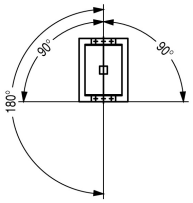
Contactor, 3p+1N/O, 7.5kW/400V/AC3

Part no. DILM15-10(230V50HZ,240V60HZ)
Article no. 290058
Catalog No. XTCE015B10F

Powering Business Worldwide

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 NAC-3: Normal AC induction motors: starting, switch off during running AC-4: Normal AC induction motors: starting, plugging, reversing, inching
Notes			Not suitable for motors with efficiency class IE3.
Connection technique			Screw terminals
Pole			3 pole
Rated operational current			
AC-3			
380 V 400 V	I_e	A	15.5
AC-1			
Conventional free air thermal current, 3 pole, 50 - 60 Hz			
Open			
at 40 °C	$I_{th} = I_e$	A	22
enclosed	I_{th}	A	18
Conventional free air thermal current, 1 pole			
open	I_{th}	A	

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		
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	5.7
Auxiliary contacts		
N/O contact	g	3.4
N/C contact	g	3.4
Degree of Protection		IP20
Protection against direct contact when actuated from front (EN 50274)		Finger and back-of-hand proof
Weight		
AC operated	kg	0.23
DC operated	kg	0.28
Terminal capacity main cable		
Solid	mm^2	1 x (0.75 - 4) 2 x (0.75 - 2.5)
Flexible with ferrule	mm^2	1 x (0.75 - 2.5) 2 x (0.75 - 2,5)
		Also without ferrule.
Solid or stranded	AWG	18 - 10
Main cable connection screw/bolt		M3.5
Tightening torque	Nm	1.2
Terminal capacity control circuit cables		
Solid	mm^2	1 x (0.75 - 4) 2 x (0.75 - 2.5)
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		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_{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	400
between the contacts		V AC	400
Making capacity (p.f. to IEC/EN 60947)			
	Up to 690 V	A	155
reaking capacity			
220 V 230 V		A	124
380 V 400 V		A	124
500 V		A	100
660 V 690 V		A	70
Short-circuit rating			
Short-circuit protection maximum fuse			
Type 2 coordination			
400 V	gG/gL 500 V	A	20
690 V	gG/gL 690 V	A	20
Type 1 coordination			
400 V	gG/gL 500 V	A	63
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	22
at 50 °C	$I_{th} = I_e$	A	21
at 55 °C	$I_{th} = I_e$	A	21
at 60 °C	$I_{th} = I_e$	A	20
enclosed	I_{th}	A	18
Conventional free air thermal current, 1 pole			
open	I_{th}	A	50
enclosed	I_{th}	A	45
AC-3			
Rated operational current			
Open, 3-pole: 50 60 Hz			
220 V 230 V	I_e	A	15.5
240 V	I_e	A	15.5
380 V 400 V	I_e	A	15.5
415 V	I_e	A	15.5
440V	I_e	A	15.5
500 V	I_e	A	12.5
660 V 690 V	I_e	A	9
380 V 400 V	I_e	A	15.5
Motor rating	P	kWh	
220 V 230 V	P	kW	4
240V	P	kW	4.6
380 V 400 V	P	kW	7.5
415 V	P	kW	8
440 V	P	kW	8.4
500 V	P	kW	7.5

660 V 690 V	P	kW	7
AC-4			
Open, 3-pole: 50 60 Hz			
220 V 230 V	I_e	A	7
240 V	I_e	A	7
380 V 400 V	I_e	A	7
415 V	I_e	A	7
440 V	I_e	A	7
500 V	I_e	A	6
660 V 690 V	I_e	A	5
Motor rating	P	kWh	
220 V 230 V	P	kW	2
240 V	P	kW	2.2
380 V 400 V	P	kW	3
415 V	P	kW	3.4
440 V	P	kW	3.6
500 V	P	kW	3.5
660 V 690 V	P	kW	4.4

DC

Rated operational current, open			
DC-1			
60 V	I_e	A	20
110 V	I_e	A	20
220 V	I_e	A	15
440 V	I_e	A	1.3
DC-3			
60 V	I_e	A	20
110 V	I_e	A	20
220 V	I_e	A	1.5
440 V	I_e	A	0.2
DC-5			
60 V	I_e	A	20
110 V	I_e	A	20
220 V	I_e	A	1.5
440 V	I_e	A	0.2

Current heat loss

3-pole at I_{th}		W	2.7
Current heat loss at I_e to AC-3/400 V		W	1.5
Impedance per pole		m	2.5

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
DC operated	Drop-out	x U_c	0.15 - 0.6
Notes			at least smoothed two-phase bridge rectifier or three-phase rectifier
Power consumption of the coil in a cold state and 1.0 x U_c			
50 Hz	Pick-up	VA	24
50 Hz	Sealing	VA	3.4
50 Hz	Sealing	W	1.2
60 Hz	Pick-up	VA	30
60 Hz	Sealing	VA	4.4
60 Hz	Sealing	W	1.4
50/60 Hz	Pick-up	VA	27

			25
50/60 Hz	Sealing	VA	4.2 3.3
50/60 Hz	Sealing	W	1.4 1.2
DC operated	Pick-up	W	4.5
DC operated	Sealing	W	4.5
Duty factor		DF	100
Switching times at 100 U_c (approximate values)			
Main contacts			
AC operated			
Closing delay		ms	15 - 21
Opening delay		ms	9 - 18
DC operated		ms	
Closing delay		ms	31
Opening delay		ms	12
Arcing time		ms	10
Lifespan, mechanical Coil 50/60 Hz		x 10^6	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

Design verification as per IEC/EN 61439

Technical data for design verification			
Rated operational current for specified heat dissipation	I_n	A	15.5
Heat dissipation per pole, current-dependent	P_{vid}	W	0.5
Equipment heat dissipation, current-dependent	P_{vid}	W	0
Static heat dissipation, non-current-dependent	P_{vs}	W	1.4
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 ASSEM LIES			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.

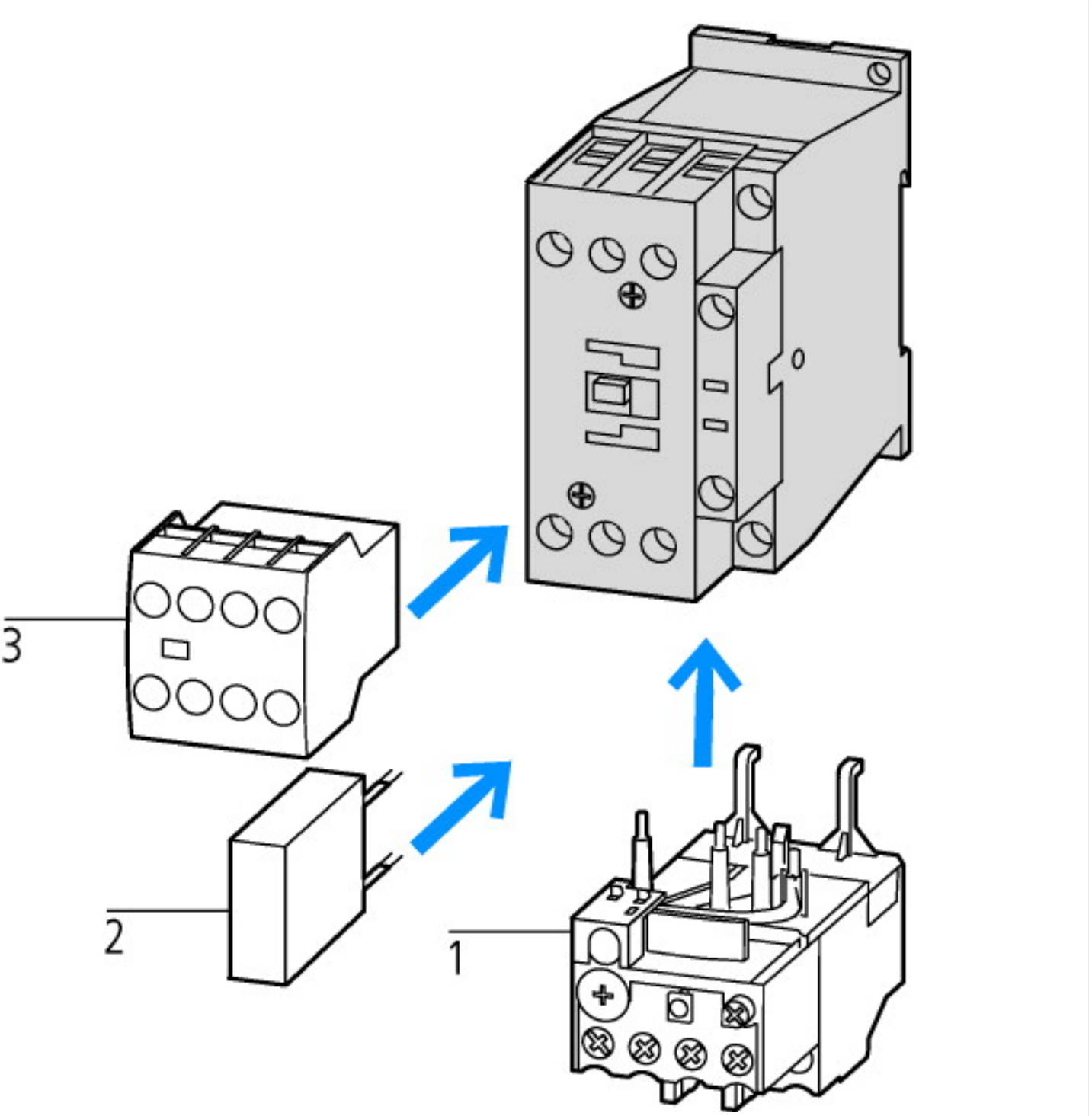
Technical data ETIM 6.0

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 ss8.1-27-37-10-03 AA 718012)			
Rated control supply voltage Us at AC 50H		V	230 - 230
Rated control supply voltage Us at AC 60H		V	240 - 240
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	18
Rated operation current Ie at AC-3, 400 V		A	15.5
Rated operation power at AC-3, 400 V		kW	7.5
Rated operation current Ie at AC-4, 400 V		A	7
Rated operation power Ie at AC-4, 400 V		kW	3
Modular version			No
Number of auxiliary contacts as normally open contact			1
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			3

Approvals

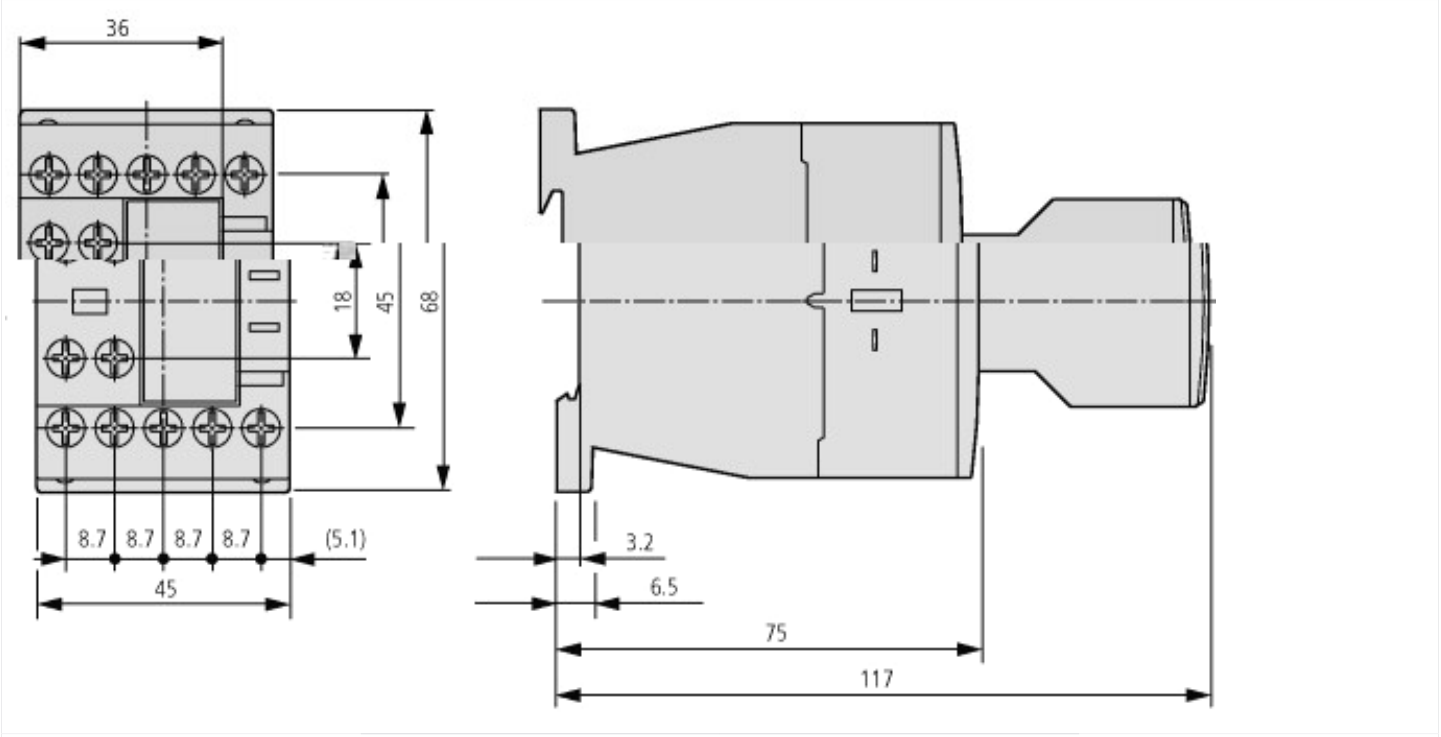
Product Standards			IEC/EN 60947-4-1 UL 508 CSA-C22.2 No. 14-05 CE marking
UL File No.			E29096
UL Category Control No.			NLDX
CSA File No.			012528
CSA Class No.			2411-03, 3211-04
North America Certification			UL listed, CSA certified
Specially designed for North America			No

Characteristics

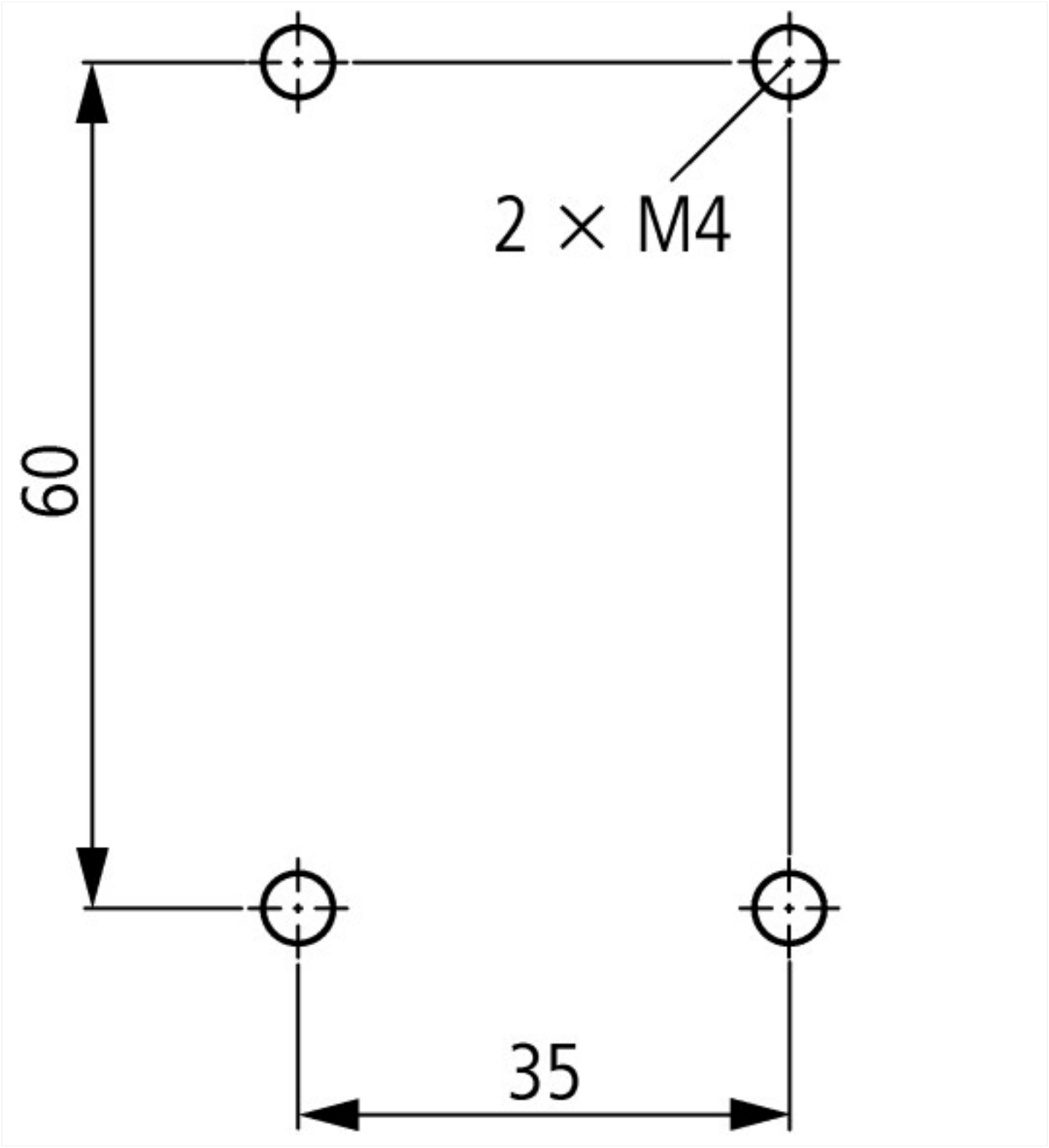


1: Overload relay
2: Suppressor
3: Auxiliary contact modules

Dimensions



Contactor with auxiliary contact module



Additional product information (links)

IL03407013Z (AWA2100-2126) Contactors	
IL03407013 (AWA2100-2126) Contactors	ftp://ftp.moeller.net/DOCUMENTATION/AWA INSTRUCTIONS/IL03407013 2012 03.pdf
UL/CSA: Approved rating data	http://de.ecat.moeller.net/flip-cat/ edition=HPLTE startpage=5.84
UL/CSA: UL/CSA: Special Purpose Rating (SCCR)	http://de.ecat.moeller.net/flip-cat/ edition=HPLTE startpage=5.85
UL/CSA: UL/CSA: Short Circuit Current Rating	http://de.ecat.moeller.net/flip-cat/ edition=HPLTE startpage=5.86
Systems Switchgear of Power Factor Correction	http://www.moeller.net/binary/ver techpapers/ver934en.pdf
Efficiently Fitted and Wired Securely X-Start - Modern Switching Installations	http://www.moeller.net/binary/ver techpapers/ver938en.pdf
Relating to Safety-Related Control Functions Mirror Contacts for Highly-Reliable Information	http://www.moeller.net/binary/ver techpapers/ver944en.pdf
Cables on the Actuation of Contactors Effect of the Cabel Capacitance of Long Control	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
usbar Component Adapters for modern Industrial control panels	http://www.moeller.net/binary/ver techpapers/ver960en.pdf