




Contactors, 380 V 400 V 7.5 kW, 3 N/O, 2 NC, RDC 24: 24 - 27 V DC, DC operation, Screw terminals

Part no. DILM17-32(RDC24)
Catalog No. 277114
Alternate Catalog No. XTCE018C32TD
EL-Nummer (Norway) 4110290

Delivery program

Product range		Contactors
Application		Contactors for Motors
Subrange		Complete devices up to 170 A
Utilization category		AC-1: Non-inductive or slightly inductive loads, resistance furnaces NAC-3: Normal AC induction motors: starting, switch off during running AC-4: Normal AC induction motors: starting, plugging, reversing, inching
Connection technique		Screw terminals
		
Notes		Also suitable for motors with efficiency class IE3. IE3-ready devices are identified by the logo on their packaging.

Rated operational current

AC-3			
380 V 400 V	I_e	A	18
AC-1			
Conventional free air thermal current, 3 pole, 50 - 60 Hz			
Open			
at 40 °C	$I_{th} = I_e$	A	40
enclosed	I_{th}	A	32
Conventional free air thermal current, 1 pole			
open	I_{th}	A	88
enclosed	I_{th}	A	80

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

AC-3			
220 V 230 V	P	kW	5
380 V 400 V	P	kW	7.5
660 V 690 V	P	kW	11
AC-4			
220 V 230 V	P	kW	2.5
380 V 400 V	P	kW	4.5
660 V 690 V	P	kW	6.5

Contacts

N/O = Normally open		3 N/O
N/C = Normally closed		2 NC

Instructions

Contacts to EN 50 012.
 integrated suppressor circuit in actuating electronics with mirror contact.

Contact sequence



Actuating voltage

RDC 24: 24 - 27 V DC

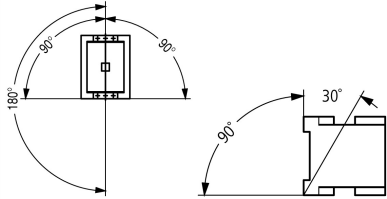
Voltage AC/DC

DC operation

Technical data

General

Standards		IEC/EN 60947, VDE 0660, UL, CSA
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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
Mounting position			
			
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	0.48
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 - 2.5) 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
Overvoltage 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)			
	U_p to 690 V	A	238
Breaking capacity			
220 V 230 V		A	170
380 V 400 V		A	170
500 V		A	170
660 V 690 V		A	120
Short-circuit rating			
Short-circuit protection maximum fuse			
Type "2" coordination			
400 V	gG/gL 500 V	A	35
690 V	gG/gL 690 V	A	35
Type "1" coordination			
400 V	gG/gL 500 V	A	63
690 V	gG/gL 690 V	A	50

AC

AC-1			
Rated operational current			
Conventional free air thermal current, 3 pole, 50 - 60 Hz			
Open			
at 40 °C	$I_{th} = I_e$	A	40
at 50 °C	$I_{th} = I_e$	A	38
at 55 °C	$I_{th} = I_e$	A	37
at 60 °C	$I_{th} = I_e$	A	35
enclosed	I_{th}	A	32
Conventional free air thermal current, 1 pole			
open	I_{th}	A	88
enclosed	I_{th}	A	80
AC-3			
Rated operational current			
Open, 3-pole: 50 – 60 Hz			
Notes			At maximum permissible ambient temperature (open.)
220 V 230 V	I_e	A	18
240 V	I_e	A	18
380 V 400 V	I_e	A	18
415 V	I_e	A	18
440V	I_e	A	18
500 V	I_e	A	18
660 V 690 V	I_e	A	12
380 V 400 V	I_e	A	18
Motor rating	P	kWh	
220 V 230 V	P	kW	5

240 V	P	kW	5.5
380 V 400 V	P	kW	7.5
415 V	P	kW	10
440 V	P	kW	10.5
500 V	P	kW	12
660 V 690 V	P	kW	11
AC-4			
Open, 3-pole: 50 – 60 Hz			
220 V 230 V	I_e	A	10
240 V	I_e	A	10
380 V 400 V	I_e	A	10
415 V	I_e	A	10
440 V	I_e	A	10
500 V	I_e	A	10
660 V 690 V	I_e	A	8
Motor rating			
220 V 230 V	P	kW	2.5
240 V	P	kW	3
380 V 400 V	P	kW	4.5
415 V	P	kW	5
440 V	P	kW	5.5
500 V	P	kW	6
660 V 690 V	P	kW	6.5

DC

Rated operational current, open			
DC-1			
60 V	I_e	A	35
110 V	I_e	A	35
220 V	I_e	A	35

Current heat loss

3 pole, at I_{th} (60°)		W	7.9
Current heat loss at I_e to AC-3/400 V		W	2.1
Impedance per pole		mΩ	2.7

Magnet systems

Voltage tolerance			
DC operated	Pick-up	x 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	x 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
Changeover time at 100 % U_S (recommended value)			
Main contacts			
DC operated		ms	
Closing delay		ms	47
Opening delay		ms	30
Arcing time		ms	10
Lifespan, mechanical; Coil 50/60 Hz		x 10^6	Mechanical lifespan at 50 Hz approx. 30% lower than under "Technical data, general"

Electromagnetic compatibility (EMC)

Emitted interference			to EN 60947-1
Interference immunity			to EN 60947-1

Rating data for approved types

Switching capacity			
Maximum motor rating			
Three-phase			
200 V 208 V	HP	5	
230 V 240 V	HP	5	
460 V 480 V	HP	10	
575 V 600 V	HP	15	
Single-phase			
115 V 120 V	HP	2	
230 V 240 V	HP	3	
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	125/70 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	108
FLA 480V 60Hz 3phase	A	18
Elevator Control		
200V 60Hz 3phase	HP	3
200V 60Hz 3phase	A	11
240V 60Hz 3phase	HP	3
240V 60Hz 3phase	A	9.6
480V 60Hz 3phase	HP	7.5
480V 60Hz 3phase	A	11
600V 60Hz 3phase	HP	10
600V 60Hz 3phase	A	11

Design verification as per IEC/EN 61439

Technical data for design verification			
Rated operational current for specified heat dissipation	I_n	A	18
Heat dissipation per pole, current-dependent	P_{vid}	W	0.7
Equipment heat dissipation, current-dependent	P_{vid}	W	2.1
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			
10.2.3.1 Verification of thermal stability of enclosures			
10.2.3.2 Verification of resistance of insulating materials to normal heat			
10.2.3.3 Verification of resistance of insulating materials to abnormal heat and fire due to internal electric effects			
10.2.4 Resistance to ultra-violet (UV) radiation			
10.2.5 Lifting			
10.2.6 Mechanical impact			
10.2.7 Inscriptions			
10.3 Degree of protection of ASSEMBLIES			
10.4 Clearances and creepage distances			
10.5 Protection against electric shock			
10.6 Incorporation of switching devices and components			
10.7 Internal electrical circuits and connections			
10.8 Connections for external conductors			
10.9 Insulation properties			
10.9.2 Power-frequency electric strength			
10.9.3 Impulse withstand voltage			
10.9.4 Testing of enclosures made of insulating material			
10.10 Temperature rise			
10.11 Short-circuit rating			
10.12 Electromagnetic compatibility			
10.13 Mechanical function			

Technical data ETIM 7.0

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 U_s at AC 50HZ		V	0 - 0
Rated control supply voltage U_s at AC 60HZ		V	0 - 0
Rated control supply voltage U_s at DC		V	24 - 27

Voltage type for actuating		DC
Rated operation current Ie at AC-1, 400 V	A	40
Rated operation current Ie at AC-3, 400 V	A	18
Rated operation power at AC-3, 400 V	kW	7.5
Rated operation current Ie at AC-4, 400 V	A	10
Rated operation power at AC-4, 400 V	kW	4.5
Rated operation power NEMA	kW	7.4
Modular version		No
Number of auxiliary contacts as normally open contact		3
Number of auxiliary contacts as normally closed contact		2
Type of electrical connection of main circuit		Screw connection
Number of normally closed contacts as main contact		0
Number of main contacts as normally open contact		3

Approvals

Product Standards		IEC/EN 60947-4-1; UL 60947-4-1; CSA - C22.2 No. 60947-4-1-14; CE marking
UL File No.		E29096
UL Category Control No.		NLDX
CSA File No.		012528
CSA Class No.		2411-03, 3211-04
North America Certification		UL listed, CSA certified
Specially designed for North America		No



- 1: Overload relay
- 2: Suppressor



- Squirrel-cage motor
- Operating characteristics
- Starting: from rest
- Stopping: after attaining full running speed
- Electrical characteristics
- Make: up to 6 x rated motor current
- Break: up to 1 x rated motor current
- Utilization category
- 100 % AC-3
- Typical applications
- Compressors
- Lifts
- Mixers
- Pumps
- Escalators
- Agitators
- Fans
- Conveyor belts
- Centrifuges
- Hinged flaps
- Bucket-elevators
- Air conditioning system
- General drives in manufacturing and processing machines



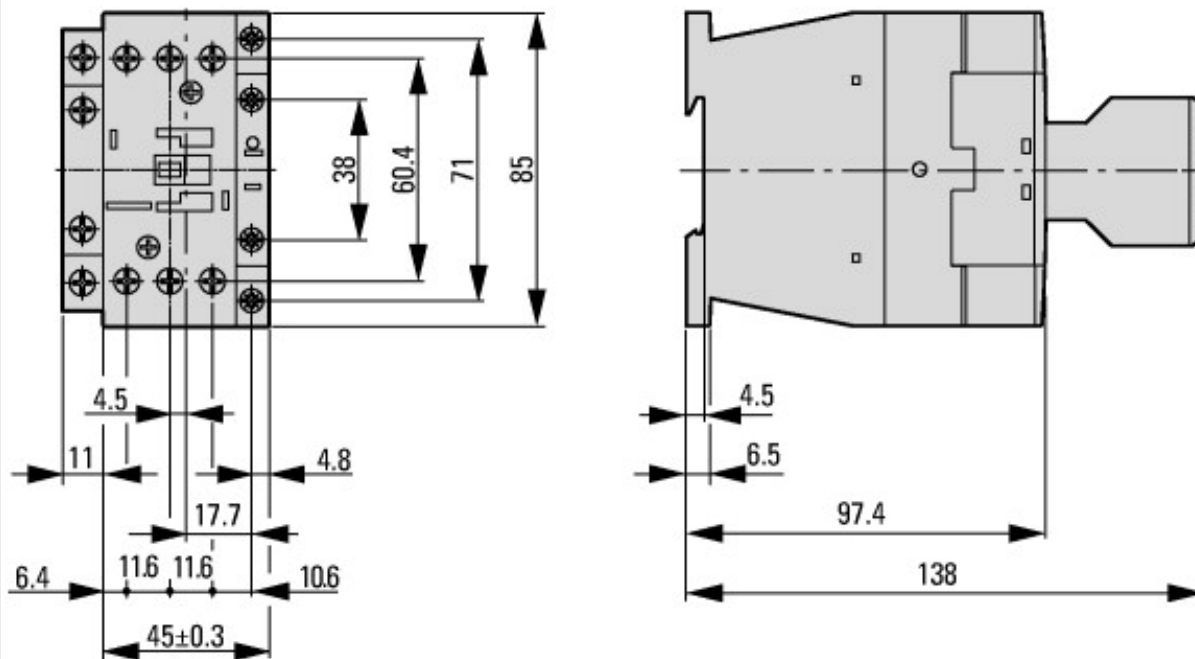
- Extreme switching duty
- Squirrel-cage motor
- Operating characteristics
- Inching, plugging, reversing
- Electrical characteristics
- Make: up to 6 x rated motor current
- Break: up to 6 x rated motor current
- Utilization category
- 100 % AC-4
- Typical applications
- Printing presses
- Wire-drawing machines
- Centrifuges
- Special drives for manufacturing and processing machines



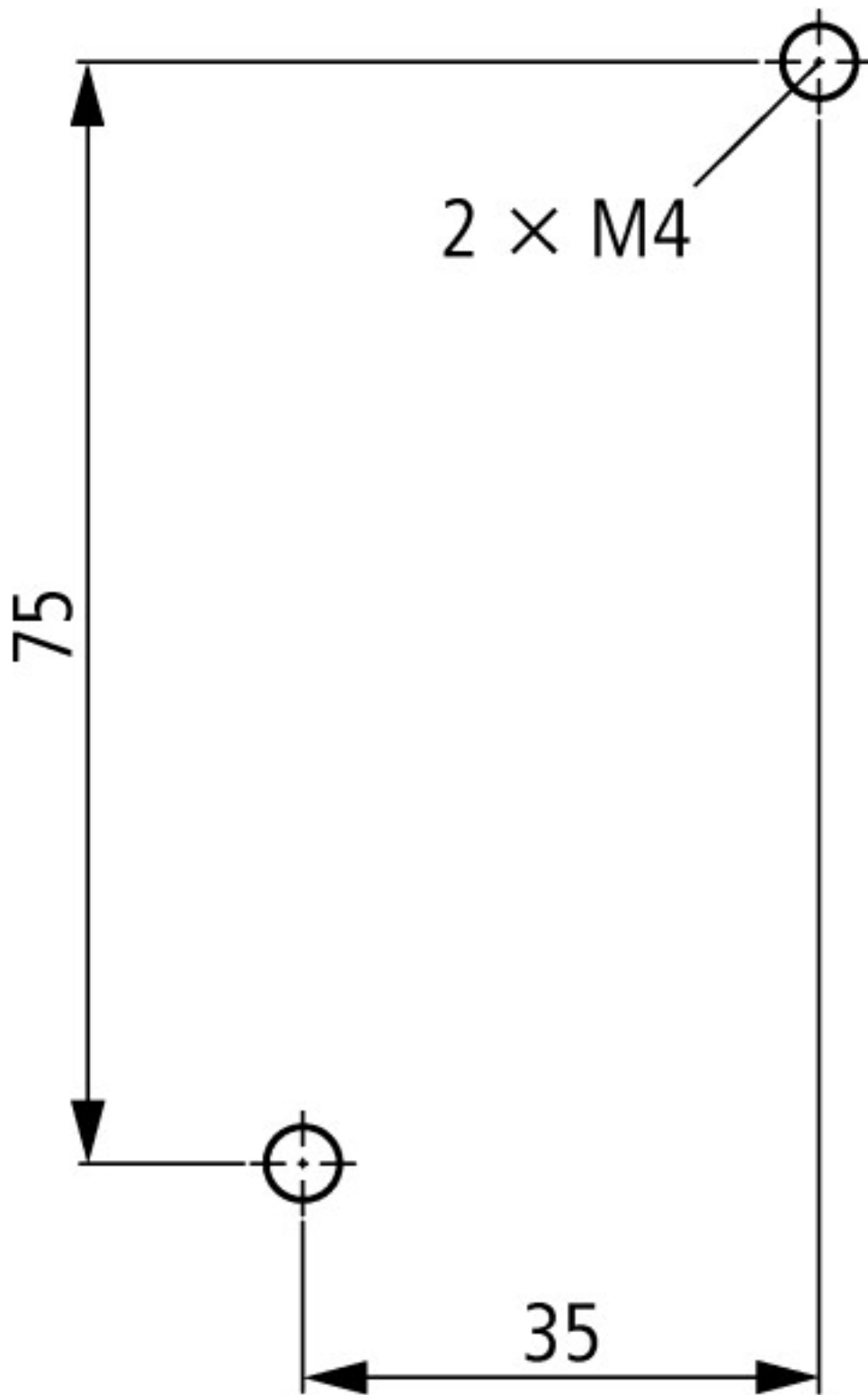
Switching conditions for 3 pole, non-motor loads
 Operating characteristics
 Non inductive and slightly inductive loads
 Electrical characteristics
 Switch on: 1 x rated operational current
 Switch off: 1 x rated operational current
 Utilization category
 100 % AC-1
 Typical examples of application
 Electric heat



Dimensions



Contactor with auxiliary contact module



distance at side to earthed parts: 6 mm

Assets (links)

Declaration of CE Conformity

00003050

Instruction Leaflets

IL03407044Z2018_05