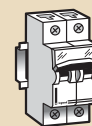


Lexic Din-rail equipment

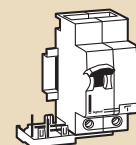
Protection:

- DX
- DX-E
- DX-H
- DX-D
- RCD
- RCBO



NEW

P. 74
DX-E; DX 6000
MCBs from
1 to 63A



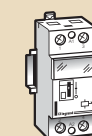
P. 77
DX RCBO
RCD

Voltage surge protectors, fuse carriers and fuses



P. 82
Voltage surge
protection

Contactors and time switches



P. 88
Modular power
contactors



P. 95
AlphaRex Astro
digital
time switches

NEW



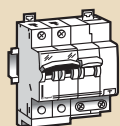
**Single module RCBO
(P. 77)**



P. 75
DX-H 10000
MCBs from 1 to 63A



P. 76
DX-D
MCBs from 6 to 63A



P. 78
Auxiliaries



P. 79
Technical
characteristics



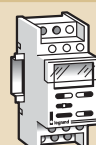
P. 86
Technical
characteristics



P. 90
AlphaRex
digital
time switches



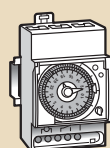
P. 91
MicroRex
digital
time switches



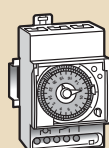
P. 92
EcoRex
digital
time switches



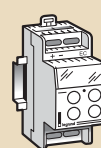
P. 93
AlphaRex
4 channel
digital
time switches



P. 95
Electro-mechanical
Din
time switches



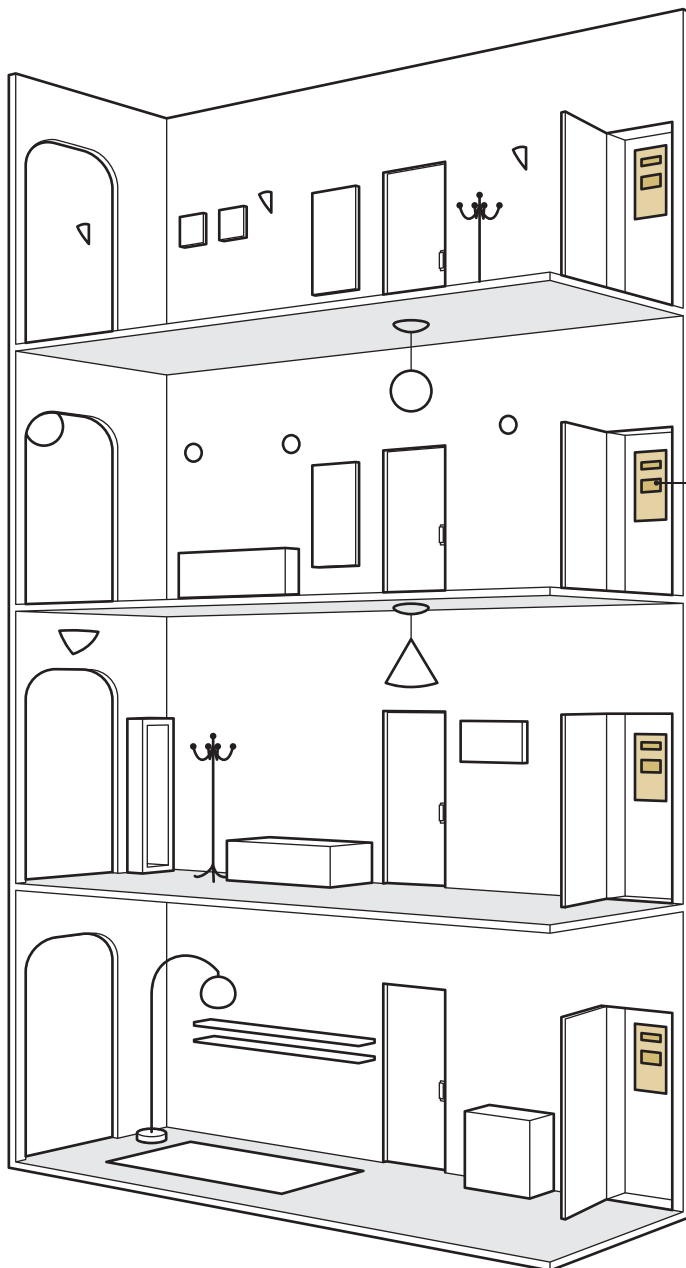
P. 96
Electro-mechanical
surface mounting
time switches



P. 99
Hour counter

Lexic DIN-Rail equipment: the distribution board the way you want it

Complete and innovative functions for commercial buildings
with the freedom to organise the distribution board as you please.



► RCDs



FOR PROTECTION OF PEOPLE

(See p. 77)

- AC type
- Ratings: 25A to 80A
- Sensitivity: 30, 100 and 300 mA
- 2P and 4P

► MCBs



FOR PROTECTION OF THE INSTALLATION

(See p. 74)

- B and C curves
- Ratings: 1A to 125A
- 1P, 2P, 3P, 4P
- Breaking capacity: AS/NZS 60898-1
10 000 A
6 000 A

► DISTRIBUTION



Supply busbars

(See p. 108)

Single and three-phase up to 63 A



Distribution terminal blocks

(See p. 110)

► DISTRIBUTION CABINETS



flush-mounting distribution cabinets

(See p. 102 and HPM Section)

- From 12 to 48 modules
- Supplied complete
(door + chassis + flush-mounting box)
- Reversible door
- Easy to install
- Large lateral and rear space for wiring
- Common accessories for all range

THEY HAVE SPECIFIED AND INSTALLED LEGRAND PRODUCTS:

UNSW Living Apartment Village: Kensington Sydney | NSW

Koniambo Mines: New Caledonia

STAHL Building DOF: Bandiana, Wodonga | NSW

Main Roads Dept (Traffic Signal): SE | QLD

Hogs Breath: Coolongatta | QLD

KFC Building: North Albury | VIC

Goodman Fielder Bakery: Wacol | QLD

► DISTRIBUTION BOARDS



(See p. 109)

► PROTECTION



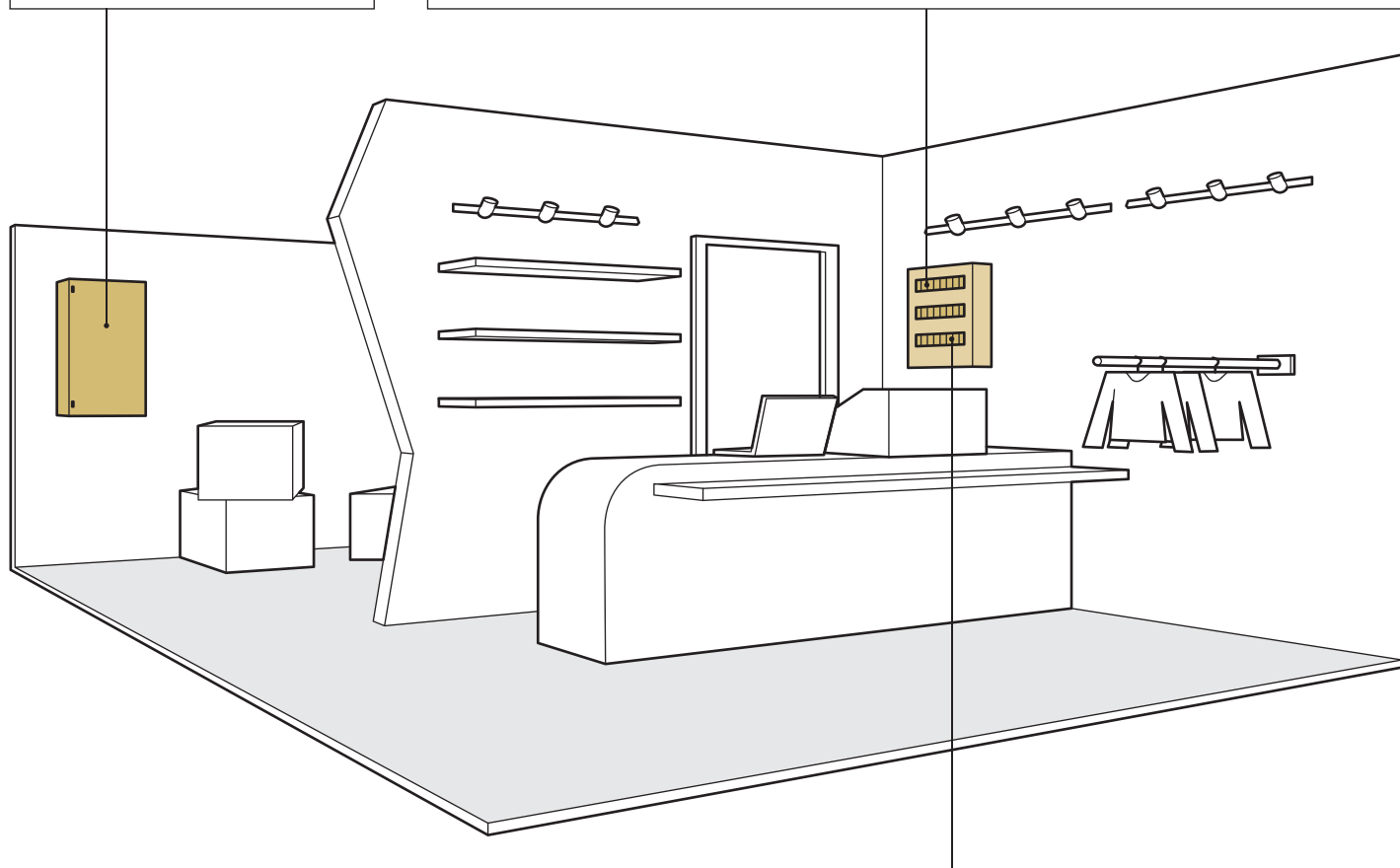
MCBs AND RESIDUAL current PROTECTION DEVICES
(See p. 74)
DX-E, DX, DX-H, DX-D,
different breaking capacities
for maximum protection



ISOLATION SWITCHES
Vistop™ 63
to 160 A
(See p. 49)



VOLTAGE SURGE PROTECTORS
(See p. 82)
Efficient protection
against lightning effects



► SWITCHES AND REMOTE CONTROL



POWER CONTACTORS
(See p. 88)
Can control loads
up to 63 A



 **PROGRAMMABLE TIME SWITCHES**
(See p. 90)
For switching ON
and OFF an electric circuit
for pre-programmed periods



 **LIGHT SENSITIVE SWITCHES**
(See p. 95)
Automatic control of
different loads, based
on lighting conditions
(nightfall/daybreak)

 This symbol indicates
energy saving product

DX-series miniature circuit breakers

Designation	DX-E 6000 /6kA				DX 6000 /6kA		
Number of poles	1P	2P	3P	4P	1P	2P	
Rated current in at 30° C (A) Ratings	1/2/3/6/10/13/ 16/20/25/32 40/50/63	1/2/3/6/10/13/ 16/20/25/32 40/50/63	1/2/3/6/10/13/ 16/20/25/32 40/50/63	1/2/3/6/10/13/ 16/20/25/32 40/50/63	1/2/3/6/10 16/20/25/32 40/50/63	1/2/3/6/10 16/20/25/32 40/50/63	
Type of curve	B or C	B or C	B or C	B or C	B or C	B or C	
Nominal voltage (with standard tolerance)	230/400 V	400 V	400 V	400 V	230/400 V	400 V	
Nominal frequency	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz	
Operating voltage (50/60 Hz) +/- 10%	240/415 V	415 V	415 V	415 V	240/415 V	415 V	
Breaking capacity with 127/230 V supply Icn 50/60 Hz acc. to AS/NZ560898.1 with 240/415 V supply	6000 A	6000 A	6000 A	6000 A	6 000 A	6 000 A	
	6000 A	6000 A	6000 A	6000 A	6 000 A	6 000 A	
Breaking capacity Icu 50/60 Hz with 127/230 V supply acc. to AS 60947-2 with 240/415 V supply	6 kA	6 kA	6 kA	6 kA	10 kA	Curve B: 25 kA Curve C: In ≤ 32 A: 25 kA In > 32 A: 20 kA	
	6 kA	6 kA	6 kA	6 kA	10 kA	10 kA	
Standard breaking capacity Ics acc. to AS 60947-2	100%	100%	100%	100%	100%	100%	
Rated insulation voltage Ui (degree of pollution 2)	500 V	500 V	500 V	500 V	500 V	500 V	
Rated impulse withstand current Uimp (kV)	6 kV	6 kV	6 kV	6 kV	6 kV	6 kV	
Endurance (operating cycles)	mechanical	20 000	20 000	20 000	20 000	20 000	
	electrical	10 000	10 000	10 000	10 000	10 000	
Dielectric strength between 0 and 2000 m	2 500 V	2 500 V	2 500 V	2 500 V	2 500 V	2 500 V	
Remote control	-	-	-	-	yes	yes	
Add-on module	-	-	-	-	-	yes	
Operating temperature	-25° C to + 70° C	-25° C to + 70° C	-25° C to + 70° C	-25° C to + 70° C	-25° C to + 70° C	-25° C to + 70° C	

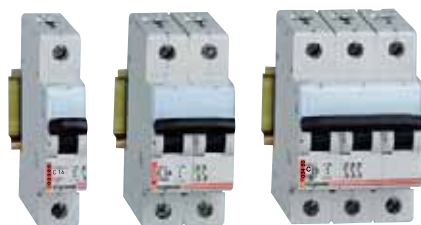


	DX 6000 /6kA	DX-H 10000 /10kA			DX-D 6000 - 10KA		
	3P and 4P	1P	2P	3P, 4P	1P	2P	3P and 4P
	1/2/3/6/10 16/20/25/32 40/50/63	1/2/3/6/10 13/16/20/25 32/40/50/63 80/100/125	1/2/3/6/10 13/16/20/25 32/40/50/63 80/100/125	1/2/3/6/10 13/16/20/25 32/40/50/63 80/100/125	1/2/3/6/10/ 13/16/20/25 32/40/50/63	1/2/3/6/10 16/20/25/32 40/50/63 80/100/125	1/2/3/6/10 16/20/25 32/40/50/63 80/100/125
	B or C	B or C	C	B or C	D	D	D
	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz
	415 V	240/415 V	415 V	415 V	240/415 V	415 V	415 V
	6 000 A	10 000 A	10 000 A	10 000 A	6 000 A	6 000 A	6 000 A
	6 000 A	10 000 A	10 000 A	10 000 A	6 000 A	6 000 A	6 000 A
	Curve B: 25 kA Curve C: In ≤ 32 A: 25 kA In > 32 A: 20 kA	25 kA	In ≤ 40 A: 50 kA In > 40 A: 25 kA	In ≤ 40 A: 50 kA In 50/63 A: 25 kA In > 63 A: 16 kA	In ≤ 32 A: 25 kA In ≤ 63 A: 20 kA In > 63 A: 16 kA	In ≤ 32 A: 25 kA In ≤ 63 A: 20 kA In > 63 A: 16 kA	In ≤ 32 A: 25 kA In ≤ 63 A: 20 kA In > 63 A: 16 kA
	10 kA	In ≤ 20 A: 25 kA In 25 A: 20 kA In 32 A: 15 kA In > 32 A: 12,5 kA	In ≤ 20 A: 30 kA In 25 A: 25 kA In 32/40 A: 20 kA In > 40 A: 15 kA	In ≤ 20 A: 25 kA In 25 A: 20 kA In 32/40 A: 15 kA In > 40 A: 12,5 kA	In ≤ 32 A: 15 kA In > 32 A: 10 kA	In ≤ 32 A: 15 kA In > 32 A: 10 kA	In ≤ 32 A: 15 kA In > 32 A: 10 kA
	100%	75%	75%	75%	75%	80%	75%
	500 V	500 V	500 V	500 V	500 V	500 V	500 V
	6 kV	6 kV	6 kV	6 kV	6 kV	6 kV	6 kV
	20 000	20 000	20 000	20 000	20 000	20 000	20 000
	10 000	10 000	10 000	10 000	10 000	10 000	10 000
	2 500 V	2 500 V	2 500 V	2 500 V	2 500 V	2 500 V	2 500 V
	yes	yes	yes	yes	yes	≤ 63 A: yes	≤ 63 A: yes
	yes	-	yes	yes		yes	yes
	-25° C to + 70° C	-25° C to + 70° C	-25° C to + 70° C	-25° C to + 70° C	-25° C to + 70° C	-25° C to + 70° C	-25° C to + 70° C

MCBs DX-E™ 6 000 - 6kA

Thermal magnetic MCBs from 6 to 63A
C curve

Approval No: N19929



033 86

034 33

034 53

Breaking capacity according
to AS/NZS 60898-1
Icn (o-co cycle): 6000A

Do not accept add-on
modules.



Technical characteristics (p. 79 - 81)

Pack	Cat. No.	Single pole - 230/400 V~	
	C curve	Nominal rating (A)	Number of 17.5 mm modules
10	033 82	6	1
10	033 84	10	1
10	033 86	16	1
10	033 87	20	1
10	033 88	25	1
10	033 89	32	1
10	033 90	40	1
10	033 91	50	1
10	033 92	63	1

Double pole - 230/400 V~

	C curve	Nominal rating (A)	Number of 17.5 mm modules
5	034 29	6	2
5	034 31	10	2
5	034 33	16	2
5	034 34	20	2
5	034 35	25	2
5	034 36	32	2
5	034 37	40	2
5	034 38	50	2
5	034 39	63	2

3 pole - 400 V~

	C curve	Nominal rating (A)	Number of 17.5 mm modules
1	034 47	6	3
1	034 49	10	3
1	034 51	16	3
1	034 52	20	3
1	034 53	25	3
1	034 54	32	3
1	034 55	40	3
1	034 56	50	3
1	034 57	63	3

4 pole - 400 V~

	C curve	Nominal rating (A)	Number of 17.5 mm modules
1	034 89	6	4
1	034 91	10	4
1	034 93	16	4
1	034 94	20	4
1	034 95	25	4
1	034 96	32	4
1	034 97	40	4
1	034 98	50	4
1	034 99	63	4

MCBs DX™ 6 000

Thermal magnetic MCBs from 1 to 63A
C curve

Approval No: N19929



064 68

063 76

Breaking capacity according
to AS/NZS 60898-1
Icn (o-co cycle): 6000A



Technical characteristics (p. 79 - 81)

Pack	Cat. No.	Single pole - 230/400 V~	
	C curve	Nominal rating (A)	Number of 17.5 mm modules
1	063 68	1	1
1	063 69	2	1
1	063 70	3	1
1	063 72	6	1
10	063 74	10	1
10	063 76	16	1
1	063 77	20	1
1	063 78	25	1
1	063 79	32	1
1	063 80	40	1
1	063 81	50	1
1	063 82	63	1

Double pole - 230/400 V~

	C curve	Nominal rating (A)	Number of 17.5 mm modules
1	064 60	1	2
1	064 61	2	2
1	064 62	3	2
1	064 64	6	2
5	064 66	10	2
5	064 68	16	2
1	064 69	20	2
1	064 70	25	2
1	064 71	32	2
1	064 72	40	2
1	064 73	50	2
1	064 74	63	2

3-pole - 400 V~

	C curve	Nominal rating (A)	Number of 17.5 mm modules
1	064 80	1	3
1	064 81	2	3
1	064 82	3	3
1	064 84	6	3
1	064 86	10	3
1	064 88	16	3
1	064 89	20	3
1	064 90	25	3
1	064 91	32	3
1	064 92	40	3
1	064 93	50	3
1	064 94	63	3

4-pole - 400 V~

	C curve	Nominal rating (A)	Number of 17.5 mm modules
1	065 55	1	4
1	065 56	2	4
1	065 57	3	4
1	065 59	6	4
1	065 61	10	4
1	065 63	16	4
1	065 64	20	4
1	065 65	25	4
1	065 66	32	4
1	065 67	40	4
1	065 68	50	4
1	065 69	63	4

MCBs DX-H 10 000

Thermal magnetic MCBs
high breaking capacity from 1 to 63A
C curve

Approval No: N19929



068 60



069 20



070 00



069 46



Technical characteristics (p. 79 - 81)

Breaking capacity according
to AS/NZS 60898-1
Icn (o-co cycle): 10kA

Pack	Cat. No.	Single pole - 230/400 V~	
	C curve	Nominal rating (A)	Number of 17.5 mm modules
1	068 52	1	1
1	068 53	2	1
1	068 54	3	1
1	068 56	6	1
1	068 58	10	1
1	068 60	16	1
1	068 61	20	1
1	068 62	25	1
1	068 63	32	1
1	068 64	40	1
1	068 65	50	1
1	068 66	63	1
1	063 83	80	1,5
1	063 84	100	1,5
1	063 85	125	1,5

Pack	Cat. No.	3-pole - 400 V~	
	C curve	Nominal rating (A)	Number of 17.5 mm modules
1	069 32	1	3
1	069 33	2	3
1	069 34	3	3
1	069 36	6	3
1	069 38	10	3
1	069 40	16	3
1	069 41	20	3
1	069 42	25	3
1	069 43	32	3
1	069 44	40	3
1	069 45	50	3
1	069 46	63	3
1	064 95	80	4,5
1	064 96	100	4,5
1	064 97	125	4,5

	C curve	Nominal rating (A)	Number of 17.5 mm modules
1	069 12	1	2
1	069 13	2	2
1	069 14	3	2
1	069 16	6	2
1	069 18	10	2
1	069 20	16	2
1	069 21	20	2
1	069 22	25	2
1	069 23	32	2
1	069 24	40	2
1	069 25	50	2
1	069 26	63	2

	C curve	Nominal rating (A)	Number of 17.5 mm modules
1	069 92	1	4
1	069 93	2	4
1	069 94	3	4
1	069 96	6	4
1	069 98	10	4
1	070 00	16	4
1	070 01	20	4
1	070 02	25	4
1	070 03	32	4
1	070 04	40	4
1	070 05	50	4
1	070 06	63	4

Auxiliaries/accessories (p. 78)

MCBs DX-D 6 000 - 10kA

Thermal magnetic MCBs up to 63 A
D curve

Approval No: N19929



066 36



066 71

Breaking capacity according
to AS/NZS 60898-1
Icn (o-co cycle): 10kA



Technical characteristics (p. 79 - 81)

Pack Cat. No. Single pole - 230/400 V~

	D curve	Nominal rating (A)	Number 17.5 mm modules
1	065 79	6	1
1	065 81	10	1
1	065 83	16	1
1	065 84	20	1
1	065 85	25	1
1	065 86	32	1
1	065 87	40	1
1	065 88	50	1
1	065 89	63	1

Double pole - 230/400 V~

	D curve	Nominal rating (A)	Number 17.5 mm modules
1	066 29	6	2
1	066 31	10	2
1	066 33	16	2
1	066 34	20	2
1	066 35	25	2
1	066 36	32	2
1	066 37	40	2
1	066 38	50	2
1	066 39	63	2

3-pole - 400 V~

	D curve	Nominal rating (A)	Number 17.5 mm modules
1	066 49	6	3
1	066 51	10	3
1	066 53	16	3
1	066 54	20	3
1	066 55	25	3
1	066 56	32	3
1	066 57	40	3
1	066 58	50	3
1	066 59	63	3
1	066 60	80	4.5
1	066 61	100	4.5
1	066 62	125	4.5

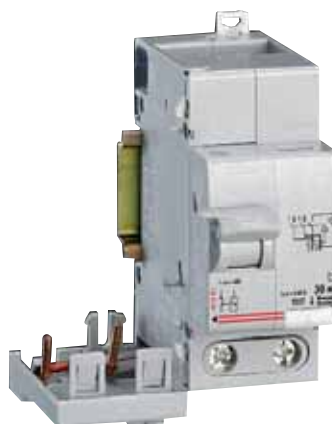
4-pole - 400 V~

	D curve	Nominal rating (A)	Number 17.5 mm modules
1	066 69	6	4
1	066 71	10	4
1	066 73	16	4
1	066 74	20	4
1	066 75	25	4
1	066 76	32	4
1	066 77	40	4
1	066 78	50	4
1	066 79	63	4

Add on Modules DX™

MCBs up to 125A

Approval No: 19930

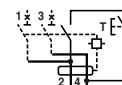


074 02

Conform to AS/NZS 61009-1
RCD add-on module type AC
Mounted on the right-hand side
of the MCBs DX, DX-H and DX-D 6 kA

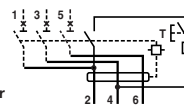
Pack Cat. No. Type AC Double pole - 230/400 V~

	Sensitivity	Maximum rating (A)	Number of 17.5 mm modules
1	30mA	63	2



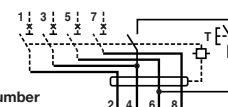
3-pole - 400 V~

	Sensitivity	Maximum rating (A)	Number of 17.5 mm modules
1	30mA	63	3



4-pole - 400 V~

	Sensitivity	Maximum rating (A)	Number of 17.5 mm modules
1	30mA	32	3
1	30mA	63	3



Above 63A
Please consult us

RCBO DX™ 6 000

RCBO up to 45 A - type AC
Residual current devices - type AC

Approval No: 19931



078 86

6064 12

6027 86



Dimensions (p. 100)

Pack	Cat. No.	Type AC		
		Single pole + neutral - 230V~		
		Neutral on right hand side		
		Breaking capacity 6000A		
		AS/NZS61009-1		
		Sensitivity	Nominal rating (A)	Number of modules
1	078 79	10mA	16	2
1	078 84	30mA	10	2
1	078 86	30mA	16	2
1	078 87	30mA	20	2
1	078 88	30mA	25	2
1	078 89	30mA	32	2
1	078 90	30mA	40	2

			Type AC Single pole + neutral - 230V~⁽¹⁾ Breaking capacity 10000 A - AS/NZS61009-1	
			AC type  30 mA	
	Black neutral leads	Blue neutral leads	Nominal rating (A)	Number of modules
1	6064 00	6064 10	10	1
1	6064 01	6064 11	16	1
1	6064 02	6064 12	20	1
1	6064 03	6064 13	25	1
1	6064 04	6064 14	32	1
1	6064 05	6064 15	45	1

(1) Single pole with solid unswitched neutral
"A" type of RCD/RCBO See HPM Catalogue section 1

RCDs DX™

Residual current devices
Type AC

Approval No: 19931



089 28

090 12

Conform to AS/NZS61008-1

Pack	Cat. No.	Type AC 2 - pole - 230V~		
		Sensitivity	Nominal rating (A)	Number of modules
1	089 09	30mA	25	2
1	089 10	30mA	40	2
1	089 11	30mA	63	2
1	089 16	100mA	40	2
1	089 17	100mA	63	2
1	089 28	300mA	40	2

		4 - pole - 400V~ Neutral on right-hand side		
		Sensitivity	Nominal rating (A)	Number of modules
1	089 93	30mA	25	4
1	089 94	30mA	40	4
1	089 95	30mA	63	4
1	089 96	30mA	80	4
1	090 00	100mA	40	4
1	090 12	300mA	40	4
1	090 13	300mA	63	4
1	090 14	300mA	80	4

Type A
Single module RCBO
Breaking capacity 6kA
AS/NZS 61009

		Sensitivity	Nominal rating (A)	Number of modules
1	602780	30mA	6	1
1	602782	30mA	10	1
1	602783	30mA	16	1
1	602784	30mA	20	1
1	602785	30mA	25	1
1	602786	30mA	30	1

Some items sold separately
For pack quantity, please refer to numerical index pages
For trade price, please see your local HPM Legrand representative for the current price list

Auxiliaries and accessories DX™

For MCBs, RCDs, RCBOs and isolating switches



073 50



073 54



073 61



073 68

Pack Cat. No. Auxiliaries for MCBs, RCBOs

		Up to 125 A and Residual current devices Clip on the left-hand side of the MCB (maximum 3) *
		Signalling auxiliaries
1	073 50	Auxiliary changeover switch. 6 A - 250 V~ Indicates the position of the switches
1	073 51	Fault signalling changeover switch. 6 A - 250 V~ Indicates tripping of the MCB at a fault
1	073 53	Auxiliary changeover 6 A - 250 V switch which can be modified to a fault signalling switch
1	073 54	Auxiliary changeover 6 A - 250 V switch + fault signalling switch, can be modified to 2 auxiliary changeover switches
		Command auxiliaries
		Shunt trip
1	073 61	Enable the MCB to be tripped from a remote location 110 to 415 V~ 110 to 125 V Minimum voltage trips. Time delay adjustable from 0 to 300 ms
1	073 65	24 V
1	073 66	48 V
1	073 68	230 V~

Number
of 17.5 mm
modules
0.5

1

1

1

1

1

Pack Cat. No. Accessories

		Padlocking
2	044 42	Support for Ø 4 mm or Ø 6 mm padlock for DX, DX-H, MCBs and 2 P RCDs
		Terminal shields
1	044 39	Single pole for DX MCBs from 80 A to 125 A
1	044 47	Insulating shields for DX MCBs and DX-H



*Auxiliary common to: DX / DX-H / RCD'S / RCBO'S / DX-IS

Performance of MCBs and auxiliaries

■ 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

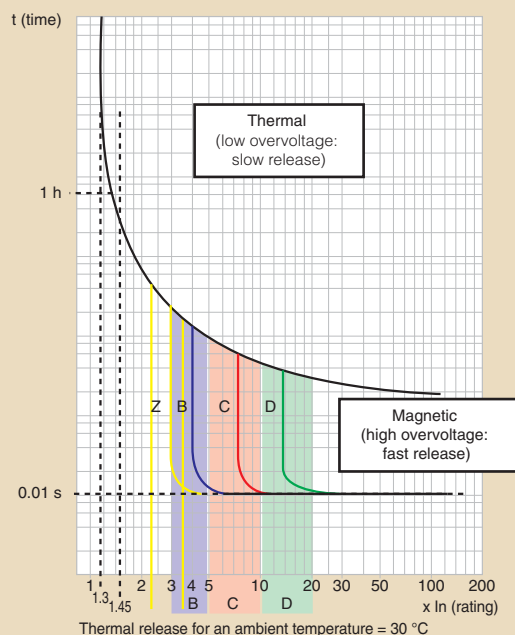
Icn 1: Breaking capacity on 1 pole for multi-pole MCBs in the event of a short-circuit to earth

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, add-on modules ≤ 63 A DX-L add-on modules	32	25
• DX-H, add-on modules 80, 100, 125 A, DX-L	70	50
• Auxiliaries	2.5	2.5

■ Release curves of MCBs



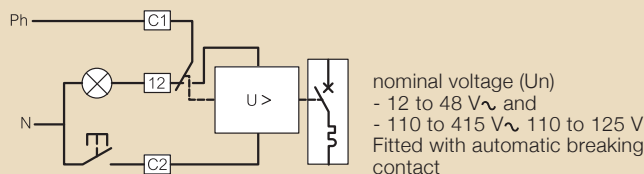
Curves	Magnetic threshold setting
Z⁽¹⁾	2.4 to 3.6 In
B	3 to 5 In
C	5 to 10 In
D	10 to 14 In (10 to 20 depending on standard)
MA⁽¹⁾	12 to 14 In

(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 Un

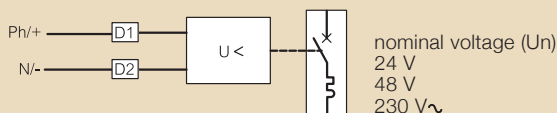
Tripping time: < 20 ms

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

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

Undervoltage releases



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

■ Mechanical characteristics

Endurance: 20 000 mechanical switching operations
10 000 on load switching operations at In x cos φ 0-9

	In ≤ 63 A	In 80 A
Connection cross-sections (in mm²)	25 mm ² flexible cables 35 mm ² rigid cables	50 mm ² flexible cable 70 mm ² rigid cable
Applied connection torque	2.5 Nm	3 Nm

Derating according to ambient temperature (In A)

In at 30° C	Ambient temperature						
	0° C	10° C	20° C	30° C	40° C	50° C	60° C
1	1-1	1-07	1-03	1	0-97	0-93	0-90
2	2-2	2-1	2-06	2	1-94	1-86	1-80
3	3-3	3-2	3-1	3	2-9	2-8	2-6
4	4-4	4-2	4-1	4	3-9	3-8	3-6
6	6-6	6-4	6-2	6	5-8	5-5	5-4
10	11	10-7	10-3	10	9-7	9-3	9-0
16	18	17-3	16-6	16	15-4	14-7	14-1
20	22-4	21-6	20-8	20	19-2	18-4	17-6
25	28-3	27-2	26	25	24	22-7	21-7
32	36-2	34-9	33-3	32	30-7	29-1	27-8
40	46	44	42	40	38	36	34
50	57-5	55	52-5	50	47-5	45	42-5
63	73-1	69-9	66-1	63	59-8	56-1	52-9
80	91	88	84	80	76	72	69
100	114	110	105	100	95	90	86
125	142	137	131	125	119	113	108

Performance of MCBs and auxiliaries (continued)

■ Protection of DC circuits

Lexic DX and DX-H MCBs (1P/2P/3P/4P - $I_n \leq 63$ 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

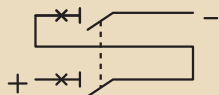
Example: For a C curve MCB for which the AC tripping threshold is between 5 and 10 I_n , the DC tripping threshold will be between 7 and 14 I_n .

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.

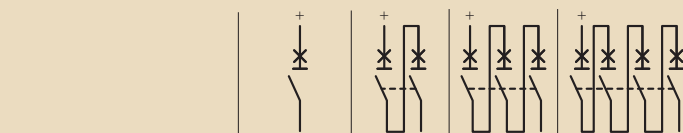


Example: for a 110 V voltage, use a 2-pole MCB and connect the 2 poles in series.

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
	230 V				15 kA
Ics ⁽¹⁾	≤ 48 V	100 %	100 %		
	110 V		100 %	100 %	
	230 V				100 %
	230 V				100 %

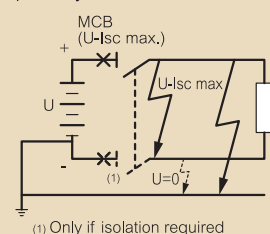
DX-H	voltage	single-pole	2P	3P	4P
Acc. to IEC 60947.2	≤ 48 V	10 kA	10 kA		
	110 V		10 kA	10 kA	
	230 V				15 kA
	230 V				15 kA
Ics ⁽¹⁾	≤ 48 V	100 %	100 %		
	110 V		100 %	100 %	
	230 V				100 %
	230 V				100 %

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 polarity.



⁽¹⁾ Only if isolation required

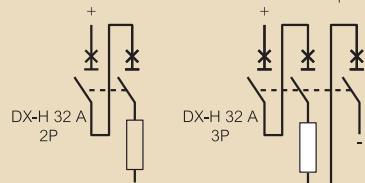
(1) As a % of I_{cu}

Example: circuit earthed via the negative polarity / $U = 110$ V = / $I_{sc} = 10$ kA / $I_n = 32$ 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.

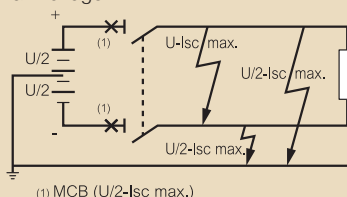
DX-H LEXIC	voltage	single-pole	2P	3P	4P
Acc. to IEC 60947.2	≤ 48 V	10 kA	10 kA		
	110 V		10 kA	10 kA	
	230 V				15 kA

If isolation required



• Network earthed via a middle point:

Place on each polarity the number of poles necessary for max. I_{sc} breaking at half voltage.

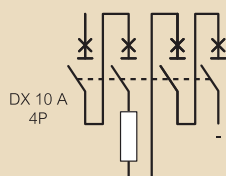


⁽¹⁾ MCB ($U/2-I_{sc}$ max.)

Example: circuit earthed via a middle point / $U = 230$ V = / $I_{sc} = 6$ kA / $I_n = 10$ A

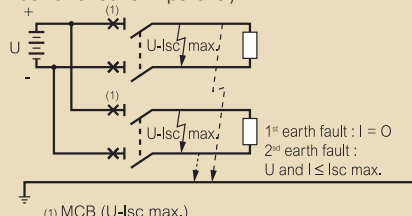
Protect each polarity using an MCB capable of breaking 6 kA at half voltage, i.e. 115 V (DX 4P 10 A with 2 poles on each polarity).

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:

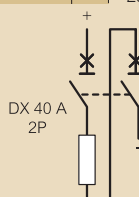
Distribute the poles necessary for breaking over the 2 polarities to provide protection in the event of a double earth fault (particularly if there are a number of circuits in parallel).



⁽¹⁾ MCB ($U-I_{sc}$ max.)

Example: isolated earth circuit / $U = 48$ V = / $I_{sc} = 4,5$ kA / $I_n = 40$ 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).

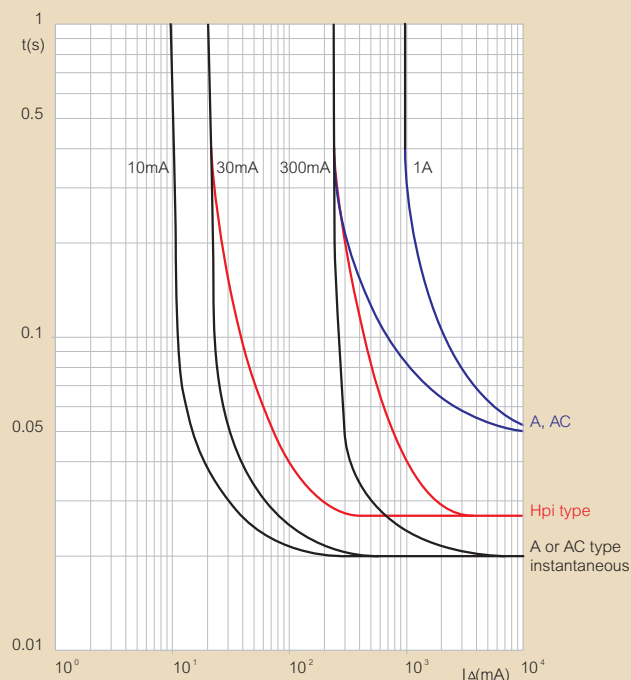
DX LEXIC	voltage	single-pole	2P	3P	4P
Acc. to IEC 60947.2	≤ 48 V	6 kA	6 kA		
	110 V		6 kA	6 kA	
	230 V				10 kA



Performance of MCBs and auxiliaries (continued)

RCD tripping curves

- Average RCD operating curves



Technical information

- Maximum voltage:** 240 V - 415 V~ ~10 %
- Maximum voltage:** 80 V per pole
- Insulation voltage:** 500 V~
- Dielectric:** 2 500 V~

Power dissipated in W per pole at In

In A	1	2	3	4	6	10	16	20	25	32	40	50	63	80	100	125
Type B	2.1	2.1	2.4	2.5	1.1	1.1	1.5	1.7	2.4	3.1	4	4.5	5.5	-	-	-
Type C	2.1	2.1	2.4	2.5	1.1	1.1	1.5	1.7	2.4	3.1	4	4.5	5.5	8.8	7.8	15.6
Type D	2.1	2.1	2.4	2.5	1.1	1.1	1.5	1.7	2.4	3.1	4	4.5	5.5	8.8	7.8	15.6

Technical information

Derating of MCBs according to the number of adjacent MCBs

Number of adjacent MCBs	from 1 to 3	from 4 to 6	from 7 to 9	over 10
Coefficient	1	0.8	0.7	0.6

MCB supplementary data (6 kA and 10 kA)

Terminal depth : 14 mm

Terminals protected to IP 20

Maximum terminal torque : 3 Nm
(recommended : 2.5 Nm)

Average weight per pole : 0.160 kg

Supply : can be supplied from the top or bottom

Padlockable in either ON or OFF position

Operation with DC volt supply : up to a maximum of 80 V DC per pole – for voltages above 80 V DC use multipole devices wired IN SERIES (e.g. two pole 160 V= maximum)

Positive contact indication in accordance with the IEE 16th Edition Wiring Regulations

2P and 4P RCDs: withstand to short-circuits

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

Downstream RCD		Upstream cartridge fuse gG				Upstream MCB					
		≤ 40 A	63 A	80 A	100 A	DX (B/C) 1P+N 2,3,4P		DX-H (B/C) ≤ 63 A 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 ⁽¹⁾	12.5 kA	50 kA	25 kA
	25 A	100 kA	50 kA	15 kA	10 kA	6 kA	10 kA	20 kA ⁽¹⁾	12.5 kA	50 kA	25 kA
	40 A	100 kA	50 kA	15 kA	10 kA	6 kA	10 kA	15 kA ⁽¹⁾	12.5 kA	50 kA	25 kA
	63 A	100 kA	50 kA	15 kA	10 kA		10 kA	12.5 kA ⁽¹⁾	12.5 kA	50 kA	25 kA
	80 A	100 kA	50 kA	15 kA	10 kA			12.5 kA ⁽¹⁾	12.5 kA		25 kA
	100 A	100 kA	50 kA	15 kA	10 kA			12.5 kA ⁽¹⁾	12.5 kA		25 kA

(1) Same nominal rating for both, MCB and RCD

DX RCBOs residual current breaking capacity

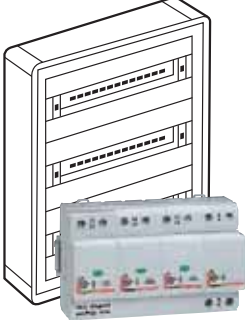
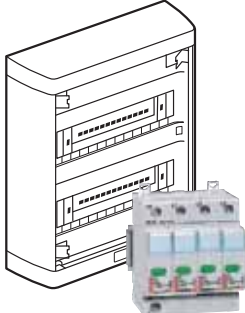
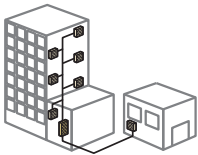
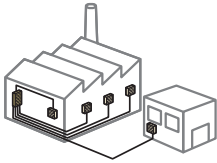
IΔm according to EN 61009-1

Add-on modules - DX 6000, DX-H, D curve	6000 A
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RCBOs - P + N	3000 A
- 2P (4 modules)	6000 A
- 4P 10 to 32 A (4 modules)	4500 A
- 4P 40 to 63 A (7 modules)	6000 A

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

VSP - Voltage Surge Protection

STEP 1 Define the type of building	STEP 2 Define the risk level and the network type	STEP 3 + 4 Optimize protection against lightning effects (V.S.P cascading) and Protect the installation against short-circuits and overloads		
		LEVEL 1 MAIN BOARD	LEVEL 2 DISTRIBUTION BOARD	
				
RESIDENTIAL BUILDINGS AND SMALL OFFICES	RISK LEVEL	NETWORK TYPE	V.S.P + ASSOCIATED PROTECTION Icc ≤ 6 kA	V.S.P + ASSOCIATED PROTECTION Icc ≤ 6 kA
 INDIVIDUAL HOUSES AND  BLOCKS OF FLATS AND  SMALL OFFICES	Very high 	1P+N	2 x 039 10 + 064 72	039 41 + 064 69
		3P	3 x 039 10 + 064 92	3 x 039 40 + 064 89
		3P+N	4 x 039 10 + 065 67	039 43 + 065 64
	High 	1P+N	039 31 + 064 69	039 41 + 064 69
		3P	039 32 + 064 89	3 x 039 40 + 064 89
		3P+N	039 33 + 065 64	039 43 + 065 64
	Medium 	1P+N	039 41 + 064 69	039 41 + 064 69
		3P	3 x 039 40 + 064 89	3 x 039 40 + 064 89
		3P+N	039 43 + 065 64	039 43 + 065 64
OFFICES AND INDUSTRIAL BUILDINGS	RISK LEVEL	NETWORK TYPE	V.S.P + ASSOCIATED PROTECTION Icc ≤ 50 kA	V.S.P + ASSOCIATED PROTECTION Icc ≤ 25 kA
 OFFICE BUILDINGS AND  INDUSTRIAL BUILDINGS	Very high 	1P+N	-	039 31 + 069 21
		3P	030 22 + 3 x 173 65 (T1) (IT earthing system: 3 x 030 00 + 3 x 173 65 (T1))	039 32 + 069 41
		3P+N	030 23 + 3 x 173 65 (T1) (IT+N earthing system: 4 x 030 00 + 4 x 173 65 (T1))	039 33 + 070 01
	High 	1P+N	-	039 31 + 069 21
		3P	039 22 + 071 33	039 32 + 069 41
		3P+N	039 23 + 071 48	039 33 + 070 01
	Medium 	1P+N	-	039 31 + 069 21
		3P	039 22 + 071 33	039 32 + 069 41
		3P+N	039 23 + 071 48	039 33 + 070 01

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

For a complete protection all incoming lines (entering into the buildings) should be protected with V.S.P.s.

■ Define the risk level (STEP 2)

Irrespective of the requirements in the standards, the use of a voltage surge protector is strongly recommended in most cases (continuity of service, cost of equipment, etc.). Voltage surge protectors can be chosen for any type of installation based on the risk levels, which are defined as follows:

Risk level:



- Very high risk: installation equipped with external lightning conductors (L.P.S.), with a metal structure higher than surrounding buildings (or any object that can act as a lightning conductor), an installation that is isolated and located at a high point, or an installation that has been subject to previous lightning strikes

IEC 60364: V.S.P. compulsory at the origin of the installation (main board) with L.P.S. (lightning protection system)



- High risk: installation with overhead power supply, in a mountainous area, isolated, at the end of a line, near a body of water, trees, etc.

IEC 60364: V.S.P. compulsory with overhead lines in AQ2 areas (see p. 163)



- Medium risk: other types of installation (installations in urban areas, in low, flat areas and low and medium height mountainous areas, underground power supplies, etc.)

■ Optimize protection (STEP 3)

Protection of an installation against transient overvoltages can only generally be guaranteed with several levels of voltage surge protectors used together in cascade. In addition to the energy aspect explained below, 2 or 3 levels of voltage surge protectors are in fact usually necessary in order to limit overvoltages connected with the fact that lightning is a high frequency phenomenon.

In order to limit overvoltages as much as possible, a voltage surge protector must always be installed as close as possible to the equipment to be protected. However, proximity protection (Level 3) on its own can only protect the equipment connected to it downstream, and above all, it cannot adequately limit the energy. To do this, a voltage surge protector is necessary at the head of the installation (Level 1) to shunt the majority of the energy to earth.

Likewise, a voltage surge protector on its own at the head of the installation (Level 1) cannot protect the whole installation and the equipment connected to it, due to the fact that it allows residual energy to pass and that lightning is a high frequency phenomenon.

For these reasons, depending on the scale of the installation and the types of risk (exposure and sensitivity of equipment, criticality of continuity of service), circuit protection (Level 2) is necessary in addition to protection of the head of the installation

■ Protect the installation against short-circuit and overloads (STEP 3)

The supply circuit of the VSP must always be protected against short-circuits and overloads by its associated protection device in accordance with discrimination rules.

Select the associated MCB (DX, DX-H or DX-L) with the short-circuit rating adapted to your installation requirements

V.S.P. Cat. No.	039 10/20/21/22/23			039 30/31/32/33/40/41/43		
Icc	2P	3P	4P	2P	3P	4P
≤ 10 kA	064 72	064 92	065 67	064 69	064 89	065 64
≤ 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	Not allowed	Not allowed	Not allowed

Voltage surge protectors



039 21



039 33



039 34



Technical characteristics (p. 86 - 87)



Dimension (p. 100)



Type 2 voltage surge protectors (V.S.P.) for main boards, distribution boards and consumer units

Conform to standards IEC 61643-1 and EN 61643-11

3 different impulse discharge ratings
For 230/400 VA - 50/60 Hz networks

Pack Cat. No. Main board protection

High protection - H - Class I + II I_{max} = 70 kA

Earthing systems: TT, TN, IT

Consist of a base and a plug-in replacement module provided with a status indicator

• Green: surge protector operational

• Orange: module needs replacing

Can be equipped with auxiliary contacts for remote monitoring purpose (p. 108)

Pack	Cat. No.	Number of poles	Associated protection	Number of modules
1	039 20 ⁽¹⁾	1P	40A - C curve	1
1	039 21 ⁽¹⁾	2P	40A - C curve	2
1	039 22 ⁽¹⁾	3P	40A - C curve	3
1	039 23 ⁽¹⁾	4P	40A - C curve	4

Distribution board protection

For electrical equipment located at more than 30 m from the main distribution board

Consist of a base and a plug-in replacement module provided with a status indicator

• Green: surge protector operational

• Orange: module needs replacing

Can be equipped with auxiliary contacts for remote monitoring purpose (p. 108)

Increased protection - I - Class II - I_{max} = 40 kA

Earthing systems: TT, TN, IT

Pack	Cat. No.	Number of poles	Associated protection	Number of modules
1	039 30 ⁽¹⁾	1P	20A - C curve	1
1	039 31 ⁽¹⁾	2P	20A - C curve	2
1	039 32 ⁽¹⁾	3P	20A - C curve	3
1	039 33 ⁽¹⁾	4P	20A - C curve	4

Standard protection - S - Class II - I_{max} = 15 kA

Earthing systems: TT, TN

Pack	Cat. No.	Number of poles	Associated protection	Number of modules
1	039 40 ⁽¹⁾	1P	20A - C curve	1
1	039 41 ⁽¹⁾	2P	20A - C curve	2
1	039 43 ⁽¹⁾	4P	20A - C curve	4

Replacement modules for type 2 V.S.P.

5	039 28	For V.S.P. Cat. No. 039 20/21/22/23
5	039 34	For V.S.P. Cat. No. 039 30/31/32/33
5	039 44	For V.S.P. Cat. No. 039 40/41/43
5	039 39	For V.S.P. Cat. No. 039 35/36/38 (old model voltage surge protector)

(1) Associated protection: MCBs DX, DX-H, DX-L or equivalent ranges according to required breaking capacity

Voltage surge protectors

For telephone lines and accessories for low voltage V.S.P.



038 28



038 29



039 63



Dimensions (p. 100)
Technical characteristics (p. 86 - 87)

Pack	Cat. No.	Voltage surge protector for telephone lines and data networks
		Recommended for complete protection of installations already equipped with low voltage V.S.P. on power lines (standard IEC 60364) For protection of: telephone, fax, modem, etc., connected to the incoming telephone line, against overvoltages of atmospheric origin 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 Imax: 10 kA and In: 5 kA (8/20)
1	038 28	Analogue (RTC and ADSL)
1	038 29	Digital (signal lines, current loops)
		Un (V) Up (V)
		170 260
		48 100

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

Pack	Cat. No.	Decoupling inductors for low voltage V.S.P.
		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~
1	039 63	Module for circuit 63 A - 500 V~
		Number of modules
		2 4

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 main levels (types):

EN 61643-11	Type 1 (T1)	Type 2 (T2)
IEC 61643-1	Class I (T1)	Class II (T2)
VDE 0675-6 ⁽¹⁾	Class B	Class C
Type of wave	10/350 µs	8/20 µs
Main characteristics	limp (10/350) In (8/20)	In, Imax

(1) German standard VDE replaced by European standard EN 61643-11

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

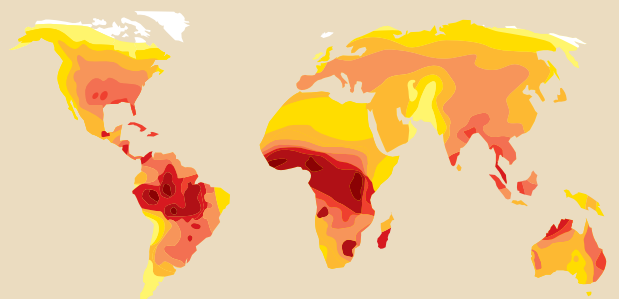
According to articles 443 and 534, the use of VSPs is required in new or renovated buildings in the following cases:

- buildings equipped with lightning conductors: type 1 VSPs
- buildings with overhead power supply in class AQ2 geographic zones (see map below: red zones): type 2 VSPs with In ≥ 5 kA
- buildings with medical services or equipped with safety systems (fire, etc.) in class AQ2 geographic zones: type 2 VSPs with In ≥ 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 50m from buildings equipped with lightning conductors⁽²⁾
When VSPs are present on the power circuit, it is strongly advised to install a VSP on the communication circuits (telephone or data lines...)

(2) Lightning conductors: external protection of buildings against direct lightning impacts

■ Choice of the level lightning protection

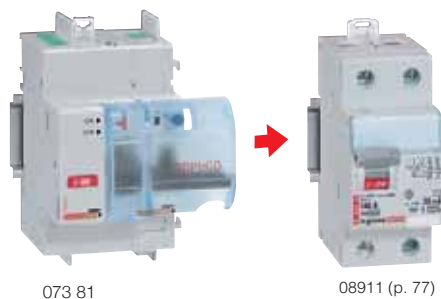


The annual average of stormy days (Nk)

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

AQ2 areas : Nk > 25
IEC 60364 : V.S.P. mandatory for installations supplied with overhead low voltage lines and located in AQ2 areas

STOP&GO automatic resetting for DX™



073 81

08911 (p. 77)

Pack	Cat. No.	STOP&GO automatic resetting	
		Clip on the left-hand side of devices Gives automatically an order of resetting of the associated device, following an unwanted tripping, caused by a temporary anomaly (such as lightning strikes) Verifies automatically the state of the installation, before resetting Visual and audible alarm signal in case of permanent fault detection (short-circuit or residual current) Compatible with the following devices: - RCDs: 2P - 2 modules - RCBOs: 2P - 2 modules - RCBOs: 2P - 4 modules - MCBs: 2P ≤ 63 A - 2 modules	
1	073 81	Standard Control voltage: 230 V~	3
1	073 82	Autotest Periodical test of the associated RCD Control voltage: 230 V~	3

Voltage surge protectors (p. 82)

STOP&GO automatic resetting for DX™

Temporarily electrical disturbances and other external events can cause unwanted tripping of different devices protecting electrical installation

STOP&GO verifies automatically the state of the installation, before resetting and launches a visual and audible alarm signal in case of permanent fault detection (short-circuit or residual current)

After verifying the state of the installation, STOP&GO automatic resets the associated protection device in order to immediately re-establish power supply and avoid unwanted consequences

STOP&GO does not protect the installation against lightning strikes
For an efficient protection against lightning, use voltage surge protectors (p. 82)

The Autotest version is specially suitable for installations equipped with residual current protection devices (RCD's and RCBOs)
STOP&GO periodically does an automatic test of the functioning of residual current protection devices. The manual test is no longer needed



Installation without STOP&GO



Installation with STOP&GO

Mains fault due to temporarily electrical disturbances
Electrical devices are not powered anymore

STOP&GO automatic resets the associated protection device in order to immediately re-establish power supply



Voltage surge protectors (continued)

■ Technical characteristics

Voltage surge protectors for power lines

Networks: 230/400 VA - 50/60 Hz
Degree of protection: IP 20
Operating temperature: -10° C to +40° C
Storage temperature: -20° C to +70° C

Type 2 V.S.P. (class II)	High protection (H)	Increased protection (I)	Standard protection (S)
Cat. No.	039 20/21/22/23	039 30/31/32/33	039 40/41/43
Neutral earthing system	TT - TN - IT	TT - TN - IT	TT - TN
Max. steady state voltage (Uc)	440 VA	440 VA	320 VA
Max. dis- charge current	limp (10/350)	10 kA	-
	I _{max} (8/20)	70 kA	40 kA
Nominal discharge current	I _n (8/20)	20 kA	15 kA
Protection level (Up) at I _n at 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
Associated protection DX, DX-H, DX-L C curve	40 A	20 A	20 A
Max. terminal capacity rigid conductor flexible conductor		25 mm ² 16 mm ²	

Voltage surge protectors for telephone lines

Degree of protection: IP 20
Operating temperature: -10° C to +40° C
Storage temperature: -20° C to +70° C

	Analog 038 28	Digital 038 29
Minimum voltage (Un)	170 V	48 V
Protection level (Up)	260 V	100 V
Nominal current (In)	5 kA	
Max. terminal capacity flexible/rigid	0.5 to 2.5 mm ²	

■ Installation

Voltage surge protectors cascading (multi-level protection)

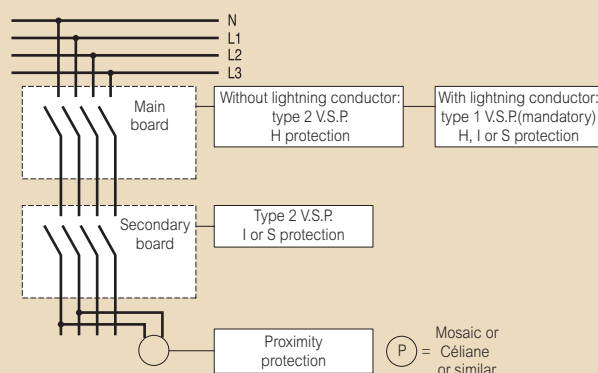
Beyond the standards requirements:

- 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.).



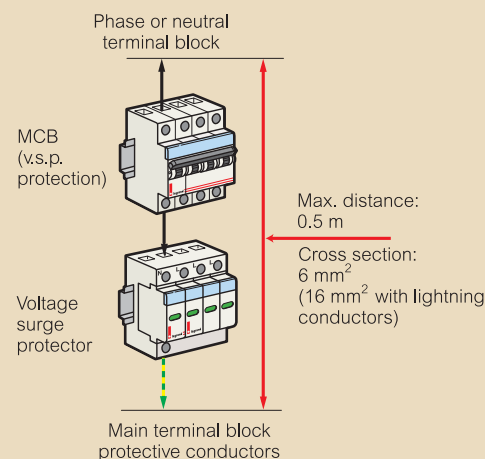
Associated protection

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

TT earthing systems, and V.S.P.: V.S.P. always installed downstream a residual current device (RCD)

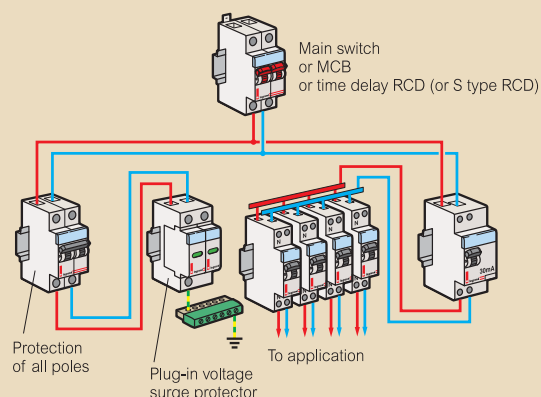
For the voltage surge protector to perform its function as well as possible, it must be installed:

- in parallel
- 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



Voltage surge protectors (continued)

Connection principles (continued)



Recommended cross-sections for conductors linking voltage surge protectors

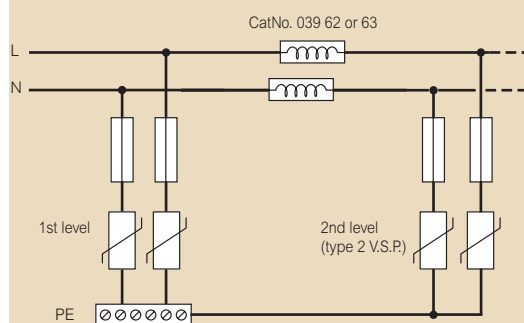
Type 2 V.S.P.	Cross section mm ²	Type 1 V.S.P.	Cross section mm ²
H level	16	H level	16
I level	10	I level	16
S level	6	S level	16

Minimum distances between voltage surge protectors

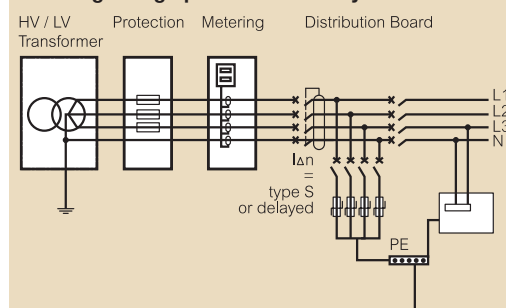
Upstream V.S.P.		Downstream V.S.P.		Distance (m)
S level	type 1	E (S)	type 2	8 (10)
H level	type 2	S (P)	type 2	8 (10)
I level	type 2	S (P)	type 2	4 (6)
S level	type 2	P	type 2	2

Installation of V.S.P. in the same board with decoupling inductors

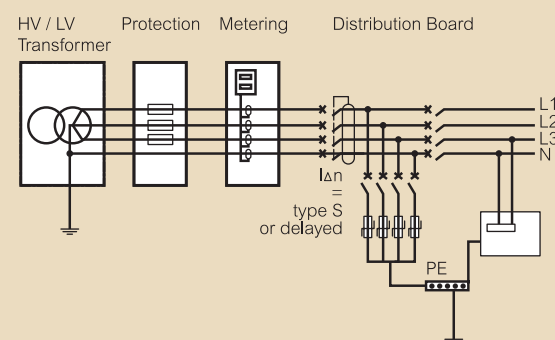
When distances cannot be respected please use decoupling inductors, installed as follows



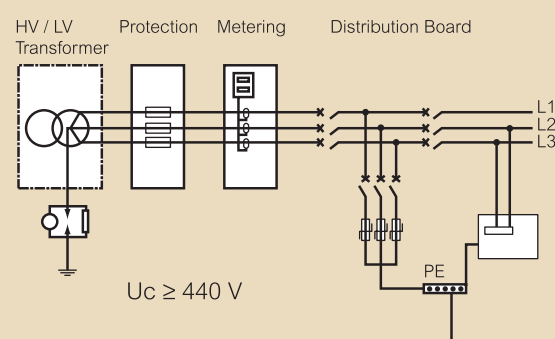
1 - Voltage surge protector in TN system



2 - Voltage surge protector in TT system



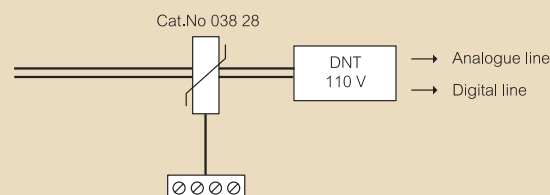
3 - Voltage surge protector in IT system



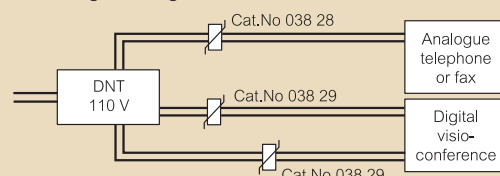
Installation for telephone lines

Protection of a telephone line

- Upstream the communication distribution box



- Downstream the communication distribution box
- Analogue or digital



- Digital



Power

From 16 A to 63 A



Dimensions (p. 100)

Conform to IEC/EN 61095
Space for power supply busbar on top (up to 25 A)

Pack Cat. No. Power contactors with 24 V~ coil

Pack	Cat. No.	2-pole - 250 V~ I max	Type of contact	Number of modules
1	041 14	16 A	N/C + N/O	1
1	041 16	25 A	2 N/O	1
1	041 17	25 A	4 N/O	2

Power contactors with 24 V~ coil and handle

Manual override for test and repair function, carried out via the handle
Permanent "ON" or "OFF" without automatic reset

Pack	Cat. No.	2-pole - 250 V~ I max	Type of contact	Number of modules
1	041 23	25 A	2 N/O	1
1	040 73 ⁽¹⁾	63 A	2 N/O	2
1	041 24	25 A	4 N/O	2
1	040 74 ⁽¹⁾	63 A	4 N/O	2

Low noise power contactors with 230 V~ coil

Pack	Cat. No.	2-pole - 250 V~ I max	Type of contact	Number of modules
1	041 49	25 A	2 N/O	1

Power contactors with 230 V~ coil

Pack	Cat. No.	2-pole - 250 V~ I max	Type of contact	Number of modules
4	041 26	16 A	N/C + N/O	1
10	041 58	25 A	2 N/O	1

Pack Cat. No. Power contactors with 230 V~ coil (continued)

Pack	Cat. No.	2-pole - 250 V~ I max	Type of contact	Number of modules
1	041 29	25 A	2 N/C	1
5	041 31	25 A	4 N/O	2
1	041 32	25 A	4 N/C	2
1	041 33	25 A	2 N/O + 2 N/C	2

Power contactors with 230 V~ coil and handle

Manual override for test and repair function, carried out via the handle
Permanent "ON" or "OFF" without automatic closing of the contactor

Pack	Cat. No.	2-pole - 250 V~ I max	Type of contact	Number of modules
4	041 47	25 A	2 N/O	1
1	040 68 ⁽¹⁾	40 A	2 N/O	2
1	040 75 ⁽¹⁾	63 A	2 N/O	2
1	040 76 ⁽¹⁾	63 A	2 N/C	2
1	040 69 ⁽¹⁾	40 A	3 N/O	3
1	040 77 ⁽¹⁾	63 A	3 N/O	3
2	041 48	25 A	4 N/O	2
1	040 70 ⁽¹⁾	40 A	4 N/O	3
1	040 78 ⁽¹⁾	63 A	4 N/O	3
1	040 79	63 A	4 N/C	3

(1) Handle can be accessed once the blanking plate has been removed

Power

From 16 A to 63 A (continued)



041 85



041 83



040 85

Pack Cat. No. Signalling auxiliaries for contactors

		Auxiliary changeover switch Used to signal the position status of the contacts on the product to which it is connected			
		For 1 module contactors 16 A to 25 A			
		Maximum 2 auxiliary devices per contactor Fitted on left-hand side of contactor			
1	041 85	I max. 5 A	Voltage 250 V~	Changeover switch N/C + N/O	Number of modules 0.5
		For 2 module contactors 25 A			
		Maximum 2 auxiliary devices per contactor Fitted on left-hand side of contactor			
1	041 83	I max. 5 A	Voltage 250 V~	Changeover switch N/C + N/O	Number of modules 0.5
		For 40 and 63 A contactors			
		Maximum 1 auxiliary device per contactor Fitted on left-hand side of contactor			
1	040 85	I max. 5 A	Voltage 250 V~	Changeover switch N/C + N/O	Number of modules 0.5

Power contactors

From 16 A to 63 A

■ Technical characteristics

- rated impulsive resistant current (Uimp): 4 kV
- mechanical life in cycles of operations: 10⁶ cycles
- temperature:
 - operation: - 25° C to + 40° C
 - storage: - 40° C to +70° C

Protection of contactors against short-circuits conforming to IEC EN 61095, conditional short-circuit current I_{sc} = 6 kA

MCB or gG fuse, rating:

- ≤ 16 A for 16 A rating
- ≤ 25 A for 25 A rating
- ≤ 40 A for 40 A rating
- ≤ 63 A for 63 A rating

• Control coil consumption

Power contactors 16 A and 25 A					
Control voltage	24 VA		230 VA low noise	230 VA	
Nominal current	16 - 25 A	25 A	25 A	16 - 25 A	16 - 25 A
Type of contact	N/O + N/C 2 N/C	4 N/O	2 N/O	N/O + N/C 2 N/O 2 N/C	2 N/O + 2 N/C 4 N/O 4 N/C
Number of modules	1	2	1	1	2
Holding	200 mA	300 mA	6 mA	20 mA	20 mA
Inrush	970 mA	300 mA	55 mA	90 mA	200 mA

Power contactors 40 A, 63 A				
Control voltage	24 VA		230 VA	
Nominal current	40 and 63 A	40 and 63 A	40 and 63 A	40 and 63 A
Type of contact	2 N/O	4 N/O	2 N/O 2 N/C	3 N/O 4 N/O 4 N/C
Number of modules	2	3	2	3
Holding	250 mA	270 mA	15 mA	30 mA
Inrush	1750 mA	1500 mA	150 mA	200 mA

• Recommendations

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

Contact rating	40 °C	50 °C	60 °C	70 °C
I _e = 16 A	16 A	14 A	12 A	10 A
I _e = 25 A	25 A	22 A	20 A	18 A
I _e = 40 A	40 A	36 A	32 A	29 A
I _e = 63 A	63 A	57 A	50 A	45 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 ≤ 25 A	Ratings 40 and 63 A
Rigid	1 x 6 ² or 2 x 2.5 ²	1 x 25 ² or 2 x 10 ²
Flexible	1 x 6 ² or 2 x 2.5 ²	1 x 25 ² or 2 x 10 ²
Flexible with single ferrule	1 x 6 ²	1 x 16 ²
Flexible with double ferrule	2 x 4 ²	2 x 16 ²

Cross reference list old range / new range

Old range Cat. No.	New range Cat. No.	Designation
040 33	041 14	16 A - 24 V - N/C + N/O
040 41	041 16 ⁽¹⁾ / 041 23 ⁽²⁾	25 A - 24 V - 2 N/O
040 43	041 17 ⁽¹⁾ / 041 24 ⁽²⁾	25 A - 24 V - 4 N/O
040 38	041 26	16 A - 230 V - N/C + N/O
040 49	041 58 ⁽¹⁾ / 041 47 ⁽²⁾	25 A - 230 V - 2 N/O
040 52	041 49	25 A - 230 V - 2 N/O low noise
040 50	041 29	25 A - 230 V - 2 N/C
040 53	041 31 ⁽¹⁾ / 041 48 ⁽²⁾	25 A - 230 V - 4 N/O
040 54	041 32	25 A - 230 V - 4 N/C
040 55	041 33	25 A - 230 V - 2 N/C + 2 N/O
040 85	041 85	Auxiliary changeover switch for 1 module 16 and 25 A contactors
	041 83	Auxiliary changeover switch for 2 modules 25 A contactors
	040 85	Auxiliary changeover switch for 40 A and 63 A contactors

(1) Without handle

(2) With handle

Programmable time switches

Multiple function - daily/weekly



AlphaRex Series

According to VDE 631-1 and 631-2-7, IEC 60 730-1 and 60 730-2-7, EN 60 730-1 and 60 730-2-7
Ideal for school bells
Fast programming with selection of pre-set groups of days and individual selection of days
Easy programming with PC using Legrand software and data key
Program consists of ON and OFF time with assignment to certain days
Backup possible on data key

With additional functions:

- holiday program
- random function
- pulse function (only 1 channel) with pulse duration of 1sec up to 59 min, 59 sec. and 84 start times
- hour counter for max. 65 535 hours.
- Background lighting for display and buttons
- Running reserve of 6 years for date and time
- Programs are stored in a EEPROM
- Programs are shown as a weekly matrix on the display
- Automatic summer-/wintertime change (daylight saving)
- Precision +/- 0,2 sec/day
- Manual switching
- Lead sealable cover, even with inserted data key



Dimensions (p. 100)

Pack	Cat. No.	AlphaRex D21
1	047 61	Weekly time switch, 1 channels 230 V, 50/60 Hz 1 changeover (SPDT) 250 V/50 Hz, 16 A~ cos 1 56 programs min. switching time: 1 min. switching stem: 1 min.
1	047 71	AlphaRex D22 Weekly time switch, 2 channels 230 V, 50/60 Hz 2 changeover (SOPDT) 250 V/50 Hz, 16 A~ cos 1 56 programs (28 per channel) min. switching time: 1 min. switching stem: 1 min.
1	047 72	Data key Transfer data into time switch PC programmable Can also be used as a backup
1	047 73	USB-adapter To read and write data keys on a PC Software and key 04772 included Connection via USB-port System requirements: Windows®2000, Windows®ME, Windows®XP and Windows®98 second Edition, 0 MB free disc space Serial adapter on demand

Programmable time switches

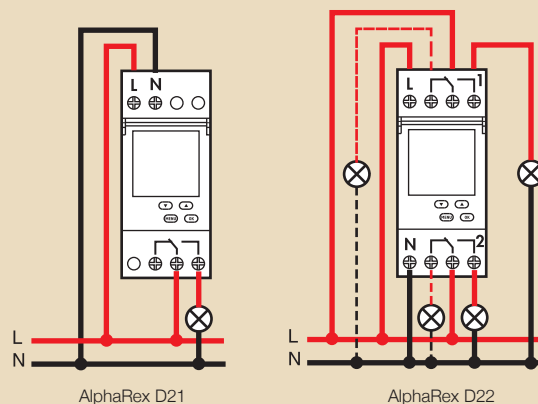
DIN rail mounting

Technical data

Type	Alpha Rex D21	Alpha Rex D22
No. of modules (17.5 mm)		
No. of channels	1	2
running reserve		6 years
switching step		1 min
min. switching time		1 min
accuracy		0,2 sec/day
switching capacity		
■ resistive 230 V~cos • 1		16 A~
■ incandescent lamps 230 V		8 A~
■ inductive 230 V~cos • 0,6		10 A~
contact	1 SPDT	2 SPDT
programs ¹⁾	56	
pulse start times	84	
	min. 1 sec	
	max. 59 min,	
pulse duration	59 sec	
operating temperature	- 20° C	+55° C
protection		IP20

(1) A program consists of an ON and an OFF time and the assigned days.

Wiring Diagram



Easy Programming

The data key makes work even more convenient. You can set up the program easily on your PC and then save it on your data key. With the Legrand software and the adapter it is a piece of cake.

Created programs can easily be saved, edited, managed and used.



Digital weekly time switch DIN rail mounting



6047 74

According to EN 60730-1 and EN 60730-2-7

Digital weekly DIN rail mounting time switch
1 program consists of 1 ON and 1 OFF time and the allocation of any day of the week or a combination of days and the selected channel (2 channel version).

Additional features:

- manual override (ON/OFF): permanent ON or OFF
- automatic override (ON/OFF): actual program will be inverted (ON->OFF, OFF->ON) till next programmed ON time
- automatic changing of summer/winter time
- running reserve of 6 years

Pack Cat. No. MicroRex D21 Plus

Pack	Cat. No.	1 channel
1	6047 74	230V 50/60Hz
1	6047 75	24V AC/DC

MicroRex D22 Plus

Pack	Cat. No.	2 channel
1	6047 77	230V 50/60Hz
1	6047 78	24V AC/DC

Digital time switch DIN rail mounting

Technical characteristics

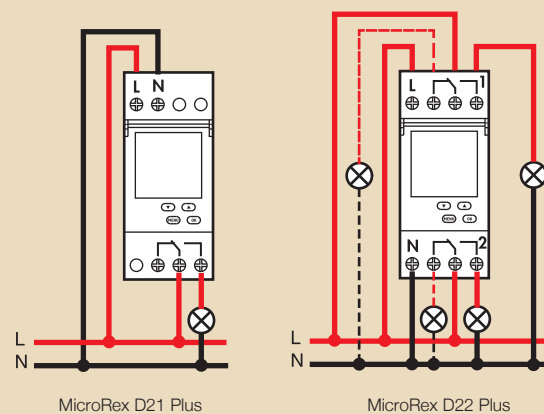
Type	D21	D22 plus
Channels	1	2
Running reserve		6 years
Min. switching time		1 min
Accuracy		+/-1 s/d
Switching capacity		
Res. cos 1		16A
Incad. lamps		5A
Ind. cos 0,6		8A
Contact		changeover (SPDT) 16A
Max. programs	28	14 channel
Operation temp.		-20° C - +55° C
Storage temp.		-20° C - +60° C
Protection		IP20

example:

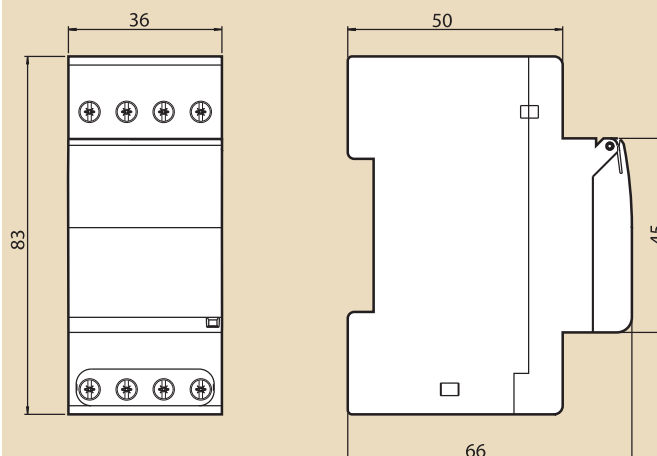
1. prog.: ON 07:00h
2. prog.: ON 16:00h
3. prog.: ON 10:00h

- OFF 08:15h Mon-Fri CH1
OFF 20:15h Mon-Sun CH2
OFF 15:15h Fri CH1+2

Wiring Diagram



Dimensions



Programmable time switches

Standard - daily/weekly



037 05

D11 time switch - EcoRex D11

Conform to EN 60730-1 and EN 60730-2-7

Supply voltage: 120-230 V +10% -15% 50/60 Hz

Working reserve: 6 years clock

Accuracy: ± 1 second per day

LCD digital display

Mount on DIN rail EN 50022

Programmable for 1 minute minimum

Programming possibilities:

Capability of 28 programs

1 program consists of 1 "on" and 1 "off" time and the allocation of any day

of the week or a combination of days

Combination of days: Mon - Fri (1-5), Mon - Sun (1-7)

Any days of the week free programmable example:

1. Prog. on 7:00 off 8:15 Mon - Fri

2. Prog. on 16:00 off 20:15 Mon - Sun

3. Prog. on 10:00 off 16:15 Fri (5)

Manual advance/override (ON/OFF)

Automatic summer/winter setting



Dimensions (p. 100)

Pack Cat. No. D11 - 1 module - Single channel

1 037 05 1 channel 16 A - 250 V cos ϕ 1



Digital time switches

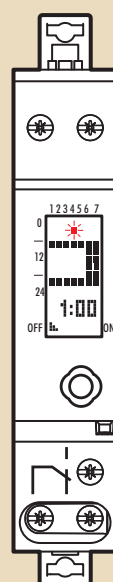
For rail

Technical Data

Cat. No.		
037 05	Supply voltage	120/230V + 10% / - 15%
	Frequency	50/60 Hz
	Switching capacity:	
	cos ϕ 1	16A
	cos ϕ 0.6	13A
	Contact	1 changeover switch
	Min. prog. time	1 minute
	Accuracy	~ 1 second / day at 25° C
	Working reserve	6 years
	IP rating	IP 20
	Operating temp.	-10° C + 55° C

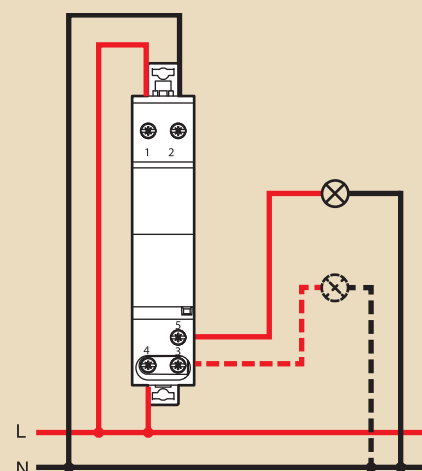
Dimensions

Single channel
D11



Wiring diagram

Single channel
D11



Programmable time switches

Rex - digital annual AlphaRex DY64

RE RO RAMMA LE
TIME SWITCHES



Easy to program

Store and transfer data easily using a PC and datakey



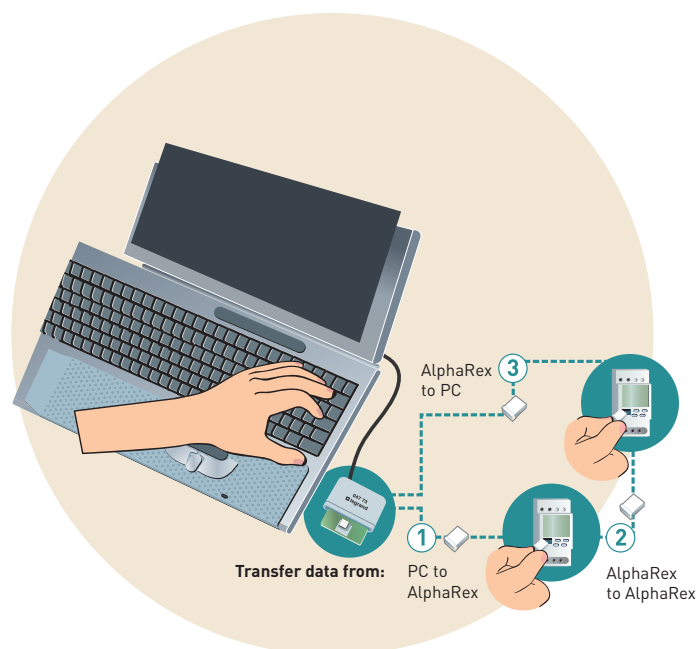
047 70

According to VDE 631-1 and 631-2-7, IEC 60 730-1 and 60 730-2-7, EN 60 730-1 and 60 730-2-7

- with text based programming concept
- Selectable languages: English, German, French, Italian, Spanish and Dutch
- fast programming due to selection of pre-set groups of days Mo-Su, and individual selection of days
- easy programming with PC using Legrand software and data key
- a program consists of an ON and OFF time and their assignment to certain days
- Backup on data key possible
- 84 programs per channel possible:
 - 28 weekly/astromical programs
 - 28 yearly programs
 - 28 exceptional programs
- shortest possible program: 1sec
- background lighting for display and buttons
- running reserve of 5 years for date and time
- programs are stored in a EEPROM
- programs are shown as a weekly matrix on the display
- automatic summer-/wintertime change (daylight saving)
- Precision +/- 0,2 sec/day or according to frequency
- manual override switches (ON/OFF/AUTO) for every channel on the frontside
- manual switching
- lead sealable cover, even with inserted data key
- Calculation of sunrise and sunset by programming date, time and local coordinates.
- No light sensor needed!
- The switching ON and OFF times (astro function) can be adjusted asymetrically for +/- 120 minutes.
- The control input enables the activation of the time switch irrespective to the program. (only for channel 1)
- Possible to create a cyclical repetitive program. (only for channel 1)



Dimensions (p. 100)



► Data Key:

- transfer data
- portable storage device
- can also be safely stored in the AlphaRex
- secure back up

► **Data key 047 81 can be used only with AlphaRex DY64**

Pack	Cat. No.	AlphaRex DY64
		Annual time switch, 4 channels
1	047 70	120/230V, 50/60Hz
		
		Accessories
1	047 81	Data key for DY64
1	047 82	CAUTION: 047 81 only used with 047 70
1	6047 78	Replacement battery
1		24V AC/DC

Rex-digital time switches

AlphaRex DY64

The AlphaRex DY64 offers

3 different types of programming:

Weekly Program

This menu item is provided for the simple input of programs which are to be repeated weekly (such as switching of lights and boilers). A weekly program consists of an ON time, an OFF time and the associated ON and OFF days.

■ **MON TO SUN:** the days of the week are already assigned and you only need to set the ON and OFF times. This is used where the same program is to be executed on every day of the week.

■ **INDIVIDUAL:** you can assign the ON and OFF times to any desired days. This is used where the same program is to be executed only on certain days of the week or different programs are to be executed on the various days.

Yearly Program

This menu item permits the input of (additional) annual programs which are to be executed only during a specified period. These programs and the weekly programs of the same channel are ORed together as described above. The period during which a program is to be executed is defined by entering a start date and an end date.

■ The option **EVERY YEAR** should be selected if the additional program is to be executed during the same period of each year (e.g. Christmas, national holidays, birthdays, etc.).

■ The option **ONCE** should be selected if the additional program is to be executed only during a single period (e.g. vacation period), but the start and end dates of this period are different in each year.

Exceptional Program

The weekly and annual programs defined for a channel are not executed as long as an extra program is active. However, other exception programs will be executed while an exception program is active. The various exception programs are ORed together as described above. (see OR function 3a)

■ The option **EVERY YEAR** should be selected if the exception program is to be activated for the same period in each year (e.g. Christmas, national holidays, birthdays, etc.).

■ The option **ONCE** should be selected if the exception program is to be activated only during a single period (e.g. vacation period), but the start and end dates of this period are different in each year.

■ **Option MON TO SUN:** the exception program is active from 00:00 hours on the start date to 24:00 hours on the end date. During this period, the output of the related channel switches only as defined in the exception program.

■ **Option INDIVIDUAL:** the exception program is active from 00:00 hours on the start date to 24:00 hours on the end date. During this period, the output of the related channel switches only as defined in the exception program.

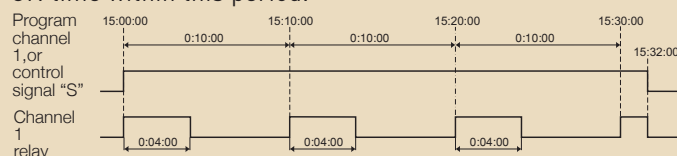
■ **Option PROG ON:** the exception program is active from the ON time on the start date to OFF time on the end date. During this period, the output of the channel is permanently on.

■ **Option PROG OFF:** the exception program is active from the ON time on the start date to OFF time on the end date. During this period, the output of the channel is permanently off.

Cycle function for channel 1

Instead of its **STANDARD** function, the output of channel 1 can be switched on and off cyclically.

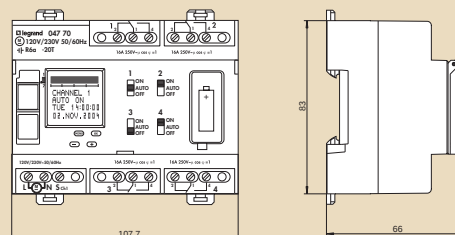
The available parameters are the **PERIOD** and the **SWITCH ON** time within this period.



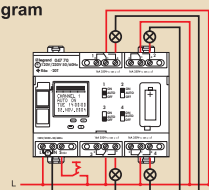
Technical data

Type	Alpha Rex
No. of pitch units of 17.5 mm	6
Number of channels	4
Power reserve	5 years
Switching increment	1 sec
Shortest switching time	1 sec
Accuracy	0,2 s/day/ or frequency
Switching capacity	
■ Ohmic 230 V~cos 1	16 A~
■ Filament lamp 230 V	8 A~
■ Inductive 230 V~cos 0,6	10 A~
Switch output	4 SPDT
Programs ¹⁾	3 x 4 x 28 (336)
Control input with delay-time	0 min – 23h 59min
Operating temperature	20 ° C + 55 ° C
Type of protection	IP20

Dimensions (mm)



Wiring diagram



Programmable time switches

AlphaRex Astro



047 64



037 21



037 40



037 55



037 44

According to VDE 631-1 and 631-2-7, IEC 60 730-1 and 60 730-2-7, EN 60 730-1 and 60 730-2-7

- with text based programming concept
- fast programming due to selection of pre-set groups of days Mon-Sun, Mon-Fri, Sat-Sun and individual selection of days
- easy programming with PC using Legrand software and data key
- a program consists of an ON and OFF time and their assignment to certain days
- Backup on data key possible
- with additional functions:
 - holiday program
 - hour counter for max. 65 535 hours.
- background lighting for display and buttons
- running reserve of 6 years for date and time
- programs are stored in a EEPROM
- programs are shown as a weekly matrix on the display
- automatic summer-/wintertime change (daylight saving)
- Precision $\pm 0,2$ sec/day

Manual switching

- lead sealable cover, even with inserted data key
- Calculation of sunrise and sunset by programming date, time and local coordinates.
- No light sensor needed!
- To save energy, a switching off at night is programmable.
- The switching On and OFF times can be adjusted asymetrically for ± 120 minutes.
- The control input enables the activation of the time switch irrespective to the program. (NOT D22 Astro!)

Dimension (p. 100)

Pack	Cat. No.	AlphaRex D21 Astro
1	047 64	weekly time switch, 1 channel
1	047 66	230V, 50/60Hz
		24V, 50/60Hz
		AlphaRex D22 Astro
		weekly time switch, 2 channel
1	047 67	230V, 50/60Hz
1	047 69	24V, 50/60Hz
		Microlux D
1	037 21	Light sensitive weekly time switch
		230 V, 50/60Hz
		running reserve: 100H
		Supplied with photoelectric call in plexo weather proof box

Remark:

The AlphaRex Astro can be programmed using the datakey 04772 and the programming software (see page 90)

Programmable time switches

Electro-mechanical

Dimensions (p.96)
Technical characteristics (p. 96)

Programmed via captive segment
1-module device: min. 1 segment
3-module device: min. 2 segments
Power supply: 230 V $\sim$ - 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 $\sim$ - μ cos ϕ = 1

Pack	Cat. No.	Daily programme	Number of modules
1	037 30	1 segment = 15 minutes Accuracy: ± 5 minutes Vertical dial Minimum switching time: 15 mn N/O contact Without working reserve	1
1	037 40	With 100 h working reserve Horizontal dial Minimum switching time: 45 minutes Changeover switch Without working reserve	1
1	037 52	Without working reserve	3
1	037 53	With 100 h working reserve	3

Pack	Cat. No.	Weekly programme	Number of modules
1	037 44	1 segment = 2 hours Accuracy: ± 30 minutes Vertical dial Minimum switching time: 2 h N/O contact With 100 h working reserve Horizontal dial Minimum switching time: 4 h Changeover switch	1
1	037 55	With 100 h working reserve	3

Totalling hour counter on door (p. 99)

REX ASTRONOMICAL TIME SWITCHES >>>

Easy control

Easy Control of lights based on the of sunrise and sunset, with no need of installing a light sensor!



► Comfort and safety:

- The time switch calculates the daily times of sunset and sunrise. At sunset the AstroRex will switch the lights ON and at sunrise the AstroRex will turn the lights OFF.

► Energy saving:

- program an OFF and an ON time at night

► Typical applications:

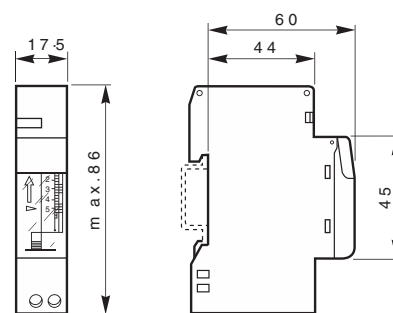
- shop window illumination
- billboard illumination
- private and public buildings

Electro-mechanical time switches

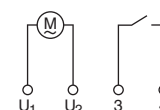
For DIN rail - Technical data

Type	MicroRex		
	T11	QT11	QW11
Cat. No.	037 30	037 40	037 44
Supply voltage	230 V~ +10% -15%		
Frequency	50 Hz	50/60 Hz	50/60 Hz
Switching capacity for $\cos \varphi = 1$	16 A		
Contact	On/off		
Working reserve	None	100 hours	100 hours
Min. switching time	15 minutes	15 minutes	2 hours
Interval	15 minutes	15 minutes	2 hours
Operating temp.	-10° C + 55° C		

Dimensions

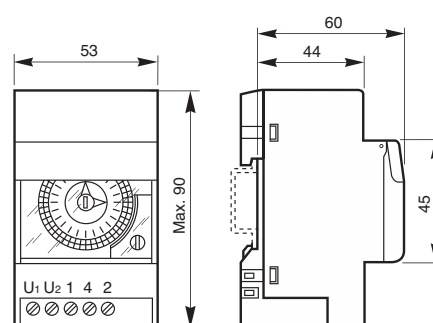


Wiring diagram

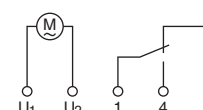


Type	MicroRex		
	T31	QT31	
QW31			
Cat. No.	037 52	037 53	037 55
Supply voltage	230 V +10% –15%		
Frequency	50 Hz	50/60 Hz	50/60 Hz
Switching capacity for cos φ = 1	16 A		
Contact	Changeover switch		
Working reserve	None	100 hours	100 hours
Min. switching time	15 minutes		2 hours
Interval	30 minutes		4 hours
Operating temp.	–10° C + 55° C		

Dimensions



Wiring diagram



Analogue time switches

Electro-mechanical surface mounting



497 54

Conform to EN 60730-1 and EN 60730-2-7
Supply voltage: 230 V~+10% -15%
3 position changeover switch
With 72 x 72 mm display to DIN EN 50022 Part C

Pack	Cat. No.	Maxirex™
		With manual override
		24 hour - 1 channel
		Programmable for 20 minutes at 10 minute intervals
		Accuracy: ± 5 minutes per day
		Without working reserve - 50 Hz - T
1	497 50	
1	497 54	With 100 hr working reserve - 50/60 Hz - QT
		7 day - 1 channel
		Programmable for 2 hours at 1 hour intervals
		Accuracy: ± 30 minutes per day
		Without working reserve - 50 Hz - W
1	497 52	
1	497 56	With 100 hr working reserve - 50/60 Hz - QW
1	044 09	Fixing accessory for maxirex time switch
		Adaptor for rail EN 50022
1	498 32	Frame for panel mounting

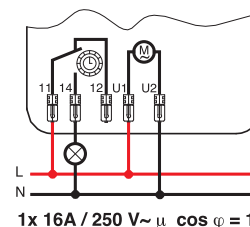
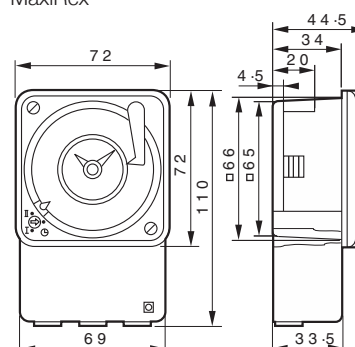
Analogue time switches

Electro-mechanical surface mounting Technical data

	MaxiRex			
Type	T	QT	W	QW
Cat. No.	497 50	497 54	497 52	497 56
Supply voltage	230 V+10% -15%			
Frequency	50 Hz	50/60 Hz	50 Hz	50/60 Hz
Switching capacity:	16 A 10 A 1 000 W			
cos φ = 1				
cos φ = 0.6				
incand. lamp				
Contact	1 c/o SPDT	1 c/o SPDT		
Working reserve	None	100 hrs	None	100 hrs
Min. switching time	10 mins		1 hrs	
Interval	20 mins		2 hr	
IP rating	IP 20			
Storage temp.	-10° C + 60° C			
Operating temp.	0° C + 55° C			

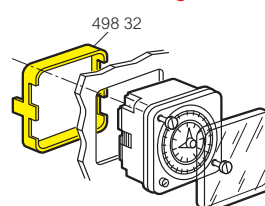
Dimensions

MaxiRex

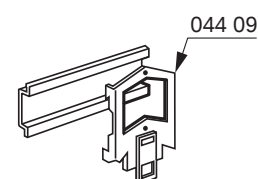


■ Mounting of time switches

• Panel Mounting



• On din rail with accessory



20A Analogue time switch

For DIN-Rail mounting and wall mounting



6499 17



6499 18

According to UL 9/7, IEC 60730-1, EN 60730-1, VDE 0631 part 1, IEC 60730-2-7, EN 60730-2-7, VDE 0631 part 2-7.
Robust analogue daily and weekly time switch for DIN-Rail mounting, wall mounting and for installation in plastic box (4 terminal version)

- with manual switch (on/Automatic)
- hands can be moved clockwise and counter-clockwise

Pack	Cat. No.	20A MaxiRex 4 time switch
1	6499 18	4T (230V – 50Hz) without enclosure
1	6499 17	4TB (230V – 50Hz) – with IP53 enclosure

Pack	Cat. No.	20A MaxiRex 4 time switch
1	6499 15	4QT (230V – 50/60Hz) without plastic box
1	6499 14	4QTB (230V – 50Hz) – with IP53 enclosure



Econorex M™

24 hour - 1 channel

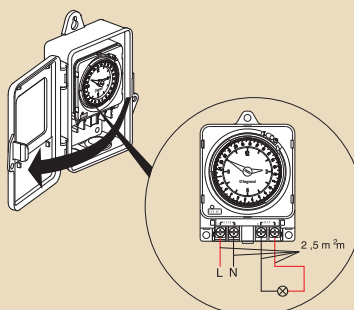
Programmable for 15 minutes minimum at 15 minute intervals with retained 'pull out' segments
Easily programmed, easily read by user
Just set actual time to pointer and pull out segments for switch time

1	499 83	Panel mounting (72 x 72mm) MT, No working reserve
1	499 86	Panel mounting (72 x 72mm) MQT, W/100H working reserve

20A Analogue time switch

Analogue for DIN-Rail mounting and wall mounting

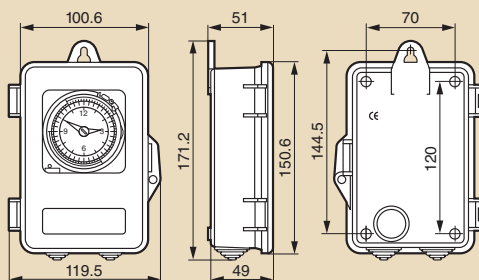
Type	MaxiRex4
No. of channels	1
Switching capacity Cos = 1 incandescent ind. Cos = 0,6	20 A~ 4 A~ 10 A~
Minimum setting unit	10 min for daily 1 h for weekly
Minimum setting interval	20 min for daily 2 h for weekly
Operating temperature	-10° + 50°
Protection modus	IP 53 (with plastic box)



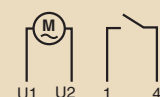
■ Dimensions of programmable time switches

■ Analogue time switches

Cat. No. 6499 14



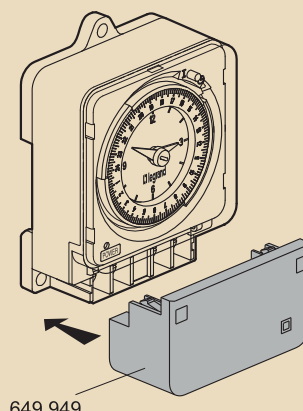
■ Contacts for MaxiRex



■ Contacts for EconoRex



■ Cover for 649 918 & 649 915



649 949

Time switches



495 55



499 26

Pack Cat. No. Totalising hour counters (Panel mount)

		48 x 48 mm
		AC current - design : 0...99999.99 hr
		DC current - design : 0...999999.9 hr
		IP 40 Panel flush mounting
		Voltage supply:
1	495 52	24 V~ - 50 Hz
1	495 55	240 V~ - 50 Hz
1	495 60	12-36 VDC

Totalising hour counters (Din mounting)

Count the operating hours of a machine or an electrical device to determine its exact operating time

Counter with numerical display

Capacity: 5 digits + 2 decimal places (1 unit = 1 hr)

Precision: 1/100th hour

Consumption: 0.2 VA

			Number of modules
1	046 94	230 V~ - 50 Hz	2
1	046 91	24 V~ - 50 Hz	2

Defrosting time switch

Time switch for short periods for control of defrosting, regularly repeated switching of pumps, feed conveyors, sprinkler systems, periodic lubrication of machines

16 A - 250 V $\pm$ μ - cos ϕ = 1
IP 30

24 hour programme

The timer can repeat one or two settable short programmes within 24 hours

Shortest switching sequence

2.5 hours - up to 9 times

1 switching step = 1 segment = 30 min.

With two changeover contacts

Without working reserve

Voltage supply 230 V~ - 50 Hz

1	499 26	KKT - Defrosting time from 10 to 60 minutes per contact
---	--------	---



Time switches and hour counters

Cat. No. 499 26

Contacts



■ Characteristics of hour counters

Materials - front panel : transparent synthetic material

Type : 48 x 48 mm

Mounting : flush-mounting

Range: A.C. : 0...99999.99 hr/D.C. : 0...999999.9 hr

Accuracy : A.C.: 1/100° h/D.C.: 1/10° h

Reset : none

Size of numerals : 4 mm

Consumption : A.C. : 2 VA/D.C. : 0.65 W

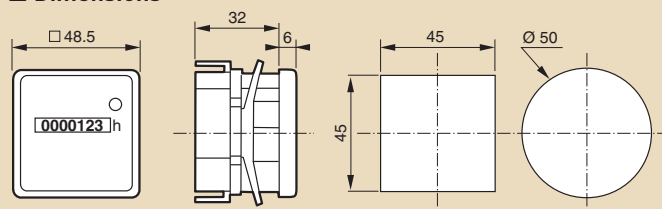
Index of protection : IP 40

Operating temperature : - 25 ° C to + 80 ° C

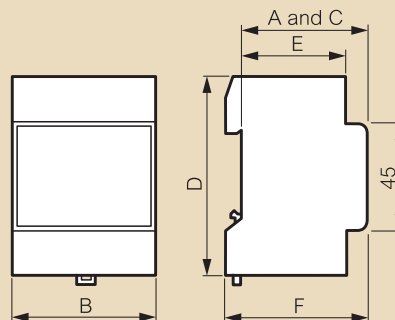
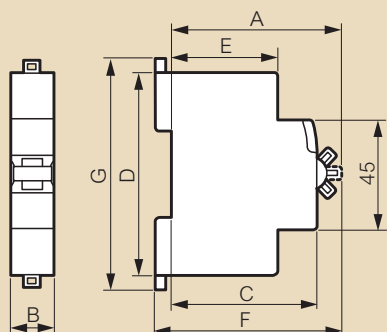
Weight: 110 g

Terminal connections : 2 x 1.5 mm²

■ Dimensions



LEXIC modular din-rail equipment **dimensions**



	A	B					C	D	E	F	G
Thermal-magnetic MCBs											
LR, DX, DX-H, DX-E 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 (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. No. 073 50/51	70			8.7			60	83	44	76	83
Cat. No. 073 54	70			17.7			60	83	44	76	83
Control auxiliaries	70			17.7			60	83	44	76	83
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											
Cat. No. 043 82/85	68			17.7			60	83	44	74	94
Cat. No. 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
Light sensitive switches											
Cat. No. 037 21	60			35.6			60	85	37.5	66	70
Sockets outlets	60			44.5			60	83	44	66	92
Buzzers/bells	60			17.5			60	76	44	66	85
Time delay relays	60			17.7			60	83	44	66	94
Voltage surge protectors											
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
038 28/29	60	17.7					60	86	44	68	91

Description	A	B	C	D	E	F
Programmable time switches						
037 05	60	17.8	60	83	44	66
037 30/42/44	60	17.8	60	83	44	66
037 52/53/55	60	53	60	83	44	66
047 61/71	60	35.6	60	83	44	66
047 64/67	60	35.6	60	83	44	66
047 70	60	90	60	83	44	66
Voltmeters - Ammeters	60	70	60	83	44	66
Contactors - 1 module 16 and 25 A	62	17.8	60	83	44	67.5
Contactors 25, 40 and 63 A						
2 modules	60	35.6	61	83	44	67
3 modules	60	54	61	83	44	67
Contactors 100 A 6 modules	60	90	60	83	44	66
Auxiliaries for contactors and pulse operated latching relays	60	9	60	83	44	66
Transformers and power supplies						
042 25	60	35.8	60	83.5	44	66
042 37/41	60	71.5	60	83.5	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

Notes

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.