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ONE AND TWO-POLE CONTACTORS

- IEC rated current Ith AC1 (400V): 20A and 32A
- IEC rated current AC3 (400V): 9A
- Ideal for domestic and service applications.



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THREE AND FOUR-POLE CONTACTORS

- IEC rated current Ith AC1 (400V): 25A, 32A, 40A and 63A
- IEC rated current AC3 (400V): 8.5A, 22A and 30A
- Ideal for industrial and service applications, such as office buildings, stores, hospitals, hotels, etc.



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ONE AND TWO-POLE CONTACTORS WITH MANUAL CONTROL

- IEC rated current Ith AC1 (400V): 20A and 32A
- IEC rated current AC3 (400V): 9A
- Ideal for functional tests and dual pricing systems in domestic and service applications.



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THREE AND FOUR-POLE CONTACTORS WITH MANUAL CONTROL

- IEC rated current Ith AC1 (400V): 32A
- IEC rated current AC3 (400V): 8.5A
- Ideal for functional tests and dual pricing systems in domestic and service applications.



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

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Modular contactors

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Contactors



CN20...
CN32 11... - CN32 20...



CN25...
CN32 10... - CN32 01...



CN40...



CN63...

Order code	Rated auxiliary supply voltage	Configuration and number of contacts		Qty per pkg	Wt
	[V]❶	⌇NO	⌇NC	n°	[kg]
One-pole or two-pole. 1 module. Ith 20A.					
CN20 11 024❷❼	24VAC/DC	1	1❸	10	0.135
CN20 11 220❷❼	220...230VAC❻	1	1❸	10	0.135
CN20 20 024❷❼	24VAC/DC	2	—	10	0.135
CN20 20 220❷❼	220...230VAC❻	2	—	10	0.135
One-pole or two-pole. 1 module. Ith 32A.					
CN32 11 024❷❼	24VAC/DC	1	1❸	10	0.135
CN32 11 220❷❼	220...230VAC❻	1	1❸	10	0.135
CN32 20 024❷❼	24VAC/DC	2	—	10	0.135
CN32 20 220❷❼	220...230VAC❻	2	—	10	0.135
Three-pole or four-pole. 2 modules. Ith 25A.					
CN25 10 024❺	24VAC/DC	4❹	—	5	0.260
CN25 10 220❺	220...230VAC❻	4❹	—	5	0.260
CN25 01 024❺	24VAC/DC	3	1❹	5	0.260
CN25 01 220❺	220...230VAC❻	3	1❹	5	0.260
Three-pole or four-pole. 2 modules. Ith 32A.					
CN32 10 024❺	24VAC/DC	4	—	5	0.260
CN32 10 220❺	220...230VAC❻	4	—	5	0.260
CN32 01 024❺	24VAC/DC	3	1❸	5	0.260
CN32 01 220❺	220...230VAC❻	3	1❸	5	0.260
Three-pole or four-pole. 3 modules. Ith 40A.					
CN40 10 024❺	24VAC/DC	4❹	—	5	0.425
CN40 10 220❺	220...230VAC❻	4❹	—	5	0.425
CN40 01 024❺	24VAC/DC	3	1❹	5	0.425
CN40 01 220❺	220...230VAC❻	3	1❹	5	0.425
Three-pole or four-pole. 3 modules. Ith 63A.					
CN63 10 024	24VAC/DC	4❹	—	5	0.425
CN63 10 220	220...230VAC❻	4❹	—	5	0.425
CN63 01 024	24VAC/DC	3	1❹	5	0.425
CN63 01 220	220...230VAC❻	3	1❹	5	0.425

❶ Other voltages on request. Consult Customer Service; see contact details on inside front cover.
❷ 2NC version supplied on request.
❸ 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.
❹ 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.
❺ On request can be supplied: 2NO + 2NC or 4NC power poles. Consult Customer Service; see contact details on inside front cover.
❻ Can also operate at 220VDC.
❼ No auxiliary contacts can be mounted.

Maximum number of contactors side-by-side
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	CN32	CN25	CN40	CN63
Ambient temperature ≤40°C	3	3	3	3	3
Ambient temperature >40°...55°C	2	2	2	3	2

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.

Operational characteristics

Type	IEC conventional free-air thermal current Ith in AC1 ≤400V [A]	Operational current in AC3 ≤400V [A]	Protection fuse gG (IEC) [A]
One-pole or two-pole.			
CN20...	20	9	20
CN32...	32	9	32
Three-pole or four-pole.			
CN25...	25	8.5	25
CN32...	32	8.5	32
CN40...	40	22	63
CN63...	63	30	80

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

Operational characteristics of contactor-incorporated auxiliary contacts

Type	IEC insulation voltage Ui	IEC rating (AC15 category)	
		230V	400V
	[V]	[A]	[A]
CN20...	440	6	6
CN25...	440	6	4
CN32...	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.

Contactors with manual control



CNM20... - CNM32 20...



CNM32 10...

Order code	Rated auxiliary supply voltage	Configuration and number of contacts		Qty per pkg	Wt
	[V]❶	⅂NO	⅃NC	n°	[kg]
One-pole or two-pole. 1 module. Ith 20A.					
CNM20 11 024❷❼	24VAC/DC	1	1❸	10	0.135
CNM20 11 220❷❼	220...230VAC❻	1	1❸	10	0.135
CNM20 20 024❷❼	24VAC/DC	2	—	10	0.135
CNM20 20 220❷❼	220...230VAC❻	2	—	10	0.135
One-pole or two-pole. 1 module. Ith 32A.					
CNM32 20 024❷❼	24VAC/DC	2	—	10	0.135
CNM32 20 220❷❼	220...230VAC❻	2	—	10	0.135
Three-pole or four-pole. 2 module. Ith 32A.					
CNM32 10 024❷❼	24VAC/DC	4❹	—	5	0.260
CNM32 10 220❷❼	220...230VAC❻	4❹	—	5	0.260

❶ Other voltages on request. Consult Customer Service; see contact details on inside front cover.
❷ 2NC version supplied on request.
❸ 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.
❹ 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.
❺ On request can be supplied: 2NO + 2NC or 4NC power poles. Consult Customer Service; see contact details on inside front cover.
❻ Can also operate at 220VDC.
❼ No auxiliary contacts can be mounted.

Maximum number of contactors side-by-side
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:

	CNM20	CNM32
Ambient temperature ≤40°C	3	3
Ambient temperature >40°...55°C	2	2

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
- Handle functions
  Position A: contactor function
  Position B: contactor permanently switched off, even in case of coil control voltage is present.
  Position I: contactor closed manually; when the coil is supplied the handle automatically moves to A position.

Operational characteristics

Type	IEC conventional free-air thermal current Ith in AC1 ≤400V [A]	Operational current in AC3 ≤400V [A]	Protection fuse gG (IEC) [A]
One-pole or two-pole.			
CNM20...	20	9	20
CNM32...	32	9	32
Three-pole or four-pole.			
CNM32...	32	8.5	32

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

Operational characteristics of contactor-incorporated auxiliary contacts

Type	IEC insulation voltage Ui	IEC rating (AC15 category)	
		230V	400V
	[V]	[A]	[A]
CNM20...	440	6	6
CNM32...	440	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 contacts❶.				
CNH 11❶	1NO + 1NC	1	1	0.044
CNH 20❶	2NO	1	1	0.044
Set for terminal protection (also sealable).				
CNP 0	For CN20..., CNM20... and CNM32...	2	1❷	0.001
CNP 1	For CN25... and CNM32...	2	1❷	0.002
CNP 2	For CN40... and CN63...	2	1❷	0.003
Spacer.				
CNX 80	1/2 mod. wide	1	10	0.013

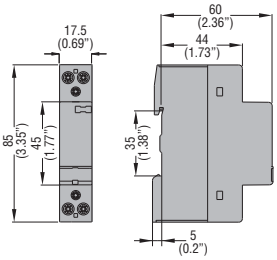
Operational characteristics for auxiliary contacts
- IEC rated insulation voltage: 440VAC
- IEC conventional free air thermal current Ith: 6A
- Minimum switching capacity: 5mA 12V
- Conductor section: 1...2.5mm²
- Maximum tightening torque: 1Nm.

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.

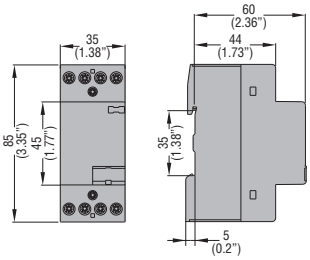
❶ Not suitable for CN20..., CN32 11..., CN32 20..., CNM20... and CNM32... modular contactors.
❷ Set of 2 pieces.

MODULAR CONTACTORS

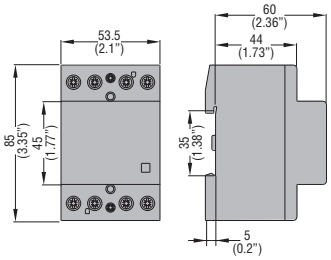
CN20… - CN32… (one-pole - two-pole)



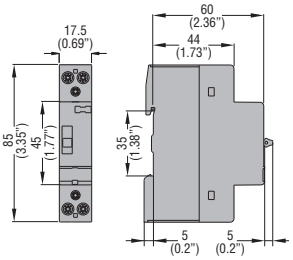
CN25… - CN32… (three-pole - four-pole)



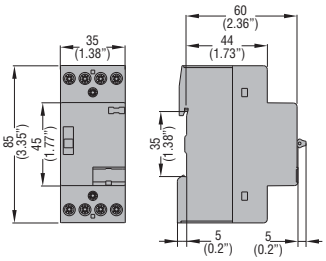
CN40… - CN63… (three-pole - four-pole)



CNM20… - CNM32… (one-pole - two-pole)



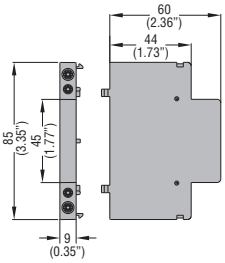
CNM32… (three-pole - four-pole)



ADD-ON BLOCKS

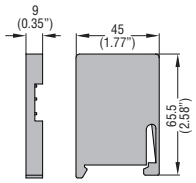
Contact blocks

CNH…



Spacer

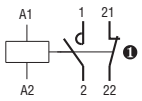
CNX80



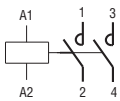
Wiring diagrams

ONE-POLE AND TWO-POLE MODULAR CONTACTORS

CN20 11
CN32 11
CNM20 11

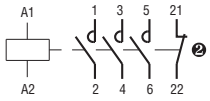


CN20 20
CN32 20
CNM20 20
CNM32 20

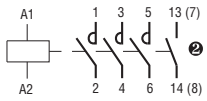


THREE-POLE AND FOUR-POLE MODULAR CONTACTORS

CN25 01
CN32 01
CN40 01
CN63 01



CN25 10
CN32 10
CN40 10
CN63 10
CNM32 10



❶ 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.
❷ 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... - CNM20...	CN25...	CN32... - CNM32... (one-pole and two-pole)	CN32... - CNM32... (three-pole and four-pole)	CN40...	CN63...
CONTACT CHARACTERISTICS								
IEC conventional free-air thermal current Ith (≤40°C)		A	20	25	32	32	40	63
IEC rated insulation voltage Ui		V	230	440	230	440	440	440
IEC rated impulse withstand voltage Uimp		kV	4	4	4	4	4	4
Minimum switching capacity			17V ≥50mA	17V ≥50mA	17V ≥50mA	17V ≥50mA	17V ≥50mA	17V ≥50mA
Avarage coil consumption in-rush and holding		W	2.5	3	2.5	3	5	5
Maximum tightening torque for coil terminals		Nm	0.6	0.6	0.6	0.6	0.6	0.6
		lbft	0.44	0.44	0.44	0.44	0.44	0.44
		Pozidr.	PZ1	PZ1	PZ1	PZ1	PZ2	PZ2
Coil conductor section	min.	mm^2	1					
	max.	mm^2	2.5					
Maximum tightening torque for power terminals		Nm	1.2	1.2	1.2	1.2	2	2
		lbft	0.9	0.9	0.9	0.9	1.48	1.48
		Tool	PZ1	PZ1	PZ1	PZ1	PZ2	PZ2
Power conductor section	min.	mm^2	2.5	2.5	2.5	2.5	1	1
	max.	mm^2	6	6	6	6	25	25
AC/DC CONTROL CIRCUIT								
Operating voltage limits	pick-up	% Us	85...110					
	drop-out	% Us	20...75					
OPERATING TIMES								
Avarage time	closing NO	ms	15...45	15...45	15...45	15...45	15...20	15...20
	opening NO	ms	25...50	20...70	20...50	20...70	35...45	35...45
LIFE								
Mechanical		cycles	3,000,000	3,000,000	3,000,000	3,000,000	3,000,000	3,000,000
Electrical (in AC3 duty)		cycles	300,000	500,000	500,000	500,000	150,000	150,000
Electrical (in AC1 duty)		cycles	200,000	200,000	150,000	150,000	100,000	100,000
AMBIENT CONDITIONS								
Operating temperature		°C	-5...+55					
Storage temperature		°C	-30...+80					

LIGHTING CIRCUIT SWITCHING

Lamp features	Lamp power	Rated current	Capacitor power	Maximum number [n] of lamps each contactor pole 230V 50Hz				
	[W]	[A]	[µF]	**CN20... - CNM20...**	**CN25...**	**CN32... - CNM32...**	**CN40**	**CN63**
INCANDESCENT AND TUNGSTEN HALOGEN	60	0.26	-	33	37	42	67	83
	100	0.44	-	20	22	25	40	50
	500	2.17	-	4	4	5	8	10
	1000	4.35	-	2	2	3	4	5
COMPACT FLUORESCENT (ENERGY SAVING)	3	0.04	-	150	200	250	550	700
	5	0.06	-	90	120	150	330	420
	6	0.07	-	75	100	125	275	350
	7	0.08	-	64	86	107	236	300
	8	0.09	-	56	75	94	206	263
	9	0.1	-	50	67	83	183	233
	10	0.11	-	45	60	75	165	210
	11	0.12	-	41	55	68	150	191
	12	0.13	-	38	50	63	138	175
	13	0.14	-	35	46	58	127	162
	14	0.15	-	32	43	54	118	150
	15	0.16	-	30	40	50	110	140
	16	0.18	-	28	38	47	103	131
	17	0.19	-	26	35	44	97	124
	18	0.2	-	25	33	42	92	117
	20	0.21	-	23	30	38	83	105
	21	0.22	-	21	29	36	79	100
	22	0.23	-	20	27	34	75	95
	23	0.24	-	20	26	33	72	91
	24	0.25	-	19	25	31	69	88
	25	0.26	-	18	24	30	66	84
	26	0.27	-	17	23	29	63	81
	27	0.124	-	17	22	28	61	78
	30	0.15	-	15	20	25	55	70
	50	0.24	-	9	12	15	33	42
	70	0.312	-	6	9	11	24	30
FLUORESCENT not corrected	18	0.37	-	24	30	35	54	86
	25	0.29	-	30	39	45	69	110
	36	0.43	-	20	26	30	47	74
	58	0.67	-	13	17	19	30	48
FLUORESCENT corrected	18	0.19	4.5	7	8	9	49	73
	25	0.15	3.5	9	10	11	63	94
	36	0.29	4.5	7	8	9	49	73
	58	0.46	7	4	5	6	31	47
ELECTRONIC FLUORESCENT BALLAST	14	0.08	-	44	59	64	156	225
	2x14	0.15	-	23	32	34	83	120
	18	0.09	-	39	53	57	139	200
	2x18	0.17	-	21	28	30	74	106
	21	0.11	-	32	43	46	114	164
	2x21	0.22	-	16	22	23	57	82
	28	0.14	-	25	34	36	89	129
	2x28	0.27	-	13	18	19	46	67
	36	0.16	-	22	30	32	78	113
	2x36	0.31	-	11	15	16	40	58
	40	0.21	-	17	23	24	60	86
	2x40	0.42	-	8	11	12	30	43
	58	0.25	-	14	19	20	50	72
	2x58	0.48	-	7	10	11	26	38
	70	0.3	-	12	16	17	42	60
	2x70	0.57	-	6	8	9	22	32
HIGH-PRESSURE MERCURY VAPOUR not corrected	50	0.6	-	14	18	20	38	55
	80	0.8	-	10	13	15	29	42
	125	1.2	-	7	9	10	20	29
	250	2.2	-	4	5	6	10	15
	400	3.3	-	2	3	4	7	10
	700	5.4	-	1	2	3	4	6
	1000	7.5	-	1	1	2	3	4

Lamp features	Lamp power	Rated current	Capacitor power	Maximum number [n] of lamps each contactor pole 230V 50Hz				
	[W]	[A]	[µF]	**CN20... - CNM20...**	**CN25...**	**CN32... - CNM32...**	**CN40**	**CN63**
HIGH-PRESSURE MERCURY	50	0.3	7	4	5	6	31	47
VAPOUR	80	0.4	8	4	5	5	27	41
corrected	125	0.6	10	3	4	4	22	33
	250	1.2	18	1	2	2	12	18
	400	1.8	25	1	1	1	9	13
	700	3.4	40	0	0	1	5	7
	1000	4.8	60	0	0	0	4	5
METAL HALIDE	35	0.5	-	18	22	28	43	60
not corrected	70	1	-	10	12	14	23	32
	100	1.2	-	8	10	11	19	26
	150	1.8	-	5	7	7	12	18
	250	3	-	3	4	4	7	10
	400	4.6	-	3	3	3	6	9
	600	6.2	-	1	2	2	3	4
	1000	9.7	-	1	1	1	2	3
	2000	12.2	-	0	0	1	1	2
METAL HALIDE	35	0.23	6	5	6	6	36	50
corrected	70	0.42	12	2	3	3	18	25
	100	0.55	12	2	3	3	18	25
	150	0.77	20	1	1	1	11	15
	250	1.26	32	0	1	1	6	9
	400	2	45	0	0	0	5	7
	600	3	65	0	0	0	3	5
	1000	5	85	0	0	0	2	3
	2000	10.5	125	0	0	0	1	2
HIGH-PRESSURE SODIUM	100	1.2	-	7	8	9	25	30
VAPOUR	150	1.8	-	5	6	6	17	22
not corrected	250	3	-	3	4	4	10	13
	400	4.4	-	2	2	2	6	8
	600	6.2	-	1	1	1	4	5
	1000	10.3	-	0	1	1	3	3
HIGH-PRESSURE SODIUM	100	0.55	12	2	3	3	18	27
VAPOUR	150	0.77	20	1	1	2	11	16
corrected	250	1.26	32	0	1	1	6	10
	400	2	45	0	0	0	4	6
	600	2.9	65	0	0	0	3	5
	1000	5.1	100	0	0	0	2	3
LOW-PRESSURE SODIUM	18	0.4	-	22	27	30	71	90
VAPOUR	35	0.6	-	7	9	10	23	30
not corrected	55	0.6	-	7	9	10	23	30
	90	0.9	-	4	5	6	14	19
	135	0.9	-	3	4	5	10	13
	180	0.9	-	3	4	5	10	13
LOW-PRESSURE SODIUM	18	0.35	5	6	7	8	44	66
VAPOUR	35	0.28	20	1	1	2	11	16
corrected	55	0.35	20	1	1	2	11	16
	90	0.55	26	1	1	1	8	12
	135	0.8	40	0	0	1	4	7
	180	1	40	0	0	1	5	8
LOW-PRESSURE SODIUM	35	0.16	-	13	18	21	35	44
VAPOUR	55	0.25	-	8	11	13	22	28
with electronic ballast								
LED LIGHTING BALLAST	N = number of controlled ballasts❶ In = Ballast rated current in mA			N = 2400 / In	N = 3800 / In	N = 4000A / In	N = 11000 / In	N = 18000 / In

❶ Usually each LED lamp has one ballast.
In event of one ballast supplies several lamps, the calculation has to consider the number of supplied ballasts.
E.G. If the LED lamp ballast input current is 500mA, (consider CN40=11,000/500=22), the maximum number of ballasts admitted per each pole of CN 40 contactor is 22.