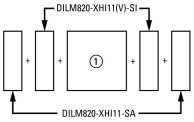
DC contactor, 2-pole + 2 N/O + 2 N/C, 300 A/DC-1, 1000v

Part no. DILDC300/22(RDS250)
Article no. 183314
Catalog No. XTCE300DCM22A

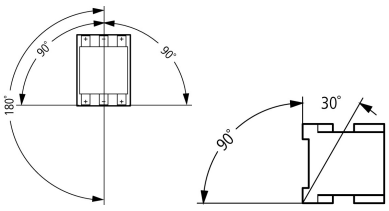
Powering Business Worldwide

Delivery program

Product range			Contactors
Application			DC contactor
Subrange			Comfort devices greater than 170 A
Instructions			DILDC contactors feature an electronic arc suppression system. Because of this, it is extremely important not to exceed any technical data limits in general – especially the making and breaking capacity limits. Opening the device will immediately void the warranty.
Rated operational current, open			
DC-1			
1000 V	I_e	A	300
Can be combined with auxiliary contact			DILM820-XHI…
Actuating voltage			RDS 250: 110 - 250 V 40 - 60 Hz/110 - 350 V DC
Voltage AC/DC			AC and DC operation
Contacts			
N/O = Normally open			2 N/O
N/C = Normally closed			2 NC
Auxiliary contacts			
possible variants at auxiliary contact module fitting options			on the side: 2 x DILM820-XHI11(V)-SI; 2 x DILM820-XHI11-SA
Side mounting auxiliary contacts			

Technical data

General

Standards			EN60947-4-1, EN60947-5-1
Lifespan, mechanical			
AC operated	Operations	x 10^6	1
DC operated	Operations	x 10^6	1
Operating frequency, mechanical			
AC operated	Operations/h		1000
DC operated	Operations/h		1000
Maximum operating frequency			
electrical (Contactors without overload relay)	Operations/h		100
Climatic proofing			Damp heat, constant, to IEC 60068-2-78 Damp heat, cyclic, to IEC 60068-2-30
Ambient temperature			
Open		°C	-40 - +70
Enclosed		°C	- 40 - + 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	10
N/C contact		g	8
Degree of Protection			IP00
Protection against direct contact when actuated from front (EN 50274)			Finger and back-of-hand proof with terminal shroud or terminal block
Weight			
Weight		kg	7.5
Terminal capacity main cable			
Flexible with cable lug		mm^2	50 - 240
Stranded with cable lug		mm^2	50 - 240
Solid or stranded		AWG	1/0 - 500 MCM
Busbar	Breite	mm	40
Main cable connection screw/bolt			M10
Tightening torque		Nm	24
Terminal capacity control circuit cables			
Solid		mm^2	1 x (0.75 - 2.5) 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	2 x (18 - 12)
Control circuit cable connection screw/bolt			M3.5
Tightening torque		Nm	1.2
Tool			
Main cable			
Width across flats		mm	16
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	8000
Overvoltage category/pollution degree			III/3
Rated insulation voltage	U_i	V DC	1000
Rated operational voltage	U_e	V DC	1000
Safe isolation to EN 61140			
Between control inputs and main contacts		V	1000
Between auxiliary contacts and main contacts		V	1000
between the contacts		V	1000
Making capacity		A	450
Breaking capacity			
220 V 230 V		A	450
380 V 400 V		A	450
500 V		A	450
660 V 690 V		A	450
1000 V		A	450
Short-circuit rating			
Short-circuit protection maximum fuse			
Type “2” coordination			
400 V DC	gR 1000 VDC	A	450 (max. short-circuit current 6 kA)
690 V DC	gR 1000 VDC	A	450 (max. short-circuit current 6 kA)
1000 V DC	gR 1000 VDC	A	450 (max. short-circuit current 6 kA)
Type “1” coordination			
400 V DC	gR 1000 VDC	A	450 (max. short-circuit current 30 kA)
690 V DC	gR 1000 VDC	A	450 (max. short-circuit current 30 kA)
1000 V DC	gR 1000 VDC	A	450 (max. short-circuit current 30 kA)

DC

Rated operational current, open			
DC-1			
1000 V	I_e	A	300

Current heat loss

1 pole, at I_{th}		W	18

Magnet systems

Voltage tolerance			
U_S			110 - 250 V 40-60 Hz 110 - 350 V DC
AC operated	Pick-up	x U_S	0.7 x $U_{S\ min}$ - 1.15 x $U_{S\ max}$
DC operated	Pick-up	x U_S	0.7 x $U_{S\ min}$ - 1.15 x $U_{S\ max}$
AC operated	Drop-out	x U_S	0.2 x $U_{S\ max}$ - 0.6 x $U_{S\ min}$
DC operated	Drop-out	x U_S	0.2 x $U_{S\ max}$ - 0.6 x $U_{S\ min}$
Ansteuerung direkt aus SPS			
U_C			24 V DC
U_C min - max			15 - 31,2 V DC
Power consumption of the coil in a cold state and 1.0 x U_c			
Note on power consumption			Control transformer with u_k ≧ 0.6
Pull-in power	Pick-up	VA	600
Pull-in power	Pick-up	W	550
Sealing power	Sealing	VA	18
Sealing power	Sealing	W	9.5
Duty factor		% DF	100
Schaltzeiten bei 100 % U_S (Richtwerte)			
Main contacts			
Closing delay		ms	80
Opening delay		ms	40
PLC signal level (A3 - A4) to IEC/EN 61131-2 (type 2)			
High		V	15
Low		V	5

Electromagnetic compatibility (EMC)

Electromagnetic compatibility			This product is designed for operation in industrial environments (environment 2). The use in residential environments (environment 1) could cause electrical interference so that addition suppression must be planned.

Design verification as per IEC/EN 61439

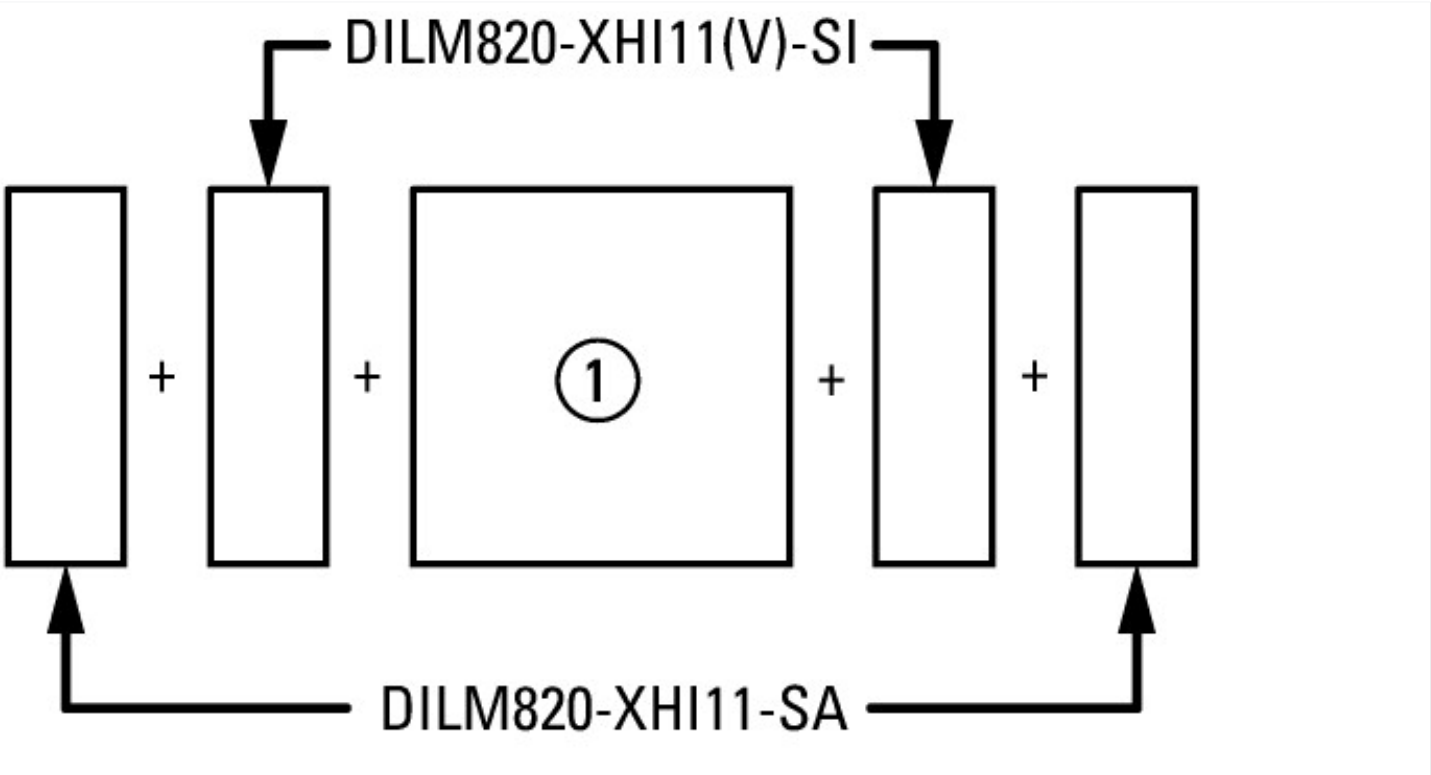
Technical data for design verification			
Rated operational current for specified heat dissipation	I_n	A	300
Heat dissipation per pole, current-dependent	P_{vid}	W	18
Equipment heat dissipation, current-dependent	P_{vid}	W	0
Static heat dissipation, non-current-dependent	P_{vs}	W	9
Heat dissipation capacity	P_{diss}	W	0
Operating ambient temperature min.		°C	-40
Operating ambient temperature max.		°C	70
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 6.0

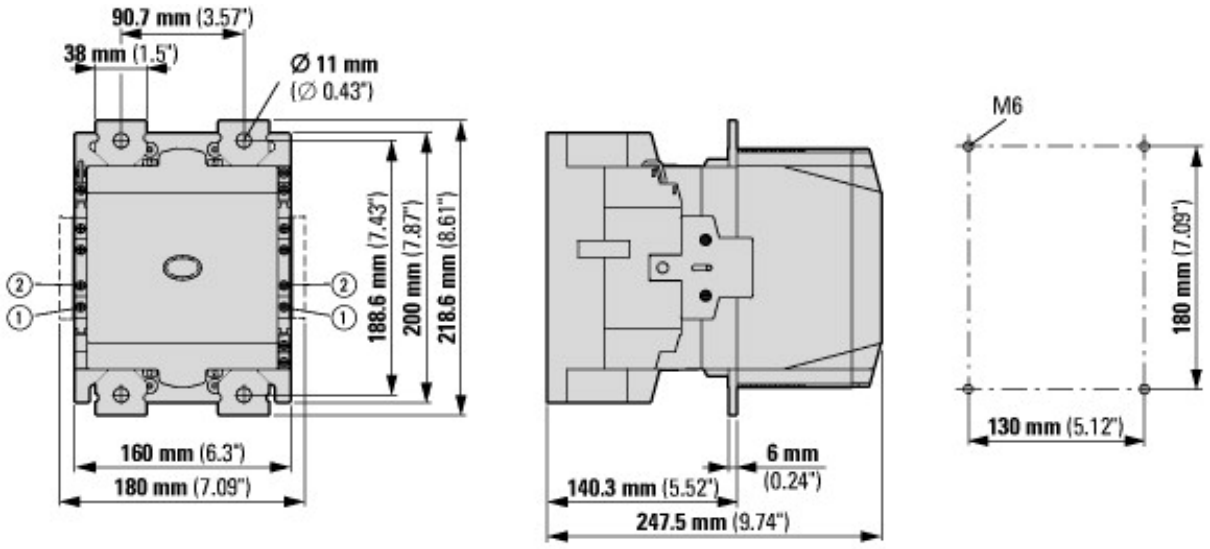
Low-voltage industrial components (EG000017) / Power contactor, DC switching (EC002552)		
Electric engineering, automation, process control engineering / Low-voltage switch technology / Contactor (LV) / Power contactor, d.c. switching (ecl@ss8.1-27-37-10-18 [ACN974008])		
Rated control supply voltage Us at AC 50HZ	V	110 - 250
Rated control supply voltage Us at AC 60HZ	V	110 - 250
Rated control supply voltage Us at DC	V	110 - 350
Voltage type for actuating		AC/DC
Rated operation power at DC-3 / DC-5 at 440 V	kW	0
Rated operation current Ie at DC-3 / DC-5 at 440 V	A	0
Modular version		No
Number of auxiliary contacts as normally open contact		2
Number of auxiliary contacts as normally closed contact		2
Type of electrical connection of main circuit		Connection rail
Number of normally closed contacts as main contact		0
Number of main contacts as normally open contact		2

Characteristics



on the side: 2 x DILM820-XHI11(V)-SI; 2 x DILM820-XHI11-SA

Dimensions



Additional product information (links)

IL034035ZU DC contactors	
IL034035ZU DC contactors	ftp://ftp.moeller.net/DOCUMENTATION/AWA_INSTRUCTIONS/IL034035ZU2016_09.pdf
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 Cabel 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