Modular contactors

- *Two, three and four-pole versions, 20A to 63A*
- *Very silent during operation or control phase*
- *Operation flag indicator*
- *Add-on auxiliary contacts*

PAGE 9-2

TWO POLES
- Rated current Ith: 20A (AC1)
- Operating power: 1.3kW (AC3 230V)
- Ideal for domestic applications.

PAGE 9-2

THREE AND FOUR POLES
- Rated current Ith: 24A, 40A and 63A (AC1)
- Operating power: 4kW, 11kW and 15kW (AC3 400V)
- Ideal for civil or industrial installations, such as office buildings, stores, hospitals, hotels, etc.

Lovato electric

Contactors CM...

11 CM20...

11 CM24...

11 CM40...

11 CM63...

Order code	AC supply voltage	Incorporated auxiliary contacts		Qty per pkg	Wt
	[V]	⍀ NO	⍀ NC	n°	[kg]
Two-pole in AC ❶.					
11 CM20 11 24❷	24V	0	1	6	0.125
11 CM20 11 220❷	220-240V	0	1	6	0.125
11 CM20 20 24❷	24V	0	0	6	0.125
11 CM20 20 220❷	220-240V	0	0	6	0.125
Three-pole or four-pole in AC/DC.					
11 CM24 10 24❸	24V	1	0	3	0.280
11 CM24 10 220❸	220-240V	1	0	3	0.280
11 CM24 01 24❸	24V	0	1	3	0.280
11 CM24 01 220❸	220-240V	0	1	3	0.280
Three-pole or four-pole in AC/DC.					
11 CM40 10 24❸❹	24V	1	0	5	0.400
11 CM40 10 220❸❹	220-240V	1	0	5	0.400
11 CM40 01 24❹	24V	0	1	5	0.400
11 CM40 01 220❹	220-240V	0	1	5	0.400
Three-pole or four-pole in AC/DC.					
11 CM63 10 24❸❹	24V	1	0	5	0.408
11 CM63 10 220❸❹	220-240V	1	0	5	0.408
11 CM63 01 24❹	24V	0	1	5	0.408
11 CM63 01 220❹	220-240V	0	1	5	0.408

❶ 2NC version supplied on request.
❷ No auxiliary contacts can be mounted.
❸ The fourth NO pole (CM24 10, CM40 10 and CM63 10 contactors) has the same characteristics as the power poles; therefore it can be used indifferently as auxiliary or as power contact.
❹ On request, contactors in the following versions can be supplied: 2NO + 2NC or 4NC power poles. Contact our Customer Service (Tel. +39 035 4282422).

General characteristics
- AC/DC supply control (except CM20 with AC supply only) incorporating rectifier diodes
- DC powered magnetic core system assuring silent operation and noise damping during the control phase
- Overvoltage protection circuit and voltage peak limitation of the magnetic core
- Equipped with 2 or 4 closing contacts of equal capacity permitting use in power or auxiliary circuits
- Operation flag indicator
- Fast mounting.

Operational characteristics

Type	Rated current AC1 (Ith)	Operating power AC3 230V	400V	Protection fuse gG
	[A]	[kW]	[kW]	[A]
CM20	20	1.3	—	20
CM24	24	2.2	4	35
CM40	40	5.5	11	63
CM63	63	8.5	15	80

- Coil consumption at in-rush and holding: 2.2W (CM20), 4W (CM24) and 5W (CM40 and CM63)
- Termination: screw with clamping washer
- Minimum cable cross-section connectable: 1mm²
- Maximum cable cross-section connectable: 4mm² (CM20 and CM24) and 25mm² (CM40 and CM63)
- Degree of protection: IP20
- Operating temperature: CM20-CM40: -5 to +55°C CM63: -5 to +40°C
- Mounting on 35mm DIN rail (EN 50022).

Operational characteristics of contactor-incorporated auxiliary contacts

Type	Insulation voltage (Ui)	Utilisation category AC15 230V	400V
	[V]	[A]	[A]
CM20...	440	6	6
CM24...	440	6	4
CM40...	500	6	4
CM63...	500	6	4

Reference standards
Compliant to: IEC/EN 60947-5-1, EN 61095.

Utilisation
- Lighting systems
- Electric home heating
- Heat pumps
- Conditioning
- Ventilation
- Civil installations.

Lighting circuit switching
See page TC-33.

Add-on blocks and accessories

11 CMH...

11 CMP1

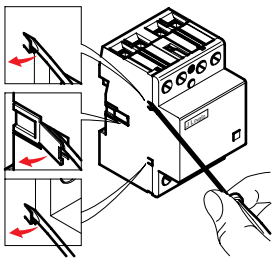
11 CMP2

Order code	Characteristics	Max qty per contactor	Qty per pkg	Wt
		n°	n°	[kg]
Auxiliary contacts❶.				
11 CMH 11 ❶	1NO + 1NC	1	1	0.045
11 CMH 20 ❶	2NO	1	1	0.045
Terminal protection (also sealable).				
11 CMP 1	For CM24...	1	1❷	0.002
11 CMP 2	For CM40... and CM63...	1	1❷	0.003

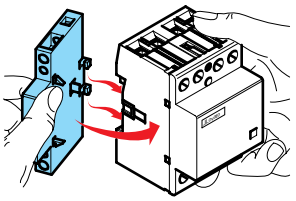
❶ Not suitable for CM20 modular contactors.
❷ Set of 2 pieces.

Mounting

Break off the side tabs using a screwdriver.

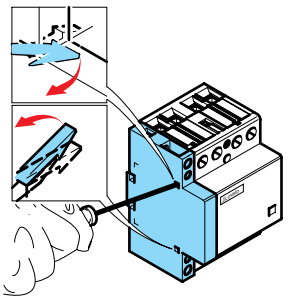


Fasten the CMH... auxiliary contact by slightly pressing it in place.



Demounting

Release the catch using a screwdriver.



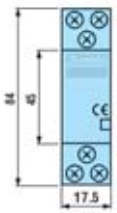
Operational characteristics
Rated insulation voltage: 440V
Rated thermal current Ith: 6A.

9

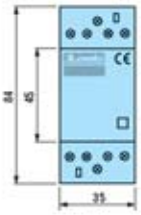
Dimensions [mm]

Modular contactors

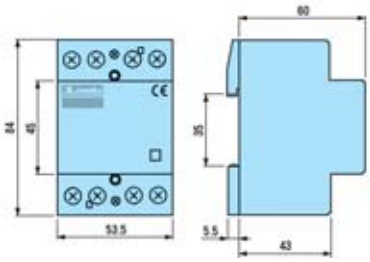
CM20..



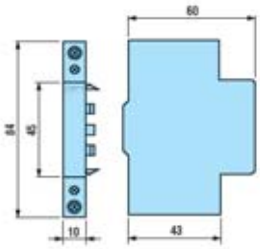
CM 24..



CM 40..
CM 63..

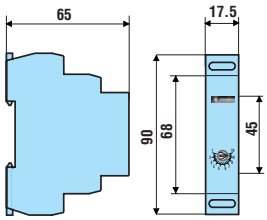


CMH..

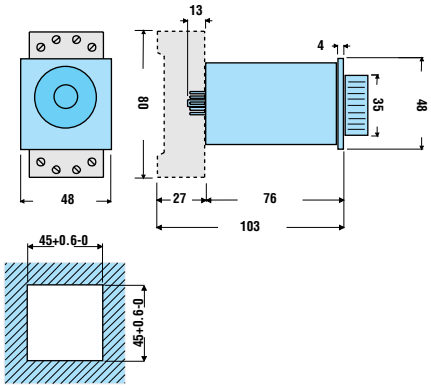


Time relays

Time relays L45...

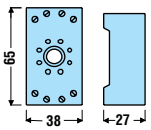


Time relay L48...

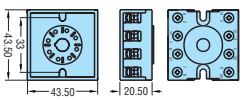


Accessories

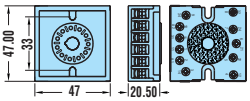
S8 - S11



L48 P8



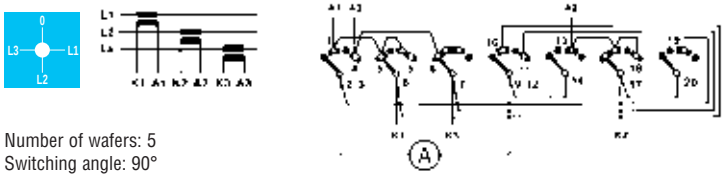
L48 P11



Wiring diagrams

Rotary cam switches. Circuit schemes

97 - Ammeter switch direct reading or via current transformer

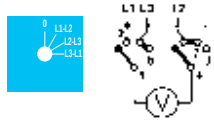


Number of wafers: 5
Switching angle: 90°

68 - Phase-neutral voltmeter switch

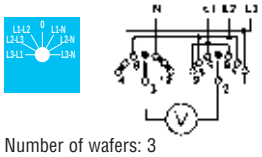
Number of wafers: 2
Switching angle: 30°

67 - Phase-phase voltmeter switch



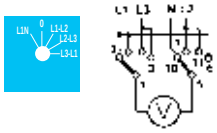
Number of wafers: 2
Switching angle: 30°

66 - Phase-phase phase-neutral voltmeter changeover



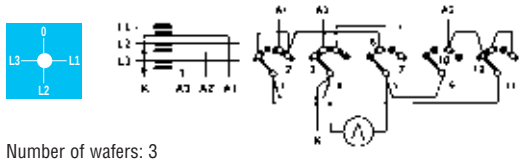
Number of wafers: 3
Switching angle: 30°

60 - Changeover switch 1 phase phase-neutral, 3 phase-phase voltages



Number of wafers: 3
Switching angle: 30°

98 - L1-L2-L3 current changeover switch

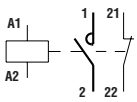


Number of wafers: 3
Switching angle: 90°

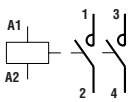
Modular contactors

2-pole type

CM20 11

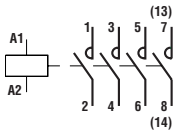


CM20 20

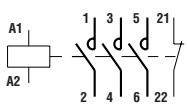


3 and 4-pole types

CM24 10
CM40 10
CM63 10

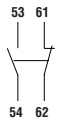


CM24 01
CM40 01
CM63 01

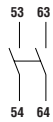


Add-on auxiliary contacts

CMH11

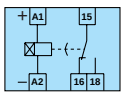


CMH20

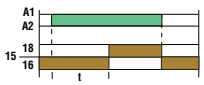


Time relays

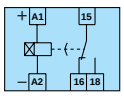
L45T...



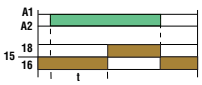
Delay on operate



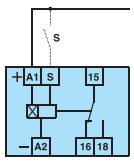
L45TP...



Delay on operate

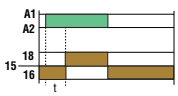


L45M1

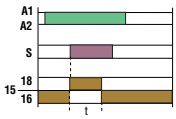


AC15 2.5A-250VAC
DC14 5A-24VDC

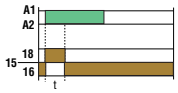
Delay on operate (a)



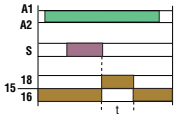
Delay off after closing of external contact (f)



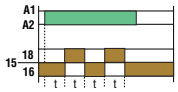
Delay off, after relay energising (b)



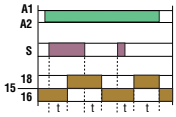
On opening of external contact relay energises for delay time (h)



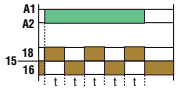
Pulsing beginning with pause (c)



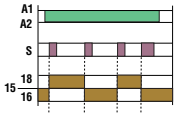
On closing of external contact relay energises for delay time (g)



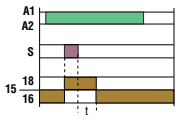
Pulsing beginning with pulse (d)



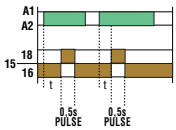
Pulse on closing of external contact (memory / step relay) (i)



Delay off after closing and opening of external contact and relay energising (e)



Pulse generator (j)



The letter given in brackets corresponds to the rotary switch position on the relay front.

Lighting circuit switching

MAXIMUM NUMBER OF LAMPS FOR EACH CONTACTOR POLE

Type of lamp	Power	CM20...	CM24...	CM40...	CM63...
Incandescent	60W	21	25	65	85
	100W	13	15	40	50
	200W	7	7	20	25
	500W	3	3	8	10
	1000W	1	1	4	5
Energy saving	7W	10	15	100	150
	11W	10	15	100	150
	15W	5	15	100	150
	20W	3	10	70	70
Metal halide	200W	—	5	15	20
	300W	—	3	10	13
	500W	—	2	6	8
	1000W	—	1	3	4
Low-pressure sodium vapour (not corrected)	35W	5	6	13	20
	55W	5	6	13	20
	90W	3	4	9	14
	135W	2	3	6	9
	180W	2	3	6	9
High-pressure sodium vapour (not corrected)	50W	12	12	24	38
	70W	10	10	20	30
	110W	8	7	16	25
	150W	6	5	10	16
	250W	3	3	6	10
	400W	2	2	4	6
	1000W	1	—	2	3
Low-pressure sodium vapour (corrected)	35W	1	1	10	16
	55W	1	1	10	16
	90W	—	1	8	12
	135W	—	—	4	7
	180W	—	—	4	7
High-pressure sodium vapour (corrected)	50W	3	3	22	33
	70W	2	3	18	27
	110W	2	2	18	27
	150W	1	1	10	16
	250W	—	1	6	9
	400W	—	—	4	7
	1000W	—	—	2	3
Standard fluorescent (not corrected)	18W	24	24	90	140
	36W	17	20	65	95
	58W	10	13	40	60
Standard fluorescent (corrected)	18W	6	8	45	70
	36W	6	8	45	70
	58W	4	5	25	43
Standard fluorescent (duo circuit)	2 x 18W	22	48	100	150
	2 x 36W	17	24	65	95
	2 x 58W	10	15	40	60
Electronic ballast fluorescent AC operation	1 x 18W	22	30	60	80
	1 x 36W	12	16	30	42
	1 x 58W	8	12	22	30
	2 x 18W	23	32	40	48
	2 x 36W	12	16	20	26
	2 x 58W	7	10	10	18