



Contactor,30kW/400V,AC-operated



Powering Business Worldwide™

Part no. DILM65(24V50/60HZ)
Article no. 277898

Catalog No. XTCE065D00T

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	65
AC-1			
Conventional free air thermal current, 3 pole, 50 - 60 Hz			
Open			
at 40 °C	$I_{th} = I_e$	A	98
enclosed	I_{th}	A	72
Conventional free air thermal current, 1 pole			
open	I_{th}	A	200
enclosed	I_{th}	A	180
Max. rating for three-phase motors, 50 - 60 Hz			
AC-3			
220 V 230 V	P	kW	20
380 V 400 V	P	kW	30
660 V 690 V	P	kW	35
AC-4			
220 V 230 V	P	kW	7
380 V 400 V	P	kW	12
660 V 690 V	P	kW	17
Contact sequence			
Instructions			Contacts to EN 50012.
Can be combined with auxiliary contact			DILM150-XH(V).. DILM1000-XH(V)..
Voltage AC/DC			AC operation

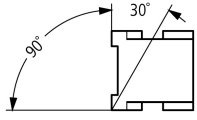
Approvals

Product Standards
 UL File No.
 UL Category Control No.
 CSA File No.
 CSA Class No.
 North America Certification
 Specially designed for North America

IEC/EN 60947-4-1; UL 508; CSA-C22.2 No. 14-05; CE marking
 E29096
 NLDX
 012528
 2411-03, 3211-04
 UL listed, CSA certified
 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			
Ambient temperature		°C	Damp heat, constant, to IEC 60068-2-78 Damp heat, cyclic, to IEC 60068-2-30
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	10
Auxiliary contacts			
N/O contact		g	7
N/C contact		g	5
Protection type			
Protection against direct contact when actuated from front (EN 50274)			Finger and back-of-hand proof
Weight			
AC operated		kg	0.9
DC operated		kg	1.1
Terminal capacity main cable			
Solid		mm ²	1 x (0.75 - 16) 2 x (0.75 - 16)
Flexible with ferrule		mm ²	1 x (0.75 - 35) 2 x (0.75 - 25)
Stranded		mm ²	1 x (16 - 50) 2 x (16 - 35)
Solid or stranded		AWG	12 - 2
Flat conductor	Lamellenzahl x Breite x Dicke	mm	2 x (6 x 9 x 0.8)
Main cable connection screw/bolt			
Tightening torque			M6 Nm 3.3
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 - 2.5) 2 x (0.75 - 2.5)
Solid or stranded		AWG	18 - 14
Control circuit cable connection screw/bolt			
Tightening torque			M3.5 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 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	910
Breaking capacity			
220 V 230 V		A	650
380 V 400 V AC		A	650
500 V		A	650
660 690 V AC		A	370
Short-circuit rating			
Short-circuit protection maximum fuse			
Type "2" coordination			
400 V	gG/gL 500 V	A	125
690 V	gG/gL 690 V	A	80
Type "1" coordination			
400 V	gG/gL 500 V	A	250
690 V	gG/gL 690 V	A	100

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	98
at 50 °C	I _{th} = I _e	A	88
at 55 °C	I _{th} = I _e	A	83
at 60 °C	I _{th} = I _e	A	80

enclosed	I_{th}	A	72
Conventional free air thermal current, 1 pole			
open	I_{th}	A	200
enclosed	I_{th}	A	180
AC-3			
Rated operational current			
Open, 3-pole: 50 – 60 Hz			
220 V 230 V	I_e	A	65
240 V	I_e	A	65
380 V 400 V	I_e	A	65
415 V	I_e	A	65
440V	I_e	A	65
500 V	I_e	A	65
660 V 690 V	I_e	A	37
Motor rating			
220 V 230 V	P	kWh	
240V	P	kW	20
380 V 400 V	P	kW	22
415 V	P	kW	30
440 V	P	kW	39
500 V	P	kW	41
660 V 690 V	P	kW	47
AC-4			
Open, 3-pole: 50 – 60 Hz			
230 V	I_e	A	25
240 V	I_e	A	25
400 V	I_e	A	25
415 V	I_e	A	25
440 V	I_e	A	25
500 V	I_e	A	25
690 V	I_e	A	20
Motor rating			
230 V	P	kWh	
240 V	P	kW	7
400 V	P	kW	7.5
415 V	P	kW	12
440 V	P	kW	13
500 V	P	kW	14
690 V	P	kW	16
690 V	P	kW	17

DC

Rated operational current, open			
DC-1			
60 V	I_e	A	72
110 V	I_e	A	72
220 V	I_e	A	65
440 V	I_e	A	2.9
DC-3			
60 V	I_e	A	72
110 V	I_e	A	72
220 V	I_e	A	35
440 V	I_e	A	0.6
DC-5			
60 V	I_e	A	72

110 V	I _e	A	72
220 V	I _e	A	35
440 V	I _e	A	0.6

Current heat loss

3-pole at I _{th}		W	28.8
Current heat loss at I _e to AC-3/400 V		W	19
Impedance per pole		mΩ	1.5

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	149
50 Hz	Sealing	VA	16
50 Hz	Sealing	W	4.3
60 Hz	Pick-up	VA	178
60 Hz	Sealing	VA	19
60 Hz	Sealing	W	5.3
50/60 Hz	Pick-up	VA	168 154
50/60 Hz	Sealing	VA	22 14
50/60 Hz	Sealing	W	5.3 4.3
DC operated	Pick-up	W	24
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	12 - 18
Opening delay		ms	8 - 13
DC operated		ms	
Closing delay		ms	54
Opening delay		ms	24
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 5.0

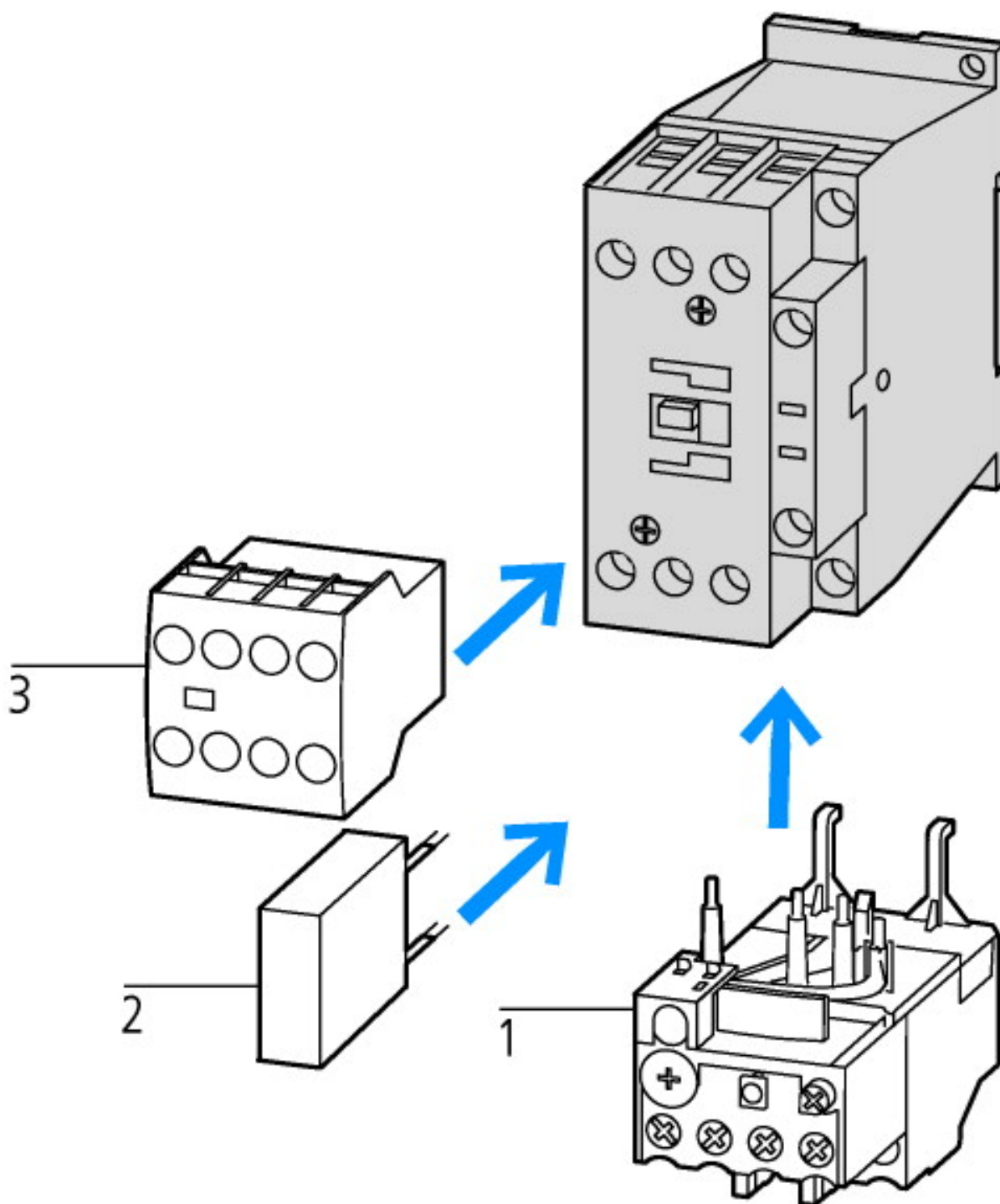
Low-voltage industrial components (EG000017) / Magnet contactor, AC-switching (EC000066)

Electric engineering, automation, process control engineering / Low-voltage switch technology / Contactor (LV) / Power contactor, AC switching (ec1@ss8-27-37-10-03 [AAB718011])

Rated control supply voltage U _s at AC 50HZ		V	24 - 24
Rated control supply voltage U _s at AC 60HZ		V	24 - 24
Rated control supply voltage U _s at DC		V	0 - 0
Voltage type for actuating			AC
Rated operation current I _e at AC-1, 400 V		A	98
Rated operation current I _e at AC-3, 400 V		A	65

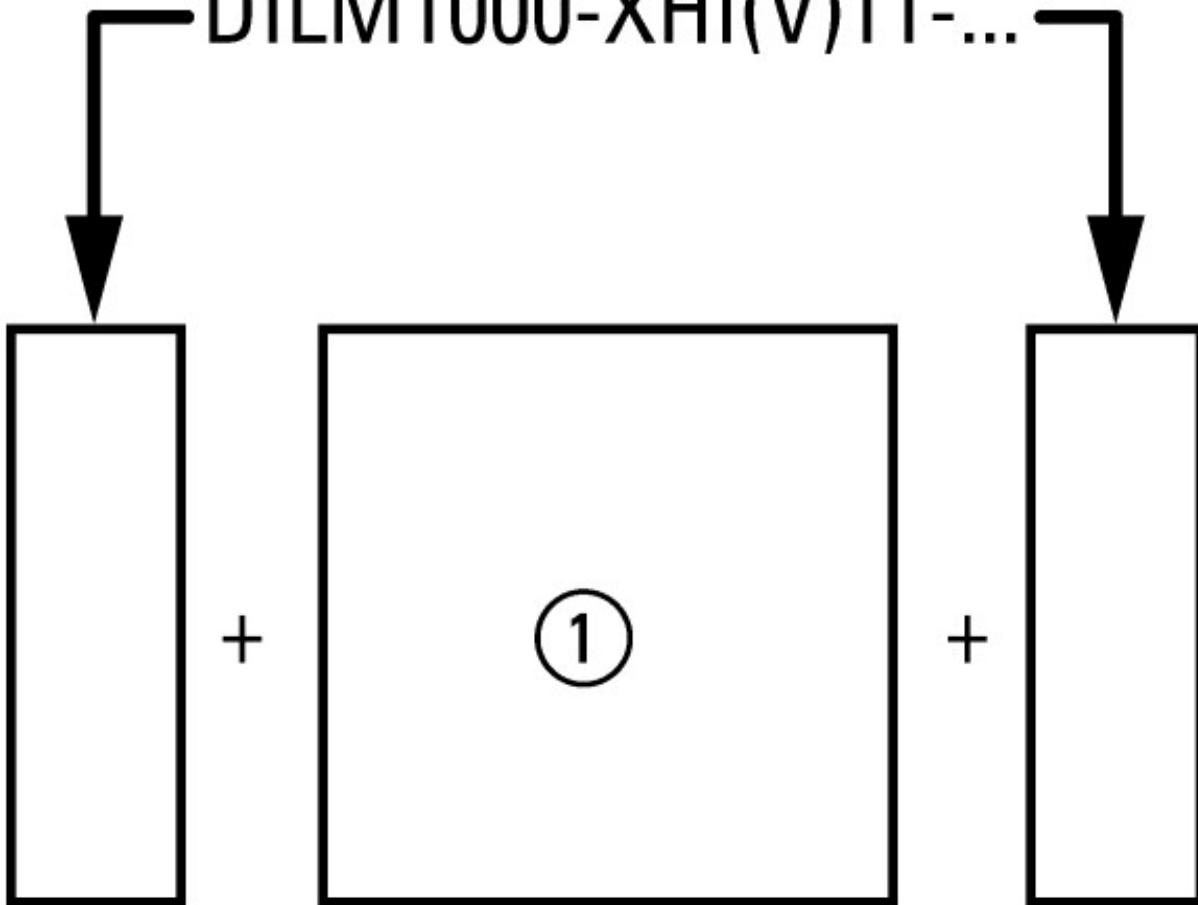
Rated operation power at AC-3, 400 V		kW	30
Rated operation current I _e at AC-4, 400 V		A	25
Rated operation power I _e at AC-4, 400 V		kW	12
Modular version			No
Number of auxiliary contacts as normally open contact			0
Number of auxiliary contacts as normally closed contact			0
Connection type main current circuit			Screw connection
Number of normally closed contacts as main contact			0
Number of main contacts as normally open contact			3

Characteristics



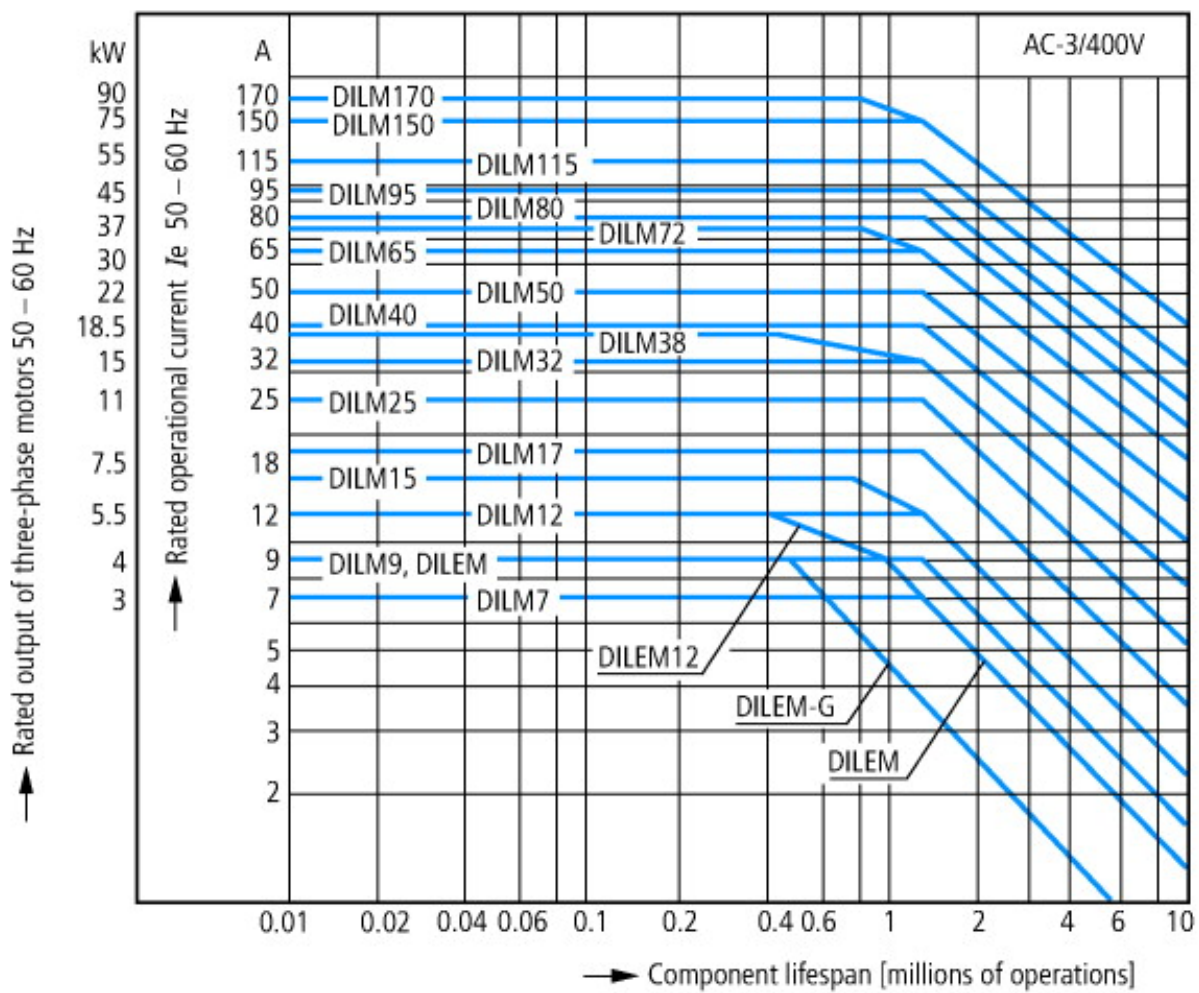
- 1: Overload relay
- 2: Suppressor
- 3: Auxiliary contact modules

DILM1000-XHI(V)11-...

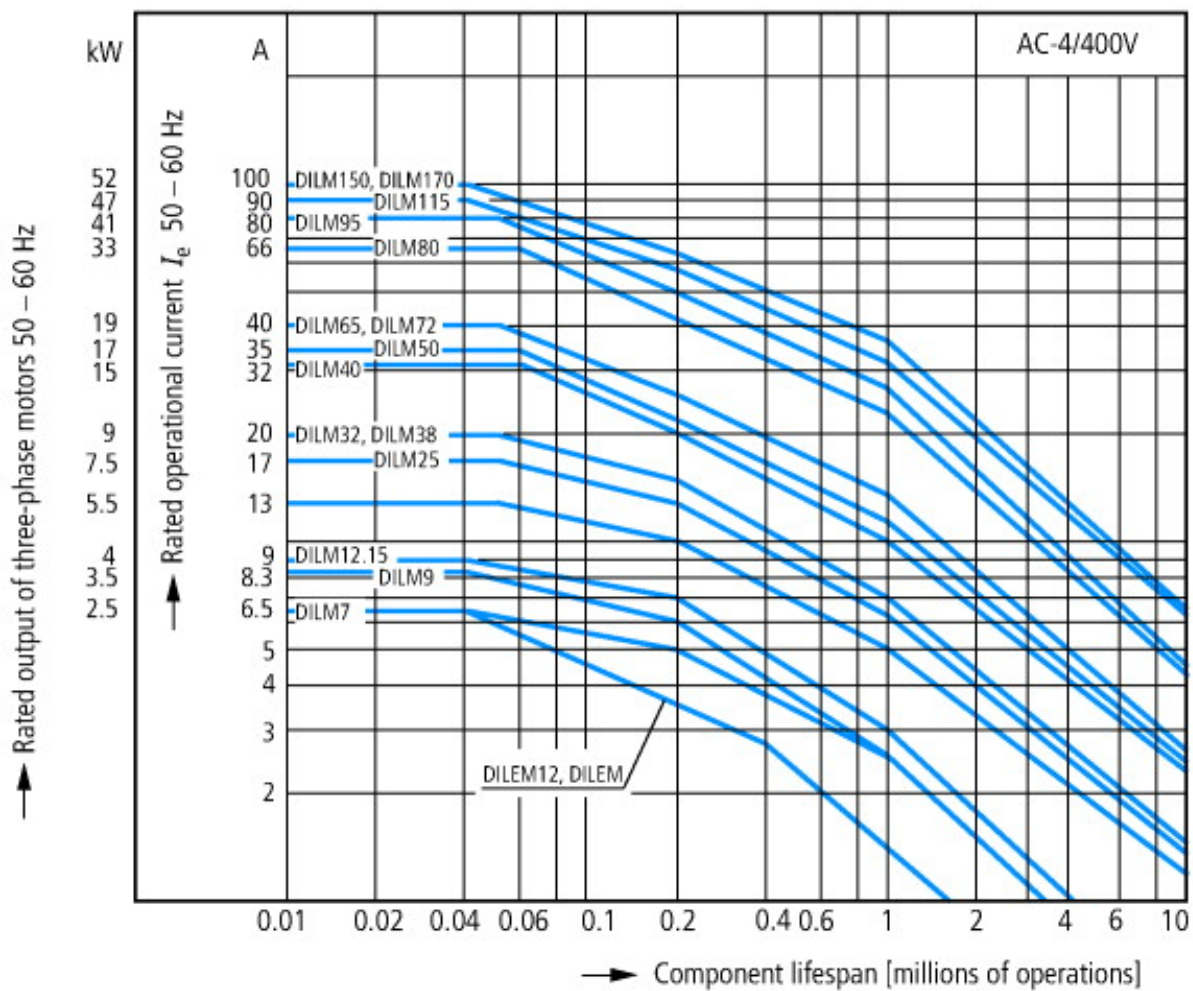


on the side: 2 x DILM1000-XHI(V)11-SI; surface mounting: 1 x DILM150-XHIA11
on the side: 2 x DILM1000-XHI(V)11-SA; surface mounting: 1 x DILM150-XHI (2 pole)
on the side: 1 x DILM1000-XHI(V)11-SI; surface mounting: 1 x DILM150-XHIA22
on the side: 1 x DILM1000-XHI(V)11-SA; surface mounting: 1 x DILM150-XHI (4 pole)

Characteristic curves

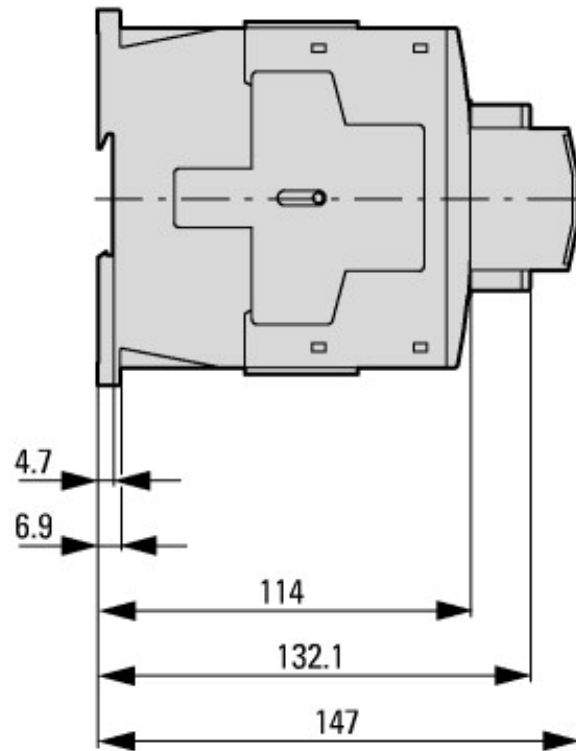
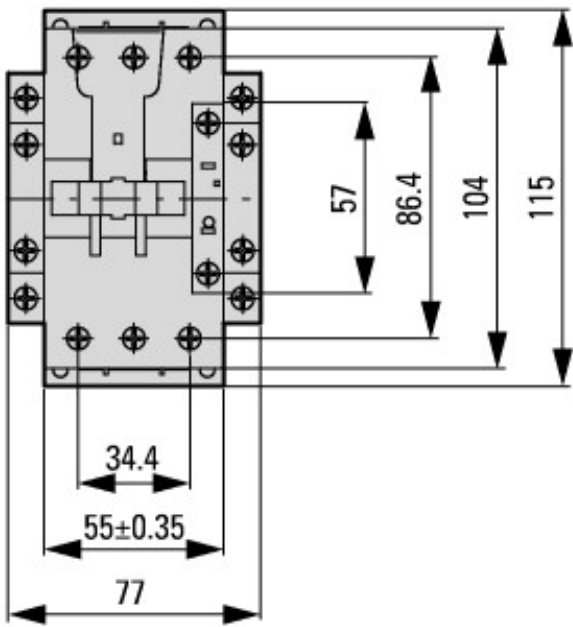


- Squirrel-cage motor
- Operating characteristics
- Starting: from rest
- Stopping: after attaining full running speed
- Electrical characteristics
- Make: up to 6 x rated motor current
- Break: up to 1 x rated motor current
- Utilization category
- 100 % AC-3
- Typical applications
- Compressors
- Lifts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

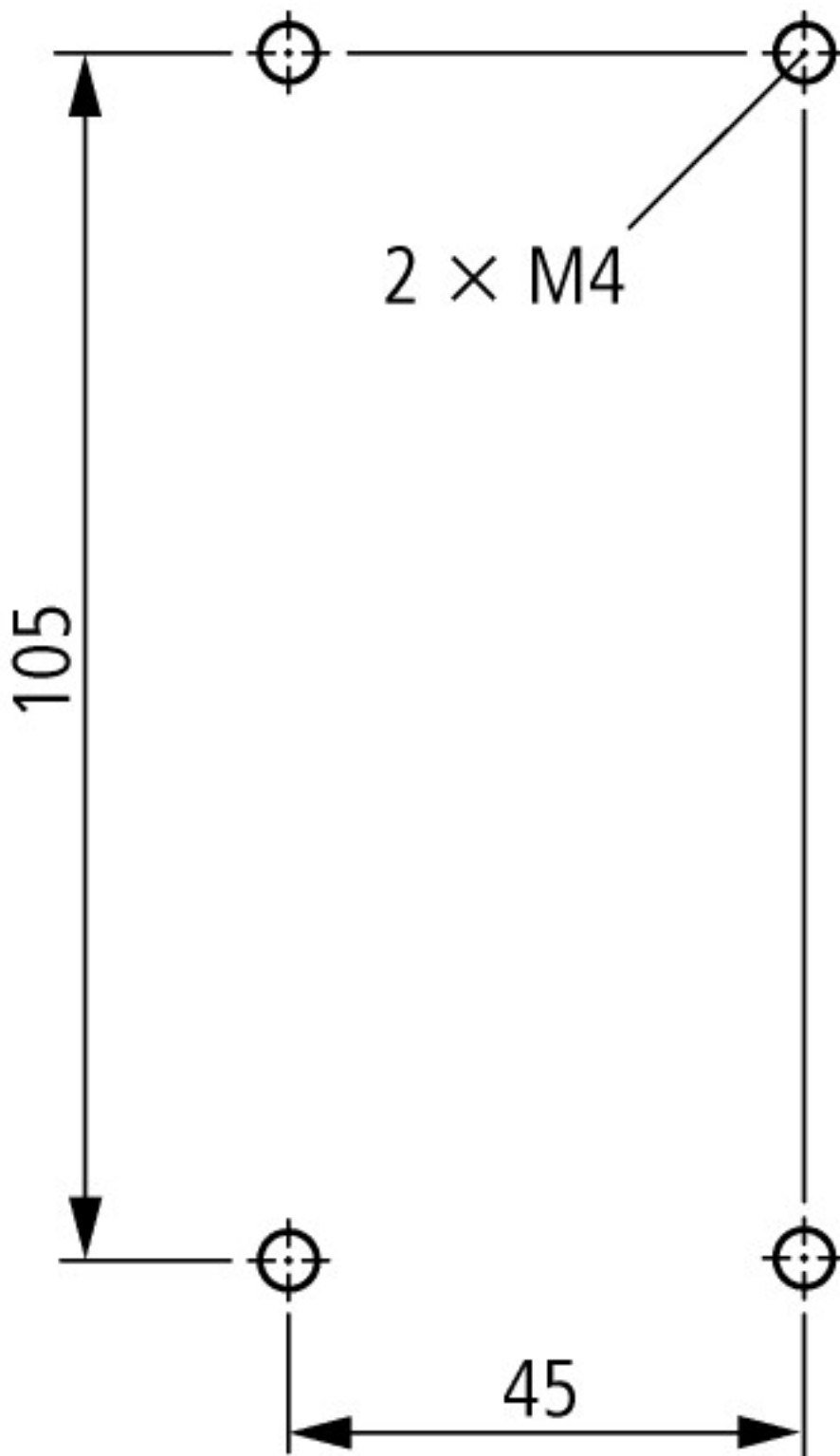


- Extreme switching duty
- Squirrel-cage motor
- Operating characteristics
- Inching, plugging, reversing
- Electrical characteristics
- Make: up to 6 x rated motor current
- Break: up to 6 x rated motor current
- Utilization category
- 100 % AC-4
- Typical applications
- Printing presses
- Wire-drawing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

Dimensions



Contactor with auxiliary contact module



Lateral clearance to earthed parts: 6 mm

DILM40...DILM72
 DILMC40...DILMC65
 DILMF40...DILMF65

Additional product information (links)

IL03407033Z (AWA2100-2247) Contactor DILM, basic unit

IL03407033Z (AWA2100-2247) Contactor DILM, basic unit ftp://ftp.moeller.net/DOCUMENTATION/AWA_INSTRUCTIONS/IL03407033Z2012_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 - 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 Cable 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