199273
DILM11-11(RDC24)-PI

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
AC-3/AC-3e: Normal AC induction motors: Starting, switching off while running
AC-4: Normal AC induction motors: starting, plugging, reversing, inching

IE3

Notes
Also suitable for motors with efficiency class IE3.

Connection technique
Push in terminals

Number of poles
3 pole

Rated operational current

AC-3
Notes
At maximum permissible ambient temperature
(open.)
Also tested according to AC-3e.

AC-3
380 V 400 V [I_e]
11 A

AC-1
Conventional free air thermal current, 3 pole, 50 -
60 Hz
Open
at 40 °C [$I_{th} = I_e$]
40 A

AC-1
Conventional free air thermal current, 3 pole, 50 -
60 Hz
enclosed [I_{th}]
32 A

AC-1
Conventional free air thermal current, 1 pole
open [I_{th}]
88 A

AC-1
Conventional free air thermal current, 1 pole
enclosed [I_{th}]
80 A

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

AC-3
220 V 230 V [P]
2.6 kW

AC-3
380 V 400 V [P]
4 kW

AC-3
660 V 690 V [P]
9 kW

AC-4
220 V 230 V [P]
2.5 kW

AC-4
380 V 400 V [P]
4.7 kW

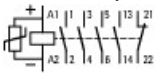
AC-4
660 V 690 V [P]
6.7 kW

Contacts

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

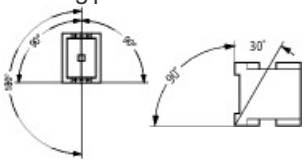
Climatic proofing
Damp heat, constant, to IEC 60068-2-78
Damp heat, cyclic, to IEC 60068-2-30

Ambient temperature
Open
-25 - +60 °C

Ambient temperature
Enclosed
- 25 - 40 °C

Ambient temperature
Storage
- 40 - 80 °C

Mounting position



Mechanical shock resistance (IEC/EN 60068-2-27)
Half-sinusoidal shock, 10 ms

Main contacts
N/O contact
10 g

Mechanical shock resistance (IEC/EN 60068-2-27)
Half-sinusoidal shock, 10 ms
Auxiliary contacts
N/O contact
7 g

Mechanical shock resistance (IEC/EN 60068-2-27)
Half-sinusoidal shock, 10 ms
Auxiliary contacts
N/C contact
5 g

Mechanical shock resistance (IEC/EN 60068-2-27)
when tabletop-mounted
Half-sinusoidal shock, 10 ms
Main contacts
N/O contact
5.7 g

Mechanical shock resistance (IEC/EN 60068-2-27)
when tabletop-mounted
Half-sinusoidal shock, 10 ms
Auxiliary contacts
N/O contact
3.4 g

Mechanical shock resistance (IEC/EN 60068-2-27)
when tabletop-mounted
Half-sinusoidal shock, 10 ms
Auxiliary contacts
N/C contact
3.4 g

Degree of Protection
IP20

Protection against direct contact when actuated
from front (EN 50274)
Finger and back-of-hand proof

Altitude
Max. 2000 m

Weight
DC operated
0.55 kg

Spring-loaded terminal connection
Tool
Standard screwdriver
3.0 x 0.5

Push-in terminals
Terminal capacity main cable
Solid
1 x (1 - 6)
2 x (1 - 6) mm²

Push-in terminals
Terminal capacity main cable
flexible
1 x (1 - 10)
2 x (1 - 6) mm²

Push-in terminals
Terminal capacity main cable
flexible with ferrules
1 x (1 - 6)
2 x (1 - 4) mm²

Push-in terminals
Terminal capacity main cable
flexible with ultrasonic welded busbar end
1 x (1 - 10)
2 x (1 - 6) mm²

Push-in terminals
Terminal capacity main cable
flexible with uninsulated wire end ferrule
1 x (1 - 6)
2 x (1 - 6) mm²

Push-in terminals
Terminal capacity main cable
Solid or stranded
18 - 8 AWG

Push-in terminals
Terminal capacity main cable
Stripping length
12 mm

Push-in terminals
Terminal capacity main cable
Standard screwdriver
3.0 x 0.5

Push-in terminals

Terminal capacity control circuit cables
Solid
1 x (0,5 - 2,5)
2 x (0,5 - 2,5) mm²

Push-in terminals
Terminal capacity control circuit cables
flexible
1 x (0,5 - 2,5)
2 x (0,5 - 2,5) mm²

Push-in terminals
Terminal capacity control circuit cables
flexible with ferrules
1 x (0,5 - 1,5)
2 x (0,5 - 1,5) mm²

Push-in terminals
Terminal capacity control circuit cables
flexible with ultrasonic welded busbar end
1 x (0,5 - 2,5)
2 x (0,5 - 2,5) mm²

Push-in terminals
Terminal capacity control circuit cables
flexible with uninsulated wire end ferrule
1 x (0,5 - 2,5)
2 x (0,5 - 2,5) mm²

Push-in terminals
Terminal capacity control circuit cables
Solid or stranded
20 - 14 AWG

Push-in terminals
Terminal capacity control circuit cables
Stripping length
10 mm

Push-in terminals
Tool
Standard screwdriver
3.0 x 0.5 mm

Main conducting paths

Rated impulse withstand voltage [U_{imp}]
8000 V AC

Overvoltage category/pollution degree

III/3

Rated insulation voltage [U_i]
690 V AC

Rated operational voltage [U_e]
690 V AC

Safe isolation to EN 61140
between coil and contacts
400 V AC

Safe isolation to EN 61140
between the contacts
400 V AC

Making capacity (p.f. to IEC/EN 60947) [Up to 690 V]
112 A

Breaking capacity
220 V 230 V
90 A

Breaking capacity
380 V 400 V
90 A

Breaking capacity
500 V
70 A

Breaking capacity
660 V 690 V
50 A

Short-circuit rating
Short-circuit protection maximum fuse
Type “2” coordination
400 V [gG/gL 500 V]
35 A

Short-circuit rating
Short-circuit protection maximum fuse
Type “2” coordination
690 V [gG/gL 690 V]
35 A

Short-circuit rating
Short-circuit protection maximum fuse
Type “1” coordination
400 V [gG/gL 500 V]
63 A

Short-circuit rating
Short-circuit protection maximum fuse
Type “1” coordination
690 V [gG/gL 690 V]
50 A

AC

AC-1
Rated operational current
Conventional free air thermal current, 3 pole, 50 - 60 Hz
Open
at 40 °C [$I_{th} = I_e$]
40 A

AC-1
Rated operational current
Conventional free air thermal current, 3 pole, 50 - 60 Hz
Open
at 50 °C [$I_{th} = I_e$]
38 A

AC-1
Rated operational current
Conventional free air thermal current, 3 pole, 50 - 60 Hz
Open
at 55 °C [$I_{th} = I_e$]
37 A

AC-1
Rated operational current
Conventional free air thermal current, 3 pole, 50 - 60 Hz
Open
at 60 °C [$I_{th} = I_e$]
35 A

AC-1
Rated operational current
Conventional free air thermal current, 3 pole, 50 - 60 Hz
enclosed [I_{th}]
32 A

AC-1
Rated operational current
Conventional free air thermal current, 1 pole open [I_{th}]
88 A

AC-1
Rated operational current
Conventional free air thermal current, 1 pole enclosed [I_{th}]
80 A

AC-3
Rated operational current
Open, 3-pole: 50 – 60 Hz
Notes
At maximum permissible ambient temperature (open.)
Also tested according to AC-3e.

AC-3
Rated operational current
Open, 3-pole: 50 – 60 Hz
220 V 230 V [I_e]
11 A

AC-3
Rated operational current
Open, 3-pole: 50 – 60 Hz
240 V [I_e]
11 A

AC-3
Rated operational current
Open, 3-pole: 50 – 60 Hz
380 V 400 V [I_e]
11 A

AC-3
Rated operational current
Open, 3-pole: 50 – 60 Hz
415 V [I_e]
11 A

AC-3
Rated operational current
Open, 3-pole: 50 – 60 Hz
440V [I_e]
11 A

AC-3
Rated operational current
Open, 3-pole: 50 – 60 Hz

500 V [I_e]
11 A

AC-3
Rated operational current
Open, 3-pole: 50 – 60 Hz
660 V 690 V [I_e]
11 A

AC-3
Motor rating [P]
220 V 230 V [P]
2.6 kW

AC-3
Motor rating [P]
240V [P]
2.6 kW

AC-3
Motor rating [P]
380 V 400 V [P]
4 kW

AC-3
Motor rating [P]
415 V [P]
5 kW

AC-3
Motor rating [P]
440 V [P]
5.5 kW

AC-3
Motor rating [P]
500 V [P]
6.7 kW

AC-3
Motor rating [P]
660 V 690 V [P]
9 kW

AC-4
Open, 3-pole: 50 – 60 Hz
220 V 230 V [I_e]
10 A

AC-4

Open, 3-pole: 50 – 60 Hz
240 V [I_e]
10 A

AC-4
Open, 3-pole: 50 – 60 Hz
380 V 400 V [I_e]
10 A

AC-4
Open, 3-pole: 50 – 60 Hz
415 V [I_e]
10 A

AC-4
Open, 3-pole: 50 – 60 Hz
440 V [I_e]
10 A

AC-4
Open, 3-pole: 50 – 60 Hz
500 V [I_e]
10 A

AC-4
Open, 3-pole: 50 – 60 Hz
660 V 690 V [I_e]
8 A

AC-4
Motor rating [P]
220 V 230 V [P]
2.5 kW

AC-4
Motor rating [P]
240 V [P]
2.5 kW

AC-4
Motor rating [P]
380 V 400 V [P]
4.7 kW

AC-4
Motor rating [P]
415 V [P]
4.9 kW

AC-4

Motor rating [P]
440 V [P]
5.2 kW

AC-4
Motor rating [P]
500 V [P]
6 kW

AC-4
Motor rating [P]
660 V 690 V [P]
6.7 kW

Current heat loss

3 pole, at I_{th} (60°)
7.9 W

Current heat loss at I_e to AC-3/400 V
0.6 W

Impedance per pole
2.7 mΩ

Magnet systems

Voltage tolerance
DC operated [Pick-up]
0.7 - 1.2 x U_c

Voltage tolerance
Notes
RDC 24 (U_{min} 24 V DC/U_{max} 27 V DC)
Example: U_S = 0.7 x U_{min} - 1.2 x U_{max} / U_S = 0.7 x 24V - 1.2 x 27V DC

Voltage tolerance
DC operated [Drop-out]
0.15 - 0.6 x U_c

Voltage tolerance
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_S
DC operated [Pick-up]
12 W

Power consumption of the coil in a cold state and
1.0 x U_S
DC operated [Sealing]
0,9 W

Duty factor
100 % DF

Changeover time at 100 % U_S (recommended value)
Main contacts
DC operated
Closing delay
Closing delay
47 ms

Changeover time at 100 % U_S (recommended value)
Main contacts
DC operated
Opening delay
Opening delay
30 ms

Changeover time at 100 % U_S (recommended value)
Arcing time
10 ms

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
3 HP

Switching capacity
Maximum motor rating
Three-phase
230 V
240 V
3 HP

Switching capacity
Maximum motor rating
Three-phase
460 V
480 V
5 HP

Switching capacity
Maximum motor rating
Three-phase
575 V
600 V
7,5 HP

Switching capacity
Maximum motor rating
Single-phase
115 V
120 V
0,5 HP

Switching capacity
Maximum motor rating
Single-phase
230 V
240 V
1 HP

Switching capacity
General use
40 A

Auxiliary contacts
General Use
AC
600 V

Auxiliary contacts
General Use
AC
10 A

Auxiliary contacts
General Use
DC

250 V

Auxiliary contacts
General Use
DC
1 A

Short Circuit Current Rating
Basic Rating
SCCR
5 kA

Short Circuit Current Rating
Basic Rating
max. Fuse
125 A

Short Circuit Current Rating
Basic Rating
max. CB
125 A

DESIGN VERIFICATION AS PER IEC/EN 61439

Operating ambient temperature min.
-25 °C

Operating ambient temperature max.
+60 °C

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
0 - 0 V

Rated control supply voltage Us at AC 60HZ

0 - 0 V

Rated control supply voltage Us at DC
24 - 27 V

Voltage type for actuating
DC

Rated operation current Ie at AC-1, 400 V
40 A

Rated operation current Ie at AC-3, 400 V
11 A

Rated operation power at AC-3, 400 V
4 kW

Rated operation current Ie at AC-4, 400 V
6 A

Rated operation power at AC-4, 400 V
2.5 kW

Rated operation power NEMA
0 kW

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

Accessories
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