



Contactor, 4 pole, 200 A, RDC 24: 24 - 27 V DC, DC operation



Part no. **DILMP200(RDC24)**  
 Catalog No. **109930**  
 Alternate Catalog No. **XTCF200G00TD**  
 EL-Nummer (Norway) **4130417**

**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 AC-3/AC-3e: Normal AC induction motors: Starting, switching off while 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	200
at 50 °C	$I_{th} = I_e$	A	188
at 55 °C	$I_{th} = I_e$	A	180
at 60 °C	$I_{th} = I_e$	A	172
Contact sequence			
For use with			DILM150-XHI(A)(V)... DILM1000-XHI(V)...
Actuating voltage			RDC 24: 24 - 27 V DC
Voltage AC/DC			DC operation
Connection to SmartWire-DT			no
Instructions			Contacts to EN 50 012. integrated suppressor circuit in actuating electronics

**Technical data**

**General**

Standards			IEC/EN 60947, VDE 0660, UL, CSA
Lifespan, mechanical			
DC operated	Operations	$\times 10^6$	6.4
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
Push-in terminals			
Solid		mm <sup>2</sup>	1 x (0.75 - 2.5) 2 x (0.75 - 2.5)
flexible		mm <sup>2</sup>	1 x (0.75 - 2.5) 2 x (0.75 - 2.5)
flexible with ferrules		mm <sup>2</sup>	1 x (0.75 - 1.5) 2 x (0.75 - 1.5)
Solid or stranded		AWG	18 - 14
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
Push-in terminals			
Solid		mm <sup>2</sup>	1 x (0.75 - 2.5) 2 x (0.75 - 2.5)
Flexible		mm <sup>2</sup>	1 x (0.75 - 2.5) 2 x (0.75 - 2.5)
Flexible with ferrule		mm <sup>2</sup>	1 x (0.75 - 1.5) 2 x (0.75 - 1.5)
Solid or stranded		AWG	18 - 14
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 <sub>imp</sub>	V AC	8000
Overvoltage 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	1800 According to IEC/EN 60947
Breaking capacity			
220 V 230 V		A	1150
380 V 400 V		A	1150
500 V		A	1150
660 V 690 V		A	800
Short-circuit rating			
Short-circuit protection maximum fuse			
Type "2" coordination			
400 V	gG/gL 500 V	A	250
690 V	gG/gL 690 V	A	200
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	200
at 50 °C	$I_{th} = I_e$	A	188
at 55 °C	$I_{th} = I_e$	A	180
at 60 °C	$I_{th} = I_e$	A	172
enclosed	$I_{th}$	A	160
Conventional free air thermal current, 1 pole			
open	$I_{th}$	A	516
enclosed	$I_{th}$	A	464
Motor rating	P	kWh	
220/230 V	P	kW	72
240 V	P	kW	79
380/400 V	P	kW	125
415 V	P	kW	137
440 V	P	kW	145
500 V	P	kW	165
690 V	P	kW	217
AC-3			
Rated operational current			
Open, 3-pole: 50 – 60 Hz			
Notes			At maximum permissible ambient temperature (open.) Also tested according to AC-3e.
220 V 230 V	$I_e$	A	115
240 V	$I_e$	A	115
380 V 400 V	$I_e$	A	115
415 V	$I_e$	A	115
440V	$I_e$	A	115
500 V	$I_e$	A	115
660 V 690 V	$I_e$	A	93
Motor rating	P	kWh	
220 V 230 V	P	kW	37
240V	P	kW	40
380 V 400 V	P	kW	55
415 V	P	kW	70

440 V	P	kW	75
500 V	P	kW	85
660 V 690 V	P	kW	90

## DC

Rated operational current, open			
DC-1			
60 V	$I_e$	A	200
110 V	$I_e$	A	200
220 V	$I_e$	A	200

## Current heat loss

3 pole, at $I_{th}$ (60°)		W	57
Impedance per pole		mΩ	0.6

## Magnet systems

Voltage tolerance			
AC operated 50/60 Hz		$x U_c$	0.8 - 1.1
DC operated	Pick-up	$x U_c$	At least double-pulse bridge rectifier - 0.7 - 1.2
DC operated	Drop-out	$x U_c$	At least double-pulse bridge rectifier - 0.2 - 0.6
Power consumption of the coil in a cold state and $1.0 \times U_S$			
Notes on DC actuation			At least double-pulse bridge rectifier
DC operated	Pick-up	W	149
DC operated	Sealing	W	1.9
Duty factor		% DF	100
Changeover time at 100 % $U_S$ (recommended value)			
Main contacts			
DC operated		ms	
Notes on DC actuation			At least double-pulse bridge rectifier
Closing delay		ms	35
Opening delay		ms	30
Arcing time		ms	15
Permissible residual current with actuation of A1 - A2 by the electronics (with 0 signal).		mA	$\leq 1$

## Rating data for approved types

Switching capacity			
Maximum motor rating			
Three-phase			
200 V 208 V		HP	40
230 V 240 V		HP	60
460 V 480 V		HP	125
575 V 600 V		HP	125
Single-phase			
115 V 120 V		HP	10
230 V 240 V		HP	30
General use		A	180
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	160
600V 60Hz 3phase, 347V 60Hz 1phase	A	160
Incandescent Lamps (Tungsten)		
480V 60Hz 3phase, 277V 60Hz 1phase	A	160
600V 60Hz 3phase, 347V 60Hz 1phase	A	160
Resistance Air Heating		
480V 60Hz 3phase, 277V 60Hz 1phase	A	160
600V 60Hz 3phase, 347V 60Hz 1phase	A	160
Refrigeration Control (CSA only)		
LRA 480V 60Hz 3phase	A	540
FLA 480V 60Hz 3phase	A	90
LRA 600V 60Hz 3phase	A	540
FLA 600V 60Hz 3phase	A	90
Elevator Control		
200V 60Hz 3phase	HP	30
200V 60Hz 3phase	A	92
240V 60Hz 3phase	HP	40
240V 60Hz 3phase	A	104
480V 60Hz 3phase	HP	75
480V 60Hz 3phase	A	96
600V 60Hz 3phase	HP	100
600V 60Hz 3phase	A	99

## Design verification as per IEC/EN 61439

Technical data for design verification			
Rated operational current for specified heat dissipation	$I_n$	A	200
Heat dissipation per pole, current-dependent	$P_{vid}$	W	19
Equipment heat dissipation, current-dependent	$P_{vid}$	W	57
Static heat dissipation, non-current-dependent	$P_{vs}$	W	1.9
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.

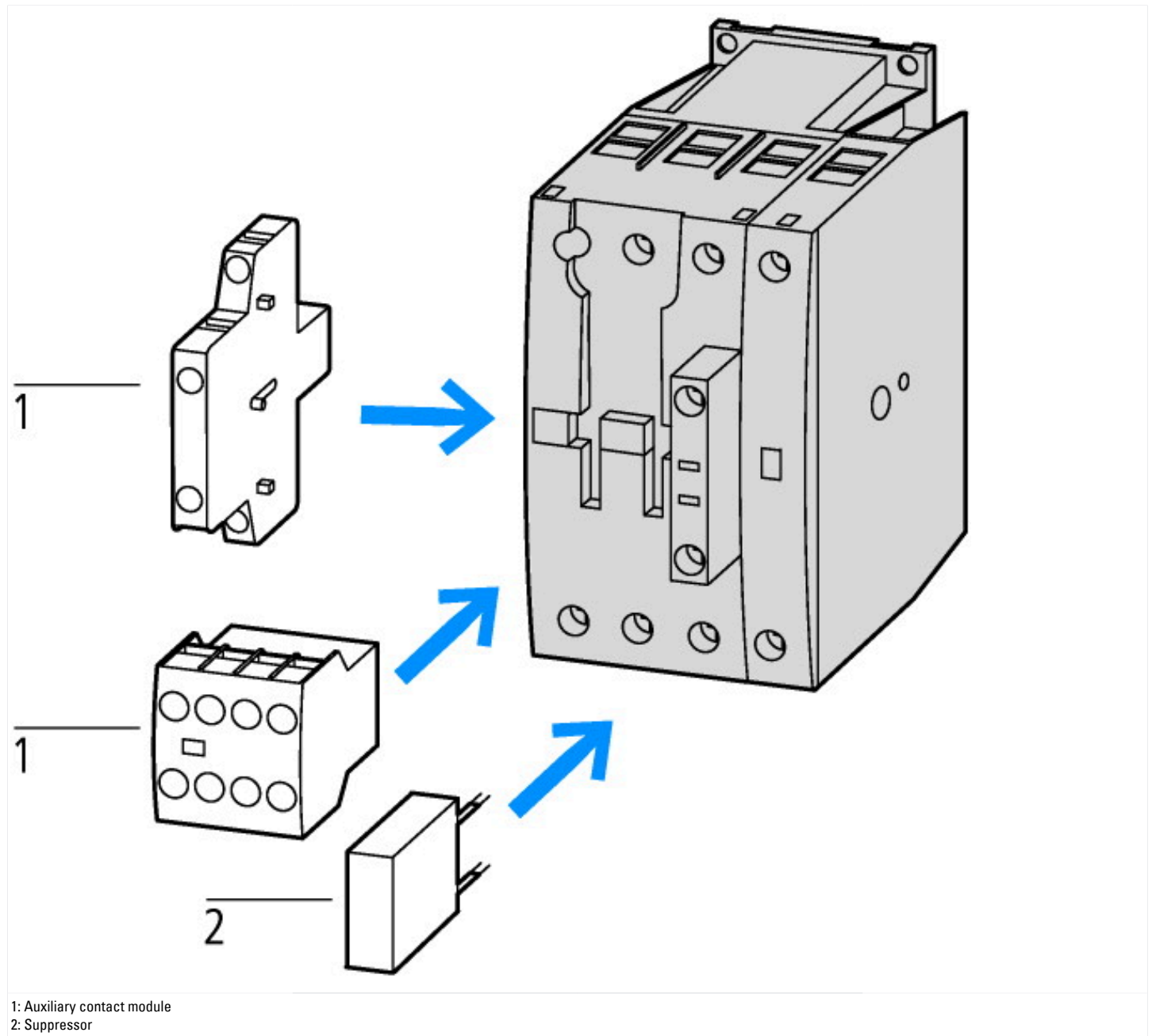
## Technical data ETIM 7.0

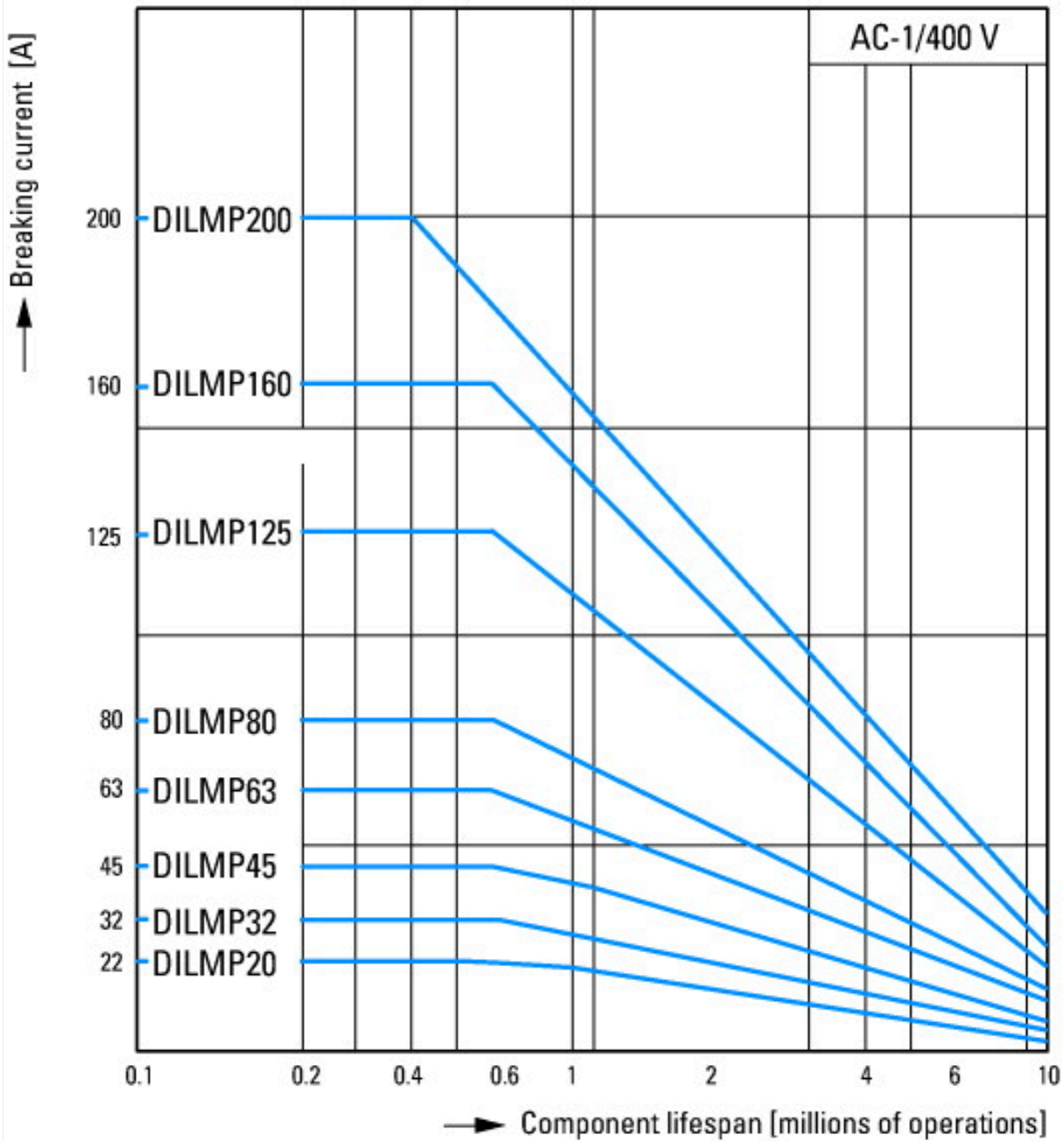
Low-voltage industrial components (EG000017) / Power contactor, AC switching (EC000066)		
Electric engineering, automation, process control engineering / Low-voltage switch technology / Contactor (LV) / Power contactor, AC switching (ecl@ss10.0.1-27-37-10-03 [AAB718015])		
Rated control supply voltage Us at AC 50HZ	V	0 - 0
Rated control supply voltage Us at AC 60HZ	V	0 - 0
Rated control supply voltage Us at DC	V	24 - 27
Voltage type for actuating		DC
Rated operation current Ie at AC-1, 400 V	A	200
Rated operation current Ie at AC-3, 400 V	A	115
Rated operation power at AC-3, 400 V	kW	55
Rated operation current Ie at AC-4, 400 V	A	136
Rated operation power at AC-4, 400 V	kW	75
Rated operation power NEMA	kW	93
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

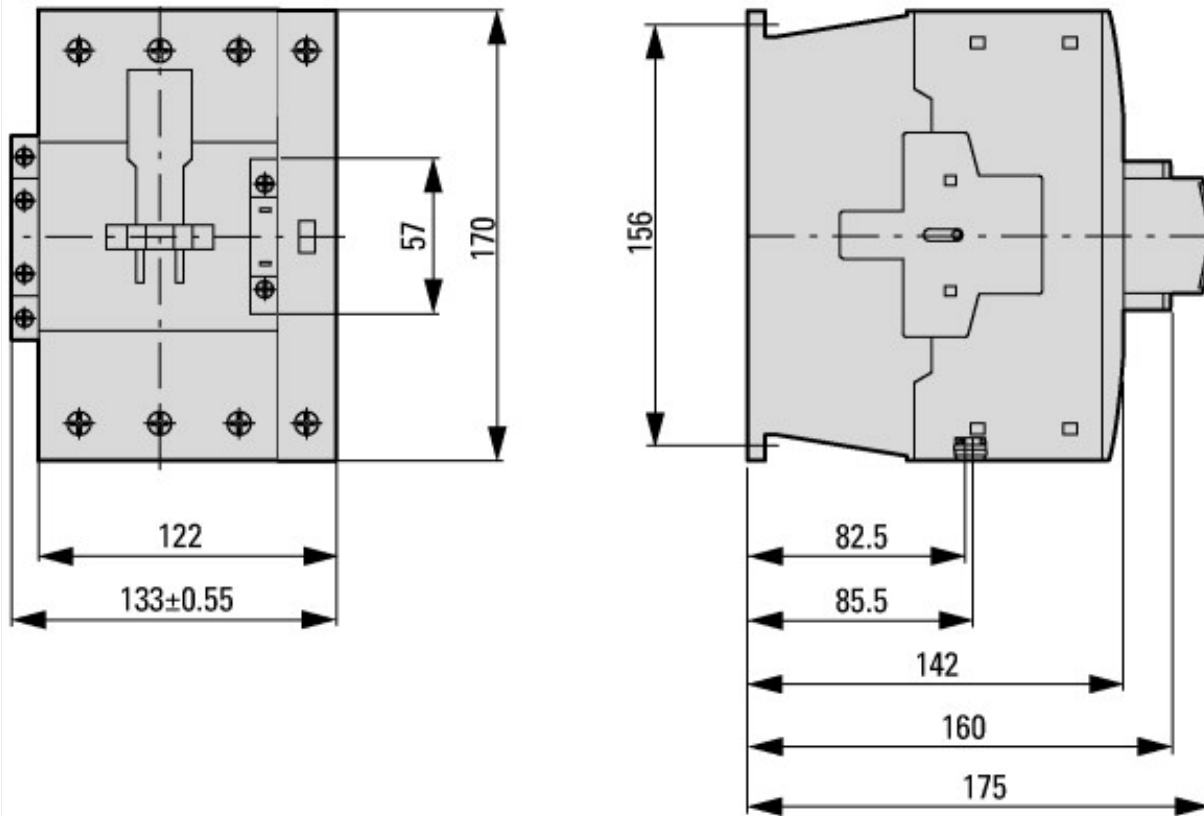
## Characteristics



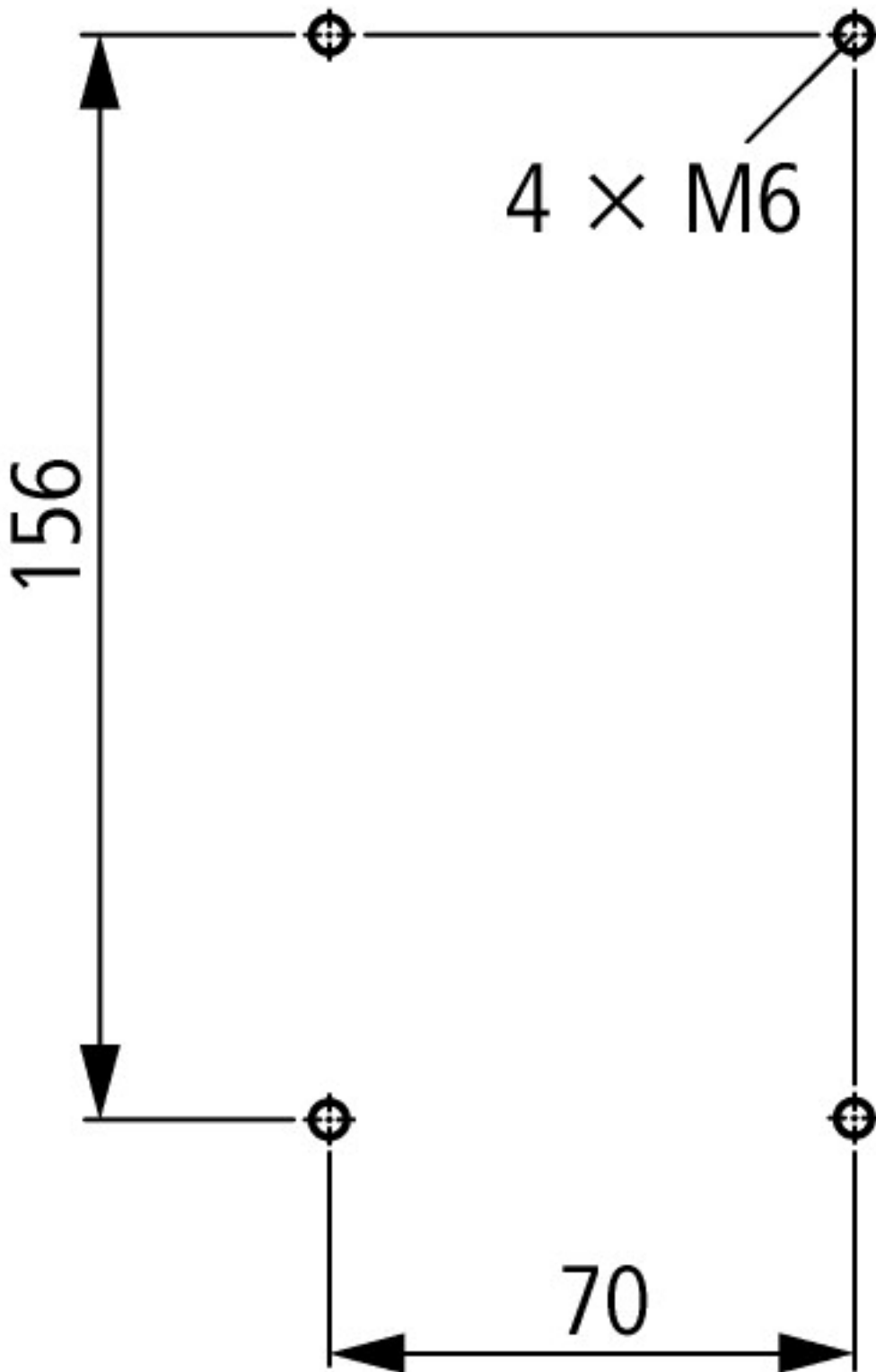


Switching conditions for 4 pole, non-motor loads  
 Operating characteristics  
 Non inductive and slightly inductive loads  
 Electrical characteristics  
 Switch on: 1 x rated operational current  
 Switch off: 1 x rated operational current  
 Utilization category  
 100 % AC-1  
 Typical examples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

## Dimensions



Contactors



distance at side to earthed parts: 10 mm

DILMP125  
DILMP160  
DILMP200

## Additional product information (links)

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

IL03407049Z (AWA2100-2356) 4 pole Contactor	<a href="https://es-assets.eaton.com/DOCUMENTATION/AWA_INSTRUCTIONS/IL03407049Z2018_05.pdf">https://es-assets.eaton.com/DOCUMENTATION/AWA_INSTRUCTIONS/IL03407049Z2018_05.pdf</a>
Motor starters and "Special Purpose Ratings" for the North American market	<a href="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</a>
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 Cable 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>