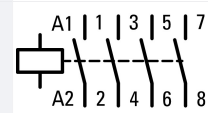




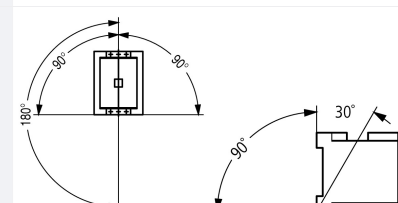
**Contactor, 4 pole, 125 A, RAC 24: 24 V 50/60 Hz, AC operation**

**Part no.** DILMP125(RAC24)  
**Catalog No.** 109904  
**Alternate Catalog No.** XTCF125G00T

**Delivery program**

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
Number of poles			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	125
at 50 °C	$I_{th} = I_e$	A	116
at 55 °C	$I_{th} = I_e$	A	110
at 60 °C	$I_{th} = I_e$	A	108
Contact sequence			
For use with			DILM150-XHI(A)(V)... DILM1000-XHI(V)...
Actuating voltage			RAC 24: 24 V 50/60 Hz
Voltage AC/DC			AC operation
Connection to SmartWire-DT			no
<b>Instructions</b>			Contacts to EN 50 012. integrated suppressor circuit in actuating electronics

**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		3600
DC operated	Operations/h		3600
Climatic proofing			Damp heat, constant, to IEC 60068-2-3 Damp heat, cyclic, to IEC 60068-2-30
Ambient temperature			
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
Altitude				m Max. 2000
Protection against direct contact when actuated from front (EN 50274)				Finger and back-of-hand proof
Stripping length				mm 15
Terminal capacity main cable				
Flexible with ferrule		mm <sup>2</sup>		1 x (10 - 95) 2 x (10 - 70)
Stranded		mm <sup>2</sup>		1 x (16 - 120) 2 x (16 - 95)
Solid or stranded		AWG		8 - 3/0
Flat conductor	Lamellenzahl x Breite x Dicke	mm		2 x (6 x 16 x 0.8)
Terminal screw				M10
Tightening torque				Nm 14
Stripping length				mm 15
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
Stripping length				mm 10
Terminal screw				M3.5
Tightening torque				Nm 1.2
Tool				
Main cable				
Hexagon socket-head spanner	SW	mm		5
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	$U_{imp}$	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 (cos $\varphi$ )	Up to 690 V	A		1120 According to IEC/EN 60947
Breaking capacity				
220 V 230 V		A		800
380 V 400 V		A		800
500 V		A		800
660 V 690 V		A		650
Short-circuit rating				
Short-circuit protection maximum fuse				
Type "2" coordination				
400 V	gG/gL 500 V	A		160
690 V	gG/gL 690 V	A		160

Type "1" coordination			
400 V	gG/gL 500 V	A	250
690 V	gG/gL 690 V	A	200

## 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	125
at 50 °C	$I_{th} = I_e$	A	116
at 55 °C	$I_{th} = I_e$	A	110
at 60 °C	$I_{th} = I_e$	A	108
enclosed	$I_{th}$	A	100
Conventional free air thermal current, 1 pole			
open	$I_{th}$	A	325
enclosed	$I_{th}$	A	292
Motor rating	P	kWh	
220/230 V	P	kW	45
240 V	P	kW	49
380/400 V	P	kW	78
415 V	P	kW	85
440 V	P	kW	90
500 V	P	kW	103
690 V	P	kW	136

## 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	80
240 V	$I_e$	A	80
380 V 400 V	$I_e$	A	80
415 V	$I_e$	A	80
440V	$I_e$	A	80
500 V	$I_e$	A	80
660 V 690 V	$I_e$	A	65
Motor rating	P	kWh	
220 V 230 V	P	kW	25
240V	P	kW	27.5
380 V 400 V	P	kW	37
415 V	P	kW	48
440 V	P	kW	51
500 V	P	kW	58
660 V 690 V	P	kW	63

## DC

Rated operational current, open			
DC-1			
60 V	$I_e$	A	125
110 V	$I_e$	A	125
220 V	$I_e$	A	125

## Current heat loss

3 pole, at $I_{th}$ (60°)		W	22.2
Impedance per pole		mΩ	0.6

## Magnet systems

Voltage tolerance			
AC operated 50 Hz	Pick-up	x $U_c$	0.8 - 1.15

AC operated 50/60 Hz		x U <sub>c</sub>	0.8 - 1.15
Drop-out voltage AC operated	Drop-out	x U <sub>c</sub>	0.25 - 0.6
Power consumption of the coil in a cold state and 1.0 x U <sub>S</sub>			
AC operated 50/60 Hz	Pick-up	VA	180
AC operated 50/60 Hz	Pick-up	W	150
AC operated 50/60 Hz	Sealing	VA	3.1
AC operated 50/60 Hz	Sealing	W	2.3
Duty factor		% DF	100
Changeover time at 100 % U <sub>S</sub> (recommended value)			
Main contacts			
AC operated			
	Closing delay	ms	28 - 33
	Opening delay	ms	35 - 41
Permissible residual current with actuation of A1 - A2 by the electronics (with 0 signal).		mA	≤ 1

### Rating data for approved types

Switching capacity			
Maximum motor rating			
Three-phase			
	200 V 208 V	HP	25
	230 V 240 V	HP	30
	460 V 480 V	HP	60
	575 V 600 V	HP	75
Single-phase			
	115 V 120 V	HP	7.5
	230 V 240 V	HP	15
General use		A	125
Short Circuit Current Rating		SCCR	
Basic Rating			
	SCCR	kA	10
	max. Fuse	A	600
	max. CB	A	600
480 V High Fault			
	SCCR (fuse)	kA	30/100
	max. Fuse	A	300/300 Class J
	SCCR (CB)	kA	65
	max. CB	A	250
600 V High Fault			
	SCCR (fuse)	kA	30/100
	max. Fuse	A	300/300 Class J
	SCCR (CB)	kA	30
	max. CB	A	350
Special Purpose Ratings			
Electrical Discharge Lamps (Ballast)			
	480V 60Hz 3phase, 277V 60Hz 1phase	A	100
	600V 60Hz 3phase, 347V 60Hz 1phase	A	100
Incandescent Lamps (Tungsten)			
	480V 60Hz 3phase, 277V 60Hz 1phase	A	100
	600V 60Hz 3phase, 347V 60Hz 1phase	A	100
Resistance Air Heating			
	480V 60Hz 3phase, 277V 60Hz 1phase	A	110
	600V 60Hz 3phase, 347V 60Hz 1phase	A	110

Refrigeration Control (CSA only)			
LRA 480V 60Hz 3phase		A	540
FLA 480V 60Hz 3phase		A	90
LRA 600V 60Hz 3phase		A	420
FLA 600V 60Hz 3phase		A	70
Elevator Control			
200V 60Hz 3phase		HP	20
200V 60Hz 3phase		A	62.1
240V 60Hz 3phase		HP	25
240V 60Hz 3phase		A	68
480V 60Hz 3phase		HP	50
480V 60Hz 3phase		A	65
600V 60Hz 3phase		HP	60
600V 60Hz 3phase		A	62

## Design verification as per IEC/EN 61439

Technical data for design verification			
Rated operational current for specified heat dissipation	$I_n$	A	125
Heat dissipation per pole, current-dependent	$P_{vid}$	W	7.4
Equipment heat dissipation, current-dependent	$P_{vid}$	W	22.2
Static heat dissipation, non-current-dependent	$P_{vs}$	W	2.3
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			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 7.0

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

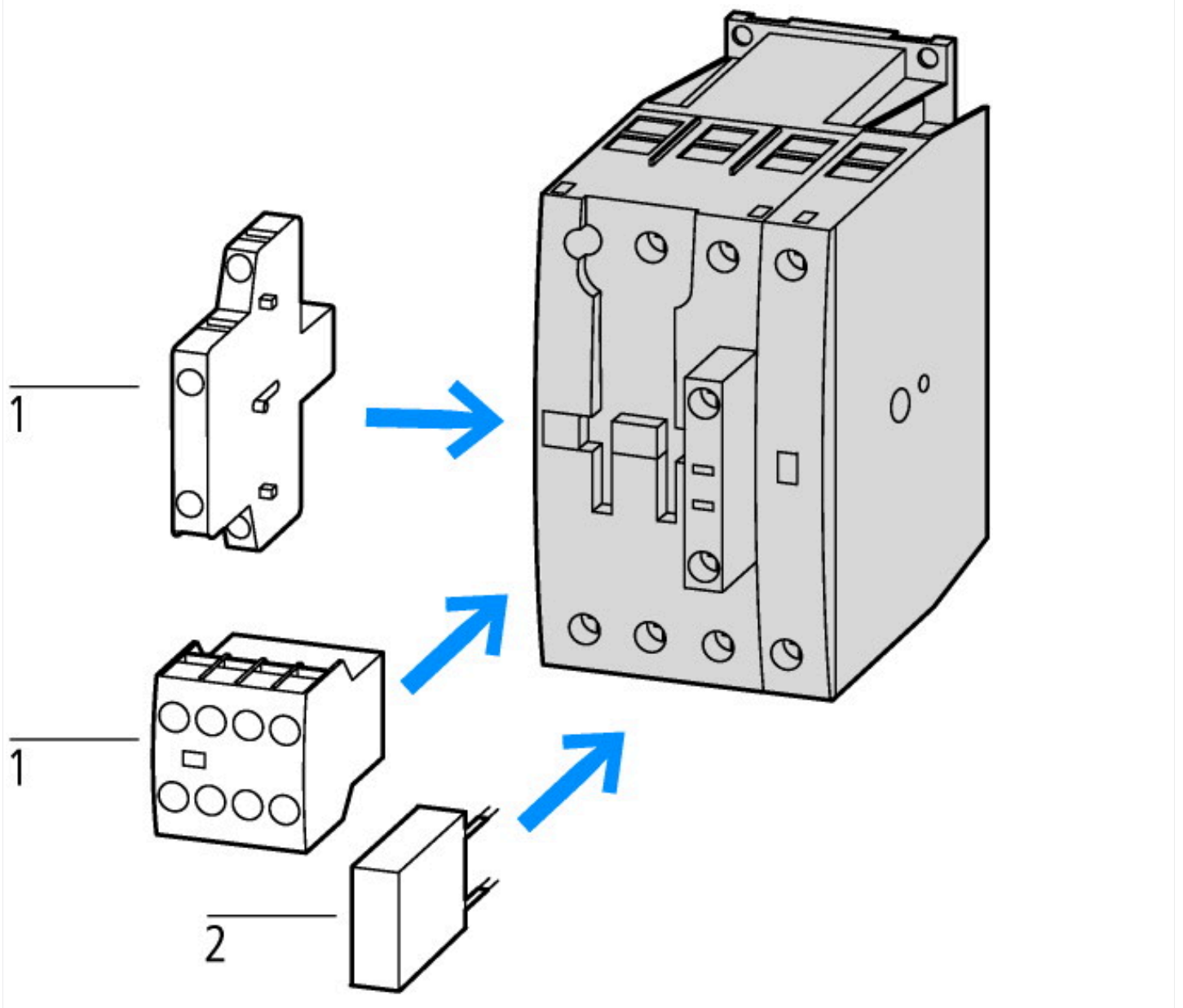
Electric engineering, automation, process control engineering / Low-voltage switch technology / Contactor (LV) / Power contactor, AC switching (ecl@ss10.0.1-27-37-10-03 [AAB718015])

Rated control supply voltage Us at AC 50HZ	V	24 - 24
Rated control supply voltage Us at AC 60HZ	V	24 - 24
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	125
Rated operation current Ie at AC-3, 400 V	A	80
Rated operation power at AC-3, 400 V	kW	37
Rated operation current Ie at AC-4, 400 V	A	115
Rated operation power at AC-4, 400 V	kW	28
Rated operation power NEMA	kW	44.7
Modular version		No
Number of auxiliary contacts as normally open contact		0
Number of auxiliary contacts as normally closed contact		0
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		4

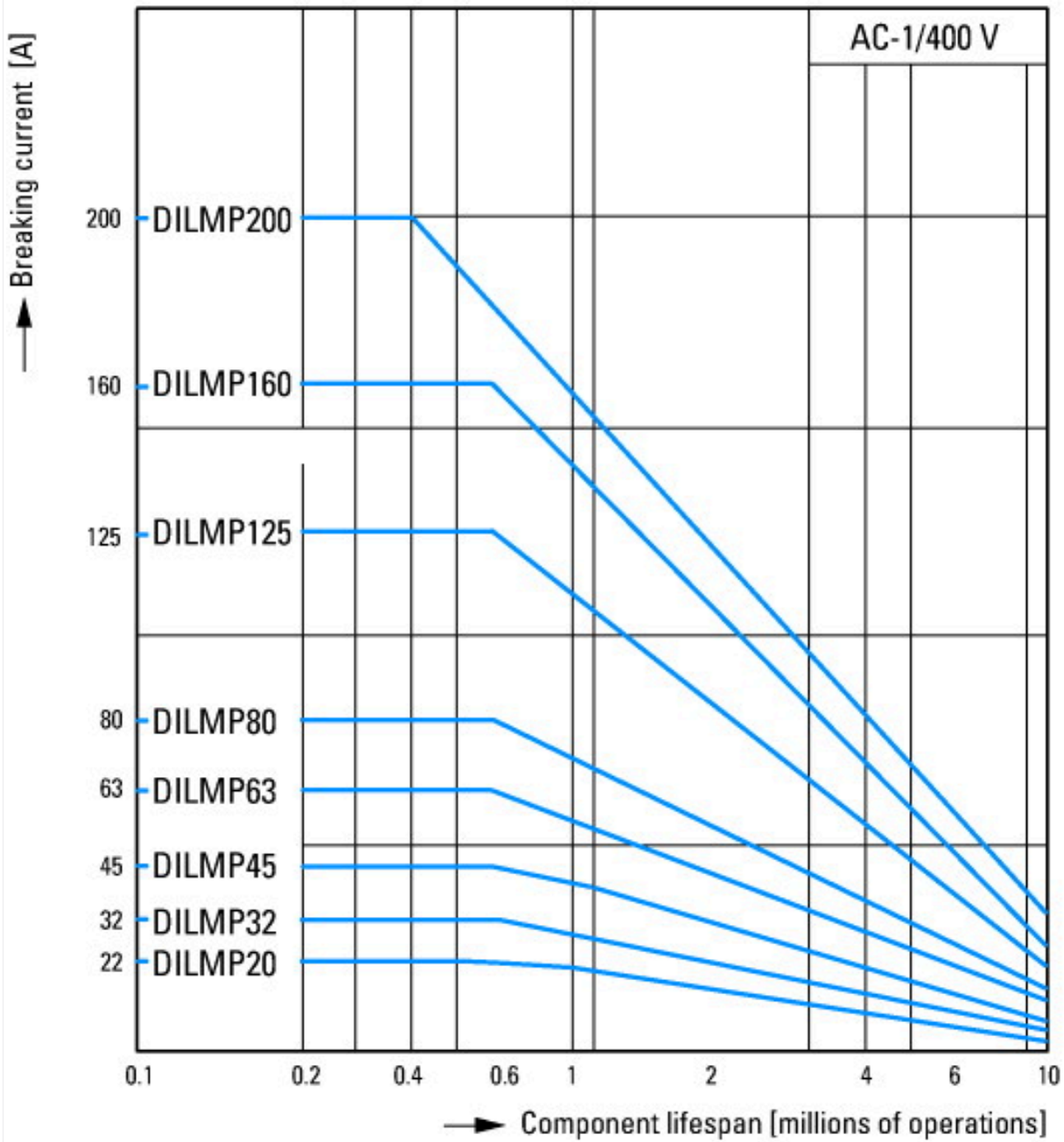
## Approvals

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

## Characteristics



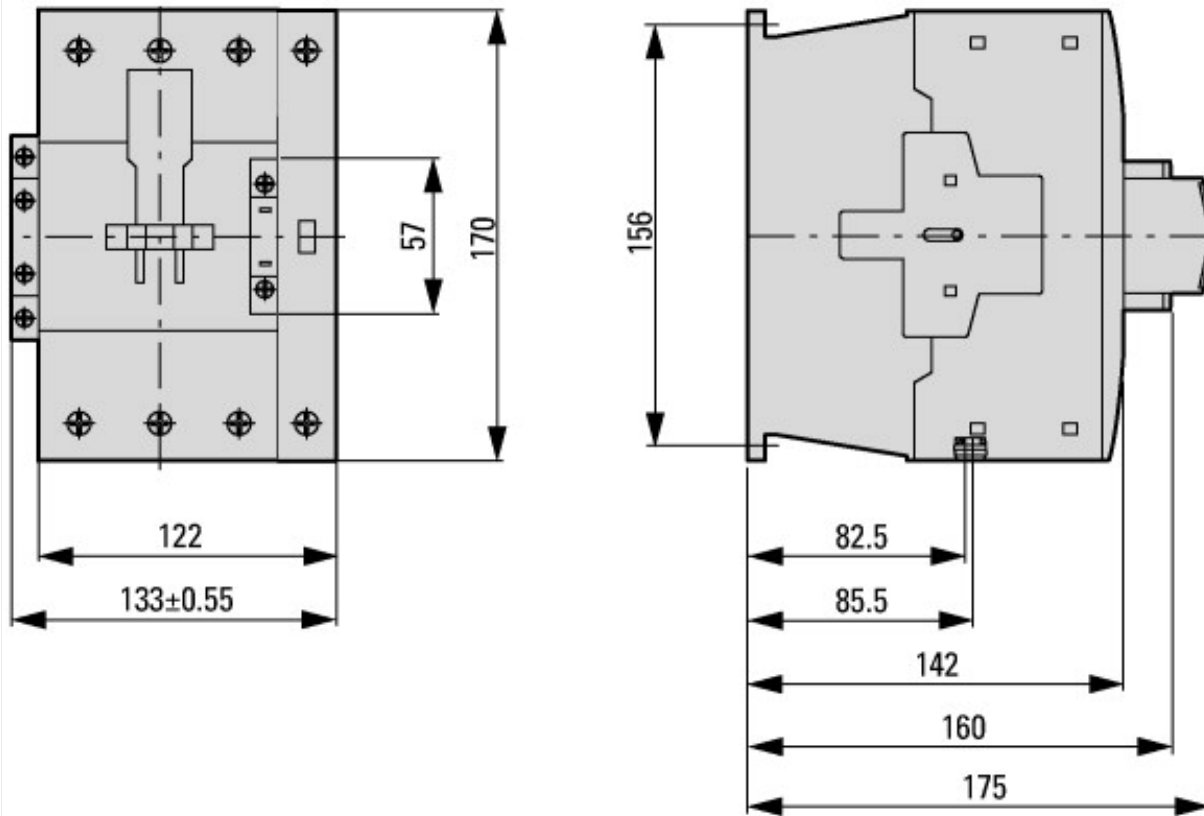
- 1: Auxiliary contact module
- 2: Suppressor



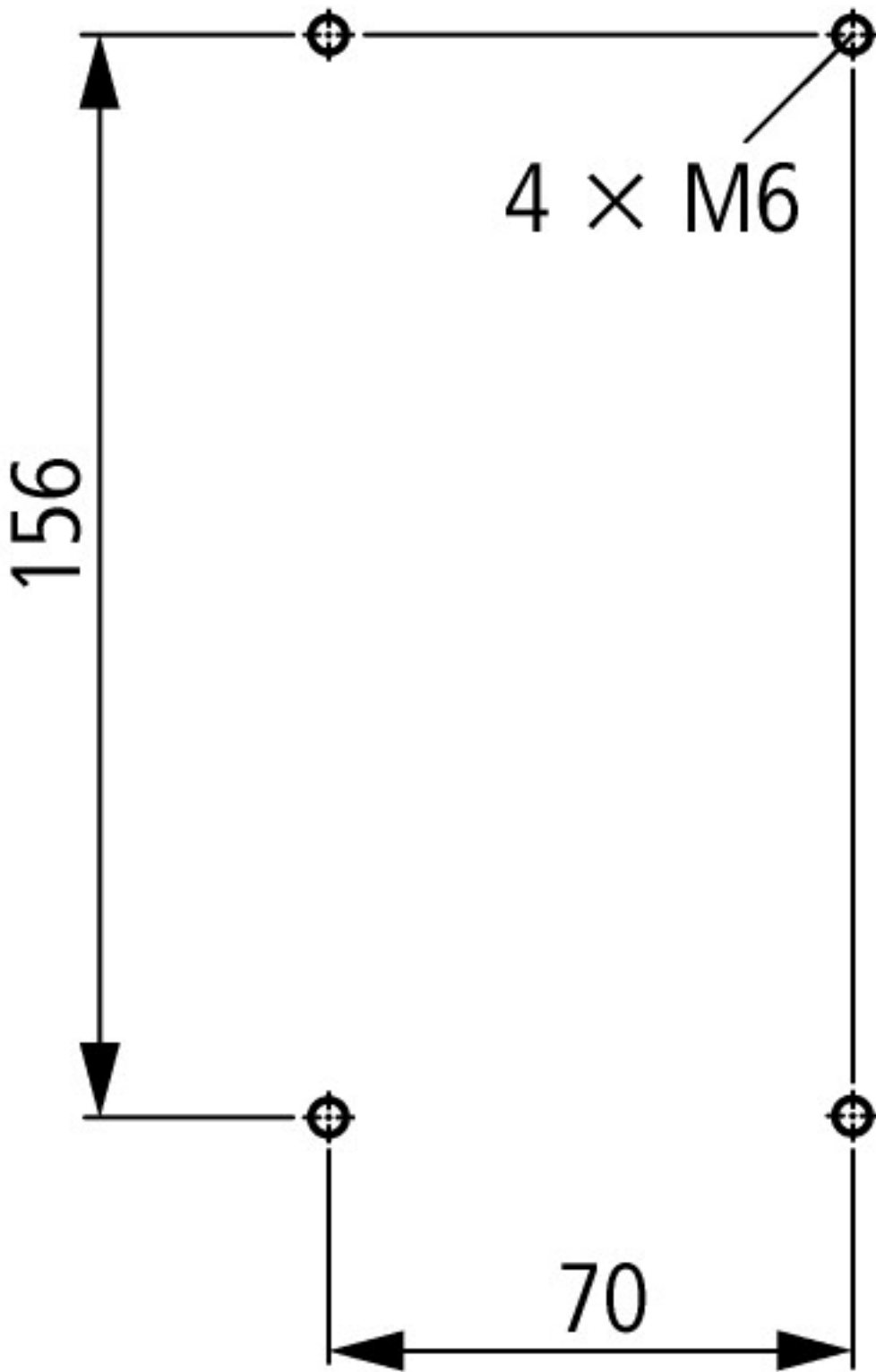
Switching conditions for 4 pole, non-motor loads  
 Operating characteristics  
 Non inductive and slightly inductive loads  
 Electrical characteristics  
 Switch on: 1 x rated operational current  
 Switch off: 1 x rated operational current  
 Utilization category  
 100 % AC-1  
 Typical examples of application  
 Electric heat



## Dimensions



Contactors



distance at side to earthed parts: 10 mm

DILMP125  
 DILMP160  
 DILMP200

## Assets (links)

### Declaration of CE Conformity

00003251

### Instruction Leaflets

IL03407049Z2018\_05

## Additional product information (links)

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

IL03407049Z (AWA2100-2356) 4 pole Contactor [ftp://ftp.moeller.net/DOCUMENTATION/AWA\\_INSTRUCTIONS/IL03407049Z2018\\_05.pdf](ftp://ftp.moeller.net/DOCUMENTATION/AWA_INSTRUCTIONS/IL03407049Z2018_05.pdf)

Motor starters and "Special Purpose Ratings" for the North American market [http://www.eaton.eu/ecm/groups/public/@pub/@europe/@electrical/documents/content/pct\\_3258146.pdf](http://www.eaton.eu/ecm/groups/public/@pub/@europe/@electrical/documents/content/pct_3258146.pdf)

Switchgear of Power Factor Correction Systems	<a href="http://www.moeller.net/binary/ver_techpapers/ver934en.pdf">http://www.moeller.net/binary/ver_techpapers/ver934en.pdf</a>
X-Start - Modern Switching Installations Efficiently Fitted and Wired Securely	<a href="http://www.moeller.net/binary/ver_techpapers/ver938en.pdf">http://www.moeller.net/binary/ver_techpapers/ver938en.pdf</a>
Mirror Contacts for Highly-Reliable Information Relating to Safety-Related Control Functions	<a href="http://www.moeller.net/binary/ver_techpapers/ver944en.pdf">http://www.moeller.net/binary/ver_techpapers/ver944en.pdf</a>
Effect of the Cabel Capacitance of Long Control Cables on the Actuation of Contactors	<a href="http://www.moeller.net/binary/ver_techpapers/ver949en.pdf">http://www.moeller.net/binary/ver_techpapers/ver949en.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>