



Contactor, 11kW/400V, AC-operated



Powering Business Worldwide™

Part no. DILM25-10(230V50/60HZ)

Article no. 277140

Delivery programme

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: Squirrel-cage motors: starting, switching off during running AC-4: Squirrel-cage motors: starting, plugging, reversing, inching
Connection technique			Screw terminals
Pole			3 pole
Rated operational current			
AC-3			
380 V 400 V	I_e	A	25
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	7.5
380 V 400 V	P	kW	11
660 V 690 V	P	kW	14
AC-4			
220 V 230 V	P	kW	3.5
380 V 400 V	P	kW	6
660 V 690 V	P	kW	8.5
Contacts			
N/O = Normally open			1 N/O
Contact sequence			
Instructions			Contacts to EN 50012.
Can be combined with auxiliary contact			DILM32-XHI.. DILA-XHI(V)..
Voltage AC/DC			AC operation

Approvals

Product Standards	IEC/EN 60947-4-1; UL 508; CSA-C22.2 No. 14-05; CE marking
UL File No.	E29096
UL CCN	NLDX
CSA File No.	012528
CSA Class No.	2411-03, 3211-04
NA Certification	UL listed, CSA certified
Specially designed for NA	No

General

Standards		IEC/EN 60947, VDE 0660, UL, CSA
Lifespan, mechanical		

AC operated	Operations	x 10 ⁶	10
DC operated	Operations	x 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, cyclic to IEC 60068-2-30
Ambient temperature			
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 (EN 50274)			
			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 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	18 - 6
Main cable connection screw/bolt			
			M5
Tightening torque			
			Nm 3.2
Terminal capacity control circuit cables			
Solid		mm ²	1 x (0.75 - 4) 2 x (0.75 - 4)
Flexible with ferrule		mm ²	1 x (0.75 - 1.5) 2 x (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 x 5.5 1 x 6
Control circuit cables			
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		mm ²	1 x (0.75 - 2.5) 2 x (0.75 - 2.5)
Flexible with ferrule		mm ²	1 x (0.75 - 1.5) 2 x (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)			
	U_p to 690 V	A	350
Breaking capacity			
220 V 230 V		A	250
380 V 400 V AC		A	250
500 V		A	250
660 690 V AC		A	150
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	100
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	45
at 50 °C	$I_{th} = I_e$	A	43
at 55 °C	$I_{th} = I_e$	A	42
at 60 °C	$I_{th} = I_e$	A	40

enclosed	I_{th}	A	36
Conventional free air thermal current, 1 pole			
open	I_{th}	A	100
enclosed	I_{th}	A	90
AC-3			
Rated operational current			
Open, 3-pole: 50 – 60 Hz			
220 V 230 V	I_e	A	25
240 V	I_e	A	25
380 V 400 V	I_e	A	25
415 V	I_e	A	25
440V	I_e	A	25
500 V	I_e	A	25
660 V 690 V	I_e	A	15
Motor rating			
220 V 230 V	P	kWh	
240V	P	kW	7.5
380 V 400 V	P	kW	11
415 V	P	kW	14.5
440 V	P	kW	15.5
500 V	P	kW	17.5
660 V 690 V	P	kW	14
AC-4			
Open, 3-pole: 50 – 60 Hz			
230 V	I_e	A	13
240 V	I_e	A	13
400 V	I_e	A	13
415 V	I_e	A	13
440 V	I_e	A	13
500 V	I_e	A	13
690 V	I_e	A	10
Motor rating			
230 V	P	kWh	
240 V	P	kW	3.5
400 V	P	kW	4
415 V	P	kW	6
440 V	P	kW	6.5
440 V	P	kW	7
500 V	P	kW	8
690 V	P	kW	8.5

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
440 V	I_e	A	2.9
DC-3			
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			
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 at I_{th}		W	9.6
Current heat loss at I_e to AC-3/400 V		W	3.8
Impedance per pole		mΩ	2

Magnet systems

Voltage tolerance		$x U_c$	
AC operated	Pick-up	$x U_c$	0.8 - 1.1
Drop-out voltage AC operated	Drop-out	$x U_c$	0.3 - 0.6
DC operated	Pick-up	$x U_c$	0.7 - 1.2
Notes			at least smoothed two-phase bridge rectifier or three-phase rectifier
DC operated	Drop-out	$x U_c$	0.15 - 0.6
Power consumption of the coil in a cold state and $1.0 x U_c$			
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)

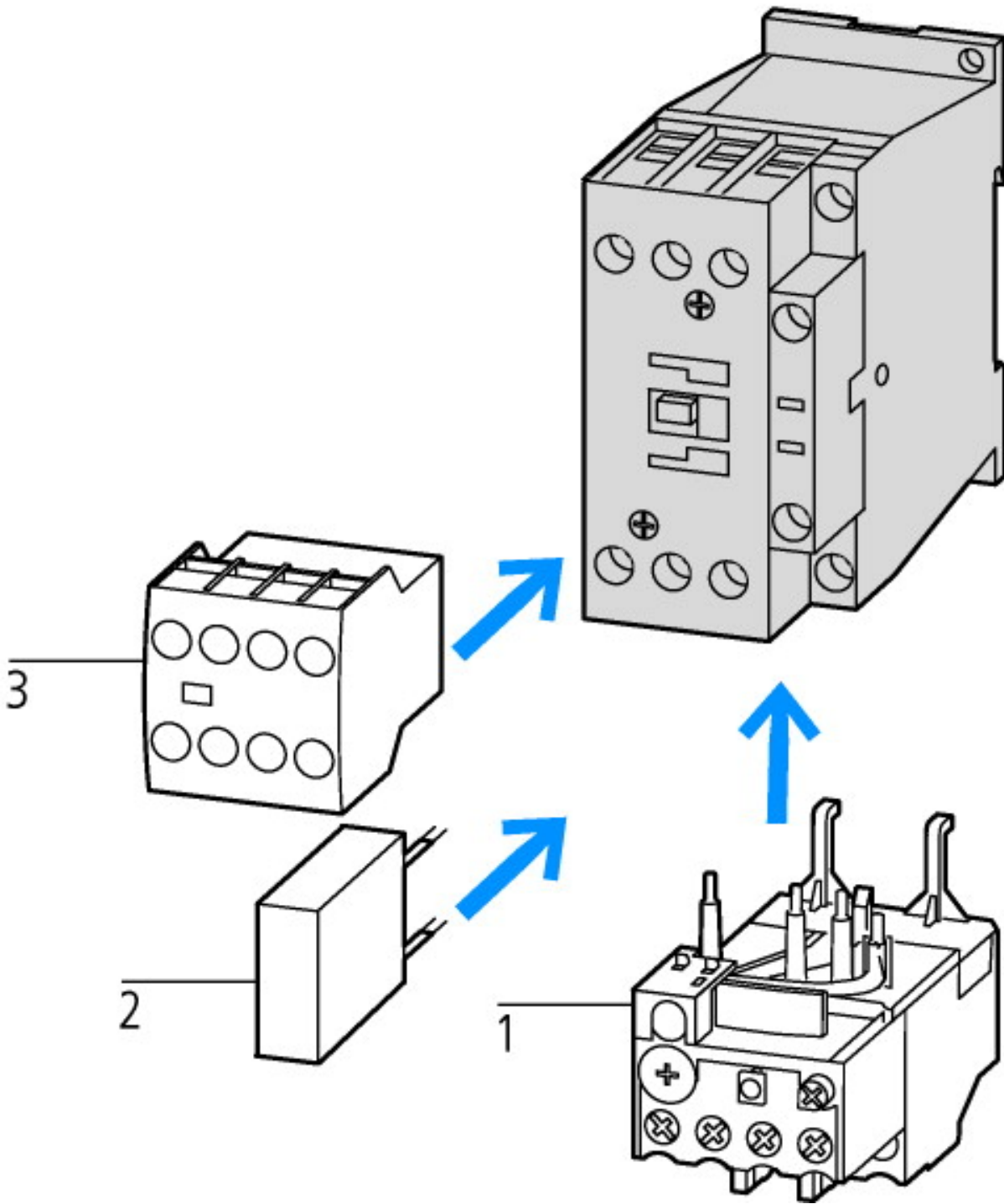
Emitted interference			to EN 60947-1
Interference immunity			to EN 60947-1

Technical data ETIM 4.0

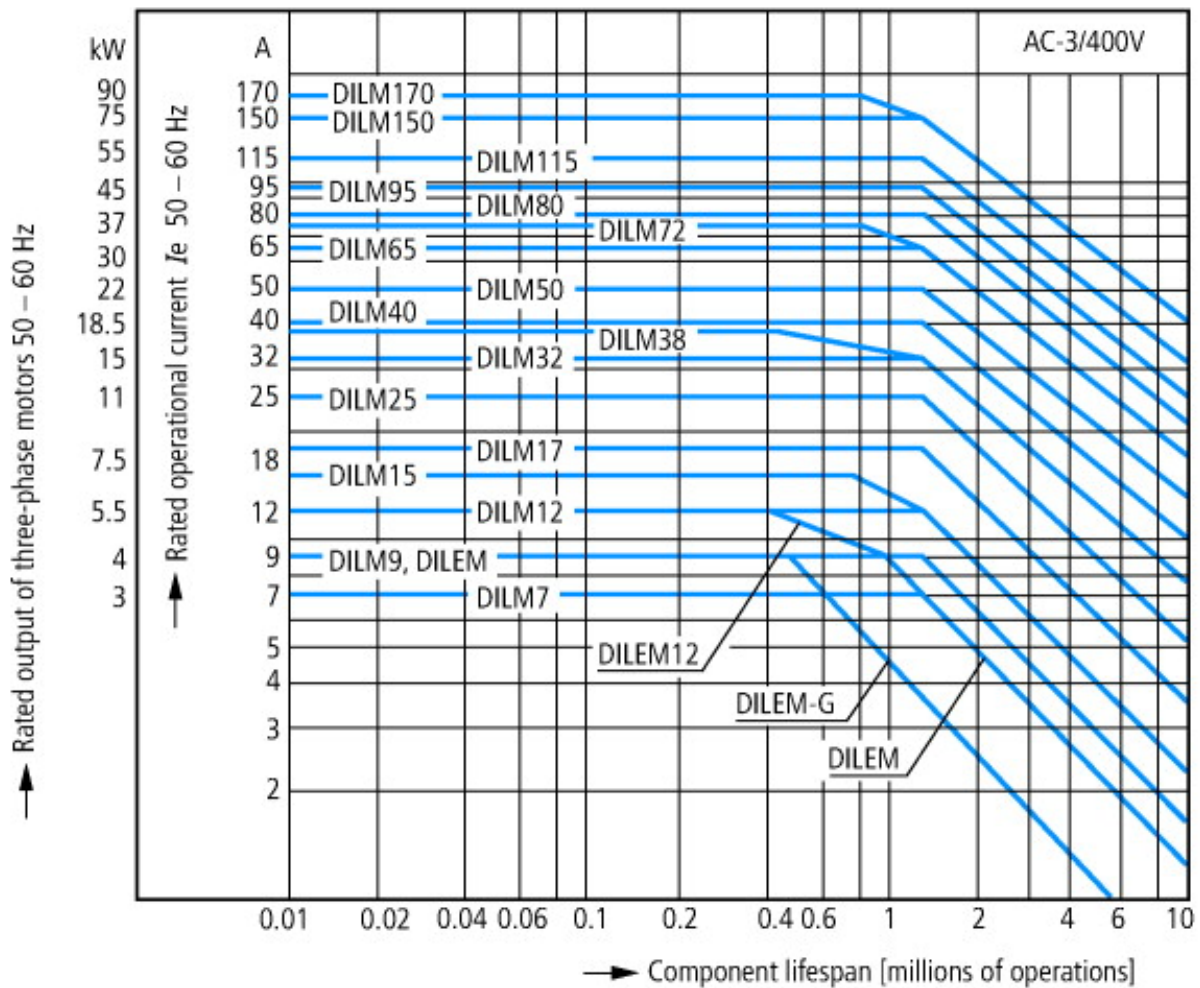
Number of main contacts as N/Os			3
Rated operation current I_e at AC-1, 400 V			45
Connection type main circuit			Screw connection
Rated control voltage U_s at AC 60HZ		V	230
Number of auxiliary contacts as N/Os			1
Rated control voltage U_s at AC 50HZ		V	230
Number of auxiliary contacts as N/Cs			0
Suitable for rail-mounting			No
Rated control voltage U_s at DC		V	0
Voltage type for actuation			AC

Rated operation current I_e at AC-3, 400 V	A	25
Number of N/Cs as main contact		0
Motor rating at AC-3, 400 V	kWh	11

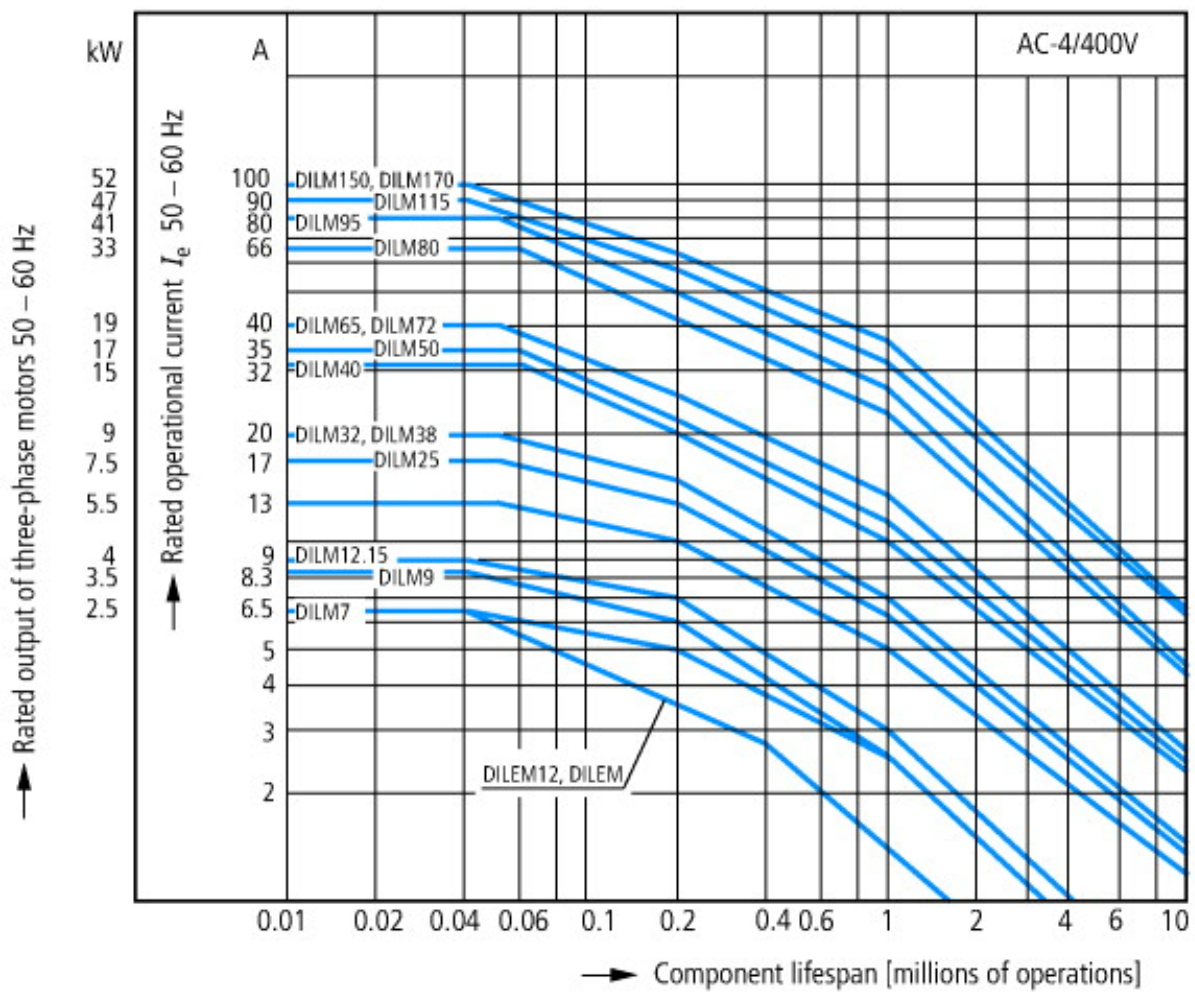
Characteristics



- 1: Overload relay
- 2: Suppressor
- 3: Auxiliary contact modules

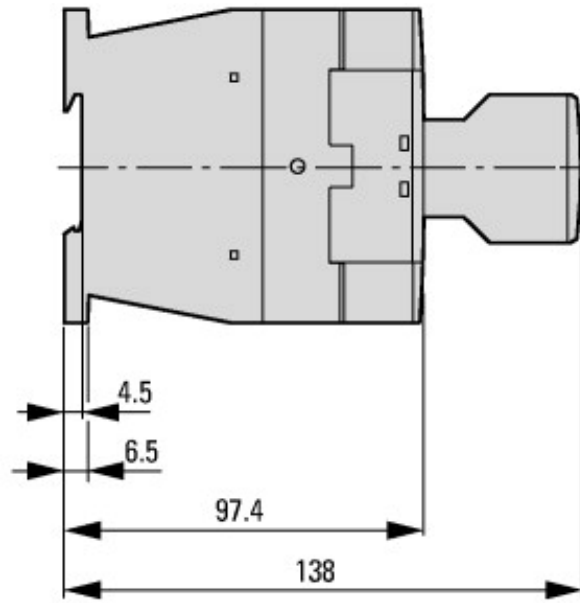
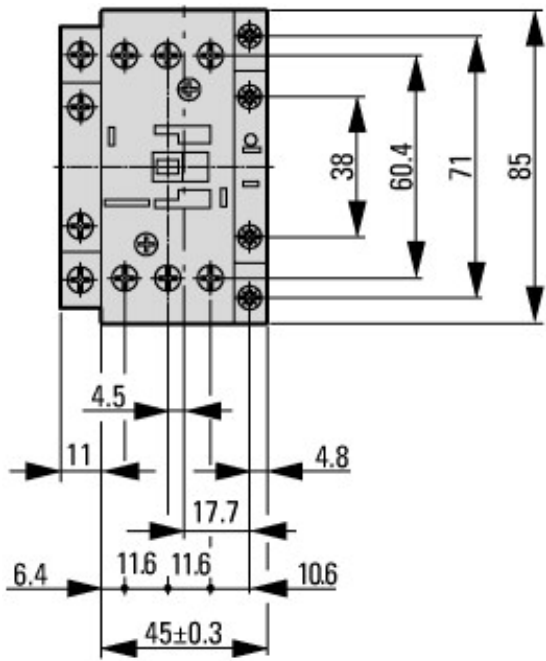


- Squirrel-cage motor
- Operating characteristics
- Starting: from rest
- Stopping: after attaining full running speed
- Electrical characteristics
- Make: up to 6 x rated motor current
- Break: up to 1 x rated motor current
- Utilization category
- 100 % AC-3
- Typical applications
- Compressors
- Lifts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

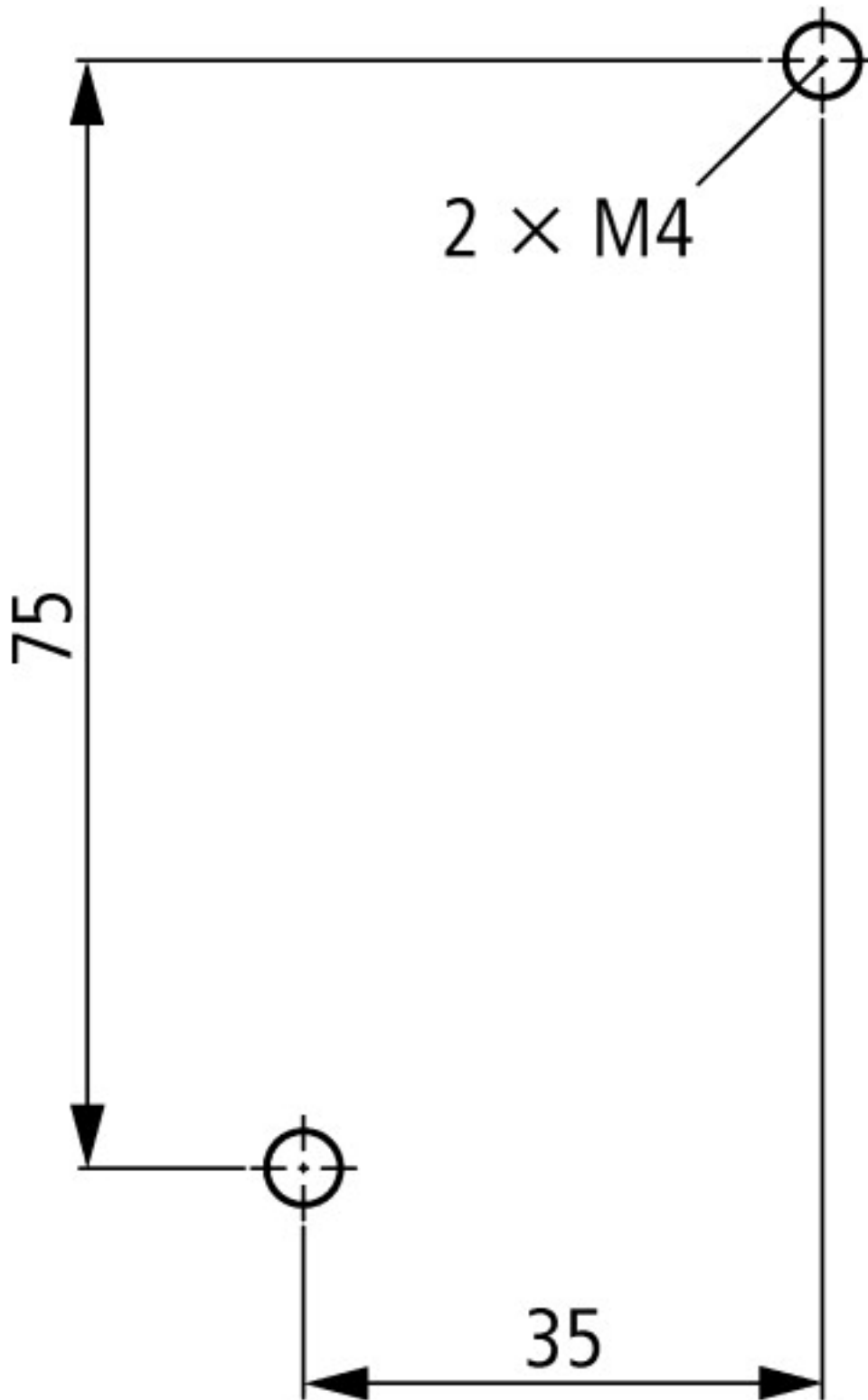


- Extreme switching duty
- Squirrel-cage motor
- Operating characteristics
- Inching, plugging, reversing
- Electrical characteristics
- Make: up to 6 x rated motor current
- Break: up to 6 x rated motor current
- Utilization category
- 100 % AC-4
- Typical applications
- Printing presses
- Wire-drawing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

Dimensions



Contacteur with auxiliary contact module



Lateral clearance to earthed parts: 6 mm

Additional product information (links)

IL03407014Z (AWA2100-2127) Contactor	
IL03407014Z (AWA2100-2127) Contactor	ftp://ftp.moeller.net/DOCUMENTATION/AWA_INSTRUCTIONS/IL03407014Z2012_03.pdf
	http://de.ecat.moeller.net/flip-cat/?edition=HPLTE&startpage=5.84
	http://de.ecat.moeller.net/flip-cat/?edition=HPLTE&startpage=5.85
	http://de.ecat.moeller.net/flip-cat/?edition=HPLTE&startpage=5.86
Switchgear of Power Factor Correction Systems	http://www.moeller.net/binary/ver_techpapers/ver934en.pdf
X-Start - New Generation:100 years of Moeller contactors - Continuous Progress-	http://www.moeller.net/binary/ver_techpapers/ver937en.pdf
X-Start - Modern Switching Installations Efficiently Fitted and Wired Securely	http://www.moeller.net/binary/ver_techpapers/ver938en.pdf

Mirror Contacts for Highly-Reliable Information Relating to Safety-Related Control Functions	http://www.moeller.net/binary/ver_techpapers/ver944en.pdf
Effect of the Cabel Capacitance of Long Control Cables on the Actuation of Contactors	http://www.moeller.net/binary/ver_techpapers/ver949en.pdf
Motor starters and "Special Purpose Ratings" for the North American market	http://www.moeller.net/binary/ver_techpapers/ver953en.pdf
Switchgear for Luminaires	http://www.moeller.net/binary/ver_techpapers/ver955en.pdf
Standard Compliant and Functionally Safe Engineering Design with Mechanical Auxiliary Contacts	http://www.moeller.net/binary/ver_techpapers/ver956en.pdf
The Interaction of Contactors with PLCs	http://www.moeller.net/binary/ver_techpapers/ver957en.pdf
Busbar Component Adapters for modern Industrial control panels	http://www.moeller.net/binary/ver_techpapers/ver960en.pdf