



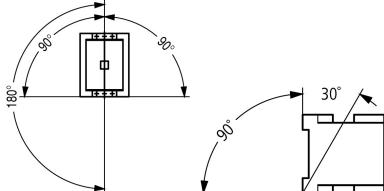
**Contactor, 3 pole, 380 V 400 V 3 KW, 1 N/O, 1 NC, 230 V 50/60 Hz, AC operation, Push in terminals**

**EATON**  
Powering Business Worldwide™

**Part no.** DILM8-11(230V50/60HZ)-PI  
**Catalog No.** 199660  
**Alternate Catalog No.** XTCEPI008C11G2

## Delivery program

Product range	Contactors		
Application	Contactors for Motors		
Subrange	Contactors up to 95 A, 3 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 AC-4: Normal AC induction motors: starting, plugging, reversing, inching		
	<b>IE3 ✓</b>		
Notes	Also 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.) Also tested according to AC-3e.		
380 V 400 V	$I_e$	A	8
AC-1			
Conventional free air thermal current, 3 pole, 50 - 60 Hz			
Open			
at 40 °C	$I_{th} = I_e$	A	40
enclosed	$I_{th}$	A	32
Conventional free air thermal current, 1 pole			
open	$I_{th}$	A	88
enclosed	$I_{th}$	A	80
<b>Max. rating for three-phase motors, 50 - 60 Hz</b>			
AC-3			
220 V 230 V	P	kW	2
380 V 400 V	P	kW	3
660 V 690 V	P	kW	6.7
AC-4			
220 V 230 V	P	kW	2
380 V 400 V	P	kW	3.6
660 V 690 V	P	kW	6.7
<b>Contacts</b>			
N/O = Normally open	1 N/O		
N/C = Normally closed	1 NC		
Contact sequence			
<b>Instructions</b>	Contacts to EN 50 012. with mirror contact.		
Can be combined with auxiliary contact	DILM32-XHI...-PI DILA-XHI(V)...-PI		
Actuating voltage	230 V 50/60 Hz		
Voltage AC/DC	AC operation		

Connection to SmartWire-DT		no
Frame size		2
<b>Technical data</b>		
<b>General</b>		
Standards		IEC/EN 60947, VDE 0660, UL, CSA
Operating frequency, mechanical		
AC 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	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
Altitude	m	Max. 2000
Weight		
AC operated	kg	0.44
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	112
Breaking capacity			
220 V 230 V		A	70
380 V 400 V		A	70
500 V		A	50
660 V 690 V		A	40
Short-circuit rating			
Short-circuit protection maximum fuse			
Type "2" coordination			
400 V	gG/gL 500 V	A	35
690 V	gG/gL 690 V	A	35
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 <sub>th</sub> = I <sub>e</sub>	A	40
at 50 °C	I <sub>th</sub> = I <sub>e</sub>	A	38
at 55 °C	I <sub>th</sub> = I <sub>e</sub>	A	37
at 60 °C	I <sub>th</sub> = I <sub>e</sub>	A	35
enclosed	I <sub>th</sub>	A	32
Conventional free air thermal current, 1 pole			
open	I <sub>th</sub>	A	88
enclosed	I <sub>th</sub>	A	80
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 <sub>e</sub>	A	8
240 V	I <sub>e</sub>	A	8

380 V 400 V	$I_e$	A	8
415 V	$I_e$	A	8
440V	$I_e$	A	8
500 V	$I_e$	A	8
660 V 690 V	$I_e$	A	8
Motor rating	P	kWh	
220 V 230 V	P	kW	2
240V	P	kW	2
380 V 400 V	P	kW	3
415 V	P	kW	3.9
440 V	P	kW	4
500 V	P	kW	4.8
660 V 690 V	P	kW	6.7

#### AC-4

Open, 3-pole: 50 – 60 Hz			
220 V 230 V	$I_e$	A	8
240 V	$I_e$	A	8
380 V 400 V	$I_e$	A	8
415 V	$I_e$	A	8
440 V	$I_e$	A	8
500 V	$I_e$	A	8
660 V 690 V	$I_e$	A	8
Motor rating	P	kWh	
220 V 230 V	P	kW	2
240 V	P	kW	2.1
380 V 400 V	P	kW	3.6
415 V	P	kW	3.7
440 V	P	kW	4
500 V	P	kW	4.7
660 V 690 V	P	kW	6.7

#### Current heat loss

3 pole, at $I_{th}$ (60°)	W	7.9
Current heat loss at $I_e$ to AC-3/400 V	W	0.3
Impedance per pole	$m\Omega$	2.7

#### Magnet systems

Voltage tolerance			
AC operated	Pick-up	$\times U_c$	0.8 - 1.1
Drop-out voltage AC operated	Drop-out	$\times U_c$	0.3 - 0.6
Power consumption of the coil in a cold state and $1.0 \times U_S$			
50/60 Hz	Pick-up	VA	62 58
50/60 Hz	Sealing	VA	9.1 6.5
50/60 Hz	Sealing	W	2.1
Duty factor		% DF	100
Changeover time at 100 % $U_S$ (recommended value)			
Main contacts			
AC operated			
Closing delay		ms	16 - 22
Opening delay		ms	8 - 14
Arcing time		ms	10
Lifespan, mechanical; Coil 50/60 Hz	$\times 10^6$		Mechanical lifespan at 50 Hz approx. 30% lower than under → Technical data general

#### 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	1.5	
230 V 240 V	HP	2	
460 V 480 V	HP	3	
575 V 600 V	HP	5	
Single-phase			
115 V 120 V	HP	0.25	
230 V 240 V	HP	1	
General use	A	20	
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	230 - 230	
Rated control supply voltage Us at AC 60Hz	V	230 - 230	
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	40	
Rated operation current Ie at AC-3, 400 V	A	8	
Rated operation power at AC-3, 400 V	kW	3	
Rated operation current Ie at AC-4, 400 V	A	5	
Rated operation power at AC-4, 400 V	kW	2.2	
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
North America Certification	UL listed, CSA certified
Specially designed for North America	No

## 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

