



**Contactor, 3 pole, 380 V 400 V 18.5 kW, 1 N/O, 1 NC, RDC 24: 24 - 27 V DC, DC operation, Push in terminals**

**EATON**  
Powering Business Worldwide™



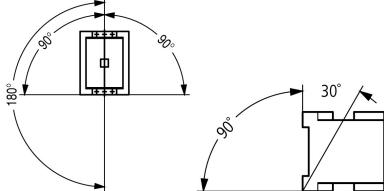
**Part no.** DILM38-11(RDC24)-PI  
**Catalog No.** 199298  
**Alternate Catalog No.** XTCEPI038C11TD

## Delivery program

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	Push in terminals		
Number of poles	3 pole		
<b>Rated operational current</b>			
AC-3			
Notes	At maximum permissible ambient temperature (open.)		
380 V 400 V	$I_e$	A	38
AC-1			
Conventional free air thermal current, 3 pole, 50 - 60 Hz			
Open			
at 40 °C	$I_{th} = I_e$	A	45
enclosed	$I_{th}$	A	36
Conventional free air thermal current, 1 pole			
open	$I_{th}$	A	100
enclosed	$I_{th}$	A	90
<b>Max. rating for three-phase motors, 50 - 60 Hz</b>			
AC-3			
220 V 230 V	P	kW	11
380 V 400 V	P	kW	18.5
660 V 690 V	P	kW	21
AC-4			
220 V 230 V	P	kW	4
380 V 400 V	P	kW	7
660 V 690 V	P	kW	10
<b>Contacts</b>			
N/O = Normally open	1 N/O		
N/C = Normally closed	1 NC		
Contact sequence			
Instructions	Contacts to EN 50 012. with mirror contact.		
Can be combined with auxiliary contact	DILM32-XHI...-PI DILA-XHI(V)...-PI		
Actuating voltage	RDC 24: 24 - 27 V DC		
Voltage AC/DC	DC operation		
Connection to SmartWire-DT	yes in conjunction with DIL-SWD SmartWire DT contactor module		
Frame size	2		

# Technical data

## General

Standards		IEC/EN 60947, VDE 0660, UL, CSA
Operating frequency, mechanical		
DC operated	Operations/h	5000
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	6.9
Auxiliary contacts		
N/O contact	g	5.3
N/C contact	g	3.5
Degree of Protection		IP20
Protection against direct contact when actuated from front (EN 50274)		Finger and back-of-hand proof
Altitude	m	Max. 2000
Weight		
DC operated	kg	0.55
Spring-loaded terminal connection		
Tool		
Standard screwdriver		3.0 x 0.5
Push-in terminals		
Terminal capacity main cable		
Solid	mm <sup>2</sup>	1 x (1 - 6) 2 x (1 - 6)
flexible	mm <sup>2</sup>	1 x (1 - 10) 2 x (1 - 6)
flexible with ferrules	mm <sup>2</sup>	1 x (1 - 6) 2 x (1 - 4)
flexible with ultrasonic welded busbar end	mm <sup>2</sup>	1 x (1 - 10) 2 x (1 - 6)
flexible with uninsulated wire end ferrule	mm <sup>2</sup>	1 x (1 - 6) 2 x (1 - 6)
Solid or stranded	AWG	18 - 8
Stripping length	mm	12
Standard screwdriver		3.0 x 0.5
Terminal capacity control circuit cables		
Solid	mm <sup>2</sup>	1 x (0,5 - 2,5) 2 x (0,5 - 2,5)
flexible	mm <sup>2</sup>	1 x (0,5 - 2,5) 2 x (0,5 - 2,5)

flexible with ferrules	mm <sup>2</sup>	1 x (0,5 - 1,5) 2 x (0,5 - 1,5)
flexible with ultrasonic welded busbar end	mm <sup>2</sup>	1 x (0,5 - 2,5) 2 x (0,5 - 2,5)
flexible with uninsulated wire end ferrule	mm <sup>2</sup>	1 x (0,5 - 2,5) 2 x (0,5 - 2,5)
Solid or stranded	AWG	20 - 14
Stripping length	mm	10
Tool		
Standard screwdriver	mm	3.0 x 0.5

### 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	400
between the contacts		V AC	400
Making capacity (p.f. to IEC/EN 60947)		Up to 690 V	A
			384
Breaking capacity			
220 V 230 V		A	320
380 V 400 V		A	320
500 V		A	320
660 V 690 V		A	180
Short-circuit rating			
Short-circuit protection maximum fuse			
Type "2" coordination			
400 V	gG/gL 500 V	A	50
690 V	gG/gL 690 V	A	35
Type "1" coordination			
400 V	gG/gL 500 V	A	125
690 V	gG/gL 690 V	A	63

### AC

AC-1			
Rated operational current			
Conventional free air thermal current, 3 pole, 50 - 60 Hz			
Open			
at 40 °C	I <sub>th</sub> = I <sub>e</sub>	A	45
at 50 °C	I <sub>th</sub> = I <sub>e</sub>	A	43
at 55 °C	I <sub>th</sub> = I <sub>e</sub>	A	42
at 60 °C	I <sub>th</sub> = I <sub>e</sub>	A	40
enclosed	I <sub>th</sub>	A	36
Conventional free air thermal current, 1 pole			
open	I <sub>th</sub>	A	100
enclosed	I <sub>th</sub>	A	90
AC-3			
Rated operational current			
Open, 3-pole: 50 – 60 Hz			
Notes			At maximum permissible ambient temperature (open.)
220 V 230 V	I <sub>e</sub>	A	38
240 V	I <sub>e</sub>	A	38
380 V 400 V	I <sub>e</sub>	A	38
415 V	I <sub>e</sub>	A	38
440V	I <sub>e</sub>	A	38
500 V	I <sub>e</sub>	A	38

660 V 690 V	I <sub>e</sub>	A	22.5
Motor rating	P	kWh	
220 V 230 V	P	kW	11
240 V	P	kW	12
380 V 400 V	P	kW	18.5
415 V	P	kW	20
440 V	P	kW	21
500 V	P	kW	24
660 V 690 V	P	kW	21

#### AC-4

Open, 3-pole: 50 – 60 Hz			
220 V 230 V	I <sub>e</sub>	A	15
240 V	I <sub>e</sub>	A	15
380 V 400 V	I <sub>e</sub>	A	15
415 V	I <sub>e</sub>	A	15
440 V	I <sub>e</sub>	A	15
500 V	I <sub>e</sub>	A	15
660 V 690 V	I <sub>e</sub>	A	12
Motor rating	P	kWh	
220 V 230 V	P	kW	4
240 V	P	kW	4.5
380 V 400 V	P	kW	7
415 V	P	kW	7.5
440 V	P	kW	8
500 V	P	kW	9
660 V 690 V	P	kW	10

#### Current heat loss

3 pole, at I <sub>th</sub> (60°)		W	10.3
Current heat loss at I <sub>e</sub> to AC-3/400 V		W	9.3
Impedance per pole		mΩ	2.7

#### Magnet systems

Voltage tolerance			
DC operated	Pick-up	x U <sub>c</sub>	0.7 - 1.2
Notes			RDC 24 (U <sub>min</sub> 24 V DC/U <sub>max</sub> 27 V DC) Example: U <sub>S</sub> = 0.7 x U <sub>min</sub> - 1.2 x U <sub>max</sub> / U <sub>S</sub> = 0.7 x 24V - 1.2 x 27V DC
DC operated	Drop-out	x U <sub>c</sub>	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 <sub>S</sub>			
DC operated	Pick-up	W	12
DC operated	Sealing	W	0,9
Duty factor		% DF	100
Changeover time at 100 % U <sub>S</sub> (recommended value)			
Main contacts			
DC operated		ms	
Closing delay		ms	
Closing delay		ms	47
Opening delay		ms	
Opening delay		ms	30
Arcing time		ms	10

#### Electromagnetic compatibility (EMC)

Emitted interference		According to EN 60947-1
Interference immunity		According to EN 60947-1

#### Rating data for approved types

Switching capacity		
Maximum motor rating		

Three-phase			
200 V 208 V	HP	10	
230 V 240 V	HP	10	
460 V 480 V	HP	20	
575 V 600 V	HP	30	
Single-phase			
115 V 120 V	HP	3	
230 V 240 V	HP	5	
General use	A	40	
Auxiliary contacts			
General Use			
AC	V	600	
AC	A	10	
DC	V	250	
DC	A	1	
Short Circuit Current Rating	SCCR		
Basic Rating			
SCCR	kA	5	
max. Fuse	A	125	
max. CB	A	125	

## Design verification as per IEC/EN 61439

Technical data for design verification			
Operating ambient temperature min.	°C	-25	
Operating ambient temperature max.	°C	60	

## 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	45	
Rated operation current Ie at AC-3, 400 V	A	38	
Rated operation power at AC-3, 400 V	kW	18.5	
Rated operation current Ie at AC-4, 400 V	A	15	
Rated operation power at AC-4, 400 V	kW	7	
Rated operation power NEMA	kW	0	
Modular version		No	
Number of auxiliary contacts as normally open contact		1	
Number of auxiliary contacts as normally closed contact		1	
Type of electrical connection of main circuit		Spring clamp 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 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

## Characteristics

1: Overload relay

2: Suppressor

3: Auxiliary contact modules

Switching conditions for non-motor consumers, 3 pole, 4 pole

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

