

Contactor, 3 pole, 380 V 400 V 15 kW, 1 NC, RDC 24: 24 - 27 V DC, DC operation, Screw terminals



Part no. DILM32-01(RDC24)
Catalog No. 277306
Alternate Catalog No. XTCE032C01TD
EL-Nummer (Norway) 4130432



Delivery program

Product range	Contactors
Application	Contactors for Motors
Subrange	Contactors up to 170 A, 3 pole
Utilization category	AC-1: Non-inductive or slightly inductive loads, resistance furnaces AC-3/AC-3e: Normal AC induction motors: Starting, switching off while running AC-4: Normal AC induction motors: starting, plugging, reversing, inching
Notes	Also suitable for motors with efficiency class IE3.
Connection technique	Screw terminals
Number of poles	3 pole

Rated operational current

AC-3				
Notes	At maximum permissible ambient temperature (open.) Also tested according to AC-3e.			
380 V 400 V	I_e	A	32	
AC-1				
Conventional free air thermal current, 3 pole, 50 - 60 Hz				
Open				
at 40 °C	$I_{th} = I_e$	A	45	
enclosed	I_{th}	A	36	
Conventional free air thermal current, 1 pole				
open	I_{th}	A	100	
enclosed	I_{th}	A	90	

Max. rating for three-phase motors, 50 - 60 Hz

AC-3				
220 V 230 V	P	kW	10	
380 V 400 V	P	kW	15	
660 V 690 V	P	kW	17	
AC-4				
220 V 230 V	P	kW	4	
380 V 400 V	P	kW	7	
660 V 690 V	P	kW	10	

Contacts

N/C = Normally closed	1 NC
Can be combined with auxiliary contact	DILA-XHI(V)...(-PI) DILM32-XHI...-PI DILM32-XHI11-S
Actuating voltage	RDC 24: 24 - 27 V DC
Voltage AC/DC	DC operation
Connection to SmartWire-DT	yes in conjunction with DIL-SWD SmartWire DT contactor module
Instructions	Contacts to EN 50 012. integrated suppressor circuit in actuating electronics with mirror contact.
Frame size	2

Technical data

General

Standards			IEC/EN 60947, VDE 0660, UL, CSA
Lifespan, mechanical			
DC operated	Operations	$\times 10^6$	10
Operating frequency, mechanical			
DC operated	Operations/h		5000
Climatic proofing			Damp heat, constant, to IEC 60068-2-78 Damp heat, cyclic, to IEC 60068-2-30
Ambient temperature			
Open		°C	-25 - +60
Enclosed		°C	-25 - 40
Storage		°C	-40 - 80
Mechanical shock resistance (IEC/EN 60068-2-27)			
Half-sinusoidal shock, 10 ms			
Main contacts			
N/O contact		g	10
Auxiliary contacts			
N/O contact		g	7
N/C contact		g	5
Mechanical shock resistance (IEC/EN 60068-2-27) when tabletop-mounted			
Half-sinusoidal shock, 10 ms			
Main contacts			
N/O contact		g	6.9
Auxiliary contacts			
N/O contact		g	5.3
N/C contact		g	3.5
Degree of Protection			IP00
Protection against direct contact when actuated from front (EN 50274)			Finger and back-of-hand proof
Altitude		m	Max. 2000
Weight			
DC operated		kg	0.534
Screw connector terminals			
Terminal capacity main cable			
Solid		mm ²	1 x (0.75 - 16) 2 x (0.75 - 10)
Flexible with ferrule		mm ²	1 x (0.75 - 16) 2 x (0.75 - 10)
Stranded		mm ²	1 x 16
Solid or stranded		AWG	single 18 - 6, double 18 - 8
Stripping length		mm	10
Terminal screw			M5
Tightening torque		Nm	3.2
Tool			
Pozidriv screwdriver		Size	2
Standard screwdriver		mm	0.8 x 5.5 1 x 6
Terminal capacity control circuit cables			
Solid		mm ²	1 x (0.75 - 4) 2 x (0.75 - 2.5)
Flexible with ferrule		mm ²	1 x (0.75 - 2.5) 2 x (0.75 - 2.5)
Solid or stranded		AWG	18 - 14
Stripping length		mm	10
Terminal screw			M3.5
Tightening torque		Nm	1.2
Tool			
Pozidriv screwdriver		Size	2

Standard screwdriver	mm	0.8 x 5.5 1 x 6
Main conducting paths		
Rated impulse withstand voltage	U_{imp}	V AC 8000
Oversupply category/pollution degree		III/3
Rated insulation voltage	U_i	V AC 690
Rated operational voltage	U_e	V AC 690
Safe isolation to EN 61140		
between coil and contacts		V AC 440
between the contacts		V AC 440
Making capacity (p.f. to IEC/EN 60947)	Up to 690 V	A 384
Breaking capacity		
220 V 230 V		A 320
380 V 400 V		A 320
500 V		A 320
660 V 690 V		A 180
Short-circuit rating		
Short-circuit protection maximum fuse		
Type "2" coordination		
400 V	gG/gL 500 V	A 63
690 V	gG/gL 690 V	A 35
Type "1" coordination		
400 V	gG/gL 500 V	A 125
690 V	gG/gL 690 V	A 63

AC

AC-1

Rated operational current

Conventional free air thermal current, 3 pole, 50 - 60 Hz

Open

at 40 °C

at 50 °C

at 55 °C

at 60 °C

enclosed

Conventional free air thermal current, 1 pole

open

enclosed

AC-3

Rated operational current

Open, 3-pole: 50 – 60 Hz

Notes

At maximum permissible ambient temperature (open.)
Also tested according to AC-3e.

220 V 230 V

240 V

380 V 400 V

415 V

440V

500 V

660 V 690 V

Motor rating

220 V 230 V

240V

380 V 400 V

415 V

440 V	P	kW	20
500 V	P	kW	23
660 V 690 V	P	kW	17
AC-4			
Open, 3-pole: 50 – 60 Hz			
220 V 230 V	I_e	A	15
240 V	I_e	A	15
380 V 400 V	I_e	A	15
415 V	I_e	A	15
440 V	I_e	A	15
500 V	I_e	A	15
660 V 690 V	I_e	A	12
Motor rating	P	kWh	
220 V 230 V	P	kW	4
240 V	P	kW	4.5
380 V 400 V	P	kW	7
415 V	P	kW	7.5
440 V	P	kW	8
500 V	P	kW	9
660 V 690 V	P	kW	10

DC

Rated operational current, open			
DC-1			
60 V	I_e	A	40
110 V	I_e	A	40
220 V	I_e	A	40

Current heat loss

3 pole, at I_{th} (60°)		W	10.3
Current heat loss at I_e to AC-3/400 V		W	6.6
Impedance per pole		$m\Omega$	2.7

Magnet systems

Voltage tolerance			
DC operated	Pick-up	$\times U_c$	0.7 - 1.2
Notes			RDC 24 (U_{min} 24 V DC/ U_{max} 27 V DC) Example: $U_S = 0.7 \times U_{min} - 1.2 \times U_{max} / U_S = 0.7 \times 24V - 1.2 \times 27V DC$
DC operated	Drop-out	$\times U_c$	0.15 - 0.6
Notes			at least smoothed two-phase bridge rectifier or three-phase rectifier

Power consumption of the coil in a cold state and $1.0 \times U_S$			
DC operated	Pick-up	W	12
DC operated	Sealing	W	0.9

Duty factor		% DF	100
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Changeover time at 100 % U_S (recommended value)			
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Main contacts			
DC operated		ms	
Closing delay		ms	
Closing delay		ms	47
Opening delay		ms	
Opening delay		ms	30
Arcing time		ms	10

Electromagnetic compatibility (EMC)			
Emitted interference			according to EN 60947-1
Interference immunity			according to EN 60947-1

Rating data for approved types			
Switching capacity			
Maximum motor rating			

Three-phase			
200 V 208 V	HP	10	
230 V 240 V	HP	10	
460 V 480 V	HP	20	
575 V 600 V	HP	25	
Single-phase			
115 V 120 V	HP	2	
230 V 240 V	HP	5	
General use	A	40	
Auxiliary contacts			
Pilot Duty			
AC operated		A600	
DC operated		P300	
General Use			
AC	V	600	
AC	A	10	
DC	V	250	
DC	A	1	
Short Circuit Current Rating	SCCR		
Basic Rating			
SCCR	kA	5	
max. Fuse	A	125	
max. CB	A	125	
480 V High Fault			
SCCR (fuse)	kA	10/100	
max. Fuse	A	125/70 Class J	
SCCR (CB)	kA	10/65	
max. CB	A	50/32	
600 V High Fault			
SCCR (fuse)	kA	10/100	
max. Fuse	A	125/125 Class J	
SCCR (CB)	kA	10/22	
max. CB	A	50/32	
Special Purpose Ratings			
Electrical Discharge Lamps (Ballast)			
480V 60Hz 3phase, 277V 60Hz 1phase	A	40	
600V 60Hz 3phase, 347V 60Hz 1phase	A	40	
Incandescent Lamps (Tungsten)			
480V 60Hz 3phase, 277V 60Hz 1phase	A	40	
600V 60Hz 3phase, 347V 60Hz 1phase	A	40	
Resistance Air Heating			
480V 60Hz 3phase, 277V 60Hz 1phase	A	40	
600V 60Hz 3phase, 347V 60Hz 1phase	A	40	
Refrigeration Control (CSA only)			
LRA 480V 60Hz 3phase	A	240	
FLA 480V 60Hz 3phase	A	40	
LRA 600V 60Hz 3phase	A	180	
FLA 600V 60Hz 3phase	A	30	
Definite Purpose Ratings (100,000 cycles acc. to UL 1995)			
LRA 480V 60Hz 3phase	A	192	
FLA 480V 60Hz 3phase	A	32	
Elevator Control			

200V 60Hz 3phase	HP	7.5
200V 60Hz 3phase	A	25.3
240V 60Hz 3phase	HP	7.5
240V 60Hz 3phase	A	22
480V 60Hz 3phase	HP	20
480V 60Hz 3phase	A	27
600V 60Hz 3phase	HP	20
600V 60Hz 3phase	A	22

Design verification as per IEC/EN 61439

Technical data for design verification			
Rated operational current for specified heat dissipation	I_n	A	32
Heat dissipation per pole, current-dependent	P_{vid}	W	2.2
Equipment heat dissipation, current-dependent	P_{vid}	W	6.6
Static heat dissipation, non-current-dependent	P_{vs}	W	0.9
Heat dissipation capacity	P_{diss}	W	0
Operating ambient temperature min.		°C	-25
Operating ambient temperature max.		°C	60
IEC/EN 61439 design verification			
10.2 Strength of materials and parts			
10.2.2 Corrosion resistance			Meets the product standard's requirements.
10.2.3.1 Verification of thermal stability of enclosures			Meets the product standard's requirements.
10.2.3.2 Verification of resistance of insulating materials to normal heat			Meets the product standard's requirements.
10.2.3.3 Verification of resistance of insulating materials to abnormal heat and fire due to internal electric effects			Meets the product standard's requirements.
10.2.4 Resistance to ultra-violet (UV) radiation			Meets the product standard's requirements.
10.2.5 Lifting			Does not apply, since the entire switchgear needs to be evaluated.
10.2.6 Mechanical impact			Does not apply, since the entire switchgear needs to be evaluated.
10.2.7 Inscriptions			Meets the product standard's requirements.
10.3 Degree of protection of ASSEMBLIES			Does not apply, since the entire switchgear needs to be evaluated.
10.4 Clearances and creepage distances			Meets the product standard's requirements.
10.5 Protection against electric shock			Does not apply, since the entire switchgear needs to be evaluated.
10.6 Incorporation of switching devices and components			Does not apply, since the entire switchgear needs to be evaluated.
10.7 Internal electrical circuits and connections			Is the panel builder's responsibility.
10.8 Connections for external conductors			Is the panel builder's responsibility.
10.9 Insulation properties			
10.9.2 Power-frequency electric strength			Is the panel builder's responsibility.
10.9.3 Impulse withstand voltage			Is the panel builder's responsibility.
10.9.4 Testing of enclosures made of insulating material			Is the panel builder's responsibility.
10.10 Temperature rise			The panel builder is responsible for the temperature rise calculation. Eaton will provide heat dissipation data for the devices.
10.11 Short-circuit rating			Is the panel builder's responsibility. The specifications for the switchgear must be observed.
10.12 Electromagnetic compatibility			Is the panel builder's responsibility. The specifications for the switchgear must be observed.
10.13 Mechanical function			The device meets the requirements, provided the information in the instruction leaflet (IL) is observed.

Technical data ETIM 8.0

Low-voltage industrial components (EG000017) / Power contactor, AC switching (EC000066)		
Electric engineering, automation, process control engineering / Low-voltage switch technology / Contactor (LV) / Power contactor, AC switching (ecl@ss10.0.1-27-37-10-03 [AAB718015])		
Rated control supply voltage Us at AC 50Hz	V	0 - 0
Rated control supply voltage Us at AC 60Hz	V	0 - 0
Rated control supply voltage Us at DC	V	24 - 27
Voltage type for actuating		DC
Rated operation current Ie at AC-1, 400 V	A	45
Rated operation current Ie at AC-3, 400 V	A	32

Rated operation power at AC-3, 400 V	kW	15
Rated operation current I_e at AC-4, 400 V	A	15
Rated operation power at AC-4, 400 V	kW	7
Rated operation power NEMA	kW	14.9
Modular version		No
Number of auxiliary contacts as normally open contact		0
Number of auxiliary contacts as normally closed contact		1
Type of electrical connection of main circuit		Screw connection
Number of normally closed contacts as main contact		0
Number of normally open contacts as main contact		3