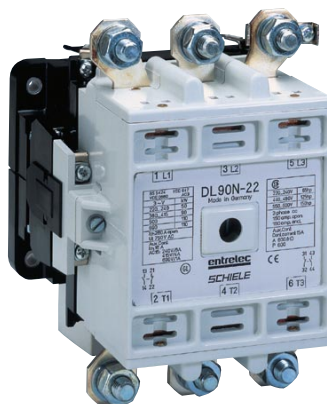


Contactors high power



PR
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Contactors




DL 22 N to DL 270 N

22-270 kW / 30-400 HP at 460 v, 3 ph. (AC 3),
AC-operated



- Robust 3-pole motor contactors for AC 3 ratings from 22 kW to 270 kW
- Types DL 22 N to DL 90 N are creep resistant as standard
- Expandable by the use of additional auxiliary contacts N/O contacts, N/C contacts, E/M contacts, L/B contacts
- Safety isolation up to AC 400 V of coil and contact elements to DIN VDE 0106 Part 101 and A1 (draft 2/89)
- Terminals shrouds to VDE 0106 Part 100 integral on sizes DL 22 N to DL 42 N supplied as loose items with sizes DL 65 N to DL 90 N* to be ordered separately for sizes DL 110 N to DL 270 N - page 1623

* If required to be ordered under Ref. no.: 3 284 148 04.
Delivery free of charge (page 1623)

■ Approvals:   

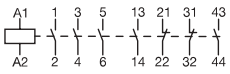
Voltage codes 04 ... 73 to be added to the contactor order reference number

Code number	for coil voltage AC	Color code ¹⁾ AC
... 04	12 V	violet
... 06	24 V	violet
... 10	32 V	violet
... 11	36 V	green
... 13	42 V	white
... 15	48 V	white
... 19	60 V	green
... 25	110 V	yellow
... 28	120 V	yellow
... 29	127 V	yellow
... 38	208 V	blue
... 40	230 V	blue
... 41	220 V	blue
... 43	240 V	blue
... 59	400 V	red
... 61	380 V	red
... 63	415 V	red
... 65	440 V	red
... 69	500 V	black
... 73	600 V	black

Our N-contactors are available with mono-frequency coils for 50 or 60 Hz. Please refer to the listing below for the corresponding order reference.

Further notes at the bottom of this page.

Characteristics

Max. AC 3 ratings of 3-phase motors				Rated operational current I _e AC 1 / AC 3 A	Contactor type	Order ref.: for 50 Hz see supplements at the top right	Order ref.: for 60 Hz see supplements at the top right	Circuit diagram / numbering DIN EN 50 005 and DIN EN 50 012	Weight kg	Suitable therm. overload relay	For dimensions see pages 1676-1678
230 V	400 V	500 V	690 V								
12.5	22	30	30	80/44	DL 22 N-22	1 212 300 ..	1 212 302 ..		1.2	M 80 N	
18.5	30	37	37	100/60	DL 30 N-22	1 212 500 ..	1 212 502 ..		2.1	M 80 N	
22	40	50	55	130/79	DL 42 N-22	1 244 255 ..	1 244 257 ..		2.1	M 80 N	
37	63	75	75	230/119	DL 65 N-22	1 284 345 ..	1 284 347 ..		3.2	M 80 N	
50	90	110	110	260/170	DL 90 N-22	1 284 531 ..	1 284 533 ..		3.2	M-b 177 S	
60	110	132	160	290/205	DL 110 N-22	1 243 501 ..	1 243 503 ..		9.0	M-bw 207 S	
75	132	160	180	360/245	DL 132 N-22	1 292 001 ..	1 292 003 ..		9.0	M-bw 207 S M-bw 320 S	
90	160	180	180	380/295	DL 165 N-22	1 208 772 ..	1 208 774 ..		18	M-bw 320 S	
115	250	250	270	500/460	DL 245 N-22	1 283 332 ..	1 283 334 ..		18	M-b 721 Sw	
160	270	345	270	600/499	DL 270 N-22	1 184 501 ..	1 184 503 ..		30	M-b 721 Sw	

Notes

Normal/Standard voltages are:
(Short-term availability)

AC: 24, 42, 110, 230 and 400 V (50Hz) Technical details - page 1668
DC: 24, 110 and 220 V

Other coil voltages on request

¹⁾ Color code to IEC 309-1 printed on the coil.
Only for compact contactors HL 4 K / HL 8 K and DL 4 K - DL 18 K

Contactors

DL 22 N / DLg 22 N to DL 270 N / DLg 270 N

AC or DC switching
AC operated or DC-operated with economy circuit coil
Utilization category : AC 3 or DC 1 ... DC 5



- Versions:
- DL 22 N to DL 270 N = DC operated / AC switching (coil with pull-in and hold winding, economy circuit coil) **A**
 - DLg 22 N to DLg 270 N = DC operated / DC switching (coil with pull-in and hold winding, economy circuit coil) **B**
 - DLg 22 N to DLg 270 N = AC operated / DC switching **C**
 - DC switching with sextuple break
 - Favorable mounting depth due to conventional drive
 - Suitable for operational voltages up to 220 V DC
 - Terminal shrouds to VDE 0106 Part 100 integral on sizes DL / DLg 22 N to DLg 42 N supplied as loose items with sizes DL / DLg 65 N to DLg 90 N* to be ordered separately for sizes DL / DLg 110 N to DLg 270 N - page 1623

* If required to be ordered under Ref. no.: 3 284 148 04. Delivery free of charge (page 1623)

Voltage codes 04 ... 73 to be added to the contactor order reference number

Code number	for coil voltage		Color code ¹⁾	
	AC	DC	AC	DC
... 04	12 V		violet	green
... 06	24 V		violet	green
... 10	32 V		violet	green
... 11	36 V		green	green
... 13	42 V		white	green
... 15	48 V		white	green
... 19	60 V		green	green
... 25	110 V		yellow	green
... 28	120 V		yellow	green
... 29	127 V	125 V	yellow	green
... 38	208 V		blue	green
... 40	230 V	220 V	blue	green
... 41	220 V		blue	-
... 43	240 V		blue	-
... 59	400 V		red	-
... 61	380 V		red	-
... 63	415 V		red	-
... 65	440 V		red	-
... 69	500 V		black	-
... 73	600 V		black	-

Our N-contactors are available with mono-frequency coils for 50 or 60 Hz. Please refer to the listing below for the corresponding order reference.

Further notes at the bottom of this page.

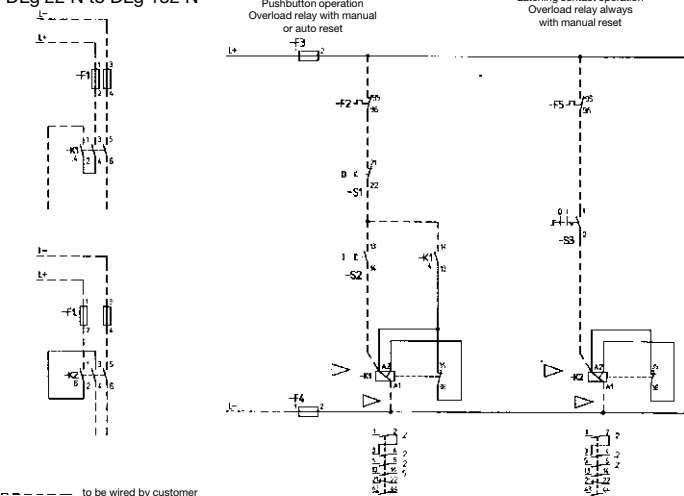
Characteristics

Rated operational current I _e	Contactor type AC switching	Coil DC A Order ref.: see supplements at the top right	Weight kg	For dimensions see pages 1676-1678
80/44	DL 22 N-22	1 212 306 ..	1.2	
100/60	DL 30 N-22	1 212 506 ..	1.2	
130/79	DL 42 N-22	1 244 261 ..	2.1	
230/119	DL 65 N-22	1 284 351 ..	3.2	
260/170	DL 90 N-22	1 284 537 ..	3.2	
290/205	DL 110 N-22	1 243 507 ..	9.0	
360/245	DL 132 N-22	1 292 015 ..	9.0	
380/295	DL 165 N-22	1 208 778 ..	8	
500/460	DL 245 N-22	1 283 338 ..	18	
600/499	DL 270 N-22	1 184 507 ..	30	

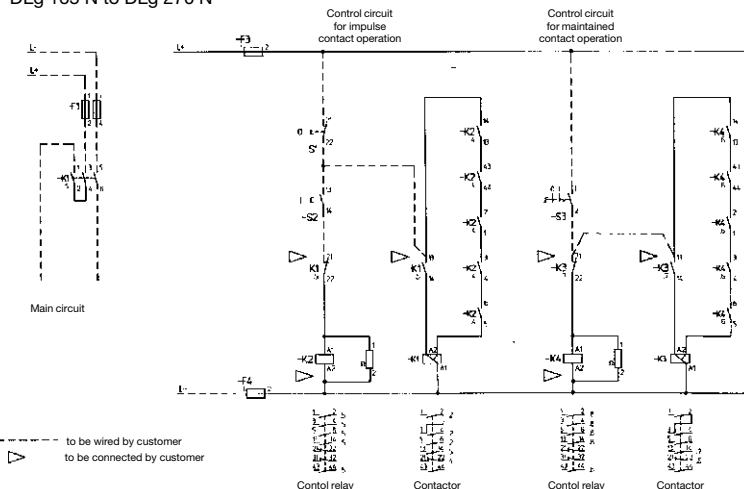
Rated operational current I _e (A)						Contactor type DC switching	Coil DC B Order ref. see supplements at the top right	Coil AC C (50 Hz) Order ref. see supplements at the top right	Coil AC C (60 Hz) Order ref. see supplements at the top right
DC 1			DC 2 - DC 5						
24V	110V	220V	24V	110V	220V				
75	75	75	75	75	12	DLg 22 N-22	1 212 354 ..	1 212 348 ..	1 212 350 ..
90	90	95	90	90	25	DLg 32 N-22	1 244 081 ..	1 244 075 ..	1 244 077 ..
115	115	115	115	115	60	DLg 42 N-22	1 244 309 ..	1 244 303 ..	1 244 305 ..
200	200	200	200	200	90	DLg 65 N-22	1 284 399 ..	1 284 393 ..	1 284 395 ..
230	230	230	230	230	150	DLg 90 N-22	1 284 605 ..	1 284 599 ..	1 284 601 ..
260	260	260	260	260	200	DLg 110 N-22	1 243 605 ..	1 243 591 ..	1 243 593 ..
315	315	315	315	315	200	DLg 132 N-22	1 292 097 ..	1 292 091 ..	1 292 093 ..
340	340	340	340	340	250	DLg 165 N-22	1 208 838 ..	1 208 832 ..	1 208 834 ..
460	460	460	460	460	300	DLg 245 N-22	1 283 398 ..	1 283 391 ..	1 283 394 ..
540	540	540	540	540	350	DLg 270 N-22	1 184 627 ..	1 184 621 ..	1 184 623 ..

Circuit diagrams for version B

DLg 22 N to DLg 132 N



DLg 165 N to DLg 270 N



--- to be wired by customer
 ▽ to be connected by customer

Notes

Normal/Standard voltages are:
 (Short-term availability)
Other coil voltages on request

AC: 24, 42, 110, 230 and 400 V
 DC: 24, 110 and 220 V

¹⁾ Color code to IEC 309-1 printed on the coil.
 Only for compact contactors, HL 4 K / HL 8 K and DL 4 K - DL 18 K

Additional auxiliary contacts for use with contactors DL 22 N to DL 270 N

For use with
DL 22 N...DL 90 N



- Auxiliary contacts are used to increase the number of contacts
- Contactors can be supplied with max. 4 N/O+4 N/C contacts
- Additional aux. contacts on special orders are always factory fitted
- Auxiliary contact blocks for use with DL 22 N to DL 90 N contactors can be attached to the left or right hand side. Adhesive labels showing contact numbering (53/54 - 61/62 - 71/72 - 83/84) are supplied with each contact block and can be fitted as required.
- Auxiliary contact blocks for use with DL 110 N to DL 270 N are front fitted. Handling as described
- The order references listed below refer to 1 N/O + 1 N/C aux. contact each

■ Approvals:

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Characteristics

It is possible to increase the number of auxiliary contacts by factory-fitted contacts

Contactor type	Aux. contact :	2 N/O + 2 N/C	+ 1 N/O + 1 N/C	+ 2 N/O + 2 N/C		
	Code number : Main contacts	22	33	44		
DL 22 N-22		Standard	width changes to 106 mm	width changes to 124 mm Order ref.: 3 212 133 01	Specials with E/M and L/B contacts on request	
DL 30 N-22			width changes to 106 mm	width changes to 124 mm Order ref.: 3 212 133 01		
DL 42 N-22			width changes to 124 mm	width changes to 124 mm Order ref.: 3 212 133 21		
DL 65 N-22			width changes to 124 mm	width changes to 124 mm Order ref.: 3 212 133 21		
DL 90 N-22			width changes to 124 mm	width changes to 124 mm Order ref.: 3 212 133 21		
DL 110 N-22			<input type="checkbox"/> Order ref.: 3 292 040 00			
DL 132 N-22			<input type="checkbox"/> Order ref.: 3 292 040 00			
DL 165 N-22			<input type="checkbox"/> Order ref.: 3 292 040 00			
DL 245 N-22			<input type="checkbox"/> Order ref.: 3 292 040 00			
DL 270 N-22			<input type="checkbox"/> Order ref.: 3 184 261 00			

Notes

The distinctive number should be added to the contactor type when orders are placed. Example: DL 22 N-22.

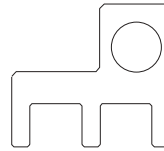
width remains unchanged !

Specials with E/M and L/B contacts can be supplied such that both contacts are fitted in place of standard N/C and N/O contacts, or they can be additionally incorporated.

Accessories :**Links, RC coil suppressors, terminal shrouds and mechanical interlock****Pairs of links, single pole**

Pairs of links are used to bridge the main contact terminals of 3 pole contactors so that they can be used as single pole contactors for higher ratings (approx. twice the value)

For use with contactor type	Order ref.:	
DL 22 N / DL 30 N	3 212 315 00	
DL 42 N	3 244 080 01	

**RC coil suppressors for use with contactor types DL 22 N to DL 270 N**

For use with contactor type	RC-coil suppressors 110...240 V AC	Type	Order ref.:	
DL 22 N / DL 30 N	components 0,47 μ F / 220 Ω	RC-N 1	3 212 412 01	
DL 42 N / DL 65 / DL 90 N	components 1,00 μ F / 220 Ω	RC-N 2	3 244 106 01	
DL 110 / 132 N	components 1,00 μ F / 100 Ω	RC-N 3	3 292 071 01	
DL 165 / 245 N	components 1,00 μ F / 47 Ω	RC-N 4	3 208 355 01	
DL 270 N	components 1,6 μ F / 220 Ω	RC-N 5	3 184 092 01	

Terminal cover for use with contactors and thermal overload relays to protect against accidental contact to VDE 0106 Part 100

For use with contactor type	Order ref.:	Notes
DL 65 N / DL 90 N	3 284 148 04	to be ordered separately
DL 90 N + M-b 177 S / DL 65 N + M-b 177 S	3 284 148 05	to be ordered separately
DL 110 / 132 N + M-bw 207 S	3 243 049 01	to be ordered separately
DL 110 N ... 270 N	3 284 156 02	shroud with M 12 connecting screw (1 set = 6 off)
M-bw 17 S ... M-bw 207 S	3 222 019 01	to be ordered separately
M-b 177 S	3 222 018 01	to be ordered separately
DLDAe 110 / 160 N	3 284 148 03	to be ordered separately

Mechanical interlocks**Possible combination**

	DL 22 N / 30 N	DL 42 N	DL 65 N / 90 N	DL 110 N / DL 132 N	DL 165 N / DL 245 N	DL 270 N
DL 22 N / 30 N	3 244 077 02	3 244 078 01	-	-	-	-
DL 42 N	3 244 078 01	3 244 077 02	-	-	-	-
DL 65 N / 90 N	-	-	3 244 077 02	-	-	-
DL 110 N / DL 132 N	-	-	-	3 292 057 00	-	-
DL 165 N / DL 245 N	-	-	-	-	3 283 048 00	-
DL 270 N	-	-	-	-	-	3 184 327 00

Reversing contactors

DLW 4 K ... DLW 65 N

4...63 kW / 5-75 HP at 460 V, 3 ph. (AC 3),

AC-operated



- Special contactor assemblies designed to reverse direction of rotation of three-phase motors
- Available for ratings from 4 kW to 63 kW; higher ratings on request
- Available with or without thermal overload relay
- Mounted on DIN rail or base-plate
- Types DLW 4 to DLW 18 K mechanically interlocked as standard

DLW reversing contactor assemblies consist of two contactors, that are connected in such a way that they are suitable to reverse direction of rotation of three-phase motors.

Voltage codes 04 ... 73 to be added to the contactor order reference number

Code number	for coil voltage	Color code ¹⁾
	AC	
... 04	12 V	violet
... 06	24 V	violet
... 10	32 V	violet
... 11	36 V	green
... 13	42 V	white
... 15	48 V	white
... 19	60 V	green
... 25	110 V	yellow
... 28	120 V	yellow
... 29	127 V	yellow
... 38	208 V	blue
... 40	230 V	blue
... 41	220 V	blue
... 43	240 V	blue
... 59	400 V	red
... 61	380 V	red
... 63	415 V	red
... 65	440 V	red
... 69	500 V	black
... 73	600 V	black

Our N-contactors are available with mono-frequency coils for 50 or 60 Hz. Please refer to the listing below for the corresponding order reference.

Further notes at the bottom of this page.

Characteristics

Max. AC 3 ratings of 3-phase motors (kW)				Rated operational current I _e (AC 3 duty) at 400 V	Type Combination type	Combinations of contactors AC operated Order ref.: see supplements at the top right			free contacts each contactor		Suitable therm. relay ³⁾	Weight without therm. relay app. kg	For dimensions see pages 1674, 1676-1677
230 V	400 V	500 V	690 V			coil 50/60 Hz	coil 50 Hz	coil 60 Hz	N/O	N/C			
2.2	4	4	4	8.5	DLW 4 K	1 366 601 .. ²⁾	-	-	2	1	M 23 K	0.72	
3	5.5	5.5	5.5	11.5	DLW 5 K	1 366 605 ..	-	-	2	1	M 23 K	0.72	
4	7.5	7.5	7.5	15.5	DLW 7 K	1 366 631 ..	-	-	2	1	M 23 K	0.96	
5.5	11	11	11	22	DLW 11 K	1 366 635 ..	-	-	2	1	M 23 K	0.96	
9	15	15	15	30	DLW 15 K	1 370 601 ..	-	-	1	1	M 40 K	1.8	
11	18,5	18,5	18,5	37	DLW 18 K	1 370 605 ..	-	-	1	1	M 40 K	1.8	
12.5	22	30	30	44	DLW 22 N	-	1 212 097 ..	1 212 099 ..	2	2	M 80 N	2.36	
18.5	30	37	37	60	DLW 30 N	-	1 244 105 ..	1 244 107 ..	2	2	M 80 N	4.4	
22	40	50	55	79	DLW 42 N	-	1 244 097 ..	1 244 099 ..	2	2	M 80 N	4.4	
37	63	75	75	119	DLW 65 N	-	1 284 193 ..	1 284 195 ..	2	2	M 80 N	11	
50	90	110	110	170	DLW 90 N	-	1 284 657 ..	1 284 659 ..	2	2	M-b 177 S	11	

Note: Enclosed contactors with higher power ratings are available on request.

Notes

Normal/Standard voltages are:
(Short-term availability)

AC: 24, 42, 110, 230 and 400 V
DC: 24, 110 and 220 V

Other coil voltages on request

The reversing contactors up to DLW 18 K are factory fitted with 2-pole aux. contact blocks. Free contacts, see table. Additional free contacts on request at extra cost. The voltage code number has to be added according to the above table to the contactor order reference number.

¹⁾ Color code to IEC 309-1 printed on the coil.

²⁾ Only for compact contactors, HL 4 K / HL 8 K and DL 4 K - DL 18 K

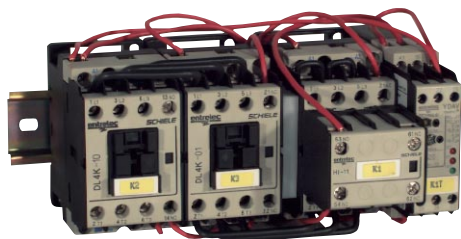
³⁾ Delivery: Reversing contactors to DLW 18 K mounted on DIN rail.

³⁾ The selected thermal overload relays have to be set to the rated motor current. They have to be ordered separately, see pages 1682-1683.

Star-delta contactors DLDAe

7.5...500 kW / 10-670 HP at 460 V, 3 ph. (AC 3)

AC-operated



- Contactor assemblies designed specifically for star-delta starting of three-phase motors
- Star contactor and delta contactor mechanically interlocked up to and incl. size DLDAe 30 K
- Available with or without thermal overload relay
- Open, mounted to DIN rail or base plate
- Finger proof and back-of-hand proof per VDE 0106 Part 100, integrated or realized by additional covers
- Fitted with type YDAV star-delta timer circuit diagram - page 1626

DLDAe star-delta assemblies consist of three individual contactors and a star-delta timer designed specifically for this purpose. They are available in fourteen well balanced ratings ranging from 7.5 kW to 500 kW. They can be supplied with or without thermal overload relay. All types up to and including the DLDAe 30 K are mechanically interlocked as standard. The larger sizes can be supplied with mechanical interlock by special order.

Voltage codes 04 ... 73 to be added to the contactor order reference number

Code number	for coil voltage AC	Color code ¹⁾ AC
... 04	12 V	violet
... 06	24 V	violet
... 10	32 V	violet
... 11	36 V	green
... 13	42 V	white
... 15	48 V	white
... 19	60 V	green
... 25	110 V	yellow
... 28	120 V	yellow
... 29	127 V	yellow
... 38	208 V	blue
... 40	230 V	blue
... 41	220 V	blue
... 43	240 V	blue
... 59	400 V	red
... 61	380 V	red
... 63	415 V	red
... 65	440 V	red
... 69	500 V	black
... 73	600 V	black

Our N-contactors are available with mono-frequency coils for 50 or 60 Hz. Please refer to the listing below for the corresponding order reference.

Further notes at the bottom of this page.

Characteristics

Max. AC 3 ratings of 3-phase motors (kW)				Rated operational current I _e (AC 3 duty) at 400 V	Type combinations ²⁾	Combinations of contactors AC operated Order ref.: see supplements at the top right			Suitable therm. relay ³⁾	Weight without therm. relay approx. kg	For dimensions see pages 1674, 1676-1678
230 V	400 V	500 V	690 V			coil 50/60 Hz	coil 50 Hz	coil 60 Hz			
4	7.5	7.5	7.5	15.5	DLDAe 7.5 K	1 366 501 ..	-	-	M 23 K	1.2	
7.5	12.5	12.5	12.5	26	DLDAe 12.5 K	1 366 531 ..	-	-	M 23 K	1.47	
7.5	15	15	15	30	DLDAe 15 K	1 366 561 ..	-	-	M 23 K	1.47	
9	18.5	18.5	18.5	37	DLDAe 18.5 K	1 370 501 ..	-	-	M 23 K	1.75	
11	22	22	22	43	DLDAe 22 K	1 370 531 ..	-	-	M 40 K	1.84	
17.5	30	30	30	60	DLDAe 30 K	1 370 561 ..	-	-	M 80 N	1.84	
22	37	37	37	74	DLDAe 37 N	-	1 212 223 ..	1 212 225 ..	M 80 N	1.84	
22	45	55	60	85	DLDAe 45 N⁴⁾	-	1 212 285 ..	1 212 287 ..	M 80 N	5.0	
30	55	60	75	105	DLDAe 55 N⁴⁾	-	1 244 285 ..	1 244 287 ..	M 80 N	7.6	
38	65	65	65	130	DLDAe 65 N⁴⁾	-	1 244 223 ..	1 244 225 ..	M 80 N	7.6	
45	75	90	100	140	DLDAe 75 N	-	1 284 285 ..	1 284 287 ..	M-b 177 S	7.9	
63	110	132	132	200	DLDAe 110 N	-	1 284 223 ..	1 284 225 ..	M-b 177 S	12.8	
90	160	160	132	300	DLDAe 160 N	-	1 284 723 ..	1 284 725 ..	M-b 177 S	20.0	
110	200	200	200	370	DLDAe 200 N	-	1 243 301 ..	1 243 303 ..	M-bw 320 S	20.4	
150	250	250	250	460	DLDAe 250 N	-	1 292 271 ..	1 292 273 ..	M-bw 320 S	25.0	
180	360	420	420	610	DLDAe 360 N	-	1 283 241 ..	1 283 243 ..	M-b 721 Sw	57.0	
300	500	550	550	890	DLDAe 500 N	-	1 184 801 ..	1 184 803 ..	M-b 721 Sw	85.5	

Contactor configuration of star-delta assemblies - page 1626.

Note: Enclosed contactors with higher power ratings are available on request.

Notes

Normal/Standard voltages are:
(Short-term availability)
Other coil voltages on request

AC: 24, 42, 110, 230 and 400 V
DC: 24, 110 and 220 V

³⁾ The selected thermal overload relays are normally set to 0.58 times the value of the rated motor current. They have to be ordered separately. See pages 1682-1683.

⁴⁾ Separate terminals are required for the connection to the supply.

¹⁾ Color code to IEC 309-1 printed on the coil.
Only for compact contactors, HL 4 K / HL 8 K and DL 4 K - DL 18 K
²⁾ The control contacts built into the contactor are first used.

Delivery : up to DLDAe 30 K mounted on DIN rail
from DLDAe 37 N mounted on base plate

Contactor configuration of star-delta assemblies¹⁾

Type	Main contactor N	+ block ▼	reserved contacts	free contacts	Delta contactor Δ	+ block ▼	reserved contacts	free contacts	Star contactor Y	+ block ▼	reserved contacts	free contacts
DLDAe 7.5 K	DL 4 K-10		1 N/O	-	DL 4 K-01		1 N/C	-	DL 4 K-01	+ Hi 11	1N/O,1N/C	1N/C
DLDAe 12.5 K	DL 7 K-10		1 N/O	-	DL 7 K-01		1 N/C	-	DL 4 K-01	+ Hi 11	1N/O,1N/C	1N/C
DLDAe 15 K	DL 7 K-10		1 N/O	-	DL 7 K-01		1 N/C	-	DL 5 K-01	+ Hi 11	1N/O,1N/C	1N/C
DLDAe 18.5 K	DL 15 K	+ Li 11	1 N/O	1 N/C	DL 11 K-01		1 N/C	-	DL 7 K-01	+ Hi 11	1N/O,1N/C	1N/C
DLDAe 22 K	DL 15 K	+ Li 11	1 N/O	1 N/C	DL 15 K	+ Li 11	1 N/C	1 N/O	DL 7 K-01	+ Hi 11	1N/O,1N/C	1N/C
DLDAe 30 K	DL 15 K	+ Li 11	1 N/O	1 N/C	DL 15 K	+ Li 11	1 N/C	1 N/O	DL 11 K-01	+ Hi 11	1N/O,1N/C	1N/C
DLDAe 37 N	DL 22 N-22		1 N/O	1N/O+2N/C	DL 22 N-22		1 N/C	2N/O+1N/C	DL 15 K	+ Li 22	1N/O,1N/C	1N/O+1N/C
DLDAe 45 N ²⁾	DL 22 N-22		1 N/O	1N/O+2N/C	DL 22 N-22		1 N/C	2N/O+1N/C	DL 18 K	+ Li 22	1N/O,1N/C	1N/O+1N/C
DLDAe 55 N ²⁾	DL 30 N-22		1 N/O	1N/O+2N/C	DL 30 N-22		1 N/C	2N/O+1N/C	DL 18 K	+ Li 22	1N/O,1N/C	1N/O+1N/C
DLDAe 65 N ²⁾	DL 42 N-22		1 N/O	1N/O+2N/C	DL 42 N-22		1 N/C	2N/O+1N/C	DL 22 N-22		1N/O,1N/C	1N/O+1N/C
DLDAe 75 N	DL 65 N-22		1 N/O	1N/O+2N/C	DL 42 N-22		1 N/C	2N/O+1N/C	DL 22 N-22		1N/O,1N/C	1N/O+1N/C
DLDAe 110 N	DL 65 N-22		1 N/O	1N/O+2N/C	DL 65 N-22		1 N/C	2N/O+1N/C	DL 42 N-22		1N/O,1N/C	1N/O+1N/C
DLDAe 160 N	DL 90 N-22		1 N/O	1N/O+2N/C	DL 90 N-22		1 N/C	2N/O+1N/C	DL 65 N-22		1N/O,1N/C	1N/O+1N/C
DLDAe 200 N	DL 110 N-22		1 N/O	1N/O+2N/C	DL 110 N-22		1 N/C	2N/O+1N/C	DL 65 N-22		1N/O,1N/C	1N/O+1N/C
DLDAe 250 N	DL 132 N-22		1 N/O	1N/O+2N/C	DL 132 N-22		1 N/C	2N/O+1N/C	DL 90 N-22		1N/O,1N/C	1N/O+1N/C
DLDAe 360 N	DL 245 N-22		1 N/O	1N/O+2N/C	DL 245 N-22		1 N/C	2N/O+1N/C	DL 110 N-22		1N/O,1N/C	1N/O+1N/C
DLDAe 500 N	DL 270 N-22		1 N/O	1N/O+2N/C	DL 270 N-22		1 N/C	2N/O+1N/C	DL 165 N-22		1N/O,1N/C	1N/O+1N/C

Star-delta change-over "AV" (YDAV)

Diagram of control circuit

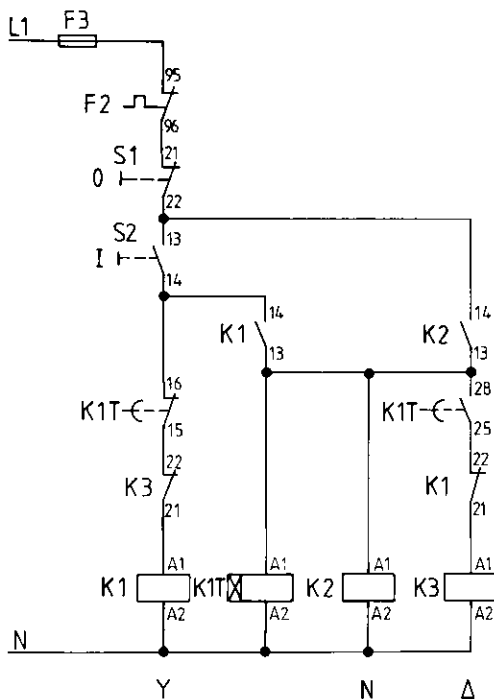
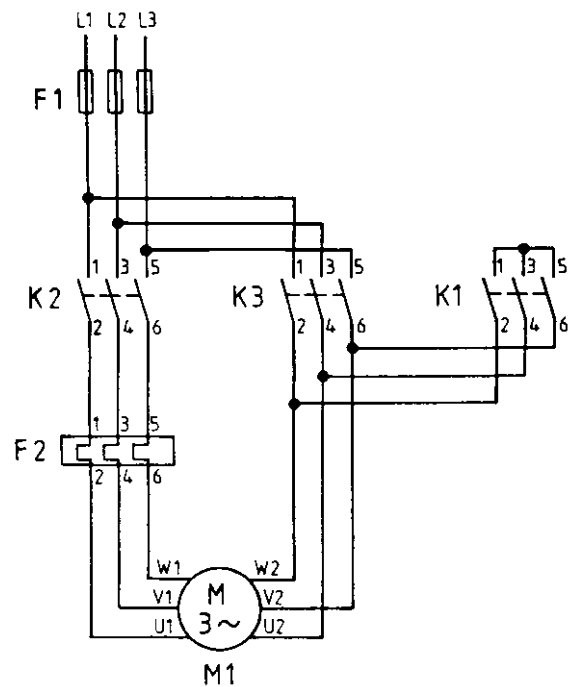


Diagram of powering circuit



Notes

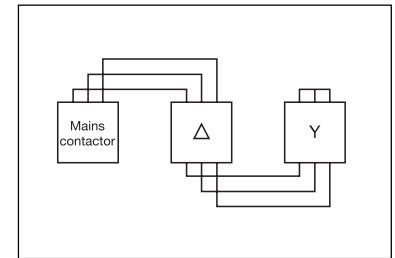
- ¹⁾ Control contacts built into the contactor are first used.
 - ²⁾ Separate terminals are required for connection to the supply.
- Sets of links for self-assembly of contactor combinations, see page 1627.

Accessories:

Sets of links for star-delta contactors

Complete sets of links for wiring the main contacts of supply voltage, delta and star contactors of a contactor assembly.

For contactors	Order ref.:	
DLDAe 7.5 K ... 12.5 K **	3 366 045 01	
DLDAe 15 K **	3 366 046 01	
DLDAe 18.5 K *	3 370 016 01	
DLDAe 22 K ... 30 K *	3 370 017 01	
DLDAe 37 N without mechanical interlock *	3 212 399 00	
DLDAe 37 N with mechanical interlock*	3 212 327 00	
DLDAe 45 N without mechanical interlock*	3 212 399 00	
DLDAe 55 N with mechanical interlock *	3 212 327 00	
DLDAe 65 N with and without interlock	3 244 063 00	
DLDAe 75 N with and without interlock	3 284 159 00	
DLDAe 110 N with and without interlock	3 284 100 00	
DLDAe 160 N with and without interlock	3 284 150 00	
DLDAe 200 N without interlock	3 243 042 00	
DLDAe 250 N without interlock	3 292 059 01	



* massive copper conductor, round insulated, connecting end pieces flattened and bared / ** massive copper conductor, round insulated, connecting end pieces bared

Spares:

Main contact sets for contactors sizes DL 22 N to DL 270 N

The main contact sets listed below are intended for incorporation in types DL and DLg contactors. They can also be used for DLW and DLDAe contactor assemblies.

One main contact set consists of three moving contacts and six fixed contacts. Main contacts are only supplied as complete sets which come in transparent packs. No main contact sets are available for contactors below 22 kW.

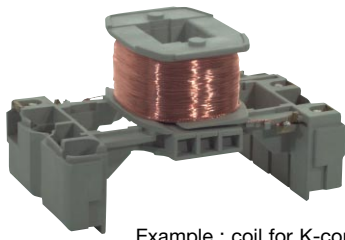
Figure Main contact sets	for contactor type	Order ref.:	Weight kg	
	DL 22 N / DL 30 N	3 212 383 00	0.120	
	DL 42 N	3 244 074 00	0.300	
	DL 65 N	3 284 106 00	0.420	
	DL 90 N	3 284 144 00	0.420	
	DL 110 N	3 292 041 00	0.630	
	DL 132 N	3 292 041 00	0.630	
without a figure	DL 165 N	3 283 031 00	1.200	
without a figure	DL 245 N	3 283 031 00	1.200	
without a figure	DL 270 N	3 184 317 00	2.300	

Notes

For quality reasons, the contact material used for spare contact sets is always that of the larger contactor.

Main contact sets for contactors no longer in production are available on request.

Spares / Coils



Example : coil for K-contactor

- Coils for use with DL and DLg contactors, HL and HLg control relays as well as for all contactor assemblies

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Voltage codes 04 ... 73 to be added to the contactor order reference number

Code number	for coil voltage		Color code ¹⁾	
	AC	DC	AC	DC
... 04	12 V		violet	green
... 06	24 V		violet	green
... 10	32 V		violet	green
... 11	36 V		green	green
... 13	42 V		white	green
... 15	48 V		white	green
... 19	60 V		green	green
... 25	110 V		yellow	green
... 28	120 V		yellow	green
... 29	127 V	125 V	yellow	green
... 38	208 V		blue	green
... 40	230 V	220 V	blue	green
... 41	220 V		blue	-
... 43	240 V		blue	-
... 59	400 V		red	-
... 61	380 V		red	-
... 63	415 V		red	-
... 65	440 V		red	-
... 69	500 V		black	-
... 73	600 V		black	-

Our N-contactors are available with mono-frequency coils for 50 or 60 Hz. Please refer to the listing below for the corresponding order reference.

Further notes at the bottom of this page.

Characteristics

Contactor type	AC			DC	
	Coil : AC operated 50/60 Hz (bi-frequency coil) see supplement at the top right	Coil : AC operated 50 Hz see supplements at the top right	60 Hz see supplements at the top right	Coil : DC operated pull-in / hold windings (economy circuit coil) see supplements at the top right	
DL (g) 4 K ... 11 K	3 366 038 ..	-	-	3 366 039 ..	
DL (g) 15 ... 18 K	3 370 011 ..	-	-	3 370 014 ..	
HL 4 K ..	3 366 040 ..	-	-	-	
HL(g) 4 K ..	-	-	-	3 366 039 ..	
DL (g) 22 N	on request	3 212 387 ..	3 212 389 ..	3 212 393 ..	
DL (g) 30 ... 42 N	on request	3 244 067 ..	3 244 069 ..	3 244 073 ..	
DL (g) 65 ... 90 N	-	3 284 109 ..	3 284 111 ..	3 284 115 ..	
DL (g) 110 ...132 N	-	3 292 020 ..	3 292 022 ..	3 292 026 ..	
DL (g) 165 ...245 N	-	3 208 330 ..	3 208 332 ..	3 208 336 ..	
DL (g) 270 N		3 184 280 ..	3 184 282 ..	3 184 286 ..	
HL 100	3 361 012 ..	-	3 361 014 ..	-	
HLg 100	-	-	-	3 359 025 ..	

Notes

Normal/Standard voltages are: AC: 24, 42, 110, 230 and 400 V
(Short-term availability) DC: 24, 110 and 220 V

Other coil voltages on request

¹⁾ Color code to IEC 309-1 printed on the coil.
Only for compact contactors, HL 4 K / HL 8 K and DL 4 K - DL 18 K

**Voltage code numbers 04 ...73
to be added to the contactor order reference
number for N-contactors**

Code number	For coil voltage		Color code ¹⁾	
	AC	DC	AC	DC
... 04	12 V		violet	green
... 06	24 V		violet	green
... 10	32 V		violet	green
... 11	36 V		green	green
... 13	42 V		white	green
... 15	48 V		white	green
... 19	60 V		green	green
... 25	110 V		yellow	green
... 28	120 V		yellow	green
... 29	127 V	125 V	yellow	green
... 38	208 V		blue	green
... 40	230 V	220 V	blue	green
... 41	220 V		blue	-
... 43	240 V		blue	-
... 59	400 V		red	-
... 61	380 V		red	-
... 63	415 V		red	-
... 65	440 V		red	-
... 69	500 V		black	-
... 73	600 V		black	-

Our control relays, compact contactors, and mini contactors are delivered with bi-frequency coils for 50/60 Hz.

Our N-contactors are available with mono-frequency coils for 50 or 60 Hz.



Notes

Normal/Standard voltages are:
(Short-term availability)

AC: 24, 42, 110, 230 and 400 V
DC: 24, 110 and 220 V

Other coil voltages on request

¹⁾ Color code to IEC 309-1 printed on the coil. Only for compact contactors HL 4 K / HL 8 K and DL 4 K - DL 18 K