



Reversing contactor combination, 380 V 400 V: 4 kW, 230 V 50 Hz, 240 V 60 Hz, AC operation



Part no. DIULM9/21(230V50HZ,240V60HZ)
 Catalog No. 278086
 Alternate Catalog XTCR009B21F
 No.
 EL-Nummer 4130465
 (Norway)

Delivery program

Product range		Contactor combinations
Application		Contactor combinations for starting motors with two directions of rotation
Accessories		DIUL reversing combinations
Utilization category		NAC-3: Normal AC induction motors: starting, switch off during running AC-4: Normal AC induction motors: starting, plugging, reversing, inching

Notes Also suitable for motors with efficiency class IE3. IE3-ready devices are identified by the logo on their packaging.

Rated operational current

AC-3			
380 V 400 V	I_e	A	9

Max. rating for three-phase motors, 50 - 60 Hz

AC-3			
220 V 230 V	P	kW	2.5
380 V 400 V	P	kW	4
660 V 690 V	P	kW	4.5
AC-4			
220 V 230 V	P	kW	1.5
380 V 400 V	P	kW	2.5
660 V 690 V	P	kW	3.6

Actuating voltage 230 V 50 Hz, 240 V 60 Hz

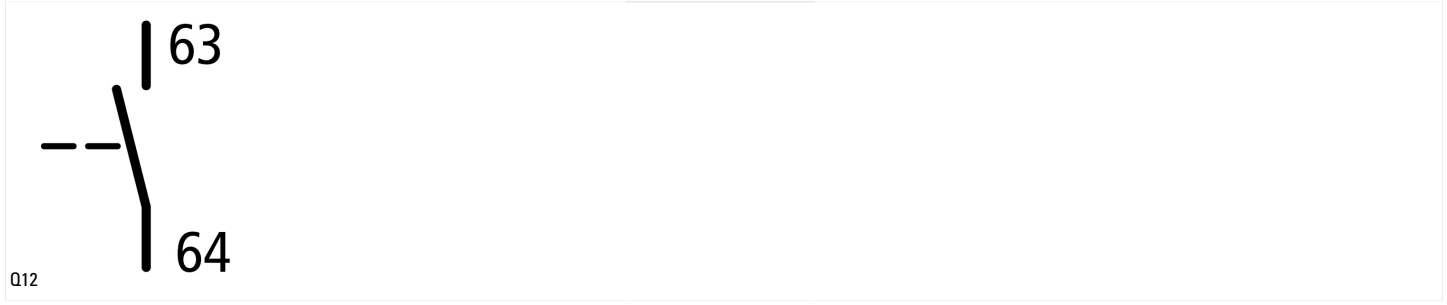
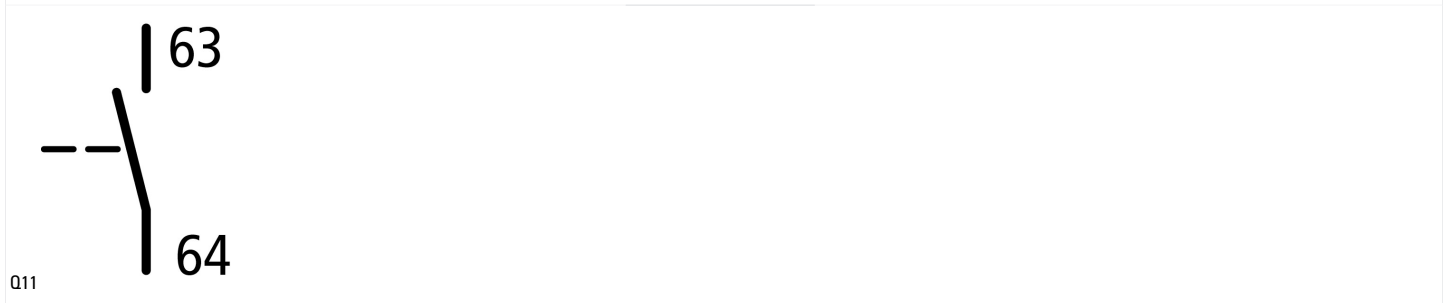
Voltage AC/DC AC operation

Individual components of the combination

Contactor Q11 DILM9-01 + DILA-XHI20

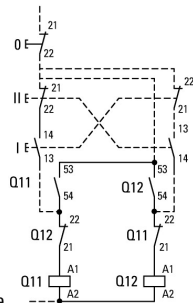
Contactor Q12 DILM9-01 + DILA-XHI20

Spare auxiliary contacts



Mechanical interlock +

Circuit diagram



Contact sequence

Design verification as per IEC/EN 61439

Technical data for design verification

Rated operational current for specified heat dissipation	I_n	A	9
Heat dissipation per pole, current-dependent	P_{vid}	W	0.28
Equipment heat dissipation, current-dependent	P_{vid}	W	0.84
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 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) / Combination of contactors (EC000010)

Electric engineering, automation, process control engineering / Low-voltage switch technology / Contactor (LV) / Combination of contactor (ecl@ss10.0.1-27-37-10-09 [AGZ572014])

Function		Reversing safety
Rated control supply voltage U_s at AC 50HZ	V	230 - 230
Rated control supply voltage U_s at AC 60HZ	V	240 - 240

Rated control supply voltage U_s at DC	V	0 - 0
Voltage type for actuating		AC
Rated operation current I_e at AC-3, 400 V	A	9
Rated operation power at AC-3, 400 V	kW	4
Rated operation power NEMA	kW	3.7
Type of electrical connection of main circuit		Screw connection
Degree of protection (IP)		IP20
Degree of protection (NEMA)		Other

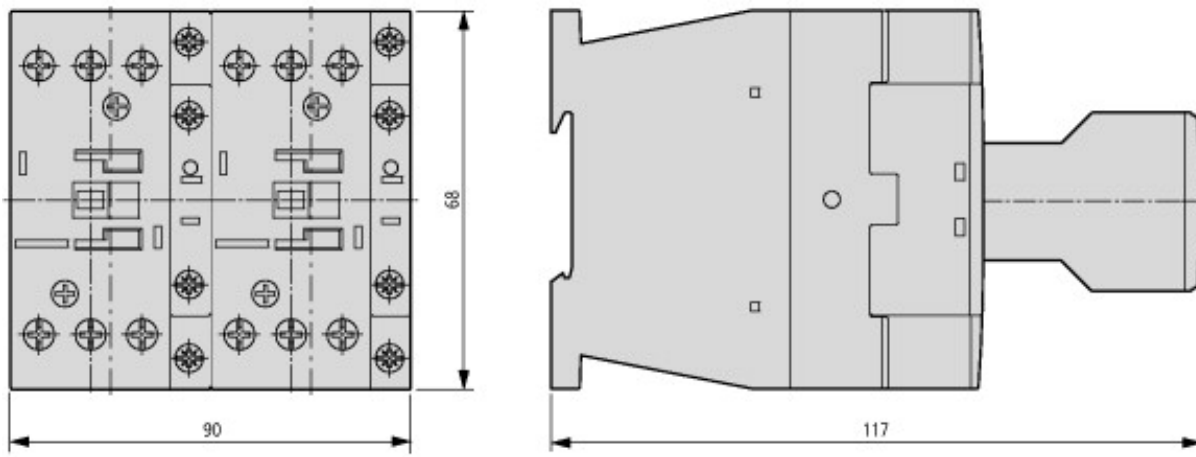
Approvals

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



1: Overload relay

Dimensions



Basic unit with auxiliary contact module