

16 A and 25 A power contactors with or without handle

Catalogue number(s): 4 125 03 / 04 / 05 / 09 / 10 / 14 /
17 / 21 / 22 / 23 / 24 / 33 / 34 / 35 / 36 / 44 / 51 and
927 02 / 03



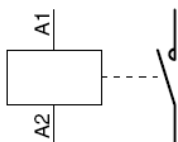
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1. DESCRIPTION - USE

Symbol:



Technology:

- . Electromagnetic contactor (monostable relay)

Use:

- . For controlling a load remotely via a switch

2. RANGE

Conventional thermal current:

- . I_{th} = 16 and 25 A

Types of contact:

- . "NO" contact



- . "NC" contact



- . "NO + NC" mixed contact



Polarities:

- . 2-pole in 1 module (17.8 mm)
 - "2NO"
 - "2NC"
 - "NO+NC"
- . 4-pole in 2 modules (35.6 mm)
 - "4NO"
 - "4NC"
 - "2NO + 2NC"
 - "3NO + 1 NC"

2. RANGE (continued)

Nominal voltage of the power circuit:

- . U_n = 250 V/400 V~

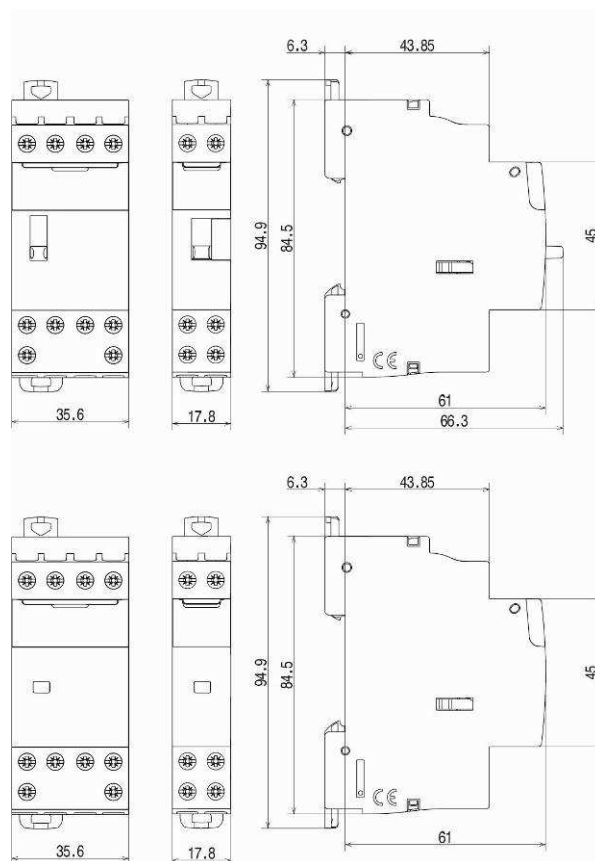
Nominal voltage of the power circuit:

- . 24 V and 230 V~

Nominal frequency of the control and power circuits:

- . 50/60 Hz

3. DIMENSIONS



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4. POSITIONING - CONNECTION

Installation software:

. XL PRO

Operating position:

. Vertical, horizontal, flat (all positions)

Mounting:

. On symmetrical EN 50-055 rail or DIN 35 rail, using two plastic clips.

Recommended tools:

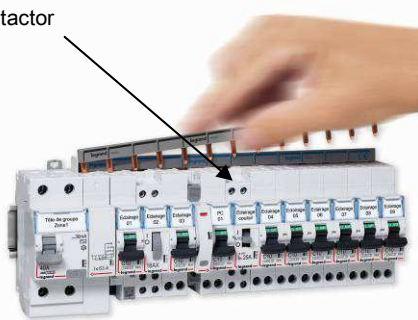
. For the terminal screws: insulated or non-insulated screwdriver, Pozidriv no. 1 or with a 4 mm blade.

. For attaching: screwdriver with blade (5.5 mm max) or Pozidriv no. 1.

Positioning in a row:

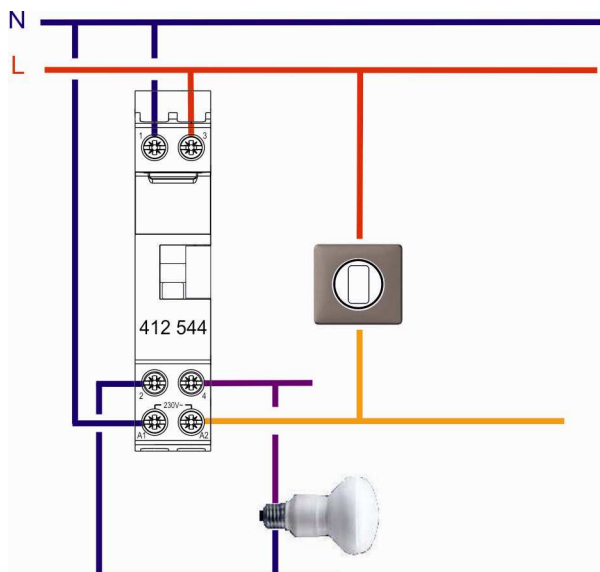
. The product profile and positioning of the terminals allow single-phase and three-phase toothed connection supply busbars to be passed at the top of the product without impairing accessibility of the contactor terminals. This way it is possible to select the position of the pulse operated latching relay freely in the row and to connect the circuit breakers located on the same rail via a supply busbar.

Contactor



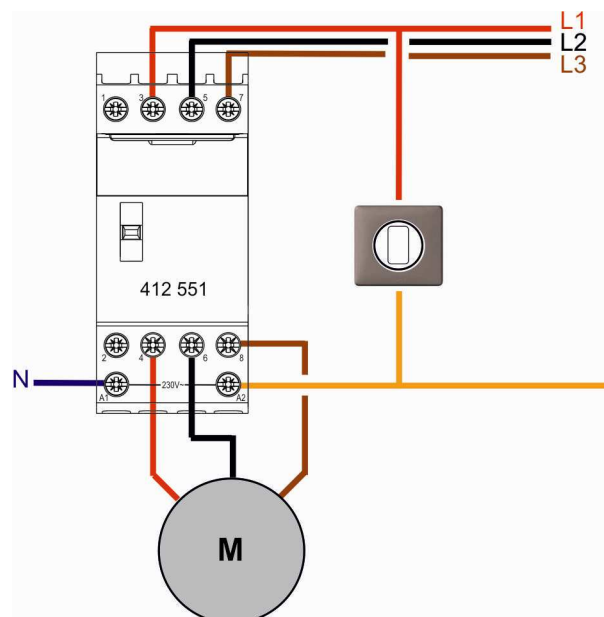
Examples of schematic diagrams:

. "2 NO" contactor

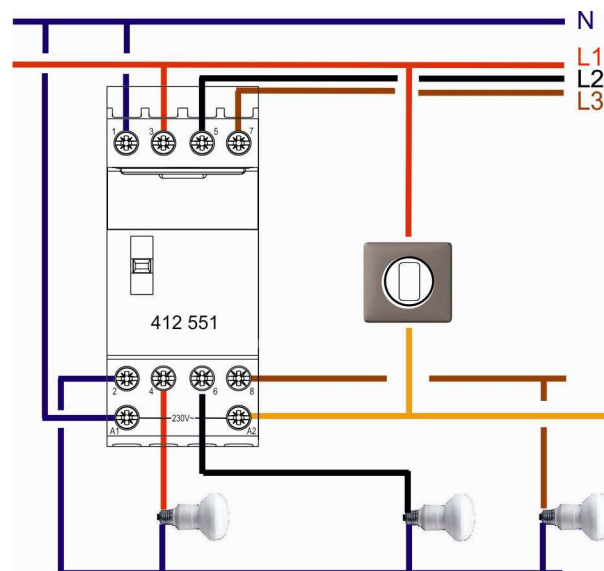


4. POSITIONING - CONNECTION (continued)

. "4NO used as a 3NO" contactor



. "4 NO" contactor



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4. POSITIONING - CONNECTION *(continued)*

Connection:

. Screw control and power terminals:

- Type of terminal: caged
- Depth: 12 mm
- Capacity (h x w): 4.7 x 4.7 mm
- Compatible copper conductors

Rigid: 1 x (0.75 to 6 mm²) or 2 x (0.75 to 2.5 mm²)

Flexible without gland: 1 x (0.75 to 6 mm²) or 2 x (0.75 to 2.5 mm²)

Flexible with single gland: 1 x (0.75 to 6 mm²)

Flexible with double gland: 2 x (0.75 to 4 mm²)

- Screw head: mixed head Pozidriv no. 1 and 4 mm blade
- Screw head: mixed M3.5
- Min. tightening torque: 0.5 Nm/max.: 1.2 Nm recommended:
0.8 Nm

Length of control lines:

- . with 24 V contactor: 330 m for 1-module contactor or 100 m for 2-module contactor with 1.5 mm² cables
- . with 230 V contactor: 250 m for 1-module contactor or 400 m for 2-module contactor regardless of the connection cable cross-section.

Degree of protection:

- . Terminals protected against direct contact: IP2x (wired device)
- . Front panel protected against direct contact: IP3XD
- . Class II, front panel with faceplate
- . Protection against impacts: IK04

Resistance to tremors:

- . No change in the status of the contacts during the "resistance to tremors" test as defined by the standard EN 60898

Device handling:

- . Via remote control (switch).
- . Via ergonomic 3-position handle (I, auto, O) if the product is fitted with one.

Control status display:

- . Via orange indicator showing the presence of the control signal or the forced switch-on status
- . For contactors with a handle the position of the latter provides the following indications:

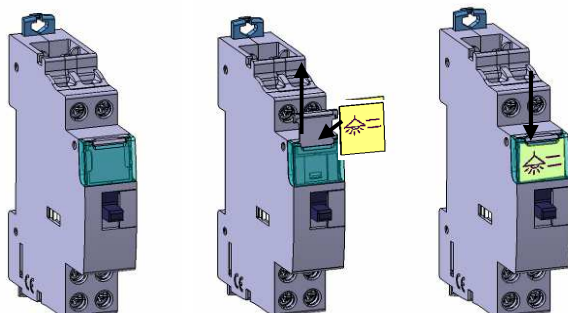
"I" position: Forced switch on/ON

"O" position: Forced switch off/OFF

"Auto" position: Automatic (the contact status depends on the electrical control)

Labelling :

- . Marking of the circuits on the front panel with the label holder

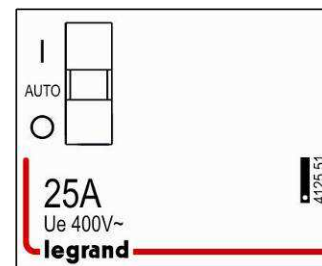
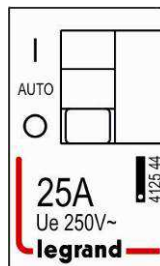


5. GENERAL CHARACTERISTICS

Marking:

By indelible pad printing

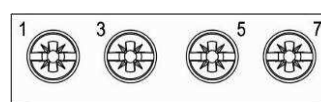
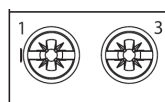
. Front panel



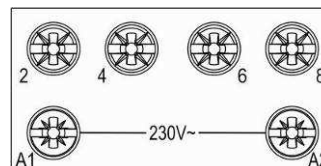
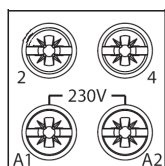
. Marking of the terminals:

Power: 1 to 8 Control: A1 and A2

Upper terminals

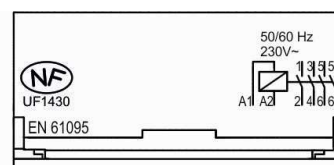
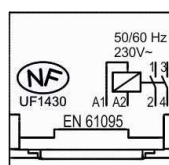


Lower terminals



By laser marking

. Upper panel



Isolation distance:

- . Greater than 3 mm in accordance with standard EN 61095

Rated insulation voltage (Ui):

- . 1-pole/2-pole: 250 V~
- . 3-pole/4-pole: 400 V~

Degree of pollution:

- . 2 in accordance with EN 61095

Insulation voltage between the control circuit and the power circuit:

- . 4 kV

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5. GENERAL CHARACTERISTICS *(continued)*

Rated impulse withstand voltage (Uimp):

. 4 kV

Resistance to electromagnetic disturbance (EMC):

. 1.2/50 μ s impulse resistance: category 4 (2 kV between lines, 4 kV between line and earth)

Impact of height:

. No impact up to 2,000 m

Rated frequency:

. 50/60 Hz

Rated operating current depending on the category of use (Ie):

. AC7a or AC1 (heating): Ie = 16 A or 25 A depending on the catalogue numbers
. AC7b or AC3 (motor control): Ie = 10 A (2.2 kW for 2NO and 4 kW for 4NO) for the 25 A contactors and Ie = 6.5 A for the 16 A contactors

Rated operating voltage (Ue):

. Ue = 250 V ~ for 1/2-pole
. Ue = 400 V ~ for 3/4-pole

Protection against short-circuits:

. Conditional short-circuit current Iq = 6 000 A in accordance with EN 61095
. Permissible thermal stress: 16 000 A²s

Recommendations:

. For protecting 16 A and 25 A contactors against short circuits depending on the conditional current Iq = 6 000 A NF EN 61095, using a circuit breaker or fuse gG with nominal voltage $\leq$ 25 A is recommended.

Control voltage (Uc):

. Uc = 230 V~ or 24 V~

Control operating voltage:

. from 0.85 to 1.1 times Uc

Control return voltage:

. from 0.2 to 0.75 times Uc

Control pulse duration:

. 100 ms minimum

Rated service:

. Intermittent service: 600 operating cycles at the present time in accordance with EN 61095 (category 600)

Operating force using the handle:

. 1,000 g for closing and opening

Endurance:

In number of operating cycles (ON + OFF)
. Control via the handle: 500 operating cycles
. Electrical control:
- 1,000,000 operating cycles with no load
- 100,000 operating cycles at AC-7a in accordance with EN 61095 (same as at AC1)
- 150,000 operating cycles at AC-7b in accordance with EN 61095 (same as at AC3)

Operation at 400 Hz:

. no

5. GENERAL CHARACTERISTICS *(continued)*

DC usage:

. Control: does not work with DC
. Power circuit: NO contacts and NC contacts can be used to control loads supplied with DC in compliance with the derating table below

Ue	DC 1 (resistive load)			DC 3 (motors)		
	Number of poles in series			Number of poles in series		
	1 p	2 p	3 p	1 p	2 p	3 p
8 V=	25 A	25 A	25 A	21.5 A	25 A	25 A
12 V=	25 A	25 A	25 A	20 A	25 A	25 A
24 V=	25 A	25 A	25 A	16 A	25 A	25 A
48 V=	21 A	25 A	25 A	8 A	18 A	25 A
110 V=	7 A	16 A	25 A	1.6 A	6.5 A	16 A

Control consumption

Type of contact	Control voltage	Consumption in mA (at Un)	
		Holding	Inrush
2NO/NC+NO	24 V~	200	970
4NO		300	2500
2NO	230 V~	12	60
2NC		20	90
NC+NO		20	90
4NO		20	200

Type of contact	Control voltage	Consumption in W (at Un)	
		Holding	
2NO/NC+NO	24 V~	1.4	
4NO		2.1	
2NO	230 V~	0.8	
2NC		1.2	
NC+NO		1.2	
4NO		1.3	

AVERAGE dissipated power via contact at 230 V:

. 0.8 W via contact for 16 A contactor
. 1.8 W via contact for 25 A contactor

Annual consumption of the contactors:

. 230/400V 50Hz network power circuits
. Total consumption, control + power, in "standard" usage conditions.

Type of contact	Control voltage	Consumption in KWh (at Un)
NC+NO	24 V~	4
2NO		4.8
4NO		7.6
2NO	230 V~	3.1
2NC		1.0
NC+NO		3.4
4NO		5.4
4NC		2.0
2NC+2NO		4.4

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5. GENERAL CHARACTERISTICS *(continued)*

Noise on holding:

. Traditional contactor: ≤ 45 dB at 1 cm

Operating temperature:

. A standard contactor is set to function with its nominal current at an ambient temperature of + 30°C

. In order to limit overheating the recommendation is to insert a spacing element (Cat. No. 406 307)

- every 2 contactors if the ambient temperature ≤ 40°C
- for every contactor if the ambient temperature is > 40°C

. The following derating needs to be applied depending on the ambient temperature values:

- from - 25°C to + 40°C, no derating
- from + 40°C to + 60°C with the derating below

Contact rating	40°C	50°C	60°C
Ie = 16 A	16 A	14 A	13 A
Ie = 25 A	25 A	22 A	20 A

Storage temperature:

. From - 40°C to +70°C

Enclosure material:

. Polyamide

Plastic material characteristics:

. Compliance with the resistance to incandescent wire for 30 seconds in accordance with IEC 695-2-1:

- Handle: 650°C
- Other parts: 850°C

Weight:

. Ie = 16/25 A

Average 0.120 kg per 1-pole and 2-pole device
average 0.230 kg per 4-pole device

Packaged volume:

- . 0.2 dm³ for the 1-pole and 2-pole devices packaged in units
- . 1.6 dm³ for the 1-pole and 2-pole devices packaged in packs of 10
- . 0.4 dm³ for the 4-pole devices packaged in units

Contactors selection chart:

For a 10-year service life with 200 days of usage per year

. Heating

Maximum power depending on the number of operations per day (kW)						
Number of operations per day	≤ 50	75	100	250	500	
Single-phase heating 230 V~	16 A	3.6	2.8	2.4	1.6	0.8
	25 A	5.6	4.4	3.7	2.5	1.25
Three-phase heating 400 V~	25 A	16	13.7	11.3	5	3.7

. Motors (AC-7b)

Maximum power (kW)		
Single phase motor 230 V~	16 A	1.5
	25 A	2.3
Three-phase motor 400 V~	25 A	4

5. GENERAL CHARACTERISTICS *(continued)*

. Lighting

Maximum number of bulbs per contact of the contactor in

230 V~ single-phase and 400 V~ three-phase + neutral networks

. In a 230 V~ three-phase network without neutral the values stated in these tables must be divided by $\sqrt{3}$

- Incandescent bulbs

Low-voltage tungsten 230 V~ and halogen filaments				
Unit power	40 W	60 W	75 W	100 W
16 A	45	30	24	19
25 A	60	48	38	30

Low-voltage tungsten 230 V~ and halogen filaments				
Unit power	150 W	200 W	500 W	1000 W
16 A	13	10	4	2
25 A	20	15	6	3

ELV halogen bulbs with ferromagnetic ballast						
Unit power	20 W	35 W	50 W	75 W	100 W	150 W
16 A	32	20	15	12	9	6
25 A	52	30	24	16	12	8

ELV halogen bulbs with electronic ballast						
Unit power	20 W	35 W	50 W	75 W	100 W	150 W
16 A	60	40	28	18	14	9
25 A	80	50	40	26	20	13

- Fluorescent tubes with ferromagnetic ballast

Single parallel compensated fluorescent tubes with ferromagnetic ballast					
Unit power	18 W	20 W	36 W	58 W	115 W
16 A	24	24	16	11	5
25 A	33	30	25	17	9

Double series compensated fluorescent tubes with ferromagnetic ballast					
Unit power	2 x 20 W	2 x 36 W	2 x 40 W	2 x 58 W	2 x 140
16 A	30	24	22	15	6
25 A	45	38	35	24	10

Quadruple series compensated fluorescent tubes with ferromagnetic ballast	
Unit power	4 x 18 W
16 A	16
25 A	24

Compact fluorescent tubes with integrated starter for ferromagnetic ballast				
Unit power	7 W	10 W	18 W	26 W
16 A	50	40	28	19
25 A	60	50	42	28

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5. GENERAL CHARACTERISTICS *(continued)*

- Fluorescent tubes with electronic ballast

Single fluorescent tubes electronic ballast				
Unit power	18 W	30 W	36 W	58 W
16 A	72	42	36	22
25 A	110	68	58	36

Double fluorescent tubes with electronic ballast			
Unit power	2 x 18 W	2 x 36 W	2 x 58 W
16 A	36	20	12
25 A	56	30	19

Triple fluorescent tubes with electronic ballast (series compensated)		
Unit power	3 x 14 W	3 x 18 W
16 A	34	26
25 A	46	38

Quadruple fluorescent tubes with electronic ballast (series compensated)		
Unit power	4 x 14 W	4 x 18 W
16 A	26	20
25 A	37	28

Compact fluorescent tubes with built-in electronic power supply					
Unit power	7 W	11 W	15 W	20 W	23 W
16 A	120	80	64	50	43
25 A	200	125	90	70	60

- Discharge lamps with compensation

Metal halogenide						
Unit power	35 W	70 W	100 W	150 W	250 W	400 W
16 A	10	6	5	3	2	1
25 A	15	9	7	5	3	2

Low pressure sodium vapour						
Unit power	18 W	35 W	55 W	90 W	135 W	180 W
16 A	12	6	5	3	2	2
25 A	20	10	7	5	3	3

High pressure sodium vapour					
Unit power	70 W	150 W	250 W	400 W	1000 W
16 A	8	7	5	3	1
25 A	10	9	6	4	2

High pressure mercury vapour					
Unit power	50 W	80 W	125 W	250 W	400 W
16 A	11	8	6	3	2
25 A	15	10	8	4	3

High pressure mixed				
Unit power	100 W	160 W	250 W	400 W
16 A	9	6	4	2
25 A	11	7	5	3

6. EQUIPMENT AND ACCESSORIES

Auxiliaries:

. NO+NC changeover contact signalling auxiliaries catalogue numbers:

4 124 29 and 4 124 30.

- Catalogue number 4 124 29 for 1 module wide 2-pole contactors

- Catalogue number 4 124 30 for 2 module wide 3 and 4-pole contactors

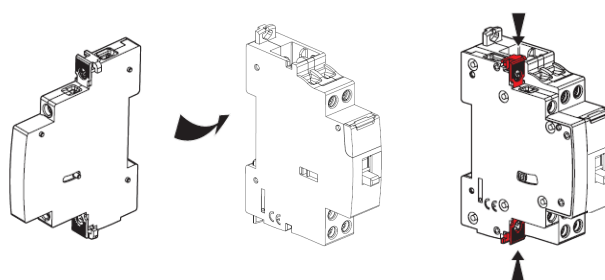
- Installed to the left of the contactor

- For signalling the position status of the contacts of the product to which it is attached

- maximum of 2 auxiliaries per contactor

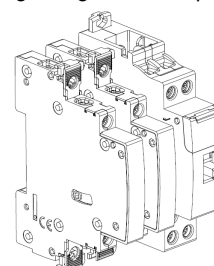
Attaching auxiliaries:

. Auxiliaries are installed to the left of the contactors

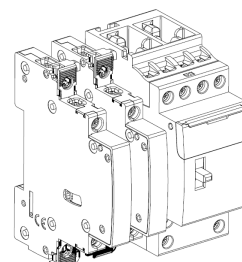


. Option of adding two signalling auxiliaries per contactor

- Cat. No. 4 124 29



- Cat. No. 4 124 30



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7. COMPLIANCE AND APPROVALS

Compliance with standards:

- . NF EN 61095/IEC 61095
- . NF EN 60947-4-1: AC1 and AC3

Classification in accordance with Appendix Q: (standard IEC/EN 60947-1)

- . Category F

Inter alia: temperature test range -25°C/+70°C, vibration test 2 Hz to 13.2 Hz with ± 1 mm movement, 13.2 Hz to 100 Hz acceleration ± 0.7 g, salt spray in accordance with IEC 60068-2-52

Respect for the environment – Compliance with European Union Directives:

- . Compliance with Directive 2002/95/EC of 27/01/03 known as "RoHS" which provides for a restriction on the use of dangerous substances such as lead, mercury, cadmium, hexavalent chromium and polybrominated biphenyl (PBB) and polybrominated diphenyl ether (PBDE) brominated flame retardants from 1st July 2006
- . Compliance with the Directive 91/338/EEC of 18/06/91 and decree 94-647 of 27/07/04

Plastic materials:

- . Plastic material without halogen.
- . Labelling of parts compliant with ISO 11469 and ISO 1043.

Packaging:

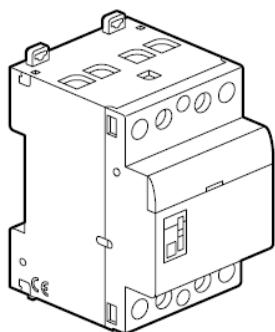
- . Design and manufacture of packaging compliant with decree 98-638 of 20/07/98 and Directive 94/62/EC

Approvals obtained:

- . France: NF

Power contactors 40 A and 63 A with or without handle

Cat. N°(s) : 412 506, 507, 511, 512, 515, 516, 518,
519, 525 to 528, 530, 531, 537 to 542, 545 to 550,
552 to 557, 559, 560, 562, 563



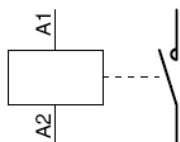
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1. DESCRIPTION - USE

Symbol :



Technology :

. Electromagnetic contactor

Use :

. remote control of a load by the mean of a switch

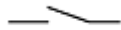
2. RANGE

Rated thermal current :

. I_{th} = 40 and 63 A

Types of contacts :

. « NO », normally open contact



. « NC », normally closed contact



Poles :

. Double pole in 2 module (2 x 17,8 mm = 35,6 mm)

- « 2NO »

- « 2NC »

. Four pole in 3 modules (3 x 17,8 mm = 53,4 mm)

- « 3NO »

- « 4NO »

- « 4NC »

- « 3NO + 1NC »

Rated voltage (power contacts) :

. U_n = 250 V / 400 V ~

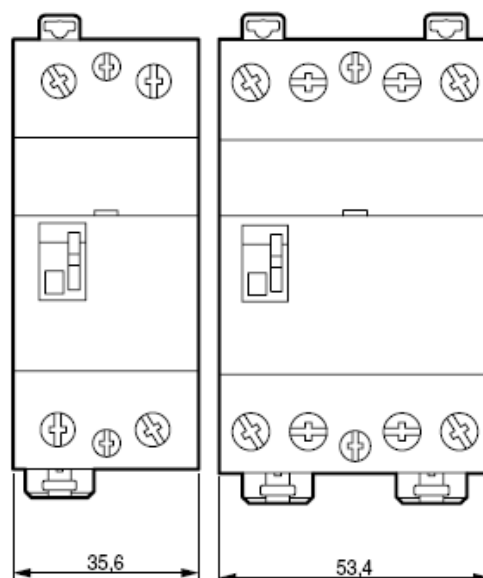
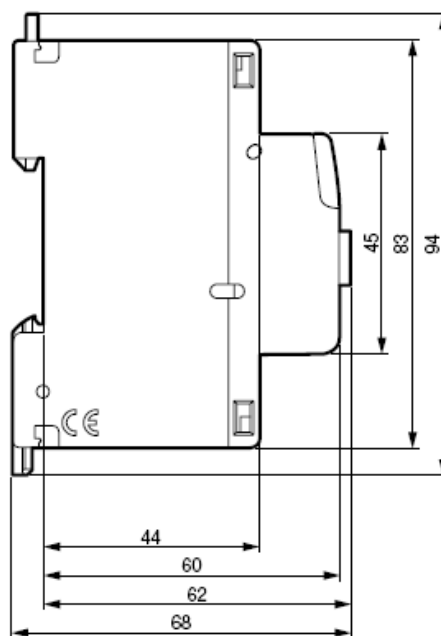
Rated control voltage :

. 24 V and 230 V ~

Rated frequency, power and control :

. 50 / 60 Hz

3. OVERALL DIMENSIONS



Power contactors 40 A and 63 A with or without handle

Cat. N°(s) : 412 506, 507, 511, 512, 515, 516, 518,
519, 525 to 528, 530, 531, 537 to 542, 545 to 550,
552 to 557, 559, 560, 562, 563

4. PREPARATION - CONNECTION

Installation software :

. XL PRO

Operational positions :

. Vertical, horizontal, upside down, on the side

Fixing :

. On symmetrical rail EN 50-055 or DIN 35 by the mean of two plastic clamps.

Recommended tools :

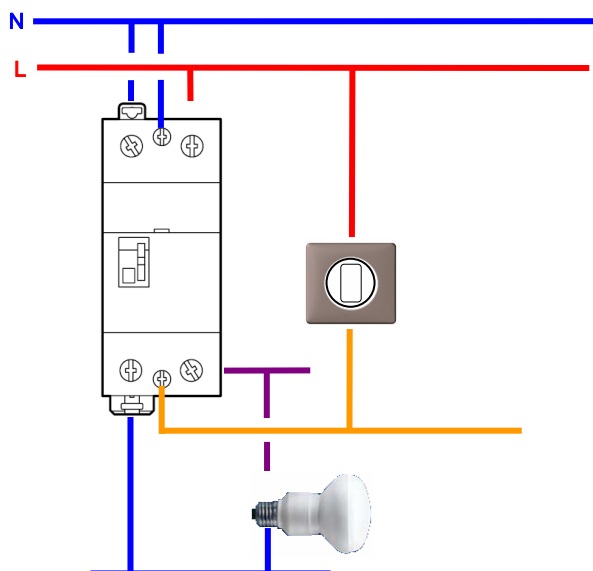
. For control terminal screws : screwdriver, insulated or not, Pozidriv n°1 or plate (4mm wide).

. For power terminal screws : screwdriver, insulated or not, Pozidriv n°2 or plate (6.5mm wide).

. For fixing : Pozidriv n°1 or plate (5.5 mm max) screwdriver

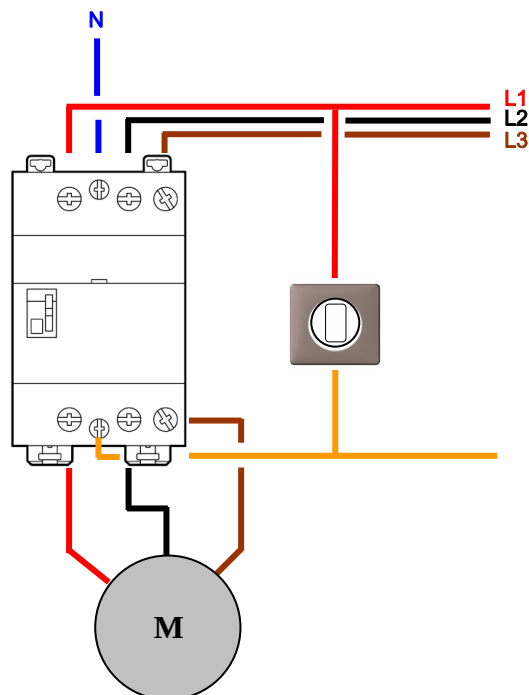
Examples of wiring diagrams :

. Contactor « 2 NO »

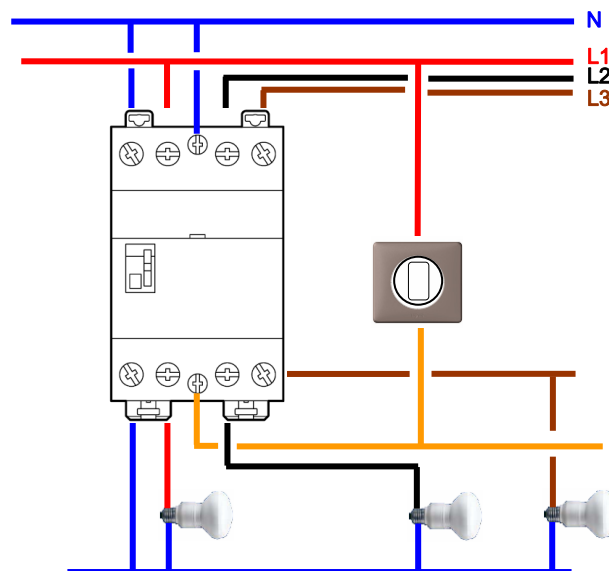


4. PREPARATION - CONNECTION *(continued)*

. Contactor « 3 NO »



. Contactor « 4 NO »



Power contactors 40 A and 63 A with or without handle

Cat. N°(s) : 412 506, 507, 511, 512, 515, 516, 518, 519,
525 to 528, 530, 531, 537 to 542, 545 to 550, 552 to 557,
559, 560, 562, 563

4. PREPARATION - CONNECTION *(continued)*

Connection :

. Control screw terminals :

- Type of terminal : cage terminals
- Terminal depth : 12 mm
- Terminal capacity (h x w) : 4.7 x 4.7 mm
- Copper cables

Rigid : 1 x (0.75 to 6 mm²) or 2 x (0.75 to 2.5 mm²)

Flexible without ferrule : 1 x (0.75 to 6 mm²) or 2 x (0.75 to 2.5 mm²)

Flexible with single ferrule : 1 x (0.75 to 6 mm²)

Flexible with double ferrule : 1 x (0.75 to 4 mm²)

- Screw head type: mixed, Posidriv n° 1 and slotted 4 mm
- Type of screw : M3
- Tightening torque : mini = 0.5 Nm / max = 1.2 Nm /

recommended = 0.8 Nm

. Power screw terminals :

- Type of terminal : cage terminals
- Terminal depth : 14 mm
- Copper cables

Rigid : 1 x (0.75 to 25 mm²) or 2 x (0.75 to 10 mm²)

Flexible without ferrule : 1 x (0.75 to 25 mm²) or 2 x (0.75 to 10 mm²)

Flexible with single ferrule : 1 x (0.75 to 16 mm²)

Flexible with double ferrule : 1 x (0.75 to 16 mm²)

- Screw head type: mixed, Posidriv n° 2 and slotted 6.5 mm
 - Type of screw : M5
 - Tightening torque : mini = 1.3 Nm / max = 3.5 Nm /
- recommended = 2.5 Nm

Length of control lines :

- . 24 V contactor : 100 m with 1.5 mm² copper wire
- . 230 V contactor : 300 m whatever the wire cross-section.

Protection degree :

- . Terminal ingress protection : IP2x (device connected)
- . Front face ingress protection : IP3XD
- . Classe II, front face behind a cabinet faceplate
- . Protection against mechanical shocks : IK04

Shaking resistance :

- . No change of contact state during shaking test in accordance with EN 60898 standard

actuation :

- . By electric remote control (switch)
- . By ergonomic 3 position (I, auto, O) handle when contactor is equipped with

Display of contacts state :

- . By orange indicator when manual or electric control is on
- . When contactor is fitted with a handle,
 - Position « I » : permanent control ON
 - Position « O » : permanent control OFF
 - Position « auto » : electric control by switch

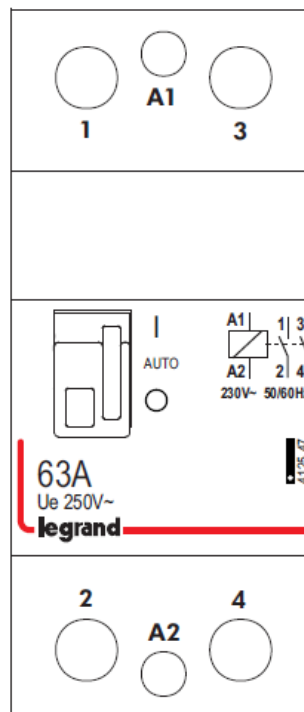
Labelling :

- . Circuit may be labelled by the mean of the label holder on the front face of the latching relay

5. GENERAL CHARACTERISTICS

Marking :

By permanent ink pad printing :



Isolation :

- . > 3 mm in compliance with EN 61095 standard

Isolation rated voltage (Ui) :

- . Double pole : 250 V~
- . Triple pole / Four pole : 400 V~

Pollution degree :

- . 2 according to EN 61095 standard

Isolation voltage between control and load :

- . 4 000 V.

Rated impulse withstand voltage (Uimp) :

- . 4 kV

Distance de sectionnement :

- . Supérieure à 3 mm selon norme EN 61095

Tension assignée d'isolement (Ui) :

- . Bipolaire : 250 V~
- . Tri / Tétrapolaire : 400 V~

Degré de pollution :

- . 2 selon EN 61095

Tension d'isolement entre le circuit de commande et le circuit de puissance :

- . 4 kV

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5. GENERAL CHARACTERISTICS *(continued)*

Withstand to electromagnetic disturbances (EMC) :

. Schock wave 1,2 / 50 μ s : class 4 (2 kV between lines, 4 kV between line and earth)

Influence of altitude :

. no effect up to 2 000 m

Rated frequency :

. 50 / 60 Hz

Rated current for each category of use (Ie) :

Type of contact	AC1 / AC7a heating		AC3 / AC7b motors	
	Ie	P	Ie	P
2NO / 2NC	40 A	9 kW	22 A	5.5 kW
3NO / 4NO / 3NO+1NC / 4 NC	40 A	26 kW	22 A	11 kW
2NO / 2NC	63 A	14 kW	30 A	8 kW
3NO / 4NO / 3NO+1NC / 4 NC	63 A	40 kW	30 A	15 kW

Operation rated voltage (Ue) :

. Ue = 250 V ~ for double pole
. Ue = 400 V ~ for triple pole and four pole

Protection against short-circuits :

. Conditionnal short-circuit current Iq = 3 000 A according to EN 61095 standard
. Maximum thermal stress : 18 000 A²s
. To protect 40 A and 63 A contactors against short-circuits in accordance with conditionnal current Iq = 3 000 A (EN 61095 standard), we recommend to use a $\leq$ 40 A rated current M.C.B. or gG fuse for a 40 A contactor and a $\leq$ 63 A rated current M.C.B. or gG fuse for a 63A contactor

Control voltage (Uc) :

. Uc = 230 V~ or 24 V~

Operating control voltage :

. from 0.85 to 1.1 Uc

Release control voltage :

. from 0.2 to 0.75 Uc

Control impulse time :

. 100 ms mini

Rated duty :

. Intermittent duty : 600 operating cycles per hour according to EN 61095 standard (class 600)

Force by handle operation :

. 500 g for closing and opening operation

Operation under 400 Hz :

. not possible

5. GENERAL CHARACTERISTICS *(continued)*

Endurance :

In number of operating cycles (ON + OFF)

. Control by handle : 1000 operating cycles

. Electrical control :

- 1 000 000 operating cycles with no load
- 100 000 operating cycles at Ie AC-7a in accordance with EN 61095 (same at Ie AC1)
- 30 000 operating cycles at Ie AC-7b in accordance with EN 61095 (same at Ie AC3)

Use with Direct Current (DC) :

. Control : do not operate with DC

. Power circuit : NO and NC contacts may be used to control loads supplied with DC in accordance with the table of max current below for 63 A contactors

Ue	DC 1 (resistiv load)			DC 3 (motors)		
	number of poles in series			number of poles in series		
	1 p	2 p	3 p	1 p	2 p	3 p
8 V=	63 A	63 A	63 A	54 A	63 A	63 A
12 V=	63 A	63 A	63 A	50 A	63 A	63 A
24 V=	63 A	63 A	63 A	40 A	63 A	63 A
48 V=	53 A	63 A	63 A	20 A	45 A	63 A
110 V=	18 A	40 A	63 A	4 A	16 A	40 A

Control consumption :

Type of contact	Control voltage	Current in mA (at Un)	
		sustain	inrush
2NO	24 V~	250	1750
4NO		270	1500
2NO	230 V~	130	150
2NC		130	150
3NO+1NC		30	200
3NO / 4NO / 4NC		30	200

Type of contact	Control voltage	Power in W (at Un)
		sustain
2NO	24 V~	1.8
4NO		1.9
2NO	230 V~	0.9
2NC		0.9
3NO+1NC		2.1
3NO / 4NO / 4NC		2.1

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5. GENERAL CHARACTERISTICS *(continued)*

Average dissipated power per contact at 230V :

- . 1.8 W per contact of 40 A contactor
- . 3.5 W per contact of 63 A contactor

Annual energy consumption of contactors :

- . Loads supplied in 230/400V 50Hz network
- . Global energy consumption, control + power contacts, with an « average » use.

Type of contact	Control voltage	in kWh (at Un)
2NO	24 V~	3.1
4NO		4.8
2NO	230 V~	2.4
2NC		2.4
3NO		4.1
3NO+1NC		5
4NC		5
4NO		5

Noise (holding) :

- . Standard contactor ≤ 50 dB at 1 cm and ≤ 30 dB at 1 m
- . Noiseless contactor ≤ 32 dB at 1 cm and ≤ 20 dB at 1 m

Operating temperatures :

- . A standard contactor is set to operate at its rated current (40 A or 63 A) in an ambient temperature of + 30°C
- . In order to limitate overheating, we recommend to use a spacing element (cat. n° 044 40)
 - Every 2 contactors if the ambient temperature ≤ 40°C
 - Every contactors if the ambient temperature > 40°C
- . Depending on ambient temperature, deratings below must be used :
 - from - 25°C to + 40°C, no derating
 - from + 40°C to + 60°C derating as in table below

Contactor rated current	40°C	50°C	60°C
Ie = 40 A	40 A	36 A	32 A
Ie = 63 A	63 A	57 A	50 A

Storage temperature :

- . from - 40°C up to + 70°C

Moulded case material :

- . Polyamid

Characteristics of the plastic material :

- . Resistance to glow wire test during 30 s according to IEC 695-2-1:
 - Handle : 650°C
 - Other components : 850°C

Weight :

- . 0.240 kg per double pole device
- . 0.330 kg per triple pole / four pole device

Packaged volume :

- . 0.4 dm³ for double pole individually packaged units
- . 0.6 dm³ for triple pole and four pole individually packaged units

5. GENERAL CHARACTERISTICS *(continued)*

Contactors choice table :

For a life time of 10 years with 200 days of annual use

. Heating

Maximum power according to the number of operations per day (kW)						
Number of operations per day	≤ 50	75	100	250	500	
230 V~ single phase heating	40 A	9	7.5	6	4	2.5
	63 A	14	12	9.5	6	4.5
400 V~ three phase heating	40 A	26	22	17	8	6
	63 A	41	35	26	13	9
Floor heating	40 A	2.5				
	63 A	4				

. Motors (AC-7b)

Maximum power (kW)		
230 V~ single phase motor	40 A	2.5
	63 A	4
400 V~ three phase motor	40 A	7.5
	63 A	15

. Lighting

Maximum number of lamps per contact of the contactor in 230 V~ single phase network and 400 V~ three phase and neutral network.

- . In 230 V~ three phase network with no neutral, values of the table must be divided by $\sqrt{3}$.

- Incandescent lamps

Tungsten filament 230 V~ and low voltage halogen				
Unit power	40 W	60 W	75 W	100 W
40 A	96	77	61	48
63 A	154	123	97	77

Tungsten filament 230 V~ and low voltage halogen (continued)				
Unit power	150 W	200 W	500 W	1000 W
40 A	32	24	10	5
63 A	51	38	15	8

Very Low Voltage halogen lamps with ferromagnetic ballast						
Unit power	20 W	35 W	50 W	75 W	100 W	150 W
40 A	68	39	31	21	16	10
63 A	88	51	41	27	20	14

Very Low Voltage halogen lamps with electronic ballast						
Unit power	20 W	35 W	50 W	75 W	100 W	150 W
40 A	112	70	56	36	28	18
63 A	157	98	78	51	39	25

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5. GENERAL CHARACTERISTICS *(continued)*

- Fluorescent lamps with ferromagnetic ballast

Single parallel compensated					
Unit power	18 W	20 W	36 W	58 W	115 W
40 A	43	39	33	22	12
63 A	56	51	42	29	15

Twin serial compensated					
Unit power	2 x 20 W	2 x 36 W	2 x 40 W	2 x 58 W	2 x 140
40 A	68	57	53	36	15
63 A	101	86	79	54	23

Four serial compensated		4 x 18 W	
Unit power			
40 A		36	
63 A		54	

Compact with integrated starter				
Unit power	7 W	10 W	18 W	26 W
40 A	78	65	55	36
63 A	101	85	71	47

- Fluorescent lamps with electronic ballast

Single				
Unit power	18 W	30 W	36 W	58 W
40 A	165	102	87	54
63 A	248	153	131	81

Twin			
Unit power	2 x 18 W	2 x 36 W	2 x 58 W
40 A	84	45	29
63 A	126	68	43

Triple serial compensated		
Unit power	3 x 14 W	3 x 18 W
40 A	62	51
63 A	84	69

Four serial compensated		
Unit power	4 x 14 W	4 x 18 W
40 A	52	39
63 A	73	55

With integrated electronic supply					
Unit power	7 W	11 W	15 W	20 W	23 W
40 A	280	175	126	98	84
63 A	392	245	176	137	118

5. GENERAL CHARACTERISTICS *(continued)*

- Discharge lamps with compensator

Metal halide						
Unit power	35 W	70 W	100 W	150 W	250 W	400 W
40 A	23	14	11	8	5	3
63 A	34	20	16	11	7	5

Low pressure sodium						
Unit power	18 W	35 W	55 W	90 W	135 W	180 W
40 A	30	15	11	8	5	5
63 A	45	23	16	11	7	7

High pressure sodium					
Unit power	70 W	150 W	250 W	400 W	1000 W
40 A	15	14	9	6	3
63 A	23	20	14	9	5

High pressure mercury					
Unit power	50 W	80 W	125 W	250 W	400 W
40 A	21	14	11	6	4
63 A	29	20	16	8	6

Mixed high pressure				
Unit power	100 W	160 W	250 W	400 W
40 A	14	9	7	4
63 A	19	12	8	5

- Led lamps

Led lamps number without driver or not dimmable										
In (A)	2W	5W	7W	9W	12 W	18 W	22 W	30 W	40 W	50 W
40A	90	90	85	85	85	80	75	62	50	37
63A	150	150	140	140	140	115	100	80	70	55

Led lamps number with driver or dimmable										
In (A)	2W	5W	7W	9W	12 W	18 W	22 W	30 W	40 W	50 W
40A	170	170	170	162	162	129	113	95	77	65
63A	265	265	265	260	260	214	176	139	121	105

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6. CONFORMITIES AND APPROVALS

Compliance :

- . EN 61095 / NFC 61-480 – IEC 61095

Certificates :

- . NF (France)
- . VDE (Germany)
- . GOST (Russia)

Tropicalization :

- . execution 2 (all climates) according to U.T.E. C 63-100 guide

Environment :

- . complying with RoHS
- . without halogen

7. AUXILIARIES

Auxiliaries :

- . Signalling change-over switch NO+NC auxiliary cat. n° 412431.
- . Used to indicate the position status of the contacts of the product with which it is associated.

Association of the auxiliaries :

- . Auxiliaries are fitted on left hand side of contactor
- . Maximum of 1 change-over switch auxiliary per contactor