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#### TWO POLES

- IEC rated current Ith: 20A (AC1)
- IEC operational power: 1.3kW (AC3 230V)
- Ideal for domestic applications.



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#### THREE AND FOUR POLES

- IEC rated current Ith: 25A, 40A and 63A (AC1)
- IEC operational power: 4kW, 11kW and 15kW (AC3 400V)
- Ideal for civil or industrial installations, such as office buildings, stores, hospitals, hotels, etc.



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

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## CN contactors



CN20...



CN25...



CN40...



CN63...

Order code	Rated auxiliary supply voltage	Configura-tion and n° of contacts	Qty per pkg	Wt
	[V] ①	↘NO ↗NC	n°	[kg]
One-pole or two-pole.				
CN20 11 024②⑦	24VAC/DC	1 1③	10	0.135
CN20 11 220②⑦	220-230VAC⑥	1 1③	10	0.135
CN20 20 024②⑦	24VAC/DC	2 —	10	0.135
CN20 20 220②⑦	220-230VAC⑥	2 —	10	0.135

Order code	Rated auxiliary supply voltage	Configura-tion and n° of contacts	Q.ty per pkg	Wt
	[V] ①	↘NO ↗NC	n°	[kg]
Three-pole or four-pole.				
CN25 10 024②	24VAC/DC	4④ —	5	0.260
CN25 10 220②	220-230VAC⑥	4④ —	5	0.260
CN25 01 024②	24VAC/DC	3 1④	5	0.260
CN25 01 220②	220-230VAC⑥	3 1④	5	0.260

Order code	Rated auxiliary supply voltage	Configura-tion and n° of contacts	Q.ty per pkg	Wt
	[V] ①	↘NO ↗NC	n°	[kg]
Three-pole or four-pole.				
CN40 10 024②	24VAC/DC	4④ —	5	0.425
CN40 10 220②	220-230VAC⑥	4④ —	5	0.425
CN40 01 024②	24VAC/DC	3 1④	5	0.425
CN40 01 220②	220-230VAC⑥	3 1④	5	0.425
Three-pole or four-pole.				
CN63 10 024	24VAC/DC	4④ —	5	0.425
CN63 10 220	220-230VAC⑥	4④ —	5	0.425
CN63 01 024	24VAC/DC	3 1④	5	0.425
CN63 01 220	220-230VAC⑥	3 1④	5	0.425

- ① Other voltages on request. Consult Customer Service; see contact details on inside front cover.
- ② 2NC version supplied on request.
- ③ The last (NC) pole has the same characteristics as the power pole. It can therefore be used indifferently as an auxiliary or as a NC power contact.
- ④ The fourth NO or NC pole has the same characteristics as the power poles; therefore it can be used indifferently as auxiliary or as power contact.
- ⑤ On request CN25 and CN40 contactors in the following versions can be supplied: 2NO + 2NC or 4NC power poles. Consult Customer Service; see contact details on inside front cover.
- ⑥ Can also operate at 220VDC.
- ⑦ No auxiliary contacts can be mounted.

### General characteristics

- 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	IEC conventional free-air thermal current Ith	IEC operating power in AC3		Protection fuse gG (IEC)
	in AC1	230V	400V	
	[A]	[kW]	[kW]	[A]
CN20...	20	1.3	—	20
CN25...	25	2.2	4	35
CN40...	40	5.5	11	63
CN63...	63	8.5	15	80

- Noise level:
  - Closed contactor ≤20dB
  - Making/breaking operation ≤50dB
- IEC degree of protection: IP20
- Mounting on 35mm DIN rail (IEC/EN 60175).

When contactors are mounted side by side and operate in continuous service (≥1 hour), spacing is needed between equipment to consent appropriate cooling. 9mm spacing is required; there is an accessory, called half-module spacer, order code CNX 80, for this specific type of mounting. The following table indicates details of the space needed between each.

Maximum number of contactors to be mounted side-by-side without spacing; the CNX 80 spacer is required when the number of pieces is more than the indicated below:

	CN20	CN25	CN40	CN63
Ambient temperature ≤40°C	3	3	3	3
Ambient temperature >40°...55°C	2	2	3	2

### Operational characteristics of contactor-incorporated auxiliary contacts

Type	IEC insulation voltage Ui	IEC rating (AC15 category)	
	[V]	230V	400V
		[A]	[A]
CN20...	440	6	6
CN25...	440	6	4
CN40...	500	6	4
CN63...	500	6	4

### Certifications and compliance

Certifications obtained: EAC.  
Compliant with standards: IEC/EN 60947-1, IEC/EN 60947-4-1, IEC/EN 60947-5-1, IEC/EN 61095.

### Utilisation

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

### Lighting circuit switching

See page 15-6.

## Add-on blocks and accessories



CNH...



CNP2

Order code	Characteristics	Max qty per contactor	Qty per pkg	Wt
		n°	n°	[kg]

Auxiliary contacts<sup>①</sup>.

<b>CNH 11</b> ②	1NO + 1NC	1	1	0.044
<b>CNH 20</b> ②	2NO	1	1	0.044

Set for terminal protection (also sealable).

<b>CNP 0</b>	For CN20	2	1②	0.001
<b>CNP 1</b>	For CN25	2	1②	0.002
<b>CNP 2</b>	For CN40 and CN63	2	1②	0.003

Spacer.

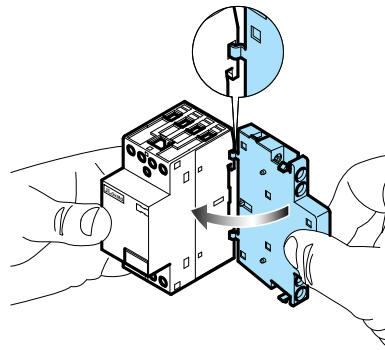
<b>CNX 80</b>	1/2 module wide	1	10	0.013
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① Not suitable for CN20 modular contactors.

② Set of 2 pieces.

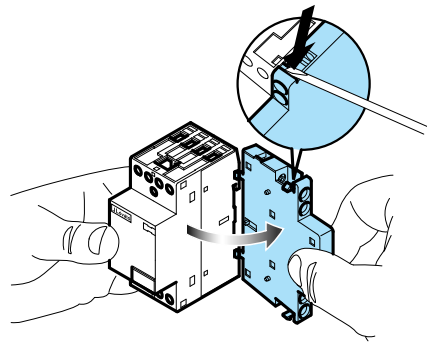
### Mounting

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



### Removal

Release the catch using a screwdriver.



### Operational characteristics for auxiliary contacts

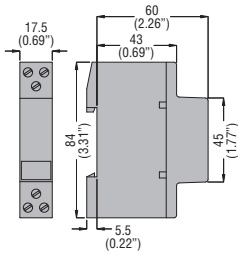
- IEC rated insulation voltage: 440VAC
- IEC conventional free air thermal current I<sub>th</sub>: 6A
- Minimum switching capacity: 5mA 12V
- Conductor section: 1...2.5mm<sup>2</sup>
- Maximum tightening torque: 1Nm.

### Certifications and compliance

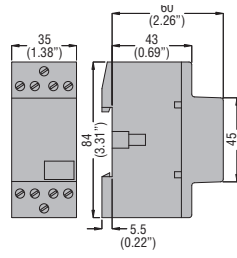
Certifications obtained: EAC.

Compliant with standards: IEC/EN 60947-1, IEC/EN 60947-4-1, IEC/EN 60947-5-1, IEC/EN 61095.

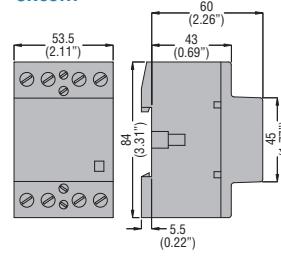
### CONTACTORS CN20...



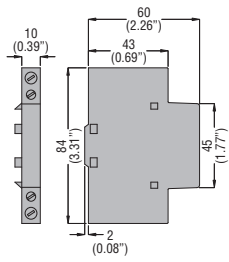
### CN25...



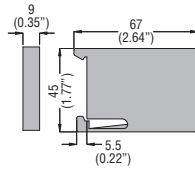
### CN40... CN63...



### ADD-ON BLOCKS Contact blocks CNH...



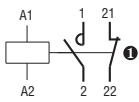
### Spacer CNX80



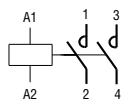
## Wiring diagrams

### TWO-POLE MODULAR CONTACTORS

#### CN20 11

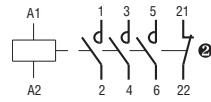


#### CN20 20

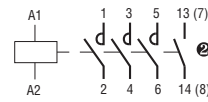


### THREE AND FOUR-POLE MODULAR CONTACTORS

#### CN25 01 CN40 01 CN63 01



#### CN25 10 CN40 10 CN63 10



- ① The NC contact has the same characteristics as the power pole contact. Therefore, it can be used indifferently as an auxiliary or as a NC power pole contact.
- ② The fourth pole NO or NC has the same characteristics as the power poles. Therefore, it can be used indifferently as auxiliary or as power pole contact.

### ADD-ON AUXILIARY CONTACTS

#### CNH11



#### CNH20



TYPE		CN20...	CN25...	CN40...	CN63...	
<b>CONTACT CHARACTERISTICS</b>						
IEC conventional free air thermal current I <sub>th</sub> (≤40°C)	A	20	25	40	63	
IEC rated insulation voltage U <sub>i</sub>	V	230	440	440	440	
IEC rated impulse withstand voltage U <sub>imp</sub>	kV	4	4	4	4	
Minimum switching capacity		17V, ≥50mA	17V, ≥50mA	17V, ≥50mA	17V, ≥50mA	
Average coil consumption in-rush and holding	W	2.5	3	5	5	
Maximum tightening torque for coil terminals	Nm	0.6	0.6	0.6	0.6	
	lbft	0.44	0.44	0.44	0.44	
	Tool	PZ1	PZ1	PZ2	PZ2	
Coil conductor section	min.	mm <sup>2</sup> 1				
	max.	mm <sup>2</sup> 2,5				
Maximum tightening torque for power terminals	Nm	1.2	1,2	2	2	
	lbft	0.9	0.9	1.48	1.48	
	Tool	PZ1	PZ1	PZ2	PZ2	
Power conductor section	min.	mm <sup>2</sup> 2.5				
	max.	mm <sup>2</sup> 6				
<b>AC/DC CONTROL CIRCUIT</b>						
Operating voltage limits	pick-up	% U <sub>s</sub>	85-110			
	drop-out	% U <sub>s</sub>	20-25			
<b>OPERATING TIMES</b>						
Average time	closing NO	ms	15-45	15-45	15-20	15-20
	opening NO	ms	25-50	20-70	35-45	35-45
<b>LIFE</b>						
Mechanical	cycles	3,000,000	3,000,000	3,000,000	3,000,000	
Electrical (in AC3 duty)	cycles	300,000	500,000	150,000	150,000	
Electrical (in AC1 duty)	cycles	200,000	200,000	100,000	100,000	
<b>AMBIENT CONDITIONS</b>						
Operating temperature	°C	-5...+55				
Storage temperature	°C	-30...+80				

### LIGHTING CIRCUIT SWITCHING

Lamp features	Lamp power	Retd current	Capacitor power	Maximum number [n] of lamps each contactor pole 230V 50Hz			
	[W]	[A]	[ $\mu$ F]	CN20	CN25	CN40	CN63
INCANDESCENT AND TUNGSTEN HALOGEN	60	0.26	-	23	29	65	85
	100	0.43	-	14	16	40	50
	200	0.87	-	7	8	20	25
	500	2.17	-	3	3	8	10
	1000	4.35	-	1	1	4	5
ENERGY SAVING	3	0,03	-	50	60	150	200
	5	0.04	-	45	55	135	180
	7	0.055	-	40	50	12	160
	8	0.065	-	35	45	110	150
	9	0.075	-	30	40	100	140
	10	0.08	-	30	40	100	140
	11	0.09	-	30	40	100	140
	12	0.10	-	25	35	95	120
	14	0.11	-	25	35	90	120
	15	0.12	-	20	30	85	115
	16	0.13	-	20	30	80	105
	18	0.145	-	18	26	70	95
	20	0.16	-	17	22	65	85
	21	0.17	-	15	20	60	80
	23	0.185	-	15	20	60	70
	24	0.195	-	15	20	55	70
	30	0.16	-	15	20	55	70
FLUORESCENT not corrected and series correction	18	0.37	-	22	24	90	140
	24	0.35	-	22	24	90	140
	36	0.43	-	17	20	65	95
	58	0.67	-	14	17	45	70
FLUORESCENT DUO circuit (lead-lag)	18	0.11	-	30	40	100	150
	24	0.14	-	24	31	78	118
	36	0.22	-	17	24	65	95
	58	0.35	-	10	14	40	60
FLUORESCENT corrected	18	0.12	4.5	7	8	48	73
	24	0.15	4.5	7	8	48	73
	36	0.2	4.5	7	8	48	73
	58	0.32	7	4	5	31	47
ELECTRONIC FLUORESCENT BALLAST	1 x 18	0.09	-	25	35	100	140
	1 x 36	0.16	-	15	20	52	75
	1 x 58	0.25	-	14	19	50	72
	2 x 18	0.17	-	12	17	50	70
	2 x 36	0.32	-	7	10	26	38
	2 x 58	0.49	-	7	9	25	36
HIGH-PRESSURE MERCURY VAPOUR not corrected	50	0.61	-	14	18	38	55
	80	0.8	-	10	13	29	42
	125	1.15	-	7	9	20	29
	250	2.15	-	4	5	10	15
	400	3.25	-	2	3	7	10
	700	5.4	-	1	2	4	6
	1000	7.5	-	1	1	3	4
HIGH-PRESSURE MERCURY VAPOUR corrected	50	0.28	7	4	5	31	47
	80	0.41	8	4	5	27	41
	125	0.65	10	3	4	22	33
	250	1.22	18	1	2	12	18
	400	1.95	25	1	1	9	13
	700	3.45	45	-	-	5	7
	1000	4.8	60	-	-	4	5

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Lamp features	Lamp power	Retd current	Capacitor power	Maximum number [n] of lamps each contactor pole 230V 50Hz			
	[W]	[A]	[ $\mu$ F]	CN20	CN25	CN40	CN63
METAL HALIDE not corrected	35	0.53	-	18	22	43	60
	70	1	-	10	12	23	32
	150	1.8	-	5	7	12	18
	250	3	-	3	4	7	10
	400	3.5	-	3	3	6	9
	1000	9.5	-	1	1	2	3
METAL HALIDE corrected	35	0.25	6	5	6	36	50
	70	0.45	12	2	3	18	25
	150	0.75	20	1	1	11	15
	250	1.5	33	-	1	6	9
	400	2.5	35	-	1	6	8
	1000	5.8	95	-	-	2	3
HIGH-PRESSURE SODIUM VAPOUR not corrected	150	1.8	-	5	6	17	22
	250	3	-	3	4	10	13
	400	4.7	-	2	2	6	8
	1000	10.3	-	-	1	3	3
HIGH-PRESSURE SODIUM VAPOUR corrected	150	0.83	20	1	1	11	16
	250	1.5	33	-	1	6	10
	400	2.4	48	-	-	4	6
	1000	6.3	106	-	-	2	3
LOW-PRESSURE SODIUM VAPOUR not corrected	18	0.35	-	22	27	71	90
	35	1.5	-	7	9	23	30
	55	1.5	-	7	9	23	30
	90	2.4	-	4	5	14	19
	135	3.5	-	3	4	10	13
	180	3.3	-	3	4	10	13
LOW-PRESSURE SODIUM VAPOUR corrected	18	0.35	5	6	7	44	66
	35	0.31	20	1	1	11	16
	55	0.42	20	1	1	11	16
	90	0.63	26	1	1	8	12
	135	0.94	45	-	-	4	7
	180	1.16	40	-	-	5	8
LED LIGHTING BALLAST <sup>①</sup>	10V, 12V, 24V,...; 350mA, 500mA, 750mA... N° = Number of controlled ballasts In = Ballast rated current in mA			N°=2400/In	N°=3800/In	N°=5600/In	N°=11000/In

- ① Example of calculation with 500mA ballast:  
Considering type CN40, then  $N^\circ = 5600 / 500 = 11.2$ .  
Therefore, the maximum number of ballasts which each CN40 power pole can be connected to and control is 11.