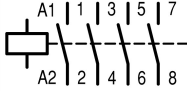




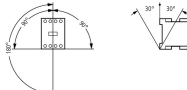
**Contactor, 4p, 80A/AC1**

**Part no.** DILMP80(\*V60HZ)  
**Article no.** 109875  
**Catalog No.** -

## Delivery programme

Product range			Contactors
Application			Contactors for 4 pole electric consumers
Subrange			Contactors up to 200 A, 4 pole
Utilization category			AC-1: Non-inductive or slightly inductive loads, resistance furnaces NAC-3: Normal AC induction motors: starting, switch off during running
Connection technique			Screw terminals
Pole			4 pole
<b>Rated operational current</b>			
AC-1			
Conventional free air thermal current, 3 pole, 50 - 60 Hz			
at 40 °C	$I_{th} = I_e$	A	80
at 50 °C	$I_{th} = I_e$	A	76
at 60 °C	$I_{th} = I_e$	A	69
Contact sequence			
For use with			DILM150-XHI(A)(V)... or DILM1000-XHI11-SA or DILM1000-XHI(V)11-SI
Actuating voltage			*V 60 Hz
Voltage AC/DC			AC operation
<strong>Instructions</strong>			Contacts to EN 50012.

## Technical data

<b>General</b>			
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 60068-2-3 Damp heat, cyclic, to IEC 60068-2-30
Ambient temperature		°C	
Open		°C	-25 - +60
Enclosed		°C	-25 - 40
Storage		°C	-40 - 80
Mounting position			
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
Degree of Protection			IP00
Protection against direct contact when actuated from front (EN 50274)			Finger and back-of-hand proof
Terminal capacity main cable			
Solid		mm <sup>2</sup>	1 x (2.5 - 16) 2 x (2.5 - 16)
Flexible with ferrule		mm <sup>2</sup>	1 x (2.5 - 35) 2 x (2.5 - 25)
Stranded		mm <sup>2</sup>	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)
Terminal capacity control circuit cables			
Solid		mm <sup>2</sup>	1 x (0.75 - 4) 2 x (0.75 - 4)
Flexible with ferrule		mm <sup>2</sup>	1 x (0.75 - 2.5) 2 x (0.75 - 2.5)
Solid or stranded		AWG	18 - 14
Main cable connection screw/bolt			M6
Tightening torque		Nm	3.3
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

### Main conducting paths

Rated impulse withstand voltage	U <sub>imp</sub>	V AC	8000
Overtoltage category/pollution degree			III/3
Rated insulation voltage	U <sub>i</sub>	V AC	690
Rated operational voltage	U <sub>e</sub>	V AC	690
Safe isolation to EN 61140			
between coil and contacts		V AC	440
between the contacts		V AC	440
Making capacity (cos φ)	Up to 690 V	A	700 According to IEC/EN 60947
Breaking capacity			
220 V 230 V		A	500
380 V 400 V		A	500
500 V		A	500
660 V 690 V		A	296
Short-circuit rating			
Short-circuit protection maximum fuse			
Type "2" coordination			
400 V	gG/gL 500 V	A	80
690 V	gG/gL 690 V	A	63
Type "1" coordination			
400 V	gG/gL 500 V	A	160
690 V	gG/gL 690 V	A	80

### 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	80
at 50 °C	$I_{th} = I_e$	A	76
at 60 °C	$I_{th} = I_e$	A	69
enclosed	$I_{th}$	A	64
Conventional free air thermal current, 1 pole			
open	$I_{th}$	A	207
enclosed	$I_{th}$	A	186
AC-3			
Rated operational current			
Open, 3-pole: 50 – 60 Hz			
220 V 230 V	$I_e$	A	50
240 V	$I_e$	A	50
380 V 400 V	$I_e$	A	50
415 V	$I_e$	A	50
440V	$I_e$	A	50
500 V	$I_e$	A	50
660 V 690 V	$I_e$	A	32
Motor rating		P	kWh
220 V 230 V	P	kW	15.5
240V	P	kW	17
380 V 400 V	P	kW	22
415 V	P	kW	30
440 V	P	kW	32
500 V	P	kW	36
660 V 690 V	P	kW	30

## DC

Rated operational current, open			
DC-1			
60 V	$I_e$	A	80
110 V	$I_e$	A	80
220 V	$I_e$	A	80
440 V	$I_e$	A	5
DC-3			
60 V	$I_e$	A	80
110 V	$I_e$	A	80
220 V	$I_e$	A	80
440 V	$I_e$	A	5
DC-5			
60 V	$I_e$	A	80
110 V	$I_e$	A	80
220 V	$I_e$	A	70
440 V	$I_e$	A	5

## Current heat loss

3-pole at $I_{th}$		W	23
Impedance per pole		mΩ	0.7

## Magnet systems

Voltage tolerance			$\times U_c$
AC operated 50 Hz	Pick-up	$\times U_c$	0.8 - 1.1
AC operated 50/60 Hz		$\times U_c$	0.85 - 1.1
Drop-out voltage AC operated	Drop-out	$\times U_c$	0.4 - 0.6
DC operated	Pick-up	$\times U_c$	0.7 - 1.2

DC operated	Drop-out	x U <sub>c</sub>	0.2 - 0.6
Power consumption of the coil in a cold state and 1.0 x U <sub>c</sub>			
AC operated 50/60 Hz	Pick-up	VA	150
AC operated 50/60 Hz	Pick-up	W	95
AC operated 50/60 Hz	Sealing	VA	16
AC operated 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 <sub>c</sub> (approximate values)			
Main contacts			
AC operated			
Closing delay		ms	12 - 18
Opening delay		ms	8 - 13
DC operated			
Closing delay		ms	54
Opening delay		ms	24
Arcing time		ms	10
Permissible residual current with actuation of A1 - A2 by the electronics (with 0 signal).		mA	$\frac{I}{1}$

## Design verification as per IEC/EN 61439

Technical data for design verification			
Rated operational current for specified heat dissipation	I <sub>n</sub>	A	80
Heat dissipation per pole, current-dependent	P <sub>vid</sub>	W	8.6
Equipment heat dissipation, current-dependent	P <sub>vid</sub>	W	25.8
Static heat dissipation, non-current-dependent	P <sub>vs</sub>	W	4.1
Heat dissipation capacity	P <sub>diss</sub>	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.

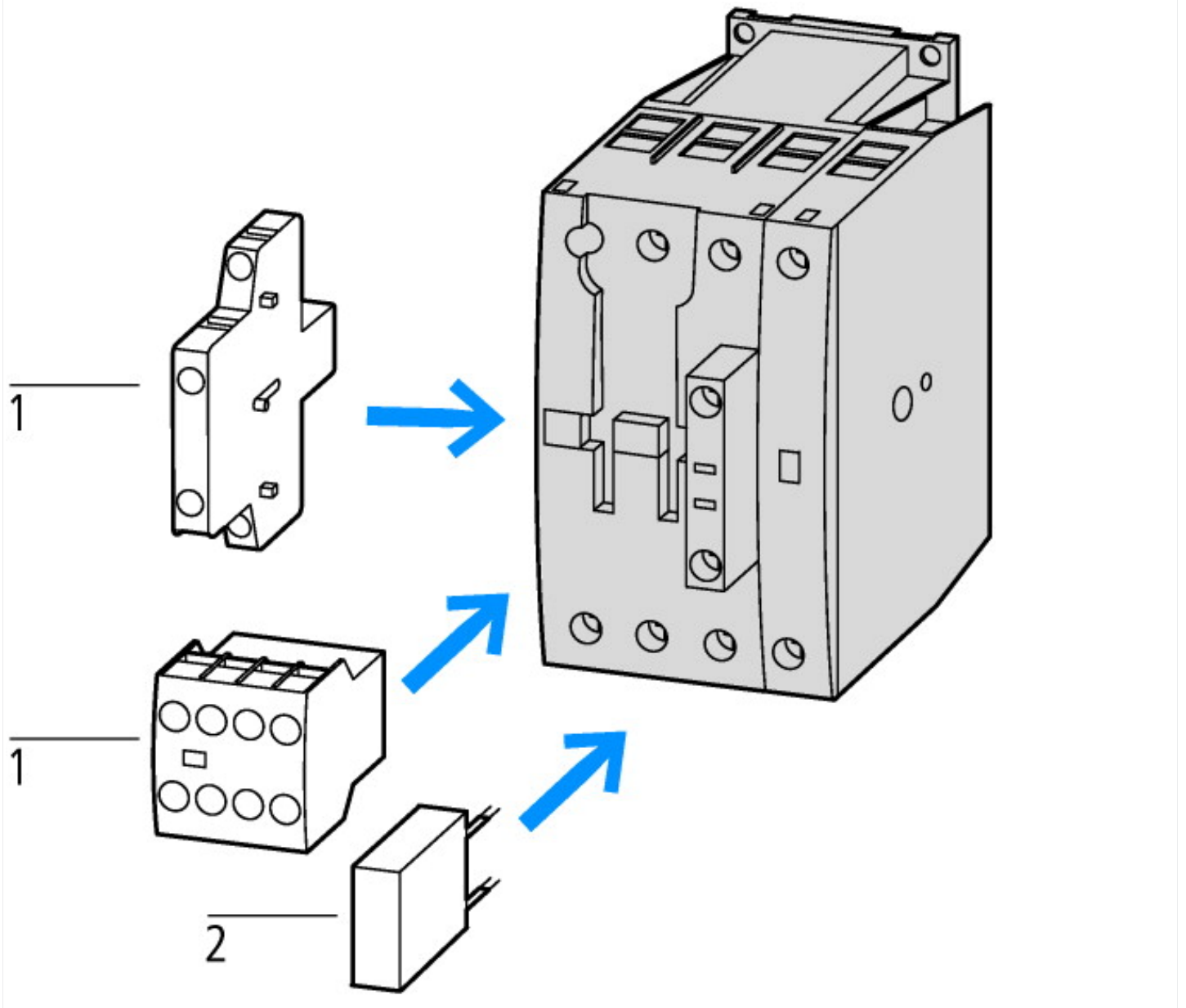
## Technical data ETIM 5.0

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 (ecl@ss8-27-37-10-03 [AAB718011])		
Rated control supply voltage Us at AC 50HZ	V	0 - 0
Rated control supply voltage Us at AC 60HZ	V	12 - 600
Rated control supply voltage Us at DC	V	0 - 0
Voltage type for actuating		AC
Rated operation current Ie at AC-1, 400 V	A	80
Rated operation current Ie at AC-3, 400 V	A	50
Rated operation power at AC-3, 400 V	kW	22
Rated operation current Ie at AC-4, 400 V	A	40
Rated operation power Ie at AC-4, 400 V	kW	20
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		4

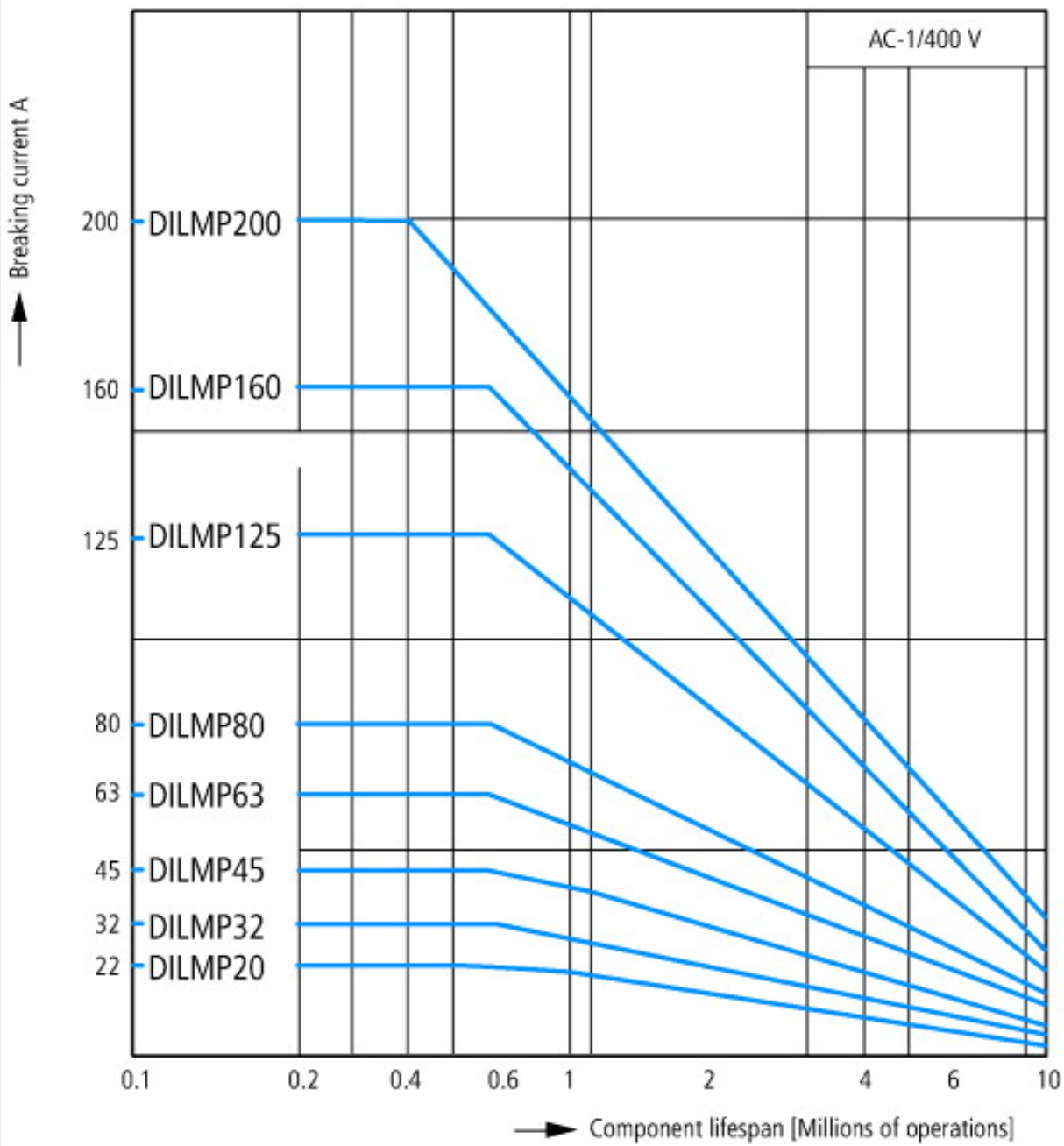
## Approvals

Product Standards		IEC/EN 60947-4-1; UL 508; CSA-C22.2 No. 14-05; 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

## Characteristics

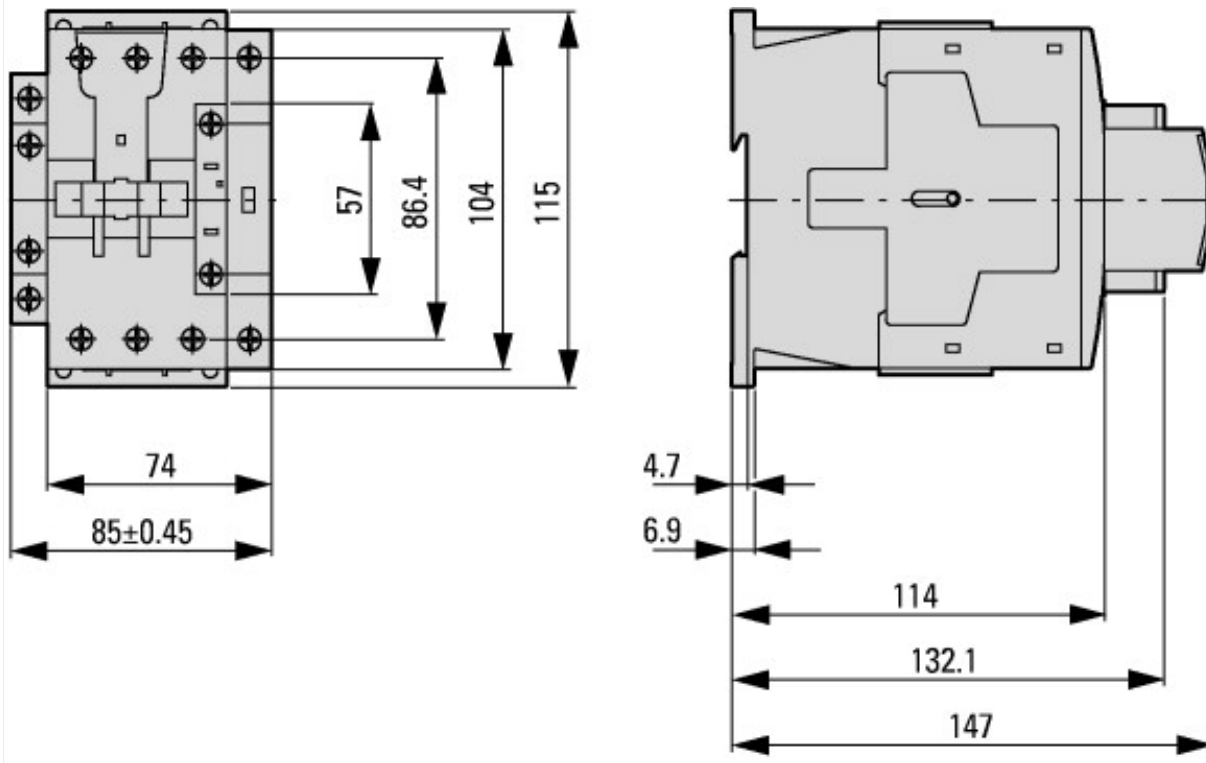


- 1: Auxiliary contact module
- 2: Suppressor



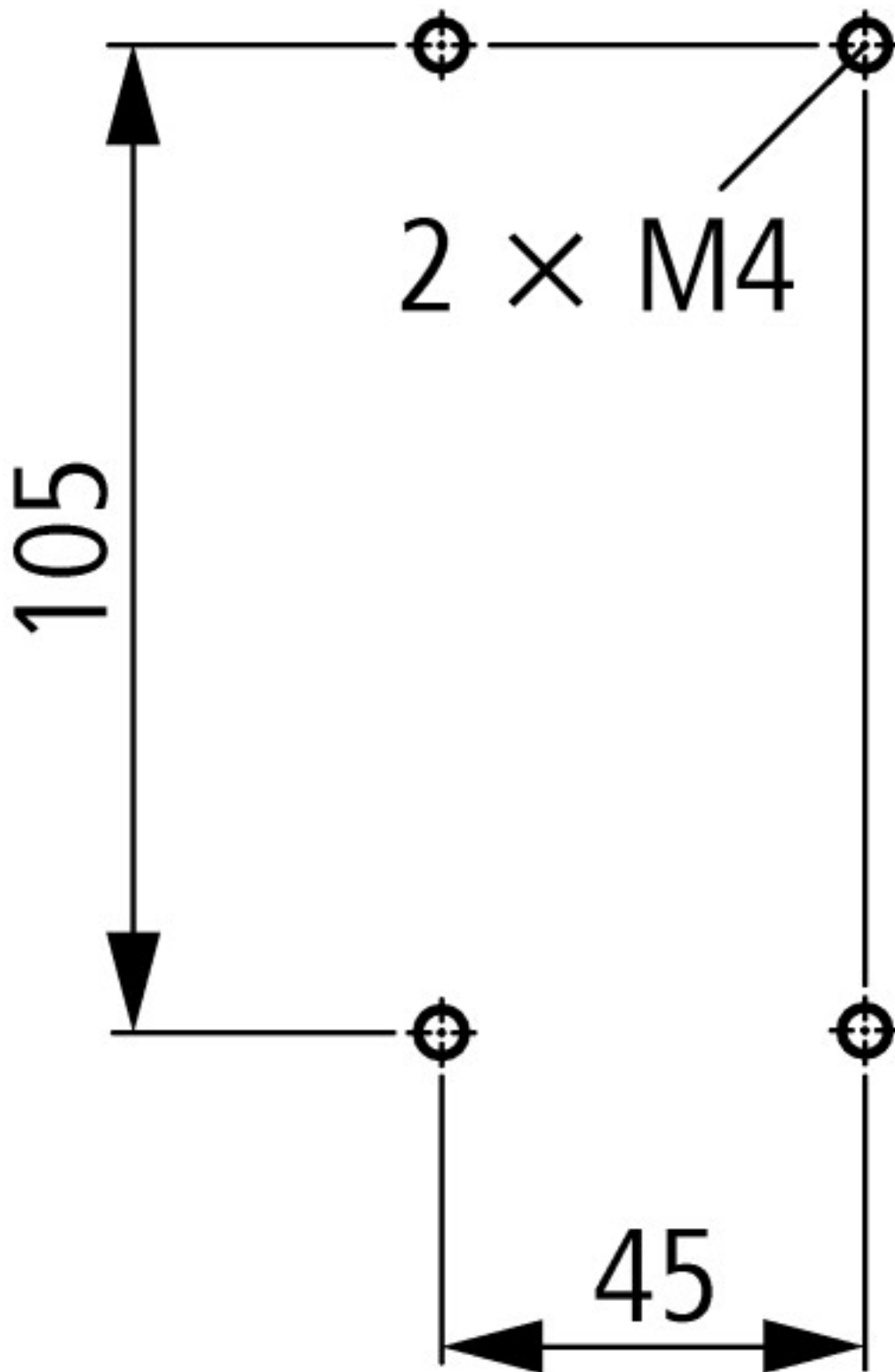
Operating characteristics  
 Non inductive and slightly inductive loads  
 Electrical characteristics  
 Switch on: 1 × rated operational current  
 Switch off: 1 × rated operational current  
 Utilization category  
 100 % AC-1  
 Typical examples of application  
 Electric heat

## Dimensions



Contactors





distance at side to earthed parts: 6 mm

DILMP63  
DILMP80

### Additional product information (links)

#### IL03407049Z (AWA2100-2356) 4 pole Contactor

IL03407049Z (AWA2100-2356) 4 pole Contactor [ftp://ftp.moeller.net/DOCUMENTATION/AWA\\_INSTRUCTIONS/IL03407049Z2012\\_01.pdf](ftp://ftp.moeller.net/DOCUMENTATION/AWA_INSTRUCTIONS/IL03407049Z2012_01.pdf)

UL/CSA: UL/CSA: Special Purpose Rating <http://de.ecat.moeller.net/flip-cat/?edition=HPLTE&startpage=5.85>

Switchgear of Power Factor Correction Systems [http://www.moeller.net/binary/ver\\_techpapers/ver934en.pdf](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](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](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](http://www.moeller.net/binary/ver_techpapers/ver949en.pdf)

Motor starters and "Special Purpose Ratings" for the North American market	<a href="http://www.moeller.net/binary/ver_techpapers/ver953en.pdf">http://www.moeller.net/binary/ver_techpapers/ver953en.pdf</a>
Switchgear for Luminaires	<a href="http://www.moeller.net/binary/ver_techpapers/ver955en.pdf">http://www.moeller.net/binary/ver_techpapers/ver955en.pdf</a>
Standard Compliant and Functionally Safe Engineering Design with Mechanical Auxiliary Contacts	<a href="http://www.moeller.net/binary/ver_techpapers/ver956en.pdf">http://www.moeller.net/binary/ver_techpapers/ver956en.pdf</a>
The Interaction of Contactors with PLCs	<a href="http://www.moeller.net/binary/ver_techpapers/ver957en.pdf">http://www.moeller.net/binary/ver_techpapers/ver957en.pdf</a>
Busbar Component Adapters for modern Industrial control panels	<a href="http://www.moeller.net/binary/ver_techpapers/ver960en.pdf">http://www.moeller.net/binary/ver_techpapers/ver960en.pdf</a>