 02



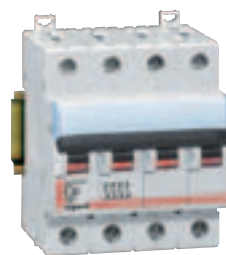
064 68



064 91



063 38



065 66



Dimensions (p. 159)
Technical characteristics (p. 134)

Breaking capacity

6000 - IEC 60898 - 400 V (230 V for single pole + neutral)
10 kA - IEC 60947-2 - 400 V (230 V for single pole + neutral)

Pack	Cat.Nos		Single pole - 230/400 V~		
	B curve	C curve	Nominal rating (A)	Number of modules	Breaking capacity IEC 60947-2 (kA) 230 V~
1	061 52	063 68	1	1	10
1	061 53	063 69	2	1	10
1	061 54	063 70	3	1	10
1	061 55	063 71	4	1	10
1	061 56	063 72	6	1	10
10	061 58	063 74	10	1	10
10	061 60	063 76	16	1	10
1	061 61	063 77	20	1	10
1	061 62	063 78	25	1	10
10 1	061 63	063 79	32	1	10
1	061 64	063 80	40	1	10
1	061 65	063 81	50	1	10
1	061 66	063 82	63	1	10

Pack	Cat.Nos		3-pole - 400 V~		
	B curve	C curve	Nominal rating (A)	Number of modules	Breaking capacity IEC 60947-2 (kA) 400 V~ 230 V~
1	062 77	064 80	1	3	10 25
1	062 78	064 81	2	3	10 25
1	062 79	064 82	3	3	10 25
1	062 80	064 83	4	3	10 25
1	062 81	064 84	6	3	10 25
1	062 83	064 86	10	3	10 25
1	062 85	064 88	16	3	10 25
1	062 86	064 89	20	3	10 25
1	062 87	064 90	25	3	10 25
1	062 88	064 91	32	3	10 25
1	062 89	064 92	40	3	10 25
1	062 90	064 93	50	3	10 25
1	062 91	064 94	63	3	10 25

			Single pole + neutral - 230 V~		
			Neutral on right-hand side		
	B curve	C curve	Nominal rating (A)	Number of modules	Breaking capacity IEC 60947-2 (kA) 230 V~
1		064 01	0.5	1	10
1	061 89	064 03	1	1	10
1	061 95	064 04	2	1	10
1	061 96	064 05	3	1	10
1	061 97	064 06	4	1	10
1	061 98	064 07	6	1	10
10	062 00	064 09	10	1	10
10	062 02	064 12	16	1	10
1	062 03	064 13	20	1	10
1	062 04	064 14	25	1	10
1	062 05	064 15	32	1	10
1	062 06	064 16	40	1	10

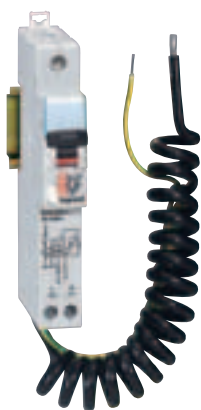
			3-pole + neutral - 400 V~		
			Neutral on right-hand side		
	B curve	C curve	Nominal rating (A)	Number of modules	Breaking capacity IEC 60947-2 (kA) 400 V~ 230 V~
1	063 31	065 39	6	4	10 25
1	063 34	065 41	10	4	10 25
1	063 36	065 43	16	4	10 25
1	063 37	065 44	20	4	10 25
1	063 38	065 45	25	4	10 25
1	063 39	065 46	32	4	10 25
1	063 40	065 47	40	4	10 25
1	063 41	065 48	50	4	10 25
1	063 42	065 49	63	4	10 25

			2-pole - 230/400 V~		
	B curve	C curve	Nominal rating (A)	Number of modules	Breaking capacity IEC 60947-2 (kA) 400 V~ 230 V~
1	062 57	064 60	1	2	10 25
1	062 58	064 61	2	2	10 25
1	062 59	064 62	3	2	10 25
1	062 60	064 63	4	2	10 25
1	062 61	064 64	6	2	10 25
5	062 63	064 66	10	2	10 25
5	062 65	064 68	16	2	10 25
1	062 66	064 69	20	2	10 25
1	062 67	064 70	25	2	10 25
1	062 68	064 71	32	2	10 25
1	062 69	064 72	40	2	10 25
1	062 70	064 73	50	2	10 25
1	062 71	064 74	63	2	10 25

		4-pole - 400 V~			
	C curve	Nominal rating (A)	Number of modules	Breaking capacity IEC 60947-2 (kA)	
				400 V~	230 V~
1	065 55	1	4	10	25
1	065 56	2	4	10	25
1	065 57	3	4	10	25
1	065 58	4	4	10	25
1	065 59	6	4	10	25
1	065 61	10	4	10	25
1	065 63	16	4	10	25
1	065 64	20	4	10	25
1	065 65	25	4	10	25
1	065 66	32	4	10	25
1	065 67	40	4	10	25
1	065 68	50	4	10	25
1	065 69	63	4	10	25

RCBO DX™ 6 000 - 10 kA and DX™ 10 000

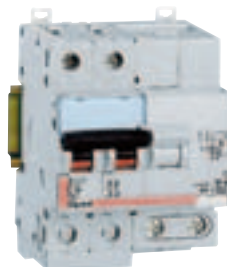
AC and A types



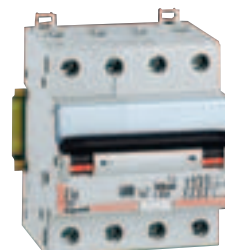
6064 00



078 86



079 19



079 80



Dimensions (p. 159)

Technical characteristics (p. 134)

Breaking capacity:

6 000 - IEC 61009-1 - 10 kA / IEC 60947-2 for 2 and 4 pole

6 000 - IEC 61009-1 - 6 kA / IEC 60947-2 for single pole + neutral

10 000 - IEC 61009-1 - for single pole

• AC type: detect AC component faults

• A type: detect AC and DC component faults

Pack	Cat.Nos	Single pole - 230 V~	
		AC type	30 mA
		Nominal rating (A)	Number of modules
1	6064 00	10	1
1	6064 01	16	1
1	6064 02	20	1
1	6064 03	25	1
1	6064 04	32	1
1	6064 05	45	1

		Single pole + neutral - 230 V~	
		Neutral on right-hand side	
		AC type	10 mA
		Nominal rating (A)	Number of modules
1	078 79	16	2
		AC type	30 mA
		Nominal rating (A)	Number of modules
1	078 81	3	2
1	078 83	6	2
1	078 84	10	2
1	078 86	16	2
1	078 87	20	2
1	078 88	25	2
1	078 89	32	2
1	078 90	40	2
		AC type	300 mA
		Nominal rating (A)	Number of modules
1	078 94	6	2
1	078 95	10	2
1	078 97	16	2
1	078 98	20	2
1	078 99	25	2
1	079 00	32	2
1	079 01	40	2
		A type	10 mA
		Nominal rating (A)	Number of modules
1	085 75	3	2
		A type	30 mA
		Nominal rating (A)	Number of modules
1	085 79	6	2
1	085 85	10	2
1	085 87	16	2
1	085 88	20	2
1	085 89	25	2
1	085 90	32	2
1	085 91	40	2

		2-pole - 230/400 V~	
		AC type	10 mA
		Nominal rating (A)	Number of modules
1	077 45	10	4
1	077 46	16	4
1	077 47	20	4

		2-pole - 230/400 V~ (continued)	
		AC type	30 mA
		Nominal rating (A)	Number of modules
1	079 11	10	4
1	079 19	16	4
1	079 20	20	4
1	079 21	25	4
1	079 22	32	4
1	079 29	40	4
1	079 30	50	4
1	079 31	63	4
		AC type	300 mA
		Nominal rating (A)	Number of modules
1	079 44	10	4
1	079 46	16	4
1	079 47	20	4
1	079 48	25	4
1	079 49	32	4
1	079 50	40	4
1	079 51	50	4
1	079 52	63	4

		4-pole - 400 V~	
		AC type	30 mA
		Nominal rating (A)	Number of modules
1	079 62	10	4
1	079 64	16	4
1	079 65	20	4
1	079 66	25	4
1	079 67	32	4
1	080 13	40	7
1	080 14	50	7
1	080 15	63	7
		AC type	300 mA
		Nominal rating (A)	Number of modules
1	079 75	10	4
1	079 77	16	4
1	079 78	20	4
1	079 79	25	4
1	079 80	32	4
1	080 31	40	7
1	080 32	50	7
1	080 33	63	7
		A type	30 mA
		Nominal rating (A)	Number of modules
1	080 75	10	4
1	080 76	16	4
1	080 77	20	4
1	080 78	25	4
1	080 79	32	4
		A type	300 mA
		Nominal rating (A)	Number of modules
1	080 84	10	4
1	080 85	16	4
1	080 86	20	4
1	080 87	25	4
1	080 88	32	4

MCBs DX-H 10000 - 25 kA

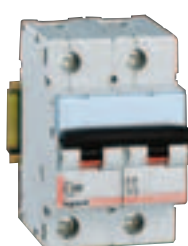
thermal magnetic high breaking capacity MCBs from 2 to 125 A
B and C curves



068 60



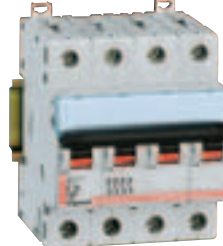
069 20



064 76



067 83



070 00



Dimensions (p. 159)
Technical characteristics (p. 134)

Conform to IEC 60898

Breaking capacity

10000 IEC 60898 - 400 V

25 kA to 12.5 kA - IEC 60947-2 - 400 V

Pack	Cat.Nos		Single pole - 230/400 V~		
	B curve	C curve	Nominal rating (A)	Number of modules	Breaking capacity (kA) IEC 60947-2 230 V/400 V~
1	066 92	068 53	2	1	25
1	066 93	068 54	3	1	25
1	066 95	068 56	6	1	25
1	066 97	068 58	10	1	25
1	066 98	068 59	13	1	25
1	067 00	068 60	16	1	25
1	067 01	068 61	20	1	25
1	067 02	068 62	25	1	20
1	067 03	068 63	32	1	15
1	067 04	068 64	40	1	12.5
1	067 05	068 65	50	1	12.5
1	067 06	068 66	63	1	12.5
1		063 83	80	1.5	12.5
1		063 84	100	1.5	12.5
1		063 85	125	1.5	12.5

Pack	Cat.Nos		3-pole - 400 V~			
	B curve	C curve	Nominal rating (A)	Number of modules	Breaking capacity (kA) IEC 60947-2	
					400 V~	230 V~
1	067 73	069 33	2	3	25	50
1	067 74	069 34	3	3	25	50
1	067 76	069 36	6	3	25	50
1	067 78	069 38	10	3	25	50
1	067 79	069 39	13	3	25	50
1	067 80	069 40	16	3	25	50
1	067 81	069 41	20	3	25	50
1	067 82	069 42	25	3	20	50
1	067 83	069 43	32	3	15	50
1	067 84	069 44	40	3	15	50
1	067 85	069 45	50	3	12.5	25
1	067 86	069 46	63	3	12.5	25
1	067 87	064 95	80	4.5	12.5	16
1	067 88	064 96	100	4.5	12.5	16
1		064 97	125	4.5	12.5	16

		Single pole + neutral - 230 V~			
		Neutral on right-hand side			
	B curve	C curve	Nominal rating (A)	Number of modules	Breaking capacity (kA) IEC 60947-2 230 V~
1	067 36	068 96	6	2	25
5 1	067 38	068 98	10	2	25
1	067 39	068 99	13	2	25
5 1	067 40	069 00	16	2	25
1	067 41	069 01	20	2	25
1	067 42	069 02	25	2	20
1	067 43	069 03	32	2	15
1	067 44	069 04	40	2	15
1	067 45	069 05	50	2	12.5
1	067 46	069 06	63	2	12.5

		3-pole + neutral - 400 V~			
		Neutral on right-hand side			
	B curve	C curve	Nominal rating (A)	Number of modules	Breaking capacity (kA) IEC 60947-2 400 V~ 230 V~
1	068 16	069 76	6	4	25 50
1	068 18	069 78	10	4	25 50
1	068 19	069 79	13	4	25 50
1	068 20	069 80	16	4	25 50
1	068 21	069 81	20	4	25 50
1	068 22	069 82	25	4	20 50
1	068 23	069 83	32	4	15 50
1	068 24	069 84	40	4	15 50
1	068 25	069 85	50	4	12.5 25
1	068 26	069 86	63	4	12.5 25

		2-pole - 230/400 V~			
		C curve			
		Nominal rating (A)	Number of modules	Breaking capacity (kA) IEC 60947-2	
				400 V~	230 V~
1		069 13	2	30	50
1		069 14	3	30	50
1		069 16	6	30	50
1		069 18	10	30	50
1		069 19	13	30	50
1		069 20	16	30	50
1		069 21	20	30	50
1		069 22	25	25	50
1		069 23	32	20	50
1		069 24	40	20	50
1		069 25	50	15	25
1		069 26	63	15	25
1		064 75	80	16	25
1		064 76	100	16	25
1		064 77	125	16	25

		4-pole - 400 V~			
		C curve			
		Nominal rating (A)	Number of modules	Breaking capacity (kA) IEC 60947-2	
				400 V~	230 V~
1		069 93	2	25	50
1		069 94	3	25	50
1		069 96	6	25	50
1		069 98	10	25	50
1		069 99	13	25	50
1		070 00	16	25	50
1		070 01	20	25	50
1		070 02	25	20	50
1		070 03	32	15	50
1		070 04	40	15	50
1		070 05	50	12.5	25
1		070 06	63	12.5	25
1		065 70	80	12.5	16
1		065 71	100	12.5	16
1		065 72	125	12.5	16

Auxiliaries and accessories (p. 133)

Add-on modules (p. 132)

Supply busbars (p. 231)



Z curve, please consult us

MCBs DX™ 6000 -15 kA

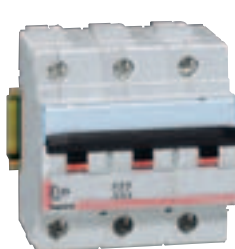
thermal magnetic MCBs from 1 to 125 A
D curve



065 89



066 36



066 62



066 71



Dimensions (p. 159)
Technical characteristics (p. 134)

Breaking capacity

6000 - IEC 60898 up to 63 A - 400 V

10000 - IEC 60898 80 A to 125 A

15 kA - IEC 60947-2 up to 32 A - 400 V

10 kA - IEC 60947-2 40 A to 125 A - 400 V

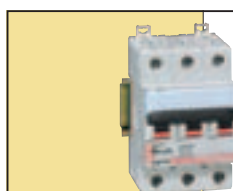
Magnetic adjusted between 10 and 14 In

Pack	Cat.Nos	Single pole - 230/400 V~		
	D curve	Nominal rating (A)	Number of modules	Breaking capacity (kA) IEC 60947-2 230 - 400 V~
1	065 75	1	1	15
1	065 76	2	1	15
1	065 77	3	1	15
1	065 79	6	1	15
1	065 81	10	1	15
1	065 82	13	1	15
1	065 83	16	1	15
1	065 84	20	1	15
1	065 85	25	1	15
1	065 86	32	1	10
1	065 87	40	1	10
1	065 88	50	1	10
1	065 89	63	1	10

	D curve	Nominal rating (A)	Number of modules	Breaking capacity (kA) IEC 60947-2	
				400 V~	230 V~
1	066 25	1	2	15	25
1	066 26	2	2	15	25
1	066 27	3	2	15	25
1	066 29	6	2	15	25
1	066 31	10	2	15	25
1	066 32	13	2	15	25
1	066 33	16	2	15	25
1	066 34	20	2	15	25
1	066 35	25	2	15	25
1	066 36	32	2	15	25
1	066 37	40	2	10	20
1	066 38	50	2	10	20
1	066 39	63	2	10	20
1	066 40	80	3	10	16
1	066 41	100	3	10	16
1	066 42	125	3	10	16

	D curve	Nominal rating (A)	Number of modules	Breaking capacity (kA) IEC 60947-2	
				400 V~	230 V~
1	066 45	1	3	15	25
1	066 46	2	3	15	25
1	066 47	3	3	15	25
1	066 49	6	3	15	25
1	066 51	10	3	15	25
1	066 52	13	3	15	25
1	066 53	16	3	15	25
1	066 54	20	3	15	25
1	066 55	25	3	15	25
1	066 56	32	3	15	25
1	066 57	40	3	10	20
1	066 58	50	3	10	20
1	066 59	63	3	10	20
1	066 60	80	4.5	10	16
1	066 61	100	4.5	10	16
1	066 62	125	4.5	10	16

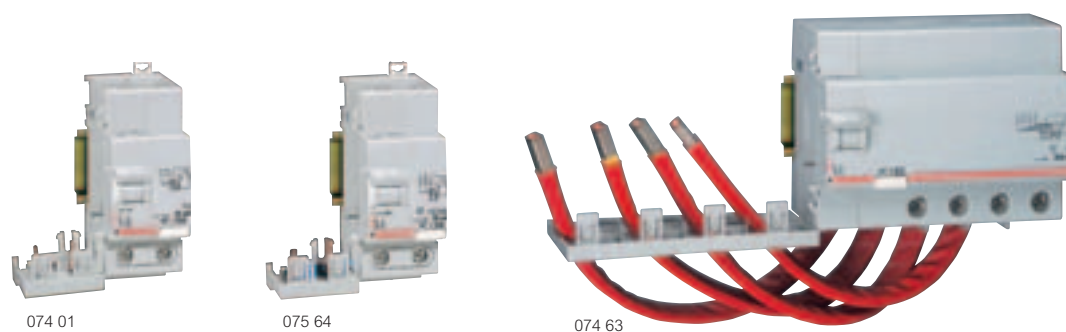
Pack	Cat.Nos	4-pole - 400 V~		
	D curve	Nominal rating (A)	Number of modules	Breaking capacity (kA) IEC 60947-2
1	066 65	1	4	15
1	066 66	2	4	15
1	066 67	3	4	15
1	066 68	4	4	15
1	066 69	6	4	15
1	066 71	10	4	15
1	066 73	16	4	15
1	066 74	20	4	15
1	066 75	25	4	15
1	066 76	32	4	15
1	066 77	40	4	10
1	066 78	50	4	10
1	066 79	63	4	10
1	066 80	80	6	10
1	066 81	100	6	10
1	066 82	125	6	10



For DX-MA:
magnetic tripping only version

please consult us

add-on modules DX™ for DX, DX-H and DX D curve



Dimensions (p. 159)
Technical characteristics (p. 134)

Conform to EN 61009-1. Mounted on the right-hand side of the MCBs

- AC type: detect AC component faults
- A type: detect AC and DC component faults
- Hpi type: detect AC and DC component faults A type, enhanced immunity to unwanted tripping in disturbed environments

Pack Cat.Nos 2-pole 230/400 V~

Pack	Cat.Nos	Maximum rating (A)	Number of modules
AC type 30 mA			
1	074 01	32	2
1	074 02	63	2
1	074 03	80 to 125	4
AC type 300 mA			
1	074 07	32	2
1	074 08	63	2
1	074 09	80 to 125	4
AC type 300 mA (s)			
1	074 11	63	2
AC type 1 A (s)			
1	074 23	63	2
A type 30 mA			
1	074 83	32	2
1	074 84	63	2
1	074 85	80 to 125	4
A type 300 mA			
1	074 89	32	2
1	074 90	63	2
1	074 91	80 to 125	4
A type 300 mA (s)			
1	074 93	63	2
Hpi type 30 mA			
1	075 64	63	2

Pack Cat.Nos 4-pole 400 V~

Pack	Cat.Nos	Maximum rating (A)	Number of modules
AC type 30 mA			
1	074 55	32	3
1	074 56	63	3
1	074 57	80 to 125	6
AC type 300 mA			
1	074 61	32	3
1	074 62	63	3
1	074 63	80 to 125	6
AC type 300 mA (s)			
1	074 65	63	3
1	074 66	80 to 125	6
AC type 1 A (s)			
1	074 77	63	3
1	074 78	80 to 125	6
A type 30 mA			
1	075 37	32	3
1	075 38	63	3
1	075 39	80 à 125	6
A type 300 mA			
1	075 43	32	3
1	075 44	63	3
1	075 45	80 à 125	6
A type 300 mA (s)			
1	075 47	63	3
Hpi type 300 mA (s)			
1	075 74	63	3

3-pole 400 V~

Pack	Cat.Nos	Maximum rating (A)	Number of modules
AC type 30 mA			
1	074 28	32	3
1	074 29	63	3
AC type 300 mA			
1	074 34	32	3
1	074 35	63	3
1	074 36	80 to 125	6
AC type 300 mA (s)			
1	074 38	63	3
A type 30 mA			
1	075 11	63	3
A type 300 mA			
1	075 17	63	3
1	075 18	80 to 125	6
A type 300 mA (s)			
1	075 20	63	3
Hpi type 30 mA			
1	075 68	63	3
1	075 69	80 to 125	6

MCBs and add-on modules DX-L 50 kA

thermal magnetic MCBs high breaking capacity from 10 to 63 A



071 14



071 44



Dimensions (p. 159)
Technical characteristics (p. 134)

Breaking capacity
50 kA - IEC 60947-2

Pack	Cat.Nos	MCBs			
		2-pole - 400 V~			
	C curve	Nominal rating (A)	Number of modules	Breaking capacity (kA) IEC 60947-2	
				400 V~	230 V~
1	071 12	10	3	50	70
1	071 14	16	3	50	70
1	071 15	20	3	50	70
1	071 16	25	3	50	70
1	071 17	32	3	50	70
1	071 18	40	3	50	70
1	071 19	50	3	50	70
1	071 20	63	3	50	70
		4-pole - 400 V~			
1	071 42	10	6	50	70
1	071 44	16	6	50	70
1	071 45	20	6	50	70
1	071 46	25	6	50	70
1	071 47	32	6	50	70
1	071 48	40	6	50	70
1	071 49	50	6	50	70
1	071 50	63	6	50	70

Add on modules Hpi type (High immunity)			
Conform to standard IEC 61009-1			
Mounted on the right-hand side of the MCBs DX-L			
   			
Enhanced immunity to unwanted tripping in disturbed environments			
Detect DC component faults (A type)			
2-pole - 230/400 V~			
		Sensitivity	Number of modules
1	075 76	30 mA	2
1	075 77	300 mA	2
1	075 78	300 mA (s)	2
1	075 79	1 A (s)	2
4-pole - 400 V~			
1	075 84	30 mA	3
1	075 85	300 mA	3
1	075 86	300 mA (s)	3
1	075 87	1 A (s)	3

auxiliaries DX™

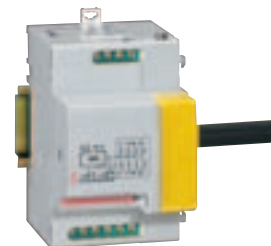
for MCBs, RCDs and RCBOs



073 50



073 68



073 73

Pack	Cat.Nos	Auxiliaries	
		Clip on the left-hand side (maximum 3) ⁽¹⁾ Allow insertion of the supply busbar Auxiliaries common to: - DX, DX-H, DX-L and RCDs - DX-IS	
		Signalling auxiliaries	Number of modules
1	073 50	Auxiliary changeover switch 6 A - 250 V~ 3 auxiliaries max	0.5
1	073 51	Fault signalling changeover switch 6 A - 250 V~	0.5
1	073 54	Auxiliary changeover switch 6 A - 250 V + fault signalling switch Can be modified to 2 auxiliary changeover switches	1
		Shunt releases	
1	073 60	12 to 48 V~/...	1
1	073 61	110 to 415 V~ 110 to 125 V...	1
		Undervoltage release	
		Time delay adjustable from 0 to 300 ms	
1	073 68	230 V~	1
		Remote control⁽²⁾	
		Clip on the left-hand side of the MCBs Equipped with: auxiliary changeover switch and fault signalling switch 2 A - 230 V~ Can be padlocked in open position (Ø5 mm)	
		Motor-driven control modules	
		Can be used to open and close DX, DX-H, and DX D curve,(2, 3 and 4-pole ≤ 63 A) MCBs and RCBOs remotely	
1	073 73	230 V~	Number of modules 3
		Automatic resetting	
		Gives automatically an order of resetting Can be connected to motor-driven control modules For use in installations which are not monitored or staffed (transmission relays, pump stations etc.) in order to meet service/operational continuity requirements	
1	073 83	230 V~	Number of modules 2
		Accessories	
		Padlocking	
2	044 42	Support for Ø5 mm or Ø6 mm padlock	
1/3	044 43	Padlock Ø5 mm	
1	227 97	Padlock Ø6 mm	
		Connection accessories	
2	044 44	Sealable screw cover (4 separable poles)	
6	044 47	Insulating shields	
5	044 41	Spacing unit 1 module	

(1) 1 auxiliary control device max. and 2 auxiliary signalling devices max. with only one 1/2 module auxiliary
Auxiliary signalling devices are installed between the MCB and the auxiliary control device

(2) Controlled by a volt-free contact or push button (not illuminated)
Not compatible with MCBs with 1.5 modules per pole (DX-H 80 to 125, DX-L), MCBs single pole (DX), 2 modules phase / neutral RCBOs (DX), single pole RCBOs and RCDs (RCCBs)

performance of MCBs and auxiliaries

■ Breaking capacity in IT neutral earthing system

1-pole (alone) breaking capacity of MCB at 400 V according to IEC 60947-2

DX single pole + neutral ⁽¹⁾ B and C curves	1.5 kA	
DX ⁽²⁾ B and C curves	≤ 63 A	3 kA
DX-H B and C curves	≤ 20 A	6 kA
	25 A	5 kA
	32 and 40 A	4 kA
	50 and 63 A	3 kA
	80 and 125 A	4 kA
DX-L C curve	10 to 63 A	6 kA
DX D curve	≤ 32 A	4 kA
	40 to 125 A	3 kA

- (1) Subject to meeting the requirements of section 431-2-2 of NFC 15-100, i.e.:
- either the neutral conductor(s) in question are considered to be effectively protected against short-circuits by a protective device placed upstream
- or the circuit(s) in question are protected by a residual current device
In this case, the conductors must be the same cross-section and protected by MCBs with the same rated current and same trip characteristic (type B, C or D)
- (2) Single, double, triple + neutral or four-pole

■ Breaking capacity in the event of a short-circuit to earth and insulation voltage

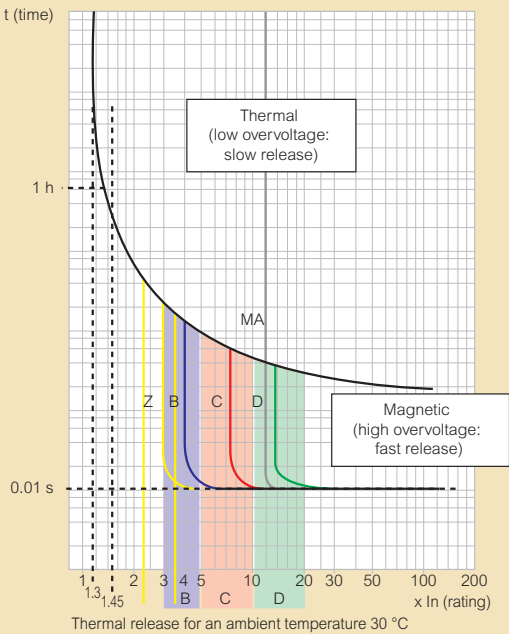
	DX Single pole + Neutral	DX B and C curves D curve < 63 A	DX-H B and C curves DX D curve 80 to 125 A	DX-L C curve
Icn 1	4500 A	6 kA	10 kA	25 kA
Ui	250 V	500 V	500 V	500 V

Icn 1: Breaking capacity on 1 pole for multi-pole MCBs in the event of a short-circuit to earth
Ui: rated insulation voltage

■ Connection cross-section for screw terminals (in mm²)

	Copper cable	
	rigid	flexible
• DX single pole + neutral with or without add-on modules	16	10
• DX, DX D curve add-on modules ≤ 63 A DX-L add-on modules	35	25
• DX-H, add-on modules 80, 100, 125 A, DX-L	70	50
• Auxiliaries	2.5	2.5

■ Release curves of MCBs



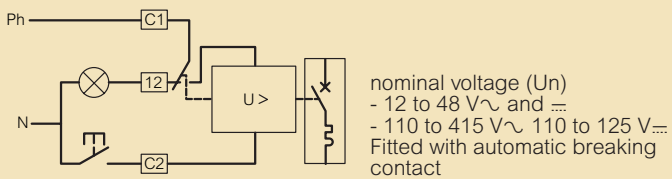
Curves	Magnetic threshold setting
Z ⁽¹⁾	2.4 to 3.6 In
B	3 to 5 In
C	5 to 10 In
D	10 to 14 In (10 to 20 depending on standard)
MA ⁽¹⁾	12 to 14 In

(1) Please consult us

■ Technical characteristics of DX auxiliaries

- Max. connection cross-section: 2.5 mm²
- Operating temperature: - 5 to + 50 °C

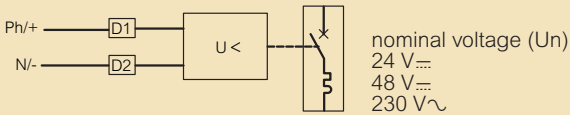
Current shunt releases



Min. and max. voltage: from 0.7 to 1.1 V
Tripping time: < to 20 ms
Power consumption: at 1.1 x 48 V = 121 VA
at 1.1 x 415 V = 127 VA
Impedance : 12 to 48 V = 23 Ω
110 to 415 V = 1640 Ω

Undervoltage releases

Consumption	U min.	U max.
12 to 48 V	522 mA	2610 mA
110 to 415 V	69 mA	259 mA



Pull-in voltage: ≥ 0.55 Un
Tripping time: from 100 to 400 ms ± 10% (adjustable)
Power consumption: 24 V~: 0.1 VA
48 V~: 0.2 VA
230 V~: 1 VA

■ Protection of DC circuits

Lexic DX and DX-H MCBs (1P/2P/3P/4P - In ≤ 63 A) designed for use in 230/400 V~ supplies, can also be used in DC circuits
In this case, the following deratings and precautions must be taken into account

1 - Protection against short-circuits

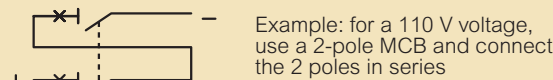
Max. magnetic tripping threshold: multiplied by 1.4
Example: For a C curve MCB for which the AC tripping threshold is between 5 and 10 In, the DC tripping threshold will be between 7 and 14 In

2 - Protection against overloads

The time/current thermal tripping curve is the same as for AC

3 - Operating voltage

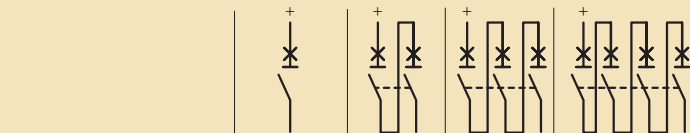
Max. operating voltage: 80 V per pole (60 V for single-pole + N MCBs)
For voltages higher than this value, several poles must be wired in series



4 - Breaking capacity

4000 A for a single pole MCB at max. voltage (80 V~ per pole)

At other voltages, the breaking capacities are as follows:



DX	voltage	single-pole	2P	3P	4P
Acc. to IEC 60947.2	≤ 48 V	6 kA	6 kA		
	110 V		6 kA	6 kA	
	230 V				10 kA
	≤ 48 V	100 %	100 %		
	110 V		100 %	100 %	
	230 V				100 %

DX-H	voltage	single-pole	2P	3P	4P
Acc. to IEC 60947.2	≤ 48 V	10 kA	10 kA		
	110 V		10 kA	10 kA	
	230 V				15 kA
	≤ 48 V	100 %	100 %		
	110 V		100 %	100 %	
	230 V				100 %

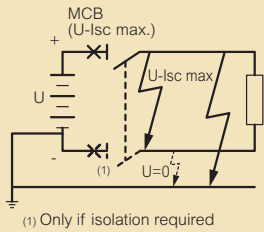
(1) As a % of Icu

5 - Distribution of breaking poles

To choose the MCB and determine the pole distribution necessary for breaking on each of the polarities, it is necessary to know how the installation is earthed

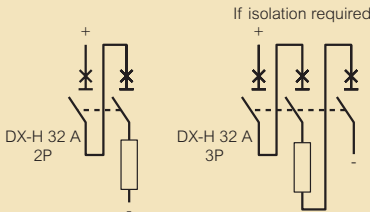
• Supply with one polarity earthed:

Place all the poles necessary for breaking on the other polarity
If isolation is required, an additional pole must be added on the earthed polarity



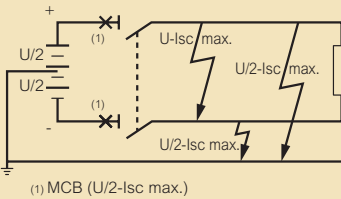
Example: circuit earthed via the negative polarity / U = 110 V~ / Isc = 10 kA / In = 32 A
Protect the positive polarity using an MCB capable of breaking 10 kA at 110 V (DX-H 2P 32 A with 2 poles on the positive polarity)
For isolation, use a DX-H 3P 32 A with 2 poles on the positive polarity and one pole on the negative polarity

DX-H LEXIC	voltage	single-pole	2P	3P	4P
Acc. to IEC 60947.2	≤ 48 V	10 kA	10 kA		
	110 V		10 kA	10 kA	
	230 V				15 kA



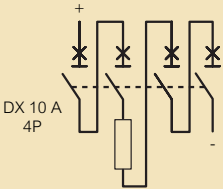
• Network earthed via a middle point:

Place on each polarity the number of poles necessary for max. Isc breaking at half voltage



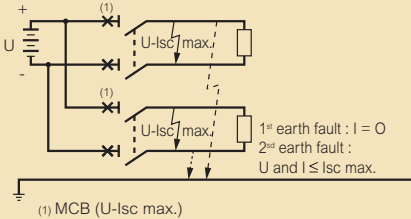
Example: circuit earthed via a middle point / U = 230 V~ / Isc = 6 kA / In = 10 A
Protect each polarity using an MCB capable of breaking 6 kA at half voltage, i.e. 115 V (DX 4P 10 A with 2 poles on each polarity)

DX LEXIC	voltage	single-pole	2P	3P	4P
Acc. to IEC 60947.2	≤ 48 V	6 kA	6 kA		
	110 V		6 kA	6 kA	
	230 V				10 kA



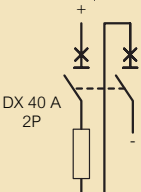
• Isolated earth supply:

Distribute the poles necessary for breaking over the 2 polarities to provide protection in the event of a double earth fault (particularly if there are a number of circuits in parallel)



Example: isolated earth circuit / U = 48 V~ / Isc = 4.5 kA / In = 40 A
Protect the installation with an MCB capable of breaking 4.5 kA at 48 V and protect each polarity (DX MCB 2P 40 A with one pole on each polarity)

DX LEXIC	voltage	single-pole	2P	3P	4P
Acc. to IEC 60947.2	≤ 48 V	6 kA	6 kA		
	110 V		6 kA	6 kA	
	230 V				10 kA

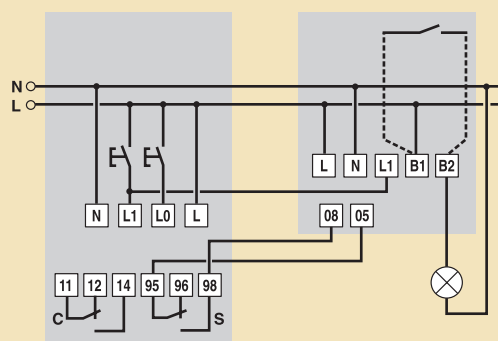


performance of MCBs and auxiliaries (continued)

Specific case of continuity of service

In certain locations, where there are no personnel, in which particular care is required to ensure continuity of service, false tripping of MCBs is not permissible (isolated telephone/TV/radio relay stations, pumping stations, etc.)

The combination of an Hpi type RCBO with motor-driven control and a recloser provides optimum continuity of service (p. 133)

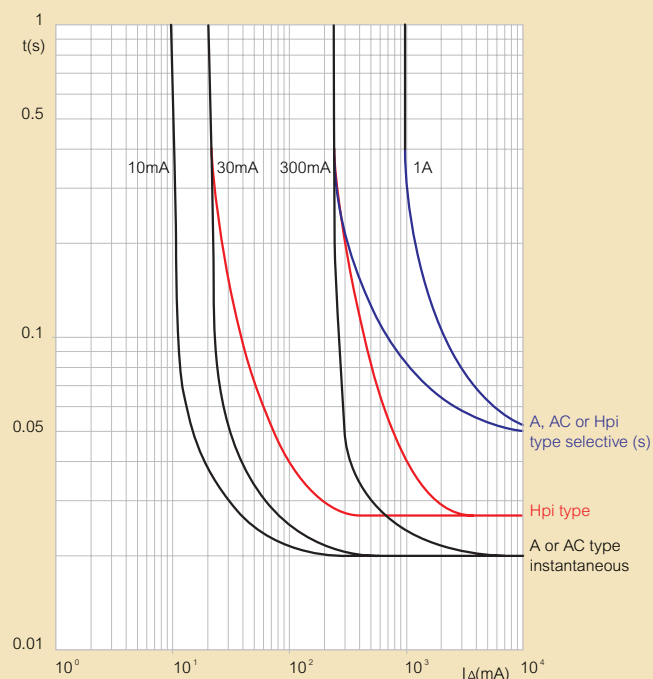


Motor-driven control
Cat.No 073 73

Automatic reclosing control
device Cat.No 073 83

RCD tripping curves

- Average RCD operating curves



Withstand to short-circuits: MCBs and DX - RCDs and fuse cartridges and DX - RCDs (in kA)

Caution: it is advisable to provide overload protection for the RCD

	gG	≤ 40 A	63 A	80 A	100 A	DX (B/C) 1P+N	DX (B/C) 2,3,4P	DX-H (B/C) ≤ 63 A	DX-H (B/C) 80 < 125 A	DX-L	DPX 125
2P/4P	16 A	100 kA	50 kA	15 kA	10 kA	6 kA	10 kA	20 kA	20 kA	50 kA	25 kA
	25 A	100 kA	50 kA	15 kA	10 kA	1,5 kA	10 kA	20 kA	20 kA	50 kA	25 kA
	40 A	100 kA	50 kA	15 kA	10 kA	1,5 kA	10 kA	15 kA	20 kA	50 kA	25 kA
	63 A	100 kA	50 kA	15 kA	10 kA		10 kA	12,5 kA	12,5 kA	50 kA	25 kA
	80 A	100 kA	50 kA	15 kA	10 kA			12,5 kA	12,5 kA		25 kA
	100 A	100 kA	50 kA	15 kA	10 kA			12,5 kA	12,5 kA		25 kA

2P - 230 V~

4P - 400 V~

Residual current breaking capacity of DX RCBOs

IΔm according to EN 61009-1

Add-on modules	
- DX (6000), DX-H, DX D curve	6 000 A
- DX-L	30 000 A
RCBOs	
- P + N	3 000 A
- 2P (4 modules)	6 000 A
- 4P 10 to 32 A (4 modules)	4 500 A
- 4P 40 to 63 A (7 modules)	6 000 A



For more information on the basic rules of protection, come and be trained at Innoval www.legrandelectric.com

MPCBs

NEW



028 06

028 17

028 22

028 22 + 028 06 + 028 17



Dimensions (p. 159)

Conform to EN/IEC 60947-1, EN/IEC 60947-2, EN/IEC 60947-4-1

Pack	Cat.Nos	Triple pole MCBs		
		Depth: 82.5 mm Enable control and protection of motors up to 15 kW (400 V)		
		Nominal rating (A)	Thermal adjustment range (A)	Numbers of modules
1	028 00	0.16	0.1 - 0.16	2.5
1	028 01	0.25	0.16 - 0.25	2.5
1	028 02	0.4	0.25 - 0.4	2.5
1	028 03	0.63	0.4 - 0.63	2.5
1	028 04	1	0.63 - 1	2.5
1	028 05	1.6	1 - 1.6	2.5
1	028 06	2.5	1.6 - 2.5	2.5
1	028 07	4	2.5 - 4	2.5
1	028 08	6.5	4 - 6.5	2.5
1	028 09	10	6.3 - 10	2.5
1	028 10	14	9 - 14	2.5
1	028 11	18	13 - 18	2.5
1	028 12	23	17 - 23	2.5
1	028 13	25	20 - 25	2.5
1	028 14	32	24 - 32	2.5

Auxiliaries

Failure contact

	Contact	Capacity	Numbers of modules
1	028 16 N/C + N/O	6 A/690 V	0.5

Signal contacts

	N/C + N/O	Capacity	Numbers of modules
1	028 17 2 N/C	6 A/690 V	0.5

Undervoltage trips

	Coil voltage	Consumption trip/hold	Numbers of modules
1	028 22 230 V~	12/3.5 VA	1
1	028 23 400 V~	12/3.5 VA	1

Shunt trips

	Coil voltage	Consumption trip/hold	Numbers of modules
1	028 25 230 V~	3.5 VA	1
1	028 26 400 V~	3.5 VA	1

Accessories

IP 65 box

1	028 29	For motor MCB with auxiliary contact (Cat.Nos 028 16/17/18) and/or a trip (Cat.Nos 028 22/ 23/25/26) With knock out entries for PG 16 cable glands ⁽¹⁾ 4 modules
---	--------	---

Emergency stop button

1	028 30	Fits on IP 65 box for replacement of etancheité membrane Ensures IP 65 protection
---	--------	--

Pilot lights

Fixing in front of box Cat.No 028 29

	Voltage	Color
1	028 31 230 V~	Colourless
1	028 32 400 V~	Colourless

Padlock

1	028 34	Padlock in "off" position 3 padlocks max Ø4.5
---	--------	--

(1) use cable gland Cat.No 980 24 with locking nut Cat.No 980 34

Red catalogue numbers : New products

MPCBs

The motor MCB has a signalling system for magnetic tripping that prevents all dangerous shutdown following a short-circuit previously isolated by the device

Takes 3 auxiliaries mounted simultaneously by clipping on

- on the left: 1 undervoltage / shunt trip
- on the right: 1 fault signal + 1 signalling contact

Electrical characteristics

Rated insulating voltage U_i : 690 V

Impulse withstand voltage: 6 kV

Rated frequency: 50/60 Hz

Dissipated power per phase: 0.57-1.46 W

Magnetic tripping: 12 max.

Mechanical lifespan: 100 000 cycles

Electrical lifespan: 32 A (AC3): 100 000 cycles

Operating temperature: -20°C to + 70°C

Use class: A

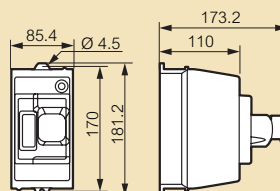
Protection index: IP 20

Connection cable cross-section (1 or 2 conductors): flexible wire 1-6 mm² or AWG 16-10

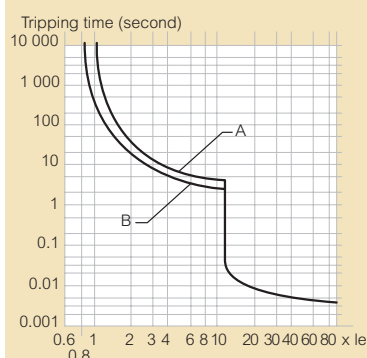
Breaking capacity

Cat. Nos	Rating (A)	Short circuit rated breaking capacity (kA)							
		230 V		400 V		500 V		690 V	
		Icu	Ics	Icu	Ics	Icu	Ics	Icu	Ics
028 00	0.16	100	100	100	100	100	100	100	100
028 01	0.25	100	100	100	100	100	100	100	100
028 02	0.4	100	100	100	100	100	100	100	100
028 03	0.63	100	100	100	100	100	100	100	100
028 04	1	100	100	100	100	100	100	100	100
028 05	1.6	100	100	100	100	100	100	100	100
028 06	2.5	100	100	100	100	100	100	8	8
028 07	4	100	100	100	100	100	100	8	8
028 08	6.5	100	100	100	100	100	100	8	8
028 09	10	100	100	100	100	42	21	8	8
028 10	14	100	100	25	12.5	10	5	2	2
028 11	18	100	100	25	12.5	4	2	2	2
028 12	23	100	100	25	12.5	4	2	2	2
028 13	25	100	100	25	12.5	4	2	2	2
028 14	32	100	100	25	12.5	4	2	2	2

IP 65 box 028 29 equipped with stop button 028 30



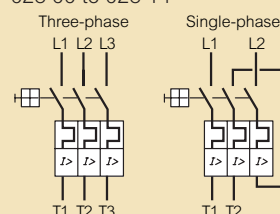
Thermal-magnetic tripping curve



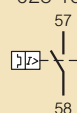
Approximate cold tripping time. To obtain the hot tripping time, multiply the graph value by 0.75
A = Balanced operation over 3 phases
B = Operation over 2 phases (phase absence)

Electrical diagrams

028 00 to 028 14



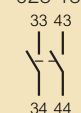
028 16



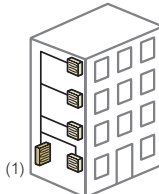
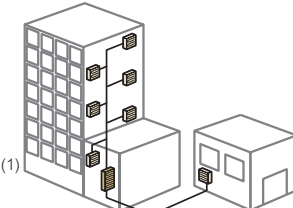
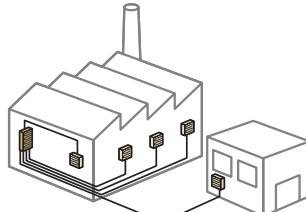
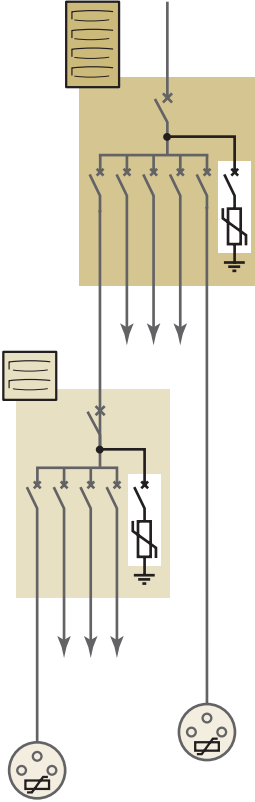
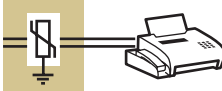
028 17



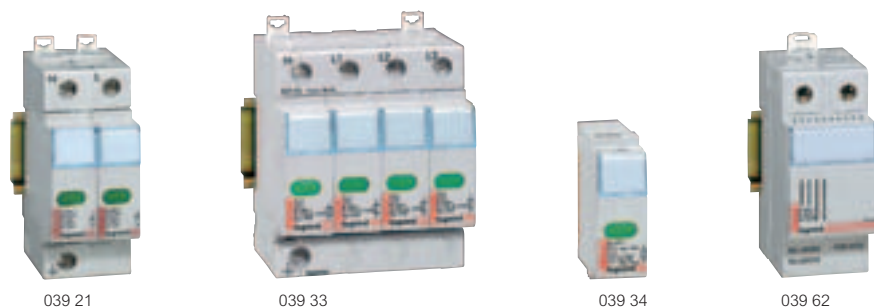
028 18



select your V.S.P. and its associated protection

			DOMESTIC HOUSES	RESIDENTIAL BUILDINGS	SMALL OFFICES			OFFICE BUILDINGS	INDUSTRIES																																			
				 (1)				 (1)																																				
Energy network 	Risk level	Network	Main board: V.S.P. + associated protection				Network	Main board: V.S.P. + associated protection - I _{cc} ≤ 10 kA ⁽²⁾																																				
		1P + N	2 x 039 10 + 064 72	-	2 x 039 10 + 064 72		3P	-	3 x 039 10 + 064 92																																			
		3P + N	4 x 039 10 + 065 67	4 x 039 10 + 065 67	4 x 039 10 + 065 67		3P + N	4 x 039 10 + 065 67	4 x 039 10 + 065 67																																			
	 or AQ2	1P + N	039 41 + 064 69	-	039 31 + 064 69		3P	-	039 22 + 064 92																																			
		3P + N	039 43 + 065 64	039 33 + 065 64	039 33 + 065 64		3P + N	039 23 + 065 67	039 23 + 065 67																																			
		1P + N	039 41 + 064 69	-	039 41 + 064 69		3P	-	039 22 + 064 92																																			
		3P + N	039 43 + 065 64	039 43 + 065 64	039 43 + 065 64		3P + N	039 33 + 065 64	039 23 + 065 67																																			
			Distribution board: V.S.P. + associated protection					Distribution board: V.S.P. + associated protection - I _{cc} ≤ 10 kA ⁽²⁾																																				
	All risk levels All areas	1P + N	039 41 + 064 69	039 41 + 064 69	039 41 + 064 69		1P + N	039 41 + 064 69 ⁽³⁾	039 31 + 064 69																																			
		3P	-	-	-		3P	-	039 32 + 064 89																																			
		3P + N	039 43 + 065 64	039 43 + 065 64	039 43 + 065 64		3P + N	039 43 + 065 64 ⁽³⁾	039 33 + 065 64																																			
			Sensitive equipments (electronic, computers): Protection of proximity					Sensitive equipments (electronic, computers): Protection of proximity																																				
		Mosaic Cat.Nos 744 65/66	•	•	•			•	•																																			
		Multi-outlet extensions Cat.Nos 6946 40/42/44	•	•	•																																							
Communication lines			Communication networks (telephone, data lines)					Communication networks (telephone, data lines)																																				
				See p. 141	Protection of all the lines entering the building is strongly recommended (including communication lines: telephone, data lines, ...)			Protection of all the lines entering the building is strongly recommended (including communication lines: telephone, data lines, ...)																																				
  or AQ2 	High risk level: structures equipped with a lightning protection system (LPS), metallic structures, structures localized on a crest IEC 60364: VSP compulsory at the origin of the installation (main board) in conjunction to a LPS					For short-circuit currents (I _{cc}) larger than 10 kA, select the associated MCB (DX-H or DX-L) with the short circuit capacity rating adapted to your installation requirements																																						
	Medium risk level: stuctures supplied by overhead lines, structures in moutain areas, isolated areas, at the end of the line, localized nearby water plans or trees AQ2 areas (keraunic level > 25 days per year): VSP compulsory at the origin of the installation (main board) when supplied by overhead power lines according to IEC 60364					<table><tr><th>V.S.P. Cat.Nos</th><th colspan="3">039 10/20/21/22/23</th><th colspan="3">039 30/31/32/33/40/41/43</th></tr><tr><th>I_{cc}</th><th>2P</th><th>3P</th><th>4P</th><th>2P</th><th>3P</th><th>4P</th></tr><tr><td>≤ 15 kA</td><td>069 24</td><td>069 44</td><td>070 04</td><td>069 21</td><td>069 41</td><td>070 01</td></tr><tr><td>≤ 25 kA</td><td>071 18</td><td>071 33</td><td>071 48</td><td>069 21</td><td>069 41</td><td>070 01</td></tr><tr><td>≤ 50 kA</td><td>071 18</td><td>071 33</td><td>071 48</td><td>071 15</td><td>071 30</td><td>071 45</td></tr></table>				V.S.P. Cat.Nos	039 10/20/21/22/23			039 30/31/32/33/40/41/43			I _{cc}	2P	3P	4P	2P	3P	4P	≤ 15 kA	069 24	069 44	070 04	069 21	069 41	070 01	≤ 25 kA	071 18	071 33	071 48	069 21	069 41	070 01	≤ 50 kA	071 18	071 33	071 48	071 15	071 30	071 45
	V.S.P. Cat.Nos	039 10/20/21/22/23			039 30/31/32/33/40/41/43																																							
	I _{cc}	2P	3P	4P	2P	3P	4P																																					
≤ 15 kA	069 24	069 44	070 04	069 21	069 41	070 01																																						
≤ 25 kA	071 18	071 33	071 48	069 21	069 41	070 01																																						
≤ 50 kA	071 18	071 33	071 48	071 15	071 30	071 45																																						
Low risk: structures localized in urban areas, in flat surroundings, low moutains, supplied by underground lines					(1) If no V.S.P. can be installed at the origin of installation (main board), a class II V.S.P. with I _n ≥ 5 kA shall be installed at the origin of each private installation (residential buildings) or on each floor (office buildings, hotels) (2) If the local short-circuit current (I _{cc}) is higher than 10 kA, use a DX-H or DX-L MCB (see above table) (3) Protection recommended of each secondary board (floor distribution boards) on each floor for buildings higher than 10 m.																																							

voltage surge protectors low voltage



Dimensions (p. 159)
 Technical characteristics (p. 142)

Lexic voltage surge protectors (V. S. P.) for main boards, distribution boards and consumer
 Conform to standards IEC 61643-1 and EN 61643-1

Class I and II V. S. P. available in 4 different impulse discharge capacity

Consist of a base and a plug-in replacement module provided with a status indicator (except Cat.No 039 10)

- Green: surge protector operational
- Orange: module needs replacing

Fitted with built-in thermal protection

Can be fitted with auxiliaries for remote monitoring purposes (except Cat.No 039 10)

For 230/400 V~ power supplies

Frequency: 50/60 Hz

Pack	Cat.Nos	Main board protection for installations equipped with lightning conductors		
		Accompaniment of lightning conductors		
		HL - Class I - I_{imp}= 12.5 kA (10/350 µs wave)		
		For all neutral earthing systems: TT, TN, IT		
1	039 10	1P	C type - 40A ⁽¹⁾	1
		High protection - H - Class I + II - I_{max}= 70 kA		
		For all neutral earthing systems: TT, TN, IT		
		I _{imp} : 10 kA (10/350 µs wave)		
1	039 20	1P		1
1	039 21	2P	C type - 40A ⁽¹⁾	2
1	039 22	3P		3
1	039 23	4P		4

		Distribution board protection		
		Increased protection - I - Class II, I_{max}= 40 kA		
		For all neutral earthing systems: TT, TN, IT		
1	039 30	1P	C type - 20A ⁽¹⁾	1
1	039 31	2P		2
1	039 32	3P		3
1	039 33	4P		4
		Standard protection - S - Class II, I_{max}= 15 kA		
		For all neutral earthing systems: TT, TN		
1	039 40	1P		1
1	039 41	2P	C type - 20A ⁽¹⁾	2
1	039 43	4P		4

Pack	Cat.Nos	Signalling auxiliaries	
		With changeover microswitch 2 A - 250 V~ Mounted onto the base of the surge protector (except Cat.No 039 10)	
1	039 55	For 1-pole module	
1	039 56	For 2-pole module	
1	039 57	For 3-pole module	
1	039 58	For 4-pole module	

		Replacement modules			
		Plug-in replacement modules			
		With indicator			
		Green: surge protector operational			
		Orange: module needs replacing			
		I _{imp} (kA)	I _{max} (kA)	UP (kV)	For surge protector
5	039 28	10	70	2.0	039 20/21/22/23
5	039 34		40	1.8	039 30/31/32/33
5	039 39		40	1.4	039 35/36/38
5	039 44		15	1.2	039 40/41/43

		Decoupling inductors	
		Enable coordination between 2 V. S. P. in the same board, when minimum distance to insure proper V. S. P. coordination can not be respected	
		For multipole voltage surge protectors, each conductor (including the neutral conductor) must be equipped with one decoupling inductor	
1	039 62	Module for circuit 35 A - 500 V~	2
1	039 63	Module for circuit 63 A - 500 V~	4

(1) MCBs DX, DX-H, DX-L have necessary breaking capacity

voltage surge protectors for telephone lines



038 28



038 29



Dimensions (p. 159)
Technical characteristics (p. 142)

For protection of: telephone, fax, modem, etc., connected to the incoming telephone line, against overvoltages of atmospheric origin
Installed in a distribution cabinet, especially the ELV/signal cabinet
Cat.No 011 95 (please consult us), or terminal shield boxes
1 module (p. 164)

Connected in series with the telephone line
Provided with a status indicator

- green: surge protector operational
- orange: surge protector needs replacing

Conform to standards EN 61643-21 and IEC 61643-21

Pack	Cat.Nos	Voltage surge protector for telephone lines
1	038 28	Imax: 10 kA and In: 5 kA (8/20 μ s wave) Analogue (RTC and ADSL)
1	038 29	Digital (signal lines, current loops)

voltage surge protectors

■ Protection against lightning effects

Lightning directly or indirectly generates the following effects:

- thermal (blow-outs, fire)
- electrodynamic (loosening of terminals)
- rise in earth voltage (risk of electrocution)
- overvoltages of several thousand volts and destructive induced currents (damage to electrical and electronic equipment, interruption of operation)

Protection against the effects of lightning is based essentially on:

- catching and discharging the current to earth
- the use of voltage surge protectors
- the passive protection of the installation

Passive protection (poor, good) designates the part of the protection provided by the structure and the configuration of the installation itself (neutral earthing system, area, level of equipotentiality, etc.)

■ Voltage surge protectors and regulation

Voltage surge protector enable:

- protect sensitive devices against direct and indirect effects of lightning
- to limit harmful consequences on person security
- to insure the continuity of work

1 - Product standards EN 61643-11 and IEC 61643-1

Characterize voltage surge protectors in two levels (types):

	Class 1	Class 2	Class 3
Type of wave	10/350 μ s	8/20 μ s	1,2/50 μ s - 8/20 μ s
Main characteristics	In, Iimp	In, Imax	Uoc

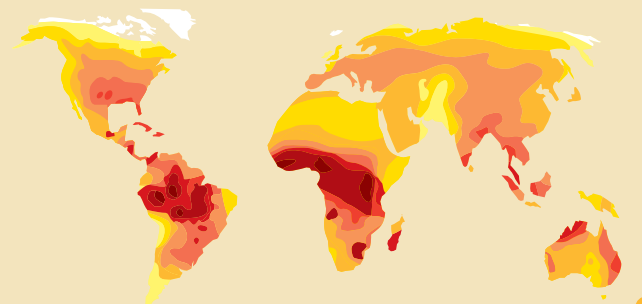
2 - Installation standards: IEC 60364 (or equivalent electric national standards)

According to articles 443 and 534, the use of VSPs is required in new or renovated buildings in the following cases:

- buildings equipped with lightning conductors: type 1 VSPs with Iimp $\geq$ 12.5 kA
- buildings with overhead power supply in class AQ2 geographic zones (see map below: red zones): type 2 VSPs with In $\geq$ 5 kA
- buildings with medical services or equipped with safety systems (fire, etc.) in class AQ2 geographic zones: type 2 VSPs with In $\geq$ 5 kA

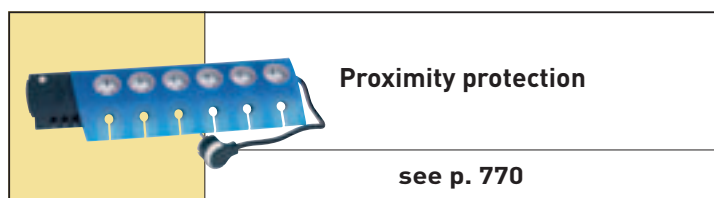
The use of VSPs is also strongly recommended in mountain areas, close to reaches of water or dominating structures (buildings, trees, etc.), in the cases of line end installations or installations located less than 50 m from buildings equipped with lightning conductors
When VSPs are present on the power circuit, it is strongly advised to install a VSP on the communication circuits (telephone or data lines...)

■ Choice of the level lightning protection



The annual average of stormy days

0 - 1	40 - 59
2 - 4	60 - 79
5 - 9	80 - 99
10 - 19	100 - 139
20 - 39	140 - 200 +



Proximity protection

see p. 770

voltage surge protectors (continued)

■ Technical characteristics

Voltage surge protectors for power lines

Cat Nos	Accompaniment of Lightning conductor 039 10	High protection (H) 039 20/21/22/23	Increased protection (I) 039 30/31/32/33	Standard protection (S) 039 40/41/43
Neutral earthing system	TT - TN - IT	TT - TN - IT	TT - TN - IT	TT - TN
Max. steady state voltage (Uc)	440 V~	440 V~	440 V~	320 V~
Frequency	50-60 Hz			
Type	Class I	Class I + II	Class II	Class II
Max. discharge current - I _{max} (8/20 µs)	-	70 kA	40 kA	15 kA
- I _{imp} 10/350 µs	12.5 kA	10 kA	-	-
Nominal discharge current (I _n , wave 8/20 µs)	20 kA	20 kA	15 kA	5 kA
Up protection level I _n	1.8 kV ; 20 kA 1.3 kV ; 5 kA	2 kV ; 20 kA 1.5 kV ; 5 kA	1.8 kV ; 15 kA 1.3 kV ; 5 kA	1.4 kV ; 15 kA 1.2 kV ; 5 kA
U _r	440 V	440 V	440 V	400 V
Associated protection DX, DX-H, DX-L C curve	40 A	40 A	20 A	20 A
Leakage current at U _c (I _c)	< 1 mA			
Follower current (I _f)	Zero			
Response time	25 ns			
Max. terminal capacity - rigid conductor - flexible conductor	25 mm ² 16 mm ²			
Degree of protection	IP 20			
Operating temperature	- 10 °C to + 40 °C			
Storage temperature	- 20 °C to + 70 °C			

Voltage surge protectors for telephone lines

	Analog 038 28	Digital 038 29
Minimum voltage (U _n)	170 V	48 V
Protection level (U _p)	260 V	100 V
Nominal current (I _n)	5 kA	
Max. terminal capacity flexible/rigid	0.5 to 2.5 mm ²	
Degree of protection	IP 20	
Operating temperature	- 10 °C to + 40 °C	
Storage temperature	- 20 °C to + 70 °C	

■ Installation

Voltage surge protectors cascading (multi-level protection)

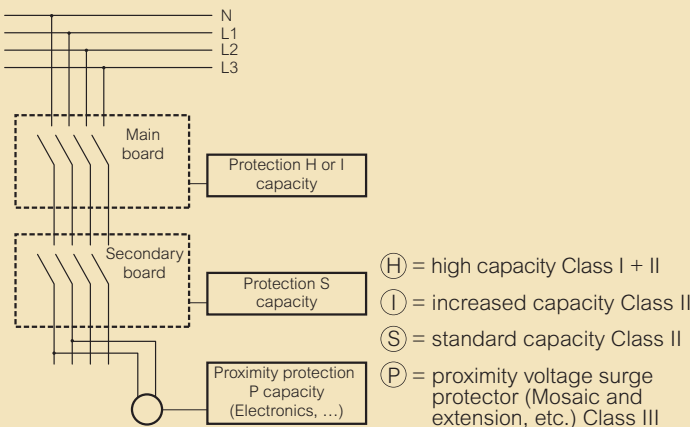
Beyond the standards requirements:

- the cost of the consequences of equipment unavailability,
 - the nature of the equipment to be protected (IT, electronics, etc.),
 - the situation of the buildings (proximity or not of a building equipped with a lightning conductor),
 - the power supply network....
- are all situations that justify the installation of VSPs.

However, the efficiency of protection against overvoltages cannot be optimally ensured with a single VSP.

This is why Legrand recommends combining several VSPs in cascade with different protection levels, from the first panel as far as the device to be protected (proximity protection of sensitive devices).

An installation will be all the more efficient if, beyond Class I and II VSPs, it comprises proximity VSPs (Class III) on sockets supplying sensitive devices (IT, electronic, etc.).



Associated protection

The supply circuit of the VSP must be protected against short-circuits and overloads by its associated disconnector (MCB) in accordance with discrimination rules.

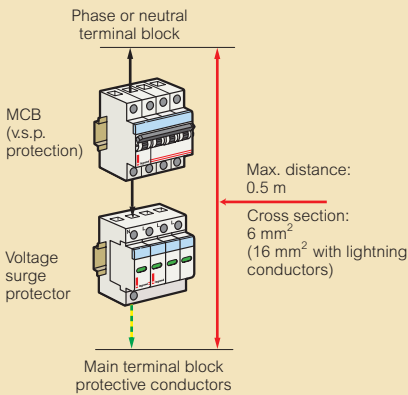
Disconnectors meeting standards EN 61643-11 and IEC 61643-1 are described in the table of operational characteristics (above) and in the selection table (p. 138)

The protection devices proposed in the selection table (p. 138) are suited to normal headline protection in the different tariffs (art. 534-1-5-3 of standard NF C 15-100).

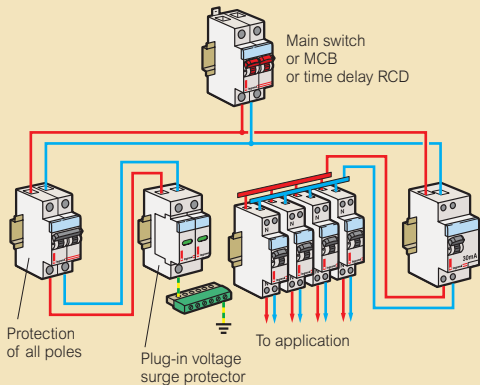
Connection principles

For the voltage surge protector to perform its function as well as possible, it must be installed:

- as a tap-off
- keeping as short a connection length as possible between the phase-neutral terminal block and the PE or PEN terminal block
- in accordance with EMC (electromagnetic compatibility) rules: avoid the loops of conductors, fix the cables against metal conductive parts



Connection principles (continued)



Recommended cross-sections for conductors linking voltage surge protectors

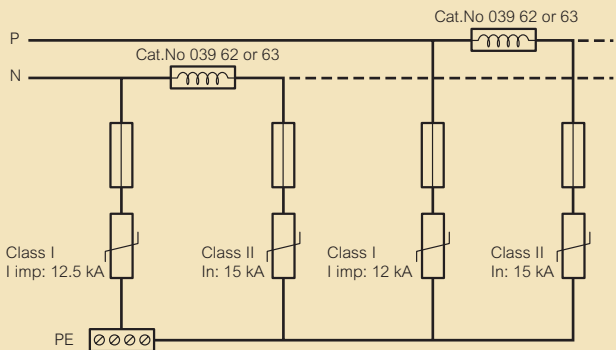
Capacity	Cross-section (mm ²)
Standard (S)	6
Increased (I)	10
High (H)	16
Accompaniment of lightning conductor (HL)	16

Minimum distances between voltage surge protectors

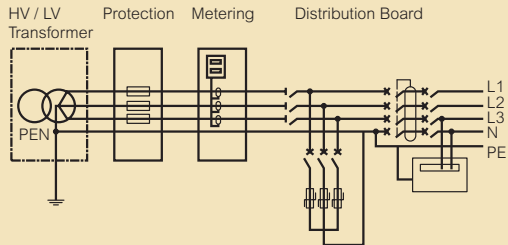
Downstream v.s.p.	Upstream v.s.p.	Distance (m)
H	I S P	6 8 10
I	S P	4 6
S	P	2
Accompaniment of lightning conductor (HL)	I S	8 10

Installation of decoupling inductors in the same board

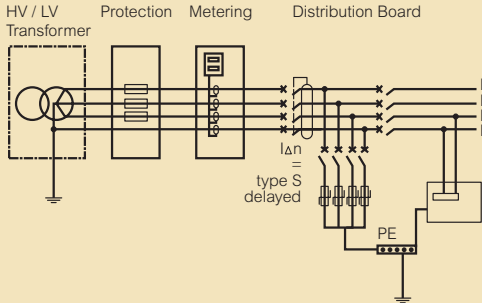
When distance cannot be respected please use decoupling inductors (see Cat.Nos p. 140), installed as follows



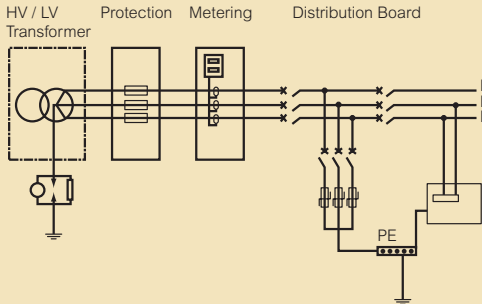
1 - Voltage surge protector in TN system



2 - Voltage surge protector in TT system



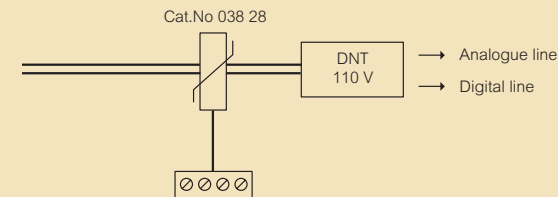
3 - Voltage surge protector in IT system



■ Installation for telephone lines

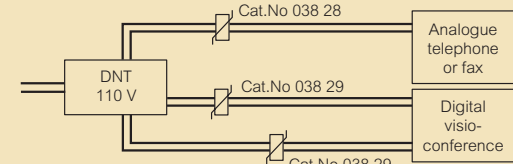
Protection of a telephone line

- Upstream the communication distribution box

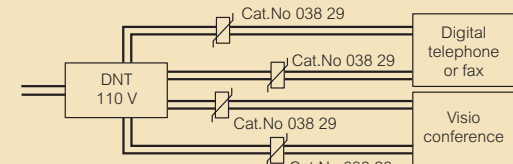


- Downstream the communication distribution box

- Analogue or digital



- Digital



domestic fuse carriers



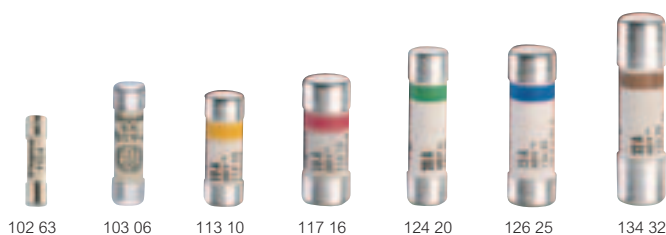
Dimensions (p. 159)

With label-holders
With insulated carrier class II, padlockable
Coupling via supply busbars
Shielded terminals capacity 2 x 10 mm²
Possibility to signal indicator blown fuse
Fuse not supplied

Pack	Cat.Nos	For domestic cylindrical cartridge fuses		
		Conform to EN 60269-3 and IEC 60269-3 and 60269-3.1		
		Single pole		
		For domestic cartridges	Cartridge dimensions (mm)	Number of modules
10	058 10	10 A - 230 V~	8.5 x 23	1
10	058 11	16 A	10.3 x 25.8	1
10	058 12	20 A - 400 V~	8.5 x 31.5	1
10	058 13	25 A	10.3 x 31.5	1
10	058 14	32 A	10.3 x 38	1
		Single pole + neutral		
10	058 20	10 A - 230 V~	8.5 x 23	1
10	058 21	16 A	10.3 x 25.8	1
10	058 22	20 A - 400 V~	8.5 x 31.5	1
10	058 23	25 A	10.3 x 31.5	1
10	058 24	32 A	10.3 x 38	1

Pack	Cat.Nos	For miniature cylindrical cartridge fuses		
		Conform to EN 60127-6 and IEC 60127-6 To protect sensitive equipment: transformers, electronic equipment, etc.		
		Single pole		
		Cartridge dimensions (mm)	Voltage	Number of modules
5	058 00	5 x 20	250 V~	1
		Single pole + neutral		
5	058 02	5 x 20	250 V~	1

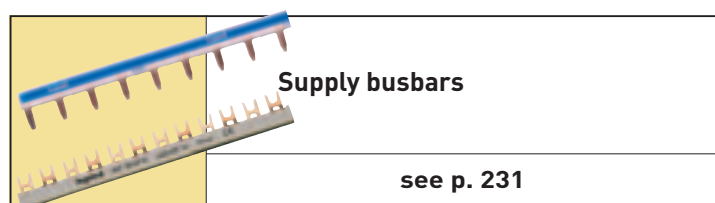
domestic cartridge fuses



Pack	Cat.Nos	Miniature type 5 x 20		
		Instant reaction fuse - Ceramic body Conform to IEC 60127 and IEC 60127-2 - EN 60127 and EN 60127-2 - VDE 0820-1 High rupture capacity (A)		
		For use with dimmers, Viking terminal blocks and emergency lighting units, transformers		
		Rating (Amps)	Voltage ~ (Volts)	Rupture capacity (Amps)
10	102 02	0.2	250	1500
10	102 05	0.5		
10	102 06	0.63		
10	102 10	1		
10	102 20	2		
10	102 30	3.15	250	500
10	102 50	5		
10	102 63	6.3		
10	102 96	10		

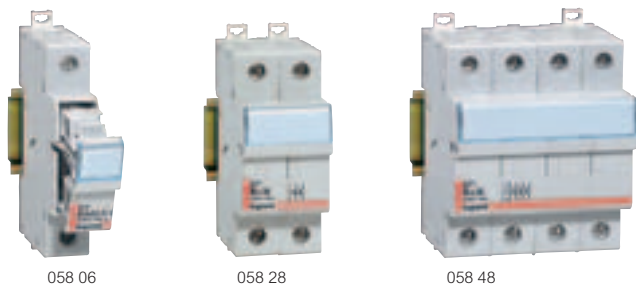
		Cylindrical					
		6.3 x 23					
	Without indicator	With indicator	Rating (Amps)	Voltage ~ (Volts)	Rupture capacity (Amps) Copper	Protected section (mm ²)	Color Indication
10	103 06 ⁽¹⁾		6	230	6 000	1.5	
		8.5 x 23					
10		114 06	6	230	6 000		
10/100	113 10	114 10	10			1.5	
		10.3 x 25.8					
10	116 10 ⁽¹⁾		10	230	6 000		
10	116 16 ⁽¹⁾	117 16 ⁽¹⁾	16			2.5	
		8.5 x 31.5					
10	123 01		1				
10	123 02	124 02	2				
10	123 04	124 04	4				
10	123 06	124 06	6	400	20 000		
10/100	123 10		10				
10		124 10	10				
10/100	123 16	124 16	16				
10/100	123 20	124 20	20			2.5	
		10.3 x 31.5					
10	126 16		16				
10	126 20		20	400	20 000		
10	126 25	127 25	25			4	
		10.3 x 38					
10/100	133 32		32	400	20 000		
10		134 32	32			6	
		Neutral links					
10	123 00		8.5 x 31.5				
10	133 00		10 x 38				

Other cartridge fuses (p. 110)



(1) Conform to BS 1361 (1971)

isolating fuse carriers



058 06

058 28

058 48



Dimensions (p. 159)

For industrial cylindrical cartridge fuses type aM or gG

Conform to standard IEC 60269-2 and IEC 60269-2.1

Isolators conform to IEC 60947-3

Icc:

- 20 kA with 8.5 x 31.5 cartridge fuse

- 100 kA with 10 x 38 cartridge fuse

Fuse not supplied (p. 144)

Single pole

Cartridge dimensions (mm)

8.5 x 31.5

Voltage

400 V~

Number of modules

1

10

058 06

10 x 38

500 V~

1

10

058 08

Single pole + neutral

8.5 x 31.5

400 V~

1

10

058 16

10 x 38

500 V~

1

10

058 18

2-pole

8.5 x 31.5

400 V~

2

5

058 26

10 x 38

500 V~

2

5

058 28

3-pole

8.5 x 31.5

400 V~

3

3

058 36

10 x 38

500 V~

3

3

058 38

3-pole + neutral

8.5 x 31.5

400 V~

4

2

058 46

10 x 38

500 V~

4

2

058 48

Accessories

10

057 90

Blow-out indicator 250 V~

1

057 96

Early break N/O + N/C contact auxiliary 5 A - 250 V~ (0.5 module)

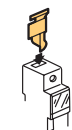
2

044 44

Sealable screw cover (4 separable poles)



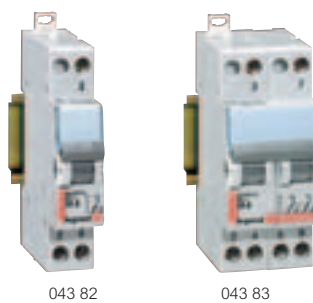
Blow-out indicator



Sealable screw cover

Supply busbars (p. 231)

changeover switches



043 82

043 83



Dimensions (p. 159)

Conform to standard IEC 60669-1

Breaking capacity AC 22 A according to IEC 60947-3

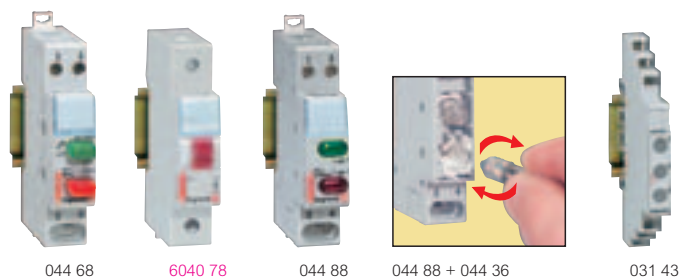
Changeover switches

Pack	Cat.Nos	Nominal rating (A)	Connection	Number of modules
10	043 82	20		1
5	043 83	20		2
10	043 85	20		1
5	043 86	20		2

DX
MCBs up to 125 A

see p. 128

push-buttons, control switches and indicators



Dimensions (p. 159)

Push-buttons and control switches 20 A - 250 V~

Accept insertion of supply busbars
Conform to IEC 60669-1
Breaking capacity AC 12 A according to IEC 60947-5-1
Supplied in push-button position
Can be converted to control switches

Single functions

Pack	Cat.Nos		Number of modules
10	044 53	1 N/O	1
10	044 54	1 N/C	1
10	044 55	2 N/O	1
10	044 58	1 N/O + N/C	1
10	044 63	1 N/O + green indicator ⁽¹⁾	1
10	044 64	1 N/C + red indicator ⁽¹⁾	1
10	044 68	1 N/O (green) + 1 N/C (red)	1

Indicators - 250 V~

One piece indicator - single

Supplied with 230 V~ lamps non replaceable

Pack	Cat.Nos		Number of modules
12	6040 77	Green	1
12	6040 78	Red	1
12	6040 79	Orange	1

Double

Supplied with diffuser and replaceable lamp E 10 - 230 V~
Green + red

Pack	Cat.Nos		Number of modules
10	044 88	Green + red	1

Three-phase voltage indicator

Supplied with lamps 230/400 V~ non replaceable
3 neon lamps colourless

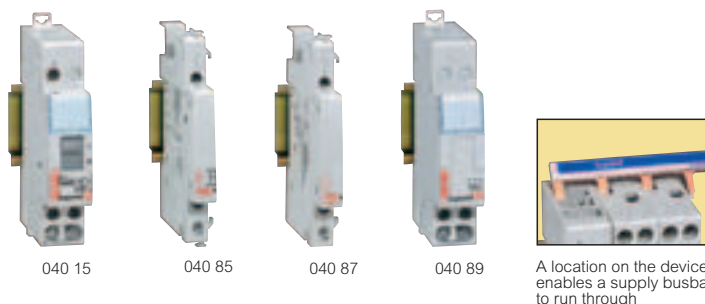
Pack	Cat.Nos		Number of modules
2	031 43		0.5

Accessories

Replacement lamps E 10 - 1.2 W

Pack	Cat.Nos	
10	044 33	24 V incandescent
10	044 36	230 V neon
10	044 37	230 V fluo for blue and green diffusers

pulse operated latching relays



A location on the device enables a supply busbar to run through

Dimensions (p. 159)

Pulse operated latching relays

Conform to standard IEC 60669-2-2 via illuminated push-button for control, use compense: Cat.No 040 89

Single pole - 16 A - 250 V~

Pack	Cat.Nos	Connection	Number of modules
10	040 15	1 N/O	1

2-pole - 16 A - 250 V~

Pack	Cat.Nos	Connection	Number of modules
10	040 16	2 N/O	1

4-pole - 16 A - 400 V~

Can be used for 3-pole assembly

Pack	Cat.Nos	Connection	Number of modules
1	040 19	4 N/O	2

Auxiliary devices for pulse operated latching relays

Fitted on left-hand side of latching relay
1 auxiliary per latching relay

Auxiliary changeover switch

Used to signal the position status of the contacts on the product with which it is associated

Pack	Cat.Nos	I max.	Voltage	Contact	Number of modules
1	040 85	5 A	250 V~ - 50 Hz	N/C + N/O	0.5

Auxiliary device for centralised control⁽¹⁾

Centralized control possible from a specific location (e.g. porter's lodge)

Can be controlled via time switches

One auxiliary per latching relay to control

Pack	Cat.Nos		Number of modules
1	040 86	For latching relays 12 V~ to 48 V~ or latching relays 8 V~ to 24 V~	0.5
1	040 87	For latching relays 230 V~ - 50 Hz	0.5

Compensator for pulse operated latching relays

Used to control 230 V~ - 50 Hz pulse operated latching relays via illuminated push-buttons without malfunctions

Connects to the terminals of the pulse operated latching relay coil

Connects a compensation modules with 9 to 16 illuminated push-buttons with consumption of 0.55 mA (or total current consumption of 4.5 mA to 8 mA)

Connects 2 compensation modules with 17 to 24 illuminated push-buttons with consumption of 0.55 mA (or total current consumption of 8.5 mA to 12 mA)

Pack	Cat.Nos		Number of modules
1	040 89	Impedance compensator for 230 V~ - 50 Hz pulse operated latching relays	1

(1) Supplied with E 10 lamps 230 V~

(1) Possible to control 20 pulse operated latching relays equipped with centralized control

pulse operated latching relays

■ Technical characteristics

Latching relay	Un	Control power		Coil consumption under Un (50/60 Hz)	Connection
		50/60 Hz	DC		
1P	230 V	230 V	110 V	18 VA	4 mm ² max. flexible or rigid wires
2P	230 V	230 V	110 V	18 VA	
4P	230 V	230 V	110 V	32 VA	

■ Lighting

Maximum number of lamps per phase in the circuit: 230 V single phase

• Incandescent lamps

Tungsten and 230 V halogen filament

Unit power (W)	40	60	75	100	150	200	300	500
Nb of lamps	40	26	21	16	10	8	5	3

Halogen lamps with 12 V ferromagnetic transformer

Unit power (W)	20	35	50	75	100
Nb of lamps	65	45	25	16	12

• Fluorescent tubes

Single non compensated

Unit power (W)	15	18	20	30	36	40	58	65
Nb of lamps	35	33	32	30	29	26	18	15

Single parallel compensated

Unit power (W)	15	18	20	30	36	40	58	65
Nb of lamps	29	28	27	26	25	23	16	14

Double serial compensated

Unit power (W)	2 x 18	2 x 20	2 x 30	2 x 36	2 x 40	2 x 58	65
Nb of lamps	44	40	27	26	20	14	12

For double parallel compensated divide by 2 these values

4 serial compensated tubes

Unit power (W)	4 x 18
Nb of lamps	22

Compact fluorescent with electronic ballast

Unit power (W)	7	10	18	26
Nb of lamps	45	42	37	23

Compact fluorescent with integrated power supply

Unit power (W)	11	15	20	23
Nb of lamps	75	55	45	35

Single fluorescent with electronic ballast

Unit power (W)	18	36	58
Nb of lamps	28	24	14

Double fluorescent with electronic ballast

Unit power (W)	2 x 18	2 x 36	2 x 58
Nb of lamps	14	12	7

• Discharge lamps

Low pressure sodium vapour without compensation

Unit power (W)	18	35	55	90	135	150	180	200
Nb of lamps	19	6	5	3	2	2	2	2

Low pressure sodium vapour with compensation

Unit power (W)	18	35	55	90	135	150	180	200
Nb of lamps	15	3	3	2	1	1	1	1

Low pressure sodium vapour or metal iodide without compensation

Unit power (W)	70	150	250	330	400	1000
Nb of lamps	9	5	3	3	2	-

Low pressure sodium vapour or metal iodide with compensation

Unit power (W)	70	150	250	330	400	1000
Nb of lamps	6	6	3	2	2	1

High pressure mercury vapour without compensation

Unit power (W)	50	80	125	250	400
Nb of lamps	11	9	7	3	1

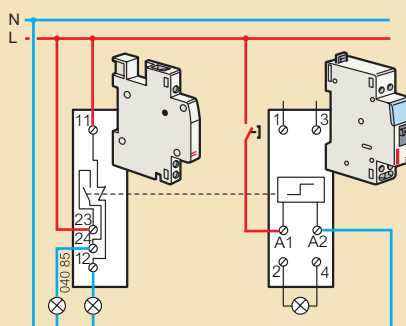
High pressure mercury vapour with compensation

Unit power (W)	50	80	125	250	400
Nb of lamps	9	7	5	3	1

■ Schemas

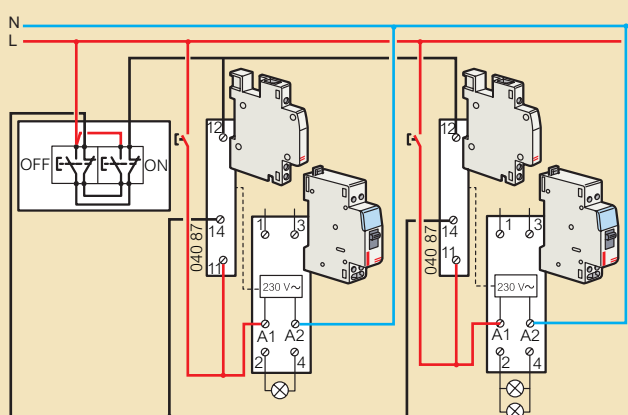
Signalling

(e.g. with auxiliary Cat.No 040 85)



Control centralized at one point

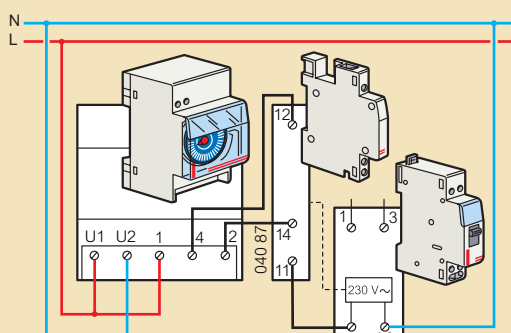
(e.g. using auxiliary device Cat.No 040 87)



Use only non illuminated push-buttons

Control via maintained contact

(e.g. using auxiliary device Cat.No 040 87 and time switch)

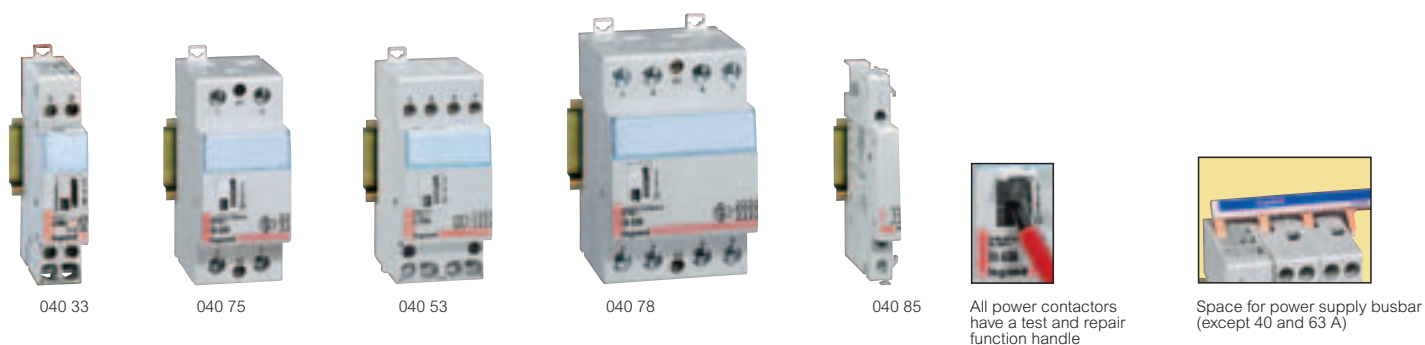


Control via illuminated push-button

(e.g. compensator Cat.No 040 89)

- Connect a compensation module with 9 to 16 illuminated push-buttons with consumption of 0.55 mA (or total current consumption of 4.5 mA to 8 mA)
- Connect 2 compensation modules with 17 to 24 illuminated push-buttons with consumption of 0.55 mA (or total current consumption of 8.5 mA to 12 mA)

power contactors

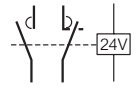
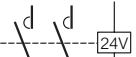
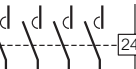


 Dimensions (p. 159)

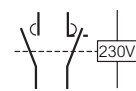
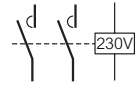
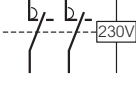
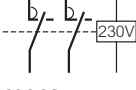
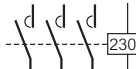
Conform to IEC 61095

Test function: the test and repair function is carried out via the handle (which can be accessed once the blanking plate has been removed)
A tool forces the device "ON" or "OFF" without the contactor closing automatically
Space for power supply busbar on top (up to 20 A)

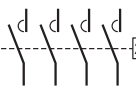
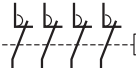
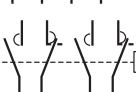
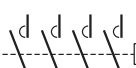
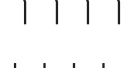
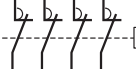
Power contactors with 24 V~ coil

Pack	Cat.Nos			Type of contact	Number of modules
1	040 33	2-pole - 250 V~			
		I max			
		16 A		N/C + N/O	1
1	040 41	20 A		2 N/O	1
1	040 73	63 A		2 N/O	2
1	040 74	4-pole - 400 V~			
		63 A		4 N/O	3

Power contactors with 230 V~ coil

Pack	Noiseless	Standard	Cat.Nos		Type of contact	Number of modules
1			040 38	2-pole - 250 V~		
				I max		
				16 A		N/O + N/C
1	040 52	040 49	20 A	2-pole - 250 V~		
				I max		
				20 A		2 N/O
1		040 50	20 A	2-pole - 250 V~		
				I max		
				20 A		2 N/C
1		040 68	40 A	2-pole - 250 V~		
1		040 75	63 A	2-pole - 250 V~		
1		040 76	63 A	2-pole - 250 V~		
				I max		
				63 A		2 N/C
1		040 69	40 A	3-pole - 400 V~		
				I max		
				40 A		3 N/O
1		040 77	63 A	3-pole - 400 V~		
				3-pole - 400 V~		
				I max		
				63 A		3 N/O

Power contactors with 230 V~ coil

Pack	Cat.Nos			Type of contact	Number of modules
1	040 53	4-pole - 400 V~			
		I max			
		20 A		4 N/O	2
1	040 54	4-pole - 400 V~			
		I max			
		20 A		4 N/C	2
1	040 55	4-pole - 400 V~			
		I max			
		20 A		2 N/O + 2 N/C	2
1	040 70	40 A		4 N/O	3
1	040 78	63 A		4 N/O	3
1	040 79	63 A		4 N/C	3

Auxiliary device for contactors

For contactors up to 63 A
Auxiliary changeover switch
Fitted on left-hand side of contactor
Used to signal the position status of the contacts on the product to which it is connected

Pack	Cat.Nos	I max.	Voltage	Changeover switch	Number of modules
1	040 85	5 A	250 V~ - 50 Hz	N/C + N/O	0.5

power contactors

■ Technical characteristics

- Frequency: 50/60 Hz
- Rated impulsive resistant current (Uimp): 4 kV
- Mechanical life in cycles of operations: 10⁶ cycles
- Temperature:
 - Operation for contactors 1 module: - 5 °C to + 40 °C
2/3 modules: - 25 °C to + 40 °C
 - Storage for contactors 1 module: - 25 °C to + 70 °C
2/3 modules: - 40 °C to + 70 °C

Protection of contactors against short-circuits conforming to NF EN 61095, conditional short-circuit current I_{sc} = 3 kA

MCB or gG fuse, rating:

- ≤ 16 A for 16 A rating
- ≤ 20 A for 20 A rating
- ≤ 40 A for 40 A rating
- ≤ 63 A for 63 A rating

• Control coil consumption

Power VA	Standard contactor						Silent contactor
Control voltage	24 V ~			230 V ~			230 V ~
Inrush	12 VA	42 VA	36 VA	12 VA	35 VA	45 VA	13.5 VA
Holding	3 VA	6 VA	6.5 VA	3 VA	3 VA	7 VA	4 VA
Number of modules	1	2	3	1	2	3	1

• Recommendations

Derating of contactors mounted in modular boxes if the internal temperature is > 40 °C

Contactors rating	40 °C	50 °C	60 °C	70 °C
I _e = 16 A	16 A	14 A	12 A	10 A
I _e = 20 A	20 A	18 A	16 A	14 A
I _e = 40 A	40 A	36 A	32 A	29 A
I _e = 63 A	63 A	57 A	50 A	46 A

Install a spacing unit every two contactors (Cat.No 044 40 or 044 41)

• Max. connection cross-section in mm²

Type of conductor	Ratings ≤ 20 A	Ratings 40 and 63 A
Rigid	1 x 6 ² or 2 x 4 ²	1 x 25 ² or 2 x 10 ²
Flexible	1 x 6 ² or 2 x 4 ²	1 x 25 ² or 2 x 10 ²
Flexible with single ferrule	1 x 4 ²	1 x 16 ²
Flexible with double ferrule	2 x 2.5 ²	2 x 16 ²

■ Contactors performance⁽¹⁾

1 - Lighting

Maximum number of lamps per phase according to the circuit:

- 230 V ~ single phase: values in the table
- 400 V ~ 3-phase + neutral (connection between phase and neutral): values in the table per phase (multiply by 3)
- 230 V ~ 3-phase without neutral (connection between phase): values in the table divided by √3
- 400 V ~ 3-phase without neutral (connection between phase): values in the table divided by 2√3

- Incandescent lamps

Tungsten and 230 V halogen filament

Power unit	40 W	60 W	75 W	100 W	150 W	200 W	300 W	500 W	1 000 W
16 A	40	32	27	21	13	11	8	4	2
20 A	47	37	30	23	15	12	8	5	2
40 A	118	87	72	52	36	26	18	11	7
63 A	156	115	96	71	48	35	25	15	8

Halogen lamps with 12 V ferromagnetic transformer

Power unit	20 W	50 W	75 W	100 W	150 W
16 A	16	11	9	7	4
20 A	19	12	10	8	5
40 A	45	29	25	20	15
63 A	64	42	34	28	19

- Fluorescent tubes

Compact fluorescent without compensation

Power unit	7 W	10 W	18 W	26 W
16 A	52	47	42	27
20 A	56	51	43	28
40 A	105	94	68	53
63 A	128	113	88	79

Compact fluorescent with integrated power supply

Power unit	7 W	11 W	15 W	20 W	23 W
16 A	98	82	62	51	41
20 A	102	85	63	52	42
40 A	125	106	94	71	56
63 A	146	128	113	88	78

Simple and double

Power unit	15 W	18 W	20 W	36 W	40 W	58 W	65 W	115 W	140 W
Non compensated	16 A	24	24	24	22	22	15	15	8
	20 A	28	28	28	26	26	17	17	10
	40 A	75	75	75	65	65	40	40	22
Parallel compensated	63 A	105	105	105	93	93	58	58	33
	16 A	16	16	16	16	16	11	11	6
	20 A	18	18	18	18	18	13	13	6
Serial compensated ⁽²⁾	40 A	40	40	40	40	40	30	30	14
	63 A	60	60	60	60	60	43	43	20
	16 A	-	32	32	18	18	11	11	7
Serial compensated ⁽²⁾	20 A	-	38	38	21	21	13	13	9
	40 A	-	85	85	45	45	29	29	18
	63 A	-	120	120	65	65	40	40	24

With electronic ballast

Power unit	14 W	18 W	36 W	58 W
Single	16 A	40	32	28
	20 A	44	35	30
	40 A	80	64	35
Double ⁽²⁾	63 A	100	79	46
	16 A	20	16	14
	20 A	22	17	15
Double ⁽²⁾	40 A	41	32	18
	63 A	51	40	22

4 serial compensated tubes

Power unit	16 A	20 A	40 A	63 A
4 x 18 W	16	19	48	67

- Discharge lamps

Sodium vapour low pressure

Power unit	18 W	35 W	55 W	90 W	135 W	150 W	180 W	200 W
Without compensation	16 A	19	6	5	3	2	2	2
	20 A	22	7	7	4	2	2	2
	40 A	57	14	14	9	8	6	6
With compensation	63 A	90	25	25	20	10	9	9
	16 A	15	3	3	2	1	1	1
	20 A	17	4	4	3	1	1	1
With compensation	40 A	42	11	11	9	5	4	3
	63 A	58	15	15	11	7	6	5

Sodium vapour high pressure or metal iodide

Power unit	70 W	150 W	250 W	330 W	400 W	1000 W
Without compensation	16 A	9	5	3	3	2
	20 A	10	6	3	3	2
	40 A	22	15	9	8	6
With compensation	63 A	30	19	11	9	7
	16 A	6	6	3	2	2
	20 A	8	8	3	2	2
With compensation	40 A	20	20	8	8	7
	63 A	25	25	11	10	9

Mercury vapour high pressure

Power unit	50 W	80 W	125 W	250 W	400 W	700 W	1000 W
Without compensation	16 A	11	9	7	3	1	-
	20 A	12	10	8	3	2	-
	40 A	36	27	19	10	7	4
With compensation	63 A	52	39	27	14	10	6
	16 A	9	7	5	3	1	-
	20 A	10	8	6	3	2	1
With compensation	40 A	25	21	14	7	4	3
	63 A	30	25	16	9	5	3

2 - Motors

Maximum (kW)

	16 A	20 A	40 A	63 A
230 V single phase motor with capacitor	0.9	1.1	2.5	4
400 V 3-phase motor	2.7	3.3	7.5	12

3 - Heating

Maximum power according to the number of operations per day (kW)

Operations per day	16 A	20 A	40 A	63 A
230 V single phase supply				
≤ 50	3.5	4.5	9	14
75	3	3.5	7.5	12
100	2.5	3	6	9.5
250	1.5	2	4	6
500	1	1	2.5	4.5
400 V 3-phase supply				
≤ 50	10	13	26	41
75	9	11	22	35
100	7	9	17	26
250	3	4	8	13
500	2	3	6	9

(1) For a service life of 10 years with 200 day's annual use
(2) Power unit (W), to multiply by 2 (e.g. 2 x 18 W)

electronic time-lag switches



047 02



Space for supply busbar



047 04



Dimensions (p. 159)

Designed for supply busbar compatibility
Power supply: 230 V~ - 50/60 Hz
Switches a lighting circuit for a specific time
Self-protection in the event of blocked pushbutton

Pack	Cat.Nos	Time-lag switch
10	047 02	Resettable 230 V~ - 50/60 Hz Timing adjustable from 0.5 sec to 10 min Manual override contact Output 16 A - 250 V~ - $\mu \cos \varphi = 1$ 2000 W incandescent/halogen 2000 W halogen - 230 V~ 1000 VA fluo - series compensated 120 VA fluo - parallel compensated 14 μF 100 VA compact fluorescent 1000 W energy saving lamp automatic 3-wire or 4-wire connection

Numbers of modules
1

Pack	Cat.Nos	Multi-function time-lag switch
10	047 04	Resettable 230 V~ - 50/60 Hz Timing adjustable from 0.5 sec to 12 min Operation with 3 or 4 wires automatically recognised by the time-lag switch - Inputs for separate control 8-230 V (presence detection, lighting control by door phone etc.) - Switch-off warning function, display of time-lag end - Long duration function (1 hour) and manual switch-off Output 16 A - 250 V~ - $\mu \cos \varphi = 1$ 2000 W incandescent/halogen 1000 VA fluo - parallel compensated $\leq 100 \mu F$ 1000 VA compact fluorescent 500 W halogen lamp + ferromagnetic transformer 2000 W halogen lamp + electronic transformer - Specially suited to energy saving lamps 1000 W energy saving lamp

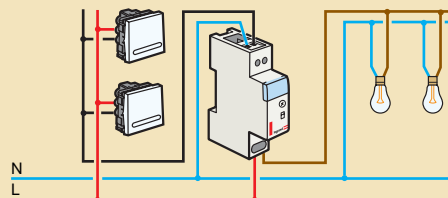
Numbers of modules
1

electronic time-lag switches

Time-lag switch

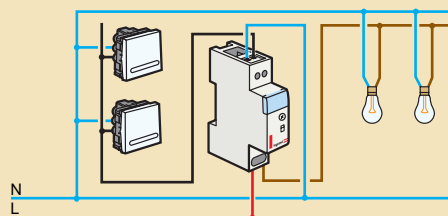
4-wire

Enables any number of non-illuminated pushbuttons or up to 50 illuminated pushbuttons with neon indicator at 1 mA max.
Constant lighting



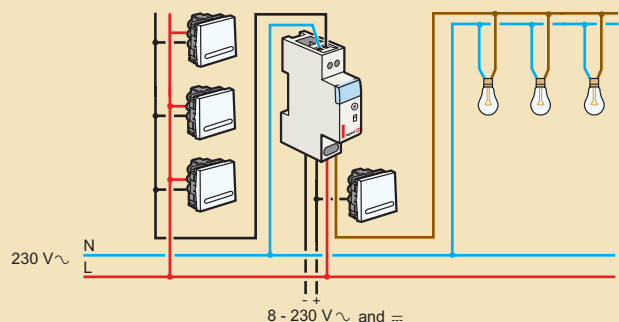
3-wire

Enables any number of non-illuminated pushbuttons or up to 50 illuminated pushbuttons with neon indicator at 1 mA max.
Constant lighting

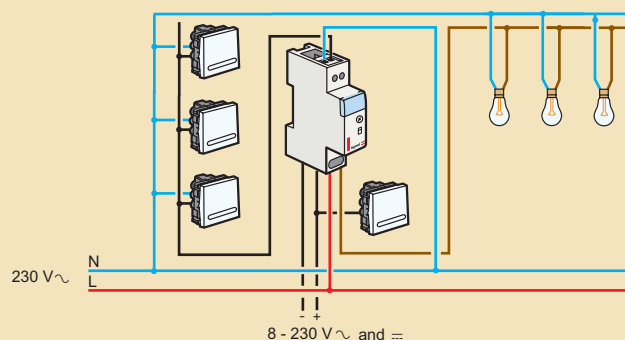


Multi-function time-lag switch

4-wire



3-wire



Terminal shields

www.legrandelectric.com

see p. 164

time delay relays



047 40

047 41

047 42

047 00

047 43

047 45

047 44

Dimensions (p. 159)

For controlling the switching ON or OFF of a circuit (lighting, ventilation, automation, signalling) in operation for a specific time from 0.1 sec to 100 hrs
Supply voltage: 12 to 230 V~ and ~ - 50/60 Hz
Output: 8 A - 250 V~ - $\mu \cos \varphi = 1$ per inverter contact

Pack	Cat.Nos	Time delay relays	Number of modules
1	047 40	ON delay Delays load switch-on (alarm, lighting, contactor) The time period starts when the relay is switched ON. At the end of the time period (T), the load is switched ON OFF delay Delays load switch-off (ventilation, etc.) The time period (T) starts with the opening of the non-illuminated switch or pushbutton. At the end of the time period, the load is switched OFF Flashing For switching ON and OFF a load (lighting, sounder) for different times and cyclically Motor start (star / delta) For starting a load (motor) in 2 steps Double star-delta timing 	1
1	047 41		1
1	047 42		1
1	047 00		1

Pack	Cat.Nos	Time delay relays (continued)	Number of modules
1	047 43	Timer (pulse) For switching a load ON for a specific time (contactor) The time period (T) starts with the closing of the non-illuminated switch or pushbutton. At the end of the time period, the load is switched OFF Delay on power-up For switching a load ON for a specific time The time period (T) starts when the relay is switched ON. At the end of the time period (T), the load is switched OFF Multifunction • ON delay • OFF delay • ON/OFF delay • Timer (pulse) • Timer and passing contact • Delay on power-up • Flashing (open output) • Totalizer on delay • Totalizer delay on power-up	1
1	047 45		1
1	047 44		1

programmable time switches with analogue dial



Programmed via captive segment
1-module device: min. 1 segment
3-module device: min. 2 segments
Power supply: 230 V~ - 50/60 Hz
3-position override switch "ON-AUTO-OFF" on front panel
Manual changeover to summer/winter time
1 outlet 16 A - 250 V~ - $\mu \cos \phi = 1$

Pack	Cat.Nos	Daily programme	
1	037 30	1 segment = 15 minutes Accuracy: ± 5 minutes Vertical dial Minimum switching time: 15 mn N/O contact	Number of modules 1
1	037 40	Without working reserve With 100 h working reserve	1
1	037 52	Horizontal dial Minimum switching time: 45 minutes Changeover switch	3
1	037 53	Without working reserve With 100 h working reserve	3

		Weekly programme	
1	037 44	1 segment = 2 hours Accuracy: ± 30 minutes Vertical dial Minimum switching time: 2 h N/O contact	Number of modules 1
1	037 55	With 100 h working reserve Horizontal dial Minimum switching time: 4 h Changeover switch	3



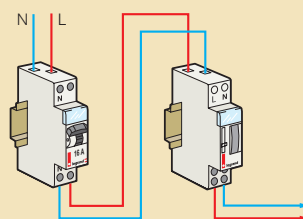
**Totalising hour
counters on door**

see p. 94

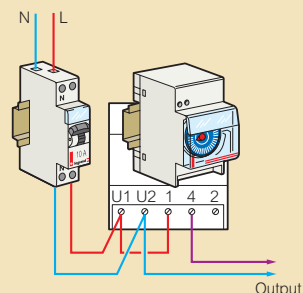
programmable time switches with analogue and digital dial

■ Diagrams

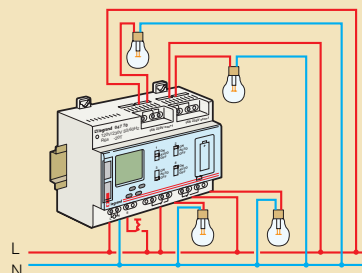
Cat.Nos 037 30/40



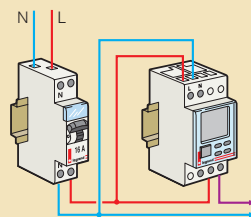
Cat.Nos 037 52/53/55



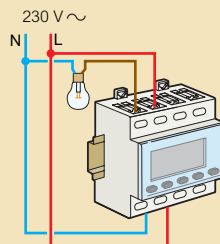
Cat.No 047 70



Cat.Nos 047 61/63, 6047 60



Cat.Nos 037 34/20



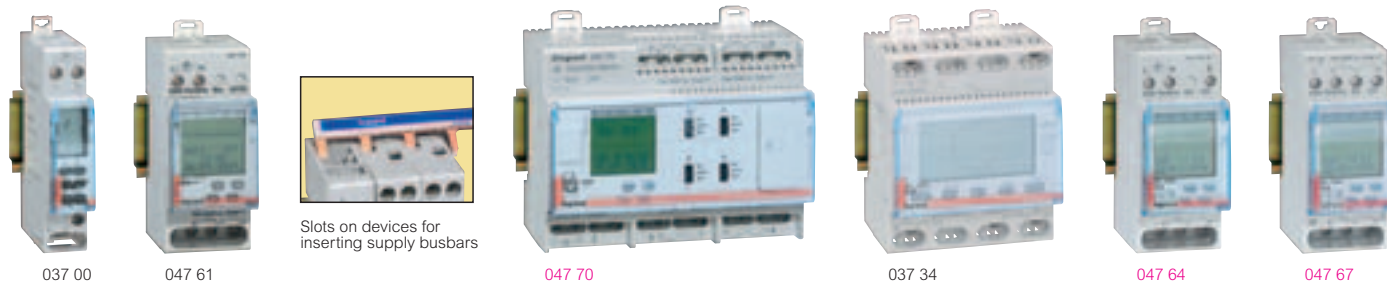
Output closing and breaking times are calculated based on the date, the time when the device was switched and on geographical co-ordinates at location

■ Technical characteristics

Cat.Nos	Prog. time	Min. programme setting	Working reserve	Summer/winter time	Outputs 16 A	Nb of prog.	Nb of mod.
037 00	7 d	1 mn	100 h	auto	1	8	1
047 61	multi	1 mn	6 years	auto	1	56	2
047 71	multi	1 mn	6 years	auto	2	2 x 28	2
047 63	multi	1 mn	6 years	auto	1	56	2
6047 60	multi	1 mn	6 years	auto	1	56	2

Cat.Nos	Programme	Segment	Min. switching time	Working reserve	16 A output via contact N/O	Chang. S.	Nb of modules
037 30	24 h	15 mn	15 mn	without	1	-	1
037 40	24 h	15 mn	15 mn	100 h	1	-	1
037 52	24 h	15 mn	30 mn	without	-	1	3
037 53	24 h	15 mn	30 mn	100 h	-	1	3
037 44	7 d	2 h	2 h	100 h	1	-	1
037 55	7 d	2 h	4 h	100 h	-	1	3

programmable time switches with digital display



Dimensions (p. 159)

For switching an electric circuit (lighting, heating) ON or OFF at selected times during a pre-programmed time period
Temporary (automatic return) or permanent (forced switching ON or OFF) override on output

Pack	Cat.Nos	Standard	Number of modules	Pack	Cat.Nos	Multiple functions annual program	Number of modules
1	037 00	Automatic summer/winter changeover and time setting Permanent saving of programmes 7-day time switch Clock precision: ± 2.5 sec per day Minimum programme setting: 1 min Clock working reserve: 100 hours Power supply 230 V~ - 50/60 Hz 1 output 16 A - 250 V~ $\mu \cos \phi = 1$ per 1 inverter contact	1	1	047 70	Annual program 4 outputs For programming periods throughout the year Programmed directly on keypad, or using programme transfer key Cat.No 047 81 Programming transfer key Can be used to store program settings made: • Directly on Cat.No 047 70 (loading on device) • with the programming software installed on a PC running Windows (loading on data loader) Battery Working reserve 5 years for Cat.No 047 70	6
1	047 61	Programme settings can be made on a daily or weekly basis in 6 languages (GB, F, E, I, D, NL) A programme consists of a on and off time and their assignment to certain days Option to suspend the programme for a specific period to set-up with start and date Supplied with instructions-holder case (1 module) Minimum programme setting: 1 min High precision clock: ± 0.2 sec per day Adjustable impulse duration from 1 sec to 59 min ⁽¹⁾ Particularly suited to irregular cycles: - security installations (access point, alarms, etc.), - industrial installations (pump stations, etc.) Clock working reserve: 6 years Programmed directly on keypad, or using program transfer key Cat.No 047 72 Additional functions including impulse, random (irregular cycles), holidays, hour counters Power supply 230 V~ - 50/60 Hz 1 output 16 A - 250 V~ $\mu \cos \phi = 1$ per 1 inverter contact 84 impulses max.	2	1	047 81	Programming software Can be used to create, save and transfer program settings for multifunction and multi-program time switches, Cat.Nos 047 61/71/63/70 Data is transferred to the program transfer key Cat.No 047 72, using the data loader connected to the USB port of the PC Kit comprising software on CD-ROM, data loader and transfer key	
1	047 71	2 outputs 16 A - 250 V~ $\mu \cos \phi = 1$ per 2 inverter contacts	2	1	047 82	For outdoor illuminations For controlling outdoor illuminations without external accessory Automatic programming: simply initialise the products for the location Power supply 230 V~ - 50/60 Hz Working reserve 6 years 1 output 16 A - 250 V~	4
1	6047 60	Power supply 120 V~ - 50/60 Hz 1 output 16 A - 250 V~ $\mu \cos \phi = 1$ per 1 inverter contact 84 impulses max.	2	1	037 20	2 outputs 16 A - 250 V~	4
1	047 63	Power supply 24 V~ - 50/60 Hz 1 output 16 A - 24 V~ $\mu \cos \phi = 1$ per 1 inverter contact 84 impulses max.	2	1	037 34	1 output 16 A - 250 V~	2
10	047 72	Programming transfer key Can be used to store programme settings made: • Directly on a multifunction and multi-programme time switch Cat. No. 047 61/71/63 (loading on device) • with the programming software installed on a PC running Windows (loading on data loader)		1	047 64	2 outputs 16 A - 250 V~	2

(1) Cat. No. 047 71 does not have this function

light sensitive switches



037 23

037 21



Dimensions (p. 159)

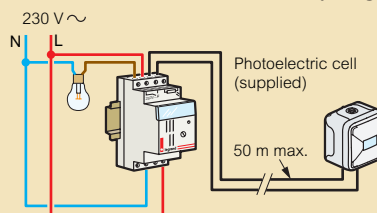
Can be used to switch a lighting circuit "ON" and "OFF" based on light conditions (nightfall, daybreak)
 Supplied with photoelectric cell housed in Plexo weatherproof box
 Power supply: 230 V~ - 50/60 Hz

Pack	Cat.Nos	Standard	Number of modules
1	037 23	Output 5 A - 250 V~ - $\mu \cos \varphi = 1$ 1 200 W incandescent 800 VA fluo serie compensated 300 VA fluo parallel compensated 45 μ F Timer response of approx. 45 sec Adjustable from 0.5 to 2 000 lux	2
1	037 25	Preprogrammed 4 possible programmes Output 10 A - 250 V~ - $\mu \cos \varphi = 1$ 2 000 W incandescent 2 000 VA fluo serie compensated 300 VA fluo parallel compensated 45 μ F Timer response of approx. 5 sec Adjustable from 0.5 to 2 000 lux	5
1	037 21	Programmable Output 10 A - 250 V~ - $\mu \cos \varphi = 1$ 1 000 W incandescent 2 000 VA fluo serie compensated Timer response: 60 sec Adjustable from 2 to 60 000 lux 8 possible programmes	2
5	695 18	Accessories Photoelectric cell IP55 - IK07 for use with light sensitive switches (Cat.Nos 037 21/23/25)	
10	696 51	1 gang surface mounting box Equipped with removable membrane glands Direct entry of cables (no need to be cut)	

light sensitive switches

■ Standard light sensitive switch (Cat.No 037 23)

Switch "ON" and "OFF" defined by a light level threshold

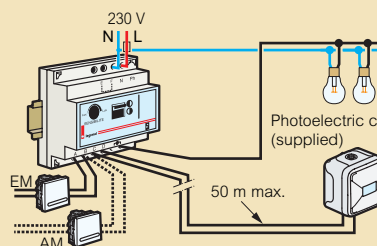


■ Preprogrammed light sensitive switch (Cat.No 037 25)

4 possible programmes

- 1 - Switches "ON" at sunset and "OFF" at sunrise (e.g. in car parks, green areas, etc.)
- 2 - Switches "OFF" when natural light level is low and comes on when natural light level is high (e.g. to imitate daily cycle in battery farming conditions)
- 3 - Automatically switches "ON" at sunset following deliberate switching "OFF" by means of a push-button or timer (e.g. shop windows and illuminated signs, etc.)
- 4 - Automatically switches "OFF" at dawn following deliberate switching "ON" by means of a push-button or timer at night (e.g. offices, workshops)

Example of connection of 3rd program:



■ Programmable light sensitive switch (Cat.No 037 21)

Controls lighting according to the time and light level

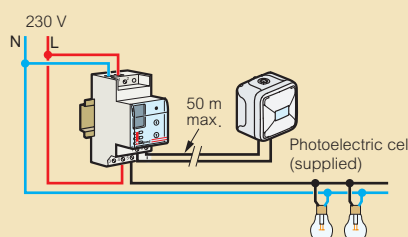
Minimum switching interval: 1 minute

Working reserve: 100 hrs

Manual switch: override/programme/stop

Automatic changeover to summer/winter time

Temporary override with automatic return to programme



■ Example of use



Manual switch "ON"

Switch "ON" when light level is low

Switch "OFF" when light level is high

transformers and buzzers and bells

socket outlets and special supports



042 25



042 52



041 07



042 80



042 85



Dimensions (p. 159)

Pack Cat.Nos Bell transformers

		 Conform to IEC / EN 61558-2-8 Protected against overloads and short circuits. In the event of an overload, switch "OFF" the power supply and allow the transformer to cool down before switching on again With label holders Wall or rail  mounting (for 4 modules) Possibility for supply busbars to run through (Cat.No 042 25)			
		230 V/12 V - 8 V			
		Secondary (V)	Rating (A)	Power (VA)	Number of modules
1	042 25	12/8	0.66/1	8	2
1	042 41	12/8	2/3	24	4
		230 V/24 V - 12 V			
1	042 37	24/12	1/1.5	24 - 18	4

Safety transformers

Conform to IEC / EN 61558-2-6
Protected against overloads and short circuits.
In the event of an overload, switch "OFF" the power supply and allow the transformer to cool down before switching on again
Wall or rail mounting (for 4 modules)

230 V / 12 or 24 V (per coupling 2 x 12 V for Cat.No 042 54) Supplied with strip						
P (VA)	No-load loss (W)	Voltage % drop Cos φ = 1	Efficiency % Cos φ = 1	Ucc (%)	I (A) primary loaded	Number of modules
25	2.5	29	66	23.3	0.142	4
63	4	15.7	75	13.6	0.33	5

Buzzers and bells

50 Hz AC - Connection by screw terminals, with label holder
Allow insertion of supply busbars
Caution: remove lamps from illuminated push-buttons when used with Cat.Nos 041 01/10/11

Bells				
Voltage (V~)	Power (VA)	Consum. (mA)	Acoustic power ⁽¹⁾ (dB)	Number of modules
8/12	4.8	272/378	80/84	1
230	4	21	83	1
Buzzers				
230	4	21	73	1



044 05
Equipment model:
auxiliary control



044 06
Equipment model:
bulbs, switch



748 72
Equipment model:
ACO⁽¹⁾ socket 742 40



Dimensions (p. 159)

Allow insertion of supply busbars

Pack	Cat.Nos	10/16 A - 250 V~		
10	042 80	French standard 2P + ⊥ shuttered		Number of modules 2.5
10	042 85	German standard 2P + ⊥ shuttered		2.5
		20 A - 400 V~		
		French standard 3P + ⊥ shuttered		Number of modules 3.5
5	042 91	3P + N + ⊥ shuttered		3.5
5	042 92			
		Special supports		
10	044 05	Pre-drilled support For mounting Ø22.5 mm control and signalling units		Number of modules 3
10	044 06	Support or blanking cover For other equipment (ex. switch, bulbs, printed-circuits...)		3
10	748 72	Mosaic support For mounting Mosaic 2-module mechanisms Support width 46.3 mm		
		Spacing unit Places between two devices which may cause a rise in temperature Enables there to be a whole number of modules and to allow insertion of the supply busbars Enables wires to pass inside of the unit		
10	044 40	0.5 module		
5	044 41	1 module		

(1) Acoustic power at 1 m

(1) Aco: Registered trademark

dimmers, remote dimmers

NEW



036 59



036 58



036 60



036 71

Dimensions (p. 159)

Power supply: 230 V~ - 50/60 Hz

Pack	Cat Nos	Dimmers
1	036 59	DIN rail mounting For incandescent and halogen lamps 230 V ~ and ELV halogen lamps with ferromagnetic transformers Load: 60 to 600 W
1	036 58	For fluorescent lamps with 1-10 V ballast (fluorescent tubes and compact fluorescent lamps with separated ballast) Ballast power: maximum 800 VA Control current: 50 mA

Number of
modules
2

Pack	Cat Nos	Remote control dimmers
1	036 71	DIN rail mounting For incandescent and halogen lamps 230 V ~ , ELV halogen lamps with ferromagnetic or electronic transformers Can be controlled with simple non illuminated double push-buttons or BUS peripheral
1	036 60	For fluorescent lamps with 1-10 V ballast (fluorescent tubes and compact fluorescent lamps with separated ballast) Ballast power: maximum 1 000 VA Control current: 50 mA Can be controlled with simple non illuminated double push-buttons or BUS peripheral
1	036 80	Bus power supply for remote controlled dimmers cat.Nos 036 60/71

Number of
modules
6

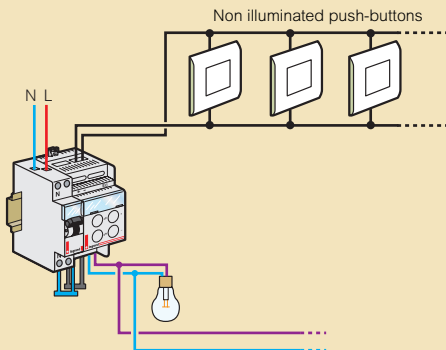
4

2

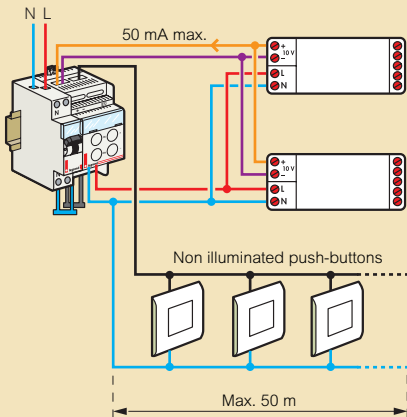
dimmers, remote dimmers

■ Cabling

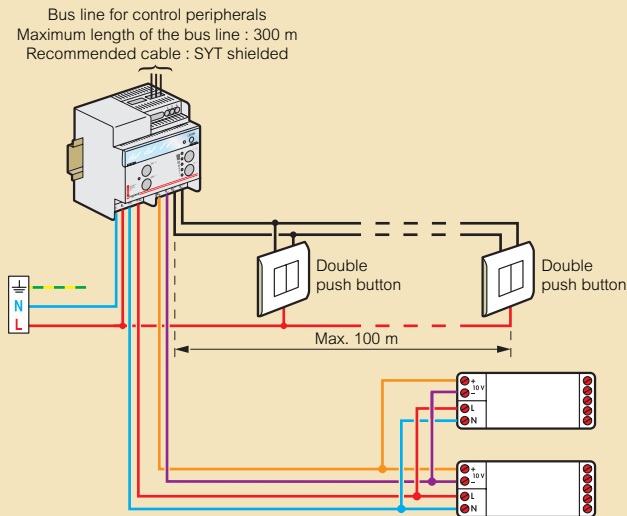
Dimmer for incandescent lamps 600 W Cat.No 036 59



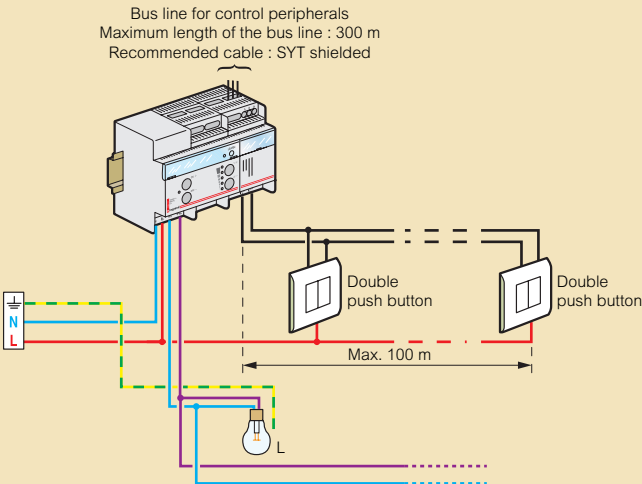
Dimmer for fluorescent lamps 800 VA Cat.No 036 58



Remote dimmer for fluorescent lamps with 1-10 V ballast Cat.No 036 60



Remote dimmer for incandescent lamps Cat.No 036 71



■ Functions

Dimmer, Cat.No 036 58

Local and remote control and dimming by simple non-illuminated pushbutton for dimming the lighting from a light source
Silent operation
Saving of the last lighting level in the event of power cut or switch-off command

Dimmer, Cat.No 036 59

Local and remote control and dimming by simple non-illuminated pushbutton for dimming the lighting from a light source
Saving of the last lighting level in the event of power cut or switch-off command

■ Choice of dimmer

			1	2	3	4	5	6
Cat.No	Power				Ø26/Ø36			
036 58	Max.	800 VA	—	—	yes with ballast 1-10 V	—	yes with ballast 1-10 V	yes
	Min.	—	—	—	—	—	—	—
036 59	Max.	600 W	yes	yes	—	yes (min.: 40 VA max.: 600 VA)	no	—
	Min.	60 W	—	—	—	—	—	—
036 60	Max.	1 000 VA	—	—	yes with ballast 1-10 V	—	—	yes with ballast 1-10 V
	Min.	—	—	—	—	—	—	—
036 71	Max.	1 000 W	yes	yes	—	yes	yes	—
	Min.	—	—	—	—	—	—	—

- 1 Incandescent lamps
- 2 Halogen lamps 230 V
- 3 Fluorescent lamps Ø 26 or 36 mm
- 4 Halogen lamps with ferromagnetic transformer
- 5 Halogen lamps with electronic transformer
- 6 Fluocompact lamps with integrated electronic ballast 1-10 V

single phase power supplies



047 95



047 93

Dimensions (p. 159)

For supplying PLCs and their peripherals or any use requiring a voltage of 5 V, 12 V, 15 V or 24 V...
 Fixing on rail

Pack	Cat.Nos	Filtered rectified power supplies		
		Conform to standards IEC EN 61558-2-6 For equipment conforming to standards EN 61131-2, EN 60204 and EN 60439-1 Comprising: - A safety transformer with interference filtration - A filter capacitor - Protection by PTC ⁽¹⁾ integrated in the secondary - Double operating terminals Terminal capacity: 6 mm ² flexible Class II after addition of faceplate Ripple factor < 3% Ambient temperature without derating: 60 °C Power supply 230 V ± 15 V~ 12 V~ ...		
1	047 95	Power (W) 15	Current (A) 1.3	Number of modules 5
1	047 96	15 V~ ... 15	1	5
1	047 97	24 V~ ... 12	0.5	5
1	047 98	21.5	0.9	5

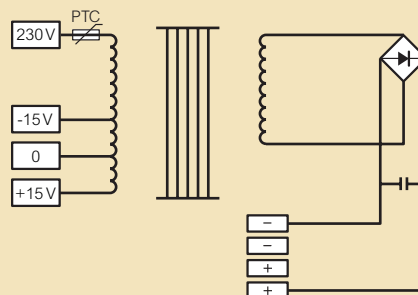
		Stabilised power supplies		
		Conform to standards NF EN 61204, NF EN 60950 (Low Voltage Directive), EN 55022 (class B), EN 61000-4-2, EN 61000-3-26, ENV 50204 Switching mode Galvanic isolation 4 000 V (input/output) With: - Electronic protection (overloads and short-circuits) - Integral fuse protection on input - A green voltage present indicator on output Power supply 115 - 230 V~ 5 V~ ...		
1	047 91	Power (W) 12.5	Current (A) 2.5	Number of modules 6
1	047 92	12 V~ ... 30	2.5	6
1	047 93	24 V~ ... 24	1	4

		Power supplies with battery back-up		
		Conform to standards EN 60742, EN 55022 (class B), EN 61000-4-2 With "ON"/"OFF" button, operation indicator, fuse protection Power supply 230 V~ 12 V~ ... Capacity 280 mA/h		
1	042 10	Power (W) 6	Current (A) 0.5	Number of modules 6
1	042 30	24 V~ ... Backed up with unit Cat.No 042 31	0.15	6
1	042 31	Battery unit When connected to Cat.No 042 30 via linking connector or hard-wired connection, forms a battery-backed power supply unit, capacity 270 mA/h (6 modules)		

(1) PTC: Positive temperature coefficient (limitation of overloads and temperature). In the event of an overload switch "off" the power supply and allow the power supplies to cool down before switching on again

single phase power supplies

■ Filtered rectified power supplies



Cat.Nos	Voltage (V)	Current (A)	Weight (Kg)	I Prim. on load (A) at 230 V
047 95	12	1.3	0.95	0.15
047 96	15	1	0.95	0.15
047 97	24	0.5	0.95	0.13
047 98	24	0.9	0.95	0.17

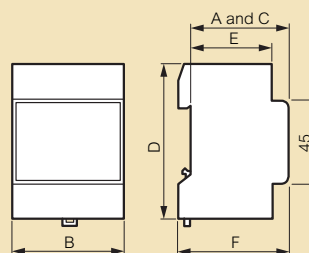
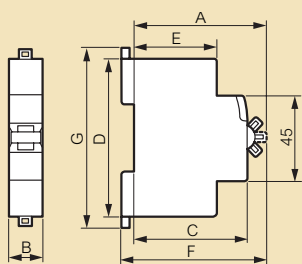
Cat.Nos	Voltage of use				No load losses (W)	Total losses at 100% load (W)	Voltage drop cos φ = 1
	A no load (V)	On load (V)	with 100 kA load and prim. voltage + 10%	with nominal load and prim. voltage -15%			
047 95	15.1	11.8	16.3	10.4	3.4	8.7	28.5
047 96	18.5	14.6	19.9	12.9	3.4	8.9	26.7
047 97	28.9	23.6	30.6	20.7	3.4	7.1	22.3
047 98	29.9	22.8	32.0	20.3	3.4	10.4	31.0

■ Stabilised power supplies

Cat.Nos	Secondary		Primary			Max. out current (A)	Power consumption at max. temp. (W)	Efficiency
	Voltage (V)	Current (A)	Voltage (V)	Current consump. max. (A)	Inrush current max. (A)			
047 91	5	2.5	109-264	0.15/0.35	16	2.5	12.5	58
047 92	12	2.5	109-264	0.3/0.55	11	2.5	30	
047 93	24	1	109-264	0.25/0.45	13	1	24	73

Cat.Nos	Starting time on energisation (s) 230V/115V	Hold time (at 230 V) (ms)	Operating temperature without derating (°C)	Residual ripple peak to peak (mVpp)	Line protection		Dim.	Max. weight	Max. Operating temperature with derating (°C)
					with fuse (A)	with MCB (A) + type			
047 91	2.4/0.8	90	-10/+50	35	1A aM	2A/C	6 modules	0.32	50
047 92	10/3.7	115	-10/+50	20	1A aM	2A/C	6 modules	0.32	50
047 93	2.6/1	124	-10/+50	80	2A aM	6A/C	4 modules	0.25	50

dimensions of LEXIC modular din-rail equipment



	A	B					C	D	E	F	G
		1-pole	1-pole + N	2-pole	3-pole	4-pole					
Thermal-magnetic MCBs LR, DX, DX-H up to 63 A	70		17.7	35.6	53.4	71.2	60	83	44	76	94
DX-L, DX D curve, DX-H from 80 to 125 A	70	26.7		53.4	80.1	106.8	60	83	44	76	89
Motor MCBs	82.5			44.5			72.2	89	44	87.3	91
Earth leakage modules up to 63 A	70			35.6	53.4	53.4	60	93	44	76	99
from 80 to 125 A	70			71.1	107.2	107.2	60	88	44	76	89
RCBOs	70	17.7	35.6	71.2		124.6	60	83	44	76	94
4-pole RCBOs with 4 modules	70					71.2	60	83	44	76	94
RCDs (LR, DX) 2-pole	70			35.6			60	83	44	76	94
4-pole	71.5					71.2	60	83	44	77.5	94
Fuse carriers	67	17.7	17.7	35.6	53.4	71.2	60	83	44	73	94
Auxiliary contacts Cat.Nos 073 50/51/52	70			8.7			60	83	44	76	83
Cat.No 073 54	70			17.7			60	83	44	76	83
Command auxiliaries	70			17.7			60	83	44	76	83
Remote control	74			54			74	83	44	80.5	89
DX-IS remote trip head	72			35.5	53.5	71.5	60	83	44	78	94
Isolating switches 16 - 20 - 32 A	72	17.7		17.7	35.6	53.4	60	83	44	74	94
63 - 100 - 125 A	72	17.7		35.6	53.4	71.2	60	83	44	74	94
Changeover switches 043 82/85	68			17.7			60	83	44	74	94
043 83/86	68			35.6			60	83	44	74	94
Push-buttons/control switches	68			17.7			60	83	44	74	94
Indicators	63			17.7			60	83	44	69	94
Pulse operated latching relays	63.5	17.8		17.8		35.6	60	83	44	69	94
Light sensitive switches 1 function 037 23	60			35.6			60	85	37.5	66	70
4 functions 037 25	60			88			60	84	37.5	66	70
Socket outlets	60			44.5			60	83	44	66	92
Buzzers/bells	60			17.5			60	76	44	66	85
Time lag switch 047 02/04	60			17.8			60	94	44	66	94
Remote control dimmers 036 58/59	60			35.6			60	90	44	66	94
036 60	60			71.2			60	83	44	66	94
036 71	60			107.2			60	83	44	66	94
036 80	60			35.6			60	83	44	66	94
Voltage surge protectors 039 10	60			35.6	53.4	71.2	60	86	44	68	91
039 20 to 23	60	17.7		35.6	53.4	71.2	60	86	44	68	91
039 30 to 33	60	17.7		35.6	53.4	71.2	60	86	44	68	91
039 40/41/43	60	17.7		35.6		71.2	60	86	44	68	91
039 51	67	17.7		35.6			60	86	44	73	94
038 28/29	60	17.7					60	86	44	68	91

Description	A	B	C	D	E	F
Programmable time switches 037 00	60	17.8	60	83	44	66
037 30/40/42/44	60	17.8	60	86	37.5	66
037 52/53/55	60	53	60	89	44	66
047 61/63/71	60	35.6	60	90	44	66
047 64/67	60	35.6	60	90	44	66
047 70	60	106.5	60	89	44	66
Voltmeters - Ammeters	60	70	60	83	44	66
Contactors - 1 module 20 A	62	17.8	60	83	44	67.5
Contactors 40 and 63 A 2 modules	60	35.6	61	80	44	67
3 modules	60	54	61	80	44	67
Auxiliaries for contactors and pulse operated latching relays	60	9	60	83	44	66
Transformers and power supplies 042 10/30/31	60	72	60	83	44	66
042 25	60	35.8	60	83.5	44	66
042 37/41/52	60	71.5	60	83.5	44	66
042 54	60	89	60	94	44	66
042 91/92	60	105	60	95	44	66
047 95 to 98	60	89	60	95	44	66
042 93	60	70	60	95	44	66
Electrical energy metering 046 73/74	60	72	60	81	44	66
046 81/72	60	35.5	60	89	44	66
Central measuring unit 046 65/67	64	105	64	89.5	44	69
Residual current relay 260 88	60	35.5	60	89	44	66



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