Contactor,7,5kW/400V,DC-operated

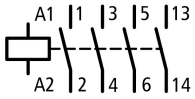
Part no. **DILM17-10(RDC24)**

Article no. **277018**

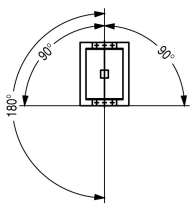
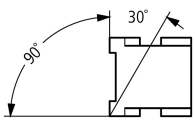
Powering Business Worldwide

An Eaton Brand

Delivery programme

Connection technique			Screw terminals
Actuating voltage			RDC 24: 24 – 27 V DC
Voltage AC/DC			DC operation
			3 pole
Rated operational current			
AC-3			
380 V 400 V	I_e	A	18
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
Conventional free air thermal current $I_{th} = I_e$ AC-1 at 60 °C			
Open	$I_{th} = I_e$	A	35
Contacts			
N/O = Normally open			1 N/O
Contact sequence			
Can be combined with auxiliary contact			DILM32-XHI.. DILA-XHI(V).. DILM32-XHI11-S

General

Standards			IEC/EN 60947, VDE 0660, UL, CSA
Lifespan, mechanical			
AC operated	Operations	$\times 10^6$	10
DC operated	Operations	$\times 10^6$	10
Operating frequency, mechanical			
AC operated	Operations/h		5000
DC operated	Operations/h		5000
Climatic proofing			Damp heat, constant, to IEC 60068-2-78 Damp heat, cyclical, to IEC 60068-2-30
Ambient temperature		°C	
Open		°C	– 25 … 60
Enclosed		°C	- 25 … 40
Storage		°C	– 40 - 80
Mounting position, AC- and DC operated			 

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
Protection type			IP00
Protection against direct contact when actuated from front (IEC 536)			Finger- and back-of-hand proof
Weight			
AC operated		kg	0.42
DC operated		kg	0.48
Terminal capacity main cable			
Solid		mm^2	1 × (0.75 – 16) 2 × (0.75 – 10)
Flexible with ferrule		mm^2	1 × (0.75 – 16) 2 × (0.75 – 10)
Stranded		mm^2	1 × 16
Solid or stranded		AWG	18 – 6
Main cable connection screw/bolt			M5
Tightening torque		Nm	3
Terminal capacity control circuit cables			
Solid		mm^2	1 × (0.75 – 4) 2 × (0.75 – 4)
Flexible with ferrule		mm^2	1 × (0.75 – 1.5) 2 × (0.75 – 1.5)
Solid or stranded		AWG	18 – 14
Control circuit cable connection screw/bolt			M3.5
Tightening torque		Nm	1.2
Tool			
Main cable			
Pozidriv screwdriver		Size	2
Standard screwdriver		mm	0.8 × 5.5 1 × 6
Control circuit cables			
Pozidriv screwdriver		Size	2
Standard screwdriver		mm	0.8 × 5.5 1 × 6
Terminal capacity control circuit cables			
Solid		mm^2	1 × (0.75 – 2.5) 2 × (0.75 – 2.5)
Flexible		mm^2	1 × (0.75 – 1.5) 2 × (0.75 – 1.5)
Flexible with ferrule		mm^2	1 × (0.75 – 1.5) 2 × (0.75 – 1.5)
Solid or stranded		AWG	18 – 14
Tool			
Stripping length		mm	10
Screwdriver blade width		mm	3.5

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 VDE 0106 Part 101 and Part 101/A1			
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	238
Breaking capacity			
230 V		A	170
380/400 V		A	170
500 V		A	170
660/690 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 duty			
conv. therm. current 3 pole 50 – 60 Hz			
open			
at 40 °C	I_{th}	A	40
at 50 °C	I_{th}	A	38
at 55 °C	I_{th}	A	37
at 60 °C	I_{th}	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 duty			
Rated operational current AC-3 open, 50 – 60 Hz, 3 pole	I_e		
230 V	I_e	A	18
240 V	I_e	A	18
380/400 V	I_e	A	18
415 V	I_e	A	18
440V	I_e	A	18
500 V	I_e	A	18
660/690 V	I_e	A	12
Motor rating	*P*	*P*	
230 V	*P*	kW	5
240V	*P*	kW	5.5
380/400 V	*P*	kW	7.5
415 V	*P*	kW	10
440 V	*P*	kW	10.5
500 V	*P*	kW	12
660/690 V	*P*	kW	11
AC-4 duty			
Rated operational current AC-4 open, 50 – 60 Hz, 3 pole	I_e		
230 V	I_e	A	10
240 V	I_e	A	10

380/400 V	I_e	A	10
415 V	I_e	A	10
440 V	I_e	A	10
500 V	I_e	A	10
660/690 V	I_e	A	8
Motor rating	*P*	*P*	
230 V	*P*	kW	2.5
240 V	*P*	kW	3
380/400 V	*P*	kW	4.5
415 V	*P*	kW	5
440 V	*P*	kW	5.5
500 V	*P*	kW	6
660/690 V	*P*	kW	6.5

DC

Rated operational current, open			
DC-1 operation			
60 V	I_e	A	35
110 V	I_e	A	35
220 V	I_e	A	35
440 V	I_e	A	2.9
DC-3 operation			
60 V	I_e	A	35
110 V	I_e	A	35
220 V	I_e	A	10
440 V	I_e	A	0.6
DC-5 operation			
60 V	I_e	A	35
110 V	I_e	A	35
220 V	I_e	A	10
440 V	I_e	A	0.6

Current heat loss (3 pole)

Current heat loss at $\mathbf{I_{th}}$		W	7.3
Current heat loss at I_e to AC-3/400 V		W	1.9
Impedance per pole		mΩ	2

Magnet systems

Voltage tolerance		× U_c	
AC operated	Pick-up	× U_c	0.8 … 1.1
Drop-out voltage AC operated	Drop-out	× U_c	0.3 … 0.6
DC operated	Pick-up	× U_c	0.7 … 1.2
DC operated	Drop-out	× U_c	0.15 … 0.6
Power consumption of the coil in a cold state and 1.0 × U_c			
50 Hz	Pick-up	VA	52
50 Hz	Sealing	VA	7.1
50 Hz	Sealing	W	2.1
60 Hz	Pick-up	VA	67
60 Hz	Sealing	VA	8.7
60 Hz	Sealing	W	2.6
50/60 Hz	Pick-up	VA	62 58
50/60 Hz	Sealing	VA	9.1 6.5
50/60 Hz	Sealing	W	2.5 2
DC operated	Pick-up	W	12
DC operated	Sealing	W	0.5

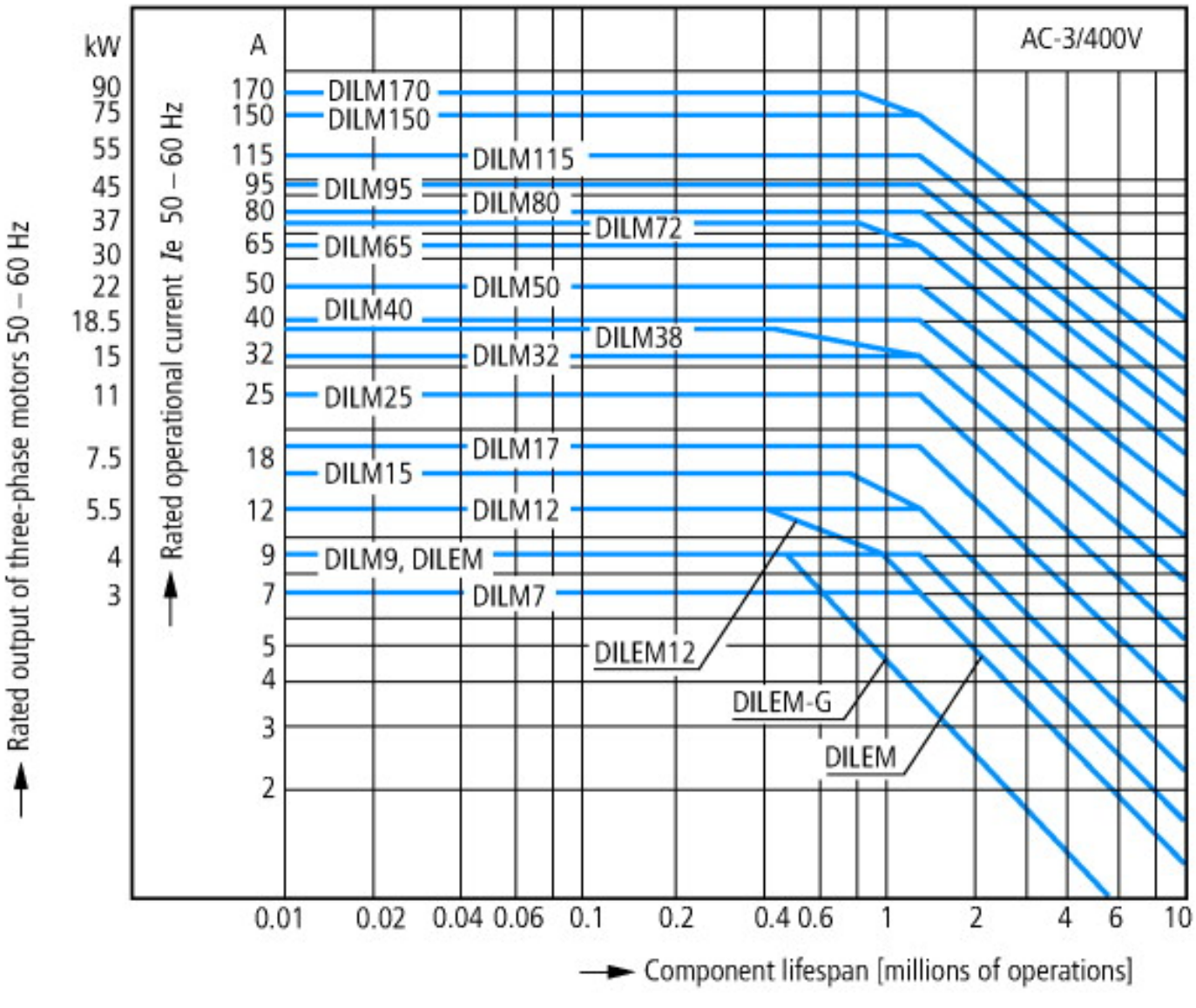
Duty factor		% DF	100
Switching times at 100 % U_c (approximate values)			
Main contacts			
AC operated			
Closing delay		ms	16 … 22
Opening delay		ms	8 … 14
DC operated		ms	
Closing delay		ms	47
Opening delay		ms	30
Arcing time		ms	10
Lifespan, mechanical; Coil 50/60 Hz	at 50 Hz		Mechanical lifespan 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

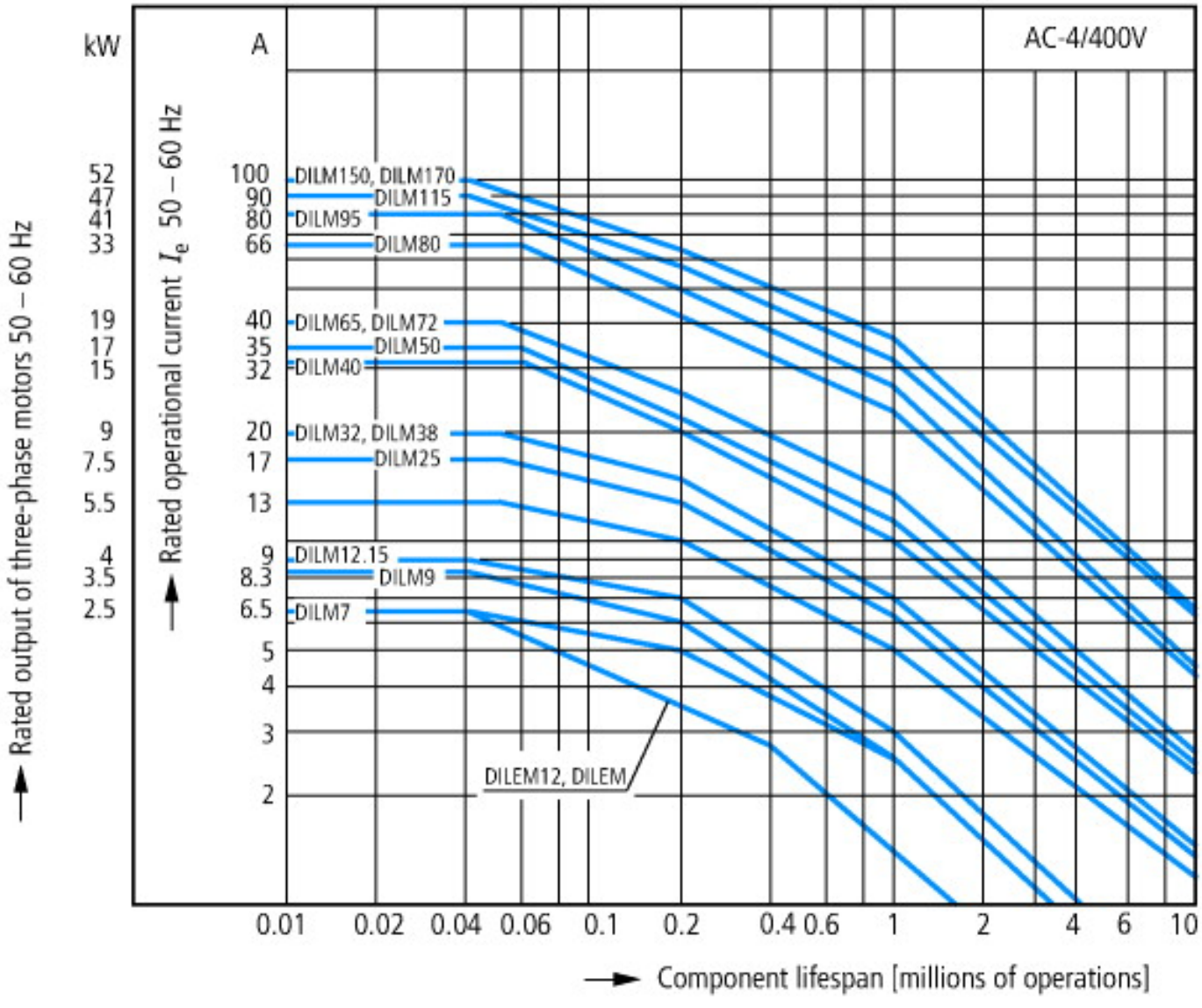
Notes

Notes The following applies to magnet systems, voltage tolerance, pickup voltage DC-operated DILM17 – DILM32:
RDC 24 (U_{min} 24 V DC/U_{max} 27 V DC)
RDC 60 (U_{min} 48 V DC/U_{max} 60 V DC)
RDC 130 (U_{min} 110 V DC/U_{max} 130 V DC)
RDC 240 (U_{min} 200 V DC/U_{max} 240 V DC)
Example:
$U_c = 0.7 \times U_{min} - 1.2 \times U_{max}$
$U_c = 0.7 \times 24\ V - 1.2 \times 27\ V\ DC$
With voltage tolerance and DC operated power consumption the following applies: At least smoothed double-pulse bridge rectification or a three-phase current rectifier is necessary



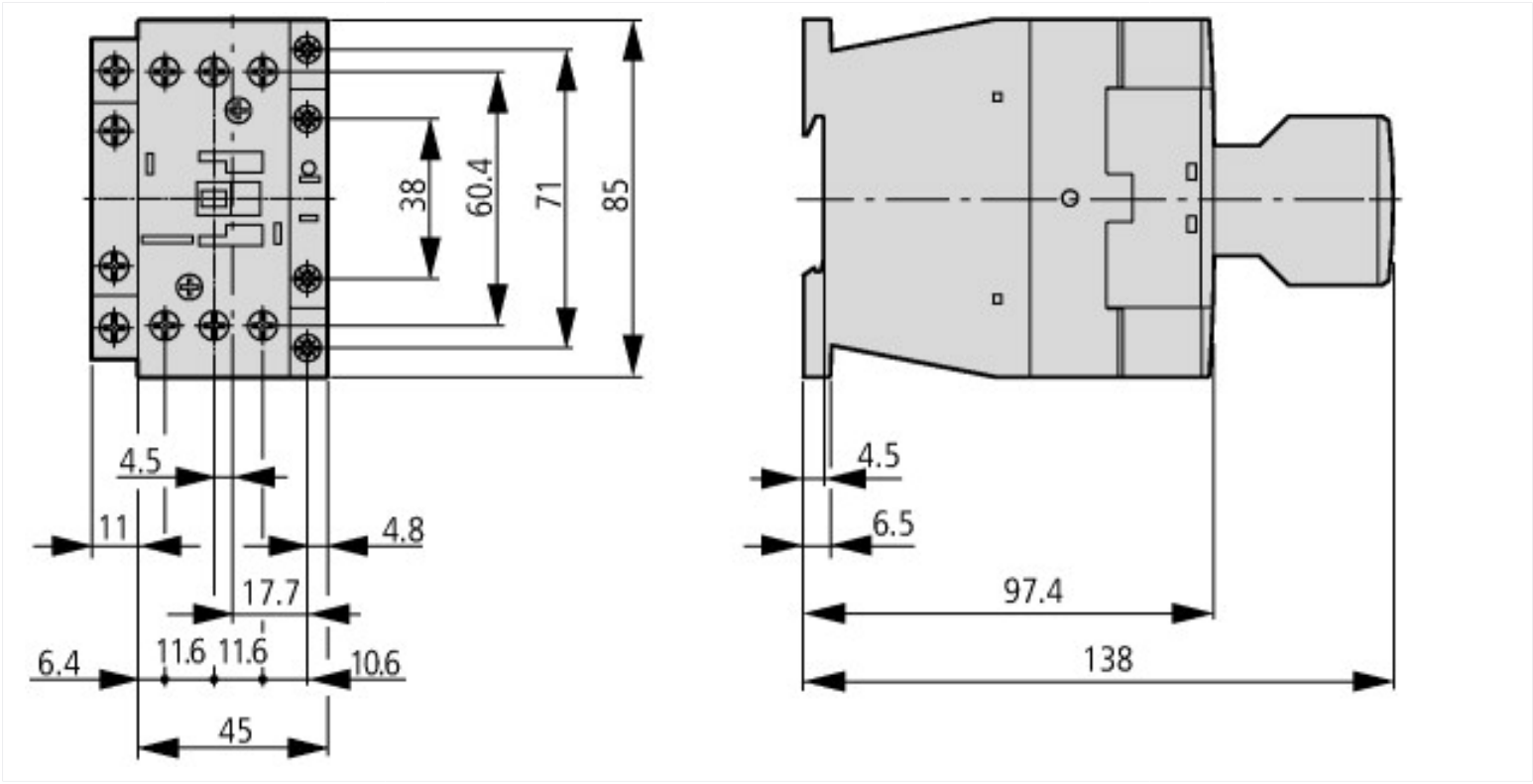
Squirrel-cage motor
Operating characteristics

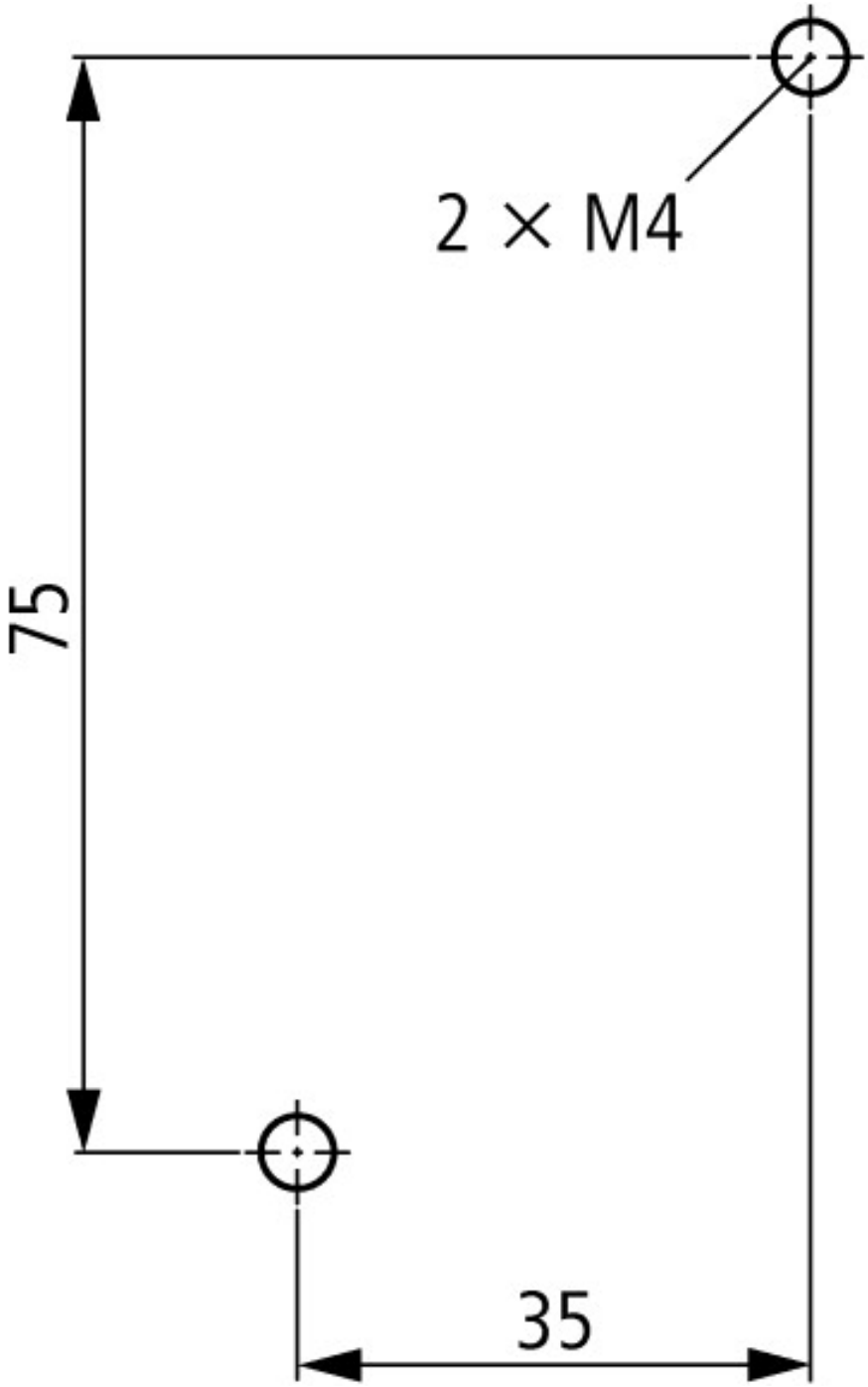
Starting:from rest
Stopping:after attaining full running speed
Electrical characteristics
Make: up to 6 × rated motor current
Break: up to 1 × rated motor current
Utilization category
100 % AC-3
Typical applications
Compressors
Lifts
Mixers
Pumps
Escalators
Agitators
Fans
Conveyor belts
Centrifuges
Hinged 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 × rated motor current
Break: up to 6 × rated motor current
Utilization category
100 % AC-4
Typical applications
Printing presses
Wire-drawing machines
Centrifuges
Special drives for manufacturing and processing machines

Dimensions





Lateral clearance to earthed parts: 6 mm	
Contactor with auxiliary contact module	
DILM17...DILM38 DILMC17...DILMC32 DILMF8...DILMF32	

Additional product information (links)

Installation instructions

AWA2100-2127 Contactors	ftp://ftp.moeller.net/DOCUMENTATION/AWA_INSTRUCTIONS/21270608.pdf