



109923
DILMP200(RAC120)

Overview

Specifications

Resources



Delivery program

Technical data

Design verification as
per IEC/EN 61439

Technical data ETIM 7.0

Approvals

Characteristics

Dimensions

DELIVERY PROGRAM

Product range
Contactors

Application
Contactors for 4 pole electric consumers

Subrange
Contactors up to 200 A, 4 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

Connection technique
Screw terminals

Number of poles
4 pole

Rated operational current

AC-1

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

AC-1

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

AC-1

Conventional free air thermal current, 3 pole, 50 -
60 Hz
at 55 °C [$I_{th} = I_e$]
180 A

AC-1

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

Contact sequence



For use with
DILM150-XH(A)(V)...
DILM1000-XH(V)...

Actuating voltage

RAC 120: 100 - 120 V 50/60 Hz

Voltage AC/DC

AC operation

Connection to SmartWire-DT

no

Instructions

Contacts to EN 50 012.
integrated suppressor circuit in actuating
electronics

TECHNICAL DATA

General

Standards
IEC/EN 60947, VDE 0660, UL, CSA

Lifespan, mechanical
AC operated [Operations]
 5.7×10^6

Operating frequency, mechanical
AC operated [Operations/h]
3600

Operating frequency, mechanical
DC operated [Operations/h]
3600

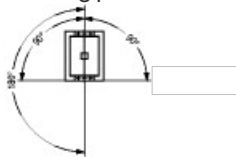
Climatic proofing
Damp heat, constant, to IEC 60068-2-3
Damp heat, cyclic, to IEC 60068-2-30

Ambient temperature
Open
-25 - +60 °C

Ambient temperature
Enclosed
- 25 - 40 °C

Ambient temperature
Storage
- 40 - 80 °C

Mounting position
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

Degree of Protection
IP00

Altitude
Max. 2000 m

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

Stripping length
15 mm

Terminal capacity main cable
Flexible with ferrule
1 x (10 - 95)
2 x (10 - 70) mm²

Terminal capacity main cable
Stranded
1 x (16 - 120)
2 x (16 - 95) mm²

Terminal capacity main cable
Solid or stranded
8 - 3/0 AWG

Terminal capacity main cable
Flat conductor [Lamellenzahl x Breite x Dicke]
2 x (6 x 16 x 0.8) mm

Terminal capacity main cable
Terminal screw
M10

Terminal capacity main cable
Tightening torque
14 Nm

Terminal capacity main cable
Stripping length
15 mm

Terminal capacity main cable
Push-in terminals
Solid
1 x (0.75 - 2.5)
2 x (0.75 - 2.5) mm²

Terminal capacity main cable
Push-in terminals
flexible
1 x (0.75 - 2.5)
2 x (0.75 - 2.5) mm²

Terminal capacity main cable
Push-in terminals
flexible with ferrules
1 x (0.75 - 1.5)
2 x (0.75 - 1.5) mm²

Terminal capacity main cable
Push-in terminals
Solid or stranded
18 - 14 AWG

Terminal capacity control circuit cables
Solid
1 x (0.75 - 4)
2 x (0.75 - 4) mm²

Terminal capacity control circuit cables
Flexible with ferrule
1 x (0.75 - 2.5)
2 x (0.75 - 2.5) mm²

Terminal capacity control circuit cables
Solid or stranded
18 - 14 AWG

Terminal capacity control circuit cables
Stripping length
10 mm

Terminal capacity control circuit cables
Terminal screw
M3.5

Terminal capacity control circuit cables
Tightening torque
1.2 Nm

Terminal capacity control circuit cables
Push-in terminals
Solid
1 x (0.75 - 2.5)
2 x (0.75 - 2.5) mm²

Terminal capacity control circuit cables
Push-in terminals
Flexible
1 x (0.75 - 2.5)
2 x (0.75 - 2.5) mm²

Terminal capacity control circuit cables
Push-in terminals
Flexible with ferrule
1 x (0.75 - 1.5)
2 x (0.75 - 1.5) mm²

Terminal capacity control circuit cables
Push-in terminals
Solid or stranded
18 - 14 AWG

Tool
Main cable
Hexagon socket-head spanner [SW]
5 mm

Tool
Control circuit cables
Pozidriv screw driver
2 Size

Tool
Control circuit cables
Standard screw driver
0.8 x 5.5
1 x 6 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
440 V AC

Safe isolation to EN 61140
between the contacts
440 V AC

Making capacity ($\cos \phi$) [Up to 690 V]
1800
According to IEC/EN 60947 A

Breaking capacity
220 V 230 V
1150 A

Breaking capacity
380 V 400 V
1150 A

Breaking capacity
500 V
1150 A

Breaking capacity
660 V 690 V
800 A

Short-circuit rating
Short-circuit protection maximum fuse
Type "2" coordination
400 V [gG/gL 500 V]
250 A

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

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

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

AC

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

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

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

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

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

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

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

AC-1
Mtor rating [P]
220/230 V [P]
72 kW

AC-1
Mtor rating [P]
240 V [P]
79 kW

AC-1
Mtor rating [P]
380/400 V [P]
125 kW

AC-1
Mtor rating [P]
415 V [P]
137 kW

AC-1
Mtor rating [P]
440 V [P]
145 kW

AC-1
Mtor rating [P]
500 V [P]
165 kW

AC-1

Motor rating [P]
690 V [P]
217 kW

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]
115 A

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

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

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

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

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

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

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

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

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

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

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

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

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

DC

Rated operational current, open
DC-1
60 V [I_e]
200 A

Rated operational current, open
DC-1
110 V [I_e]
200 A

Rated operational current, open

DC-1
220 V [I_e]
200 A

Current heat loss

3 pole, at I_{th} (60°)
57 W

Impedance per pole
0.6 mΩ

Magnet systems

Voltage tolerance
AC operated 50 Hz [Pick-up]
0.8 - 1.15 x U_c

Voltage tolerance
AC operated 50/60 Hz
0.8 - 1.15 x U_c

Voltage tolerance
Drop-out voltage AC operated [Drop-out]
0.25 - 0.6 x U_c

Power consumption of the coil in a cold state and
1.0 x U_S
AC operated 50/60 Hz [Pick-up]
180 VA

Power consumption of the coil in a cold state and
1.0 x U_S
AC operated 50/60 Hz [Pick-up]
150 W

Power consumption of the coil in a cold state and
1.0 x U_S
AC operated 50/60 Hz [Sealing]
3.1 VA

Power consumption of the coil in a cold state and
1.0 x U_S
AC operated 50/60 Hz [Sealing]
2.3 W

Duty factor

100 % DF

Changeover time at 100 % U_S (recommended value)

Main contacts

AC operated

Closing delay

28 - 33 ms

Changeover time at 100 % U_S (recommended value)

Main contacts

AC operated

Opening delay

35 - 41 ms

Changeover time at 100 % U_S (recommended value)

Permissible residual current with actuation of A1 - A2 by the electronics (with 0 signal).

□ 1 mA

Rating data for approved types

Switching capacity

Maximum motor rating

Three-phase

200 V

208 V

40 HP

Switching capacity

Maximum motor rating

Three-phase

230 V

240 V

60 HP

Switching capacity

Maximum motor rating

Three-phase

460 V

480 V

125 HP

Switching capacity

Maximum motor rating

Three-phase

575 V

600 V

125 HP

Switching capacity
Maximum motor rating
Single-phase
115 V
120 V
10 HP

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

Switching capacity
General use
180 A

Short Circuit Current Rating
Basic Rating
SCCR
10 kA

Short Circuit Current Rating
Basic Rating
max. Fuse
600 A

Short Circuit Current Rating
Basic Rating
max. CB
600 A

Short Circuit Current Rating
480 V High Fault
SCCR (fuse)
30/100 kA

Short Circuit Current Rating
480 V High Fault
max. Fuse
300/300 Class J A

Short Circuit Current Rating
480 V High Fault
SCCR (CB)
65 kA

Short Circuit Current Rating
480 V High Fault
max. CB

250 A

Short Circuit Current Rating
600 V High Fault
SOCR (fuse)
30/100 kA

Short Circuit Current Rating
600 V High Fault
max. Fuse
300/300 Class J A

Short Circuit Current Rating
600 V High Fault
SOCR (CB)
30 kA

Short Circuit Current Rating
600 V High Fault
max. CB
350 A

Special Purpose Ratings
Electrical Discharge Lamps (Ballast)
480V 60Hz 3phase, 277V 60Hz 1phase
160 A

Special Purpose Ratings
Electrical Discharge Lamps (Ballast)
600V 60Hz 3phase, 347V 60Hz 1phase
160 A

Special Purpose Ratings
Incandescent Lamps (Tungsten)
480V 60Hz 3phase, 277V 60Hz 1phase
160 A

Special Purpose Ratings
Incandescent Lamps (Tungsten)
600V 60Hz 3phase, 347V 60Hz 1phase
160 A

Special Purpose Ratings
Resistance Air Heating
480V 60Hz 3phase, 277V 60Hz 1phase
160 A

Special Purpose Ratings
Resistance Air Heating
600V 60Hz 3phase, 347V 60Hz 1phase

160 A

Special Purpose Ratings
Refrigeration Control (CSA only)
LRA 480V 60Hz 3phase
540 A

Special Purpose Ratings
Refrigeration Control (CSA only)
FLA 480V 60Hz 3phase
90 A

Special Purpose Ratings
Refrigeration Control (CSA only)
LRA 600V 60Hz 3phase
540 A

Special Purpose Ratings
Refrigeration Control (CSA only)
FLA 600V 60Hz 3phase
90 A

Special Purpose Ratings
Elevator Control
200V 60Hz 3phase
30 HP

Special Purpose Ratings
Elevator Control
200V 60Hz 3phase
92 A

Special Purpose Ratings
Elevator Control
240V 60Hz 3phase
40 HP

Special Purpose Ratings
Elevator Control
240V 60Hz 3phase
104 A

Special Purpose Ratings
Elevator Control
480V 60Hz 3phase
75 HP

Special Purpose Ratings
Elevator Control
480V 60Hz 3phase

96 A

Special Purpose Ratings
Elevator Control
600V 60Hz 3phase
100 HP

Special Purpose Ratings
Elevator Control
600V 60Hz 3phase
99 A

DESIGN VERIFICATION AS PER IEC/EN 61439

Technical data for design verification

Rated operational current for specified heat
dissipation [I_n]
200 A

Heat dissipation per pole, current-dependent [P_{id}]
19 W

Equipment heat dissipation, current-dependent
[P_{id}]
57 W

Static heat dissipation, non-current-dependent [P_{is}]
2.3 W

Heat dissipation capacity [P_{diss}]
0 W

Operating ambient temperature min.
-25 °C

Operating ambient temperature max.
+60 °C

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 Strength of materials and parts

10.2.3.1 Verification of thermal stability of enclosures

Meets the product standard's requirements.

10.2 Strength of materials and parts

10.2.3.2 Verification of resistance of insulating materials to normal heat

Meets the product standard's requirements.

10.2 Strength of materials and parts

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 Strength of materials and parts

10.2.4 Resistance to ultra-violet (UV) radiation

Meets the product standard's requirements.

10.2 Strength of materials and parts

10.2.5 Lifting

Does not apply, since the entire switchgear needs to be evaluated.

10.2 Strength of materials and parts

10.2.6 Mechanical impact

Does not apply, since the entire switchgear needs to be evaluated.

10.2 Strength of materials and parts

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 Insulation properties
10.9.3 Impulse withstand voltage
Is the panel builder's responsibility.

10.9 Insulation properties
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) / 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 U_s at AC 50-Hz
100 - 120 V

Rated control supply voltage U_s at AC 60-Hz
100 - 120 V

Rated control supply voltage U_s at DC
0 - 0 V

Voltage type for actuating
AC

Rated operation current I_e at AC-1, 400 V
200 A

Rated operation current I_e at AC-3, 400 V
115 A

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

Rated operation current I_e at AC-4, 400 V
136 A

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

Rated operation power NEMA
93 kW

Modular version
No

Number of auxiliary contacts as normally open
contact
0

Number of auxiliary contacts as normally closed
contact
0

Type of electrical connection of main circuit
Screw connection

Number of normally closed contacts as main
contact
0

Number of main contacts as normally open contact
4

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

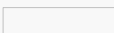
CSA File No.
012528

CSA Class No.
2411-03, 3211-04

North America Certification
UL listed, CSA certified

Specially designed for North America
No

CHARACTERISTICS



Accessories

1: Auxiliary contact module

2: Suppressor

Characteristic curve



Switching conditions for 4 pole, non-motor loads

Operating characteristics

Non inductive and slightly inductive loads

Electrical characteristics

Switch on: 1 x rated operational current

Switch off: 1 x rated operational current

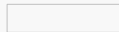
Utilization category

100 % AC-1

Typical examples of application

Electric heat

DIMENSIONS



Contactors



distance at side to earthed parts: 10 mm

DILMP125

DILMP160

DILMP200



