

Spesifikasjoner



Eaton 107017

Eaton Moeller® series DILM Contactor, 3 pole, 380 V 400 V 90 kW, RDC 60: 48 - 60 V DC, DC operation, Screw terminals

General specifications

PRODUCT NAME	Eaton Moeller® series DILM contactor
CATALOG NUMBER	107017
EL NUMBER	4130453
EAN	4015081067855
PRODUCT LENGTH/DEPTH	160 mm
PRODUCT HEIGHT	170 mm
PRODUCT WIDTH	90 mm
PRODUCT WEIGHT	2.25 kg
CERTIFICATIONS	UL 60947-4-1 CSA-C22.2 No. 60947-4-1-14 UL CSA Class No.: 2411-03, 3211-04 CSA File No.: 012528 IEC/EN 60947 CSA CE IEC/EN 60947-4-1 UL Category Control No.: NLDX VDE 0660 UL File No.: E29096
CATALOG NOTES	Contacts according to EN 50012
MODEL CODE	DILM170(RDC60)



Powering Business Worldwide

Global

FITTED WITH:

Suppressor circuit in
actuating electronics

NUMBER OF POLES

Three-pole

General

APPLICATION

Contactors for Motors

CONNECTION

Screw terminals

FRAME SIZE

FS4

LIFESPAN, MECHANICAL

10,000,000 Operations (DC
operated)

OPERATING FREQUENCY

3000 mechanical
Operations/h (DC
operated)

**OVERVOLTAGE
CATEGORY**

III

POLLUTION DEGREE

3

PRODUCT CATEGORY

Contactors

PROTECTION

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

**RATED IMPULSE
WITHSTAND VOLTAGE
(UIMP)**

8000 V AC

RESIDUAL CURRENT

1 mA (with actuation of A1
- A2 by the electronics with
"0" signal)

RESISTANCE PER POLE

0.6 mΩ

UTILIZATION CATEGORY

AC-3: Normal AC induction
motors: starting, switch off
during running
AC-4: Normal AC induction
motors: starting, plugging,
reversing, inching
AC-1: Non-inductive or
slightly inductive loads,
resistance furnaces

VOLTAGE TYPE

DC

Ambient conditions, mechanical

SHOCK RESISTANCE

10 g, N/O main contact,
Mechanical, according to
IEC/EN 60068-2-27 when
tabletop-mounted, Half-
sinusoidal shock 10 ms
7 g, N/O auxiliary contact,
Mechanical, according to
IEC/EN 60068-2-27, Half-
sinusoidal shock 10 ms
5 g, N/C auxiliary contact,
Mechanical, according to
IEC/EN 60068-2-27, Half-
sinusoidal shock 10 ms
7 g, N/O auxiliary contact,
Mechanical, according to
IEC/EN 60068-2-27 when
tabletop-mounted, Half-
sinusoidal shock 10 ms
10 g, N/O main contact,
Mechanical, according to
IEC/EN 60068-2-27, Half-
sinusoidal shock 10 ms
5 g, N/C auxiliary contact,
Mechanical, according to
IEC/EN 60068-2-27 when
tabletop-mounted, Half-
sinusoidal shock 10 ms

Climatic environmental conditions

**AMBIENT OPERATING
TEMPERATURE - MIN** -25 °C

**AMBIENT OPERATING
TEMPERATURE - MAX** 60 °C

**AMBIENT OPERATING
TEMPERATURE
(ENCLOSED) - MIN** -25 °C

**AMBIENT OPERATING
TEMPERATURE
(ENCLOSED) - MAX** 40 °C

**AMBIENT STORAGE
TEMPERATURE - MIN** -40 °C

**AMBIENT STORAGE
TEMPERATURE - MAX** 80 °C

CLIMATIC PROOFING
Damp heat, cyclic, to IEC
60068-2-30
Damp heat, constant, to
IEC 60068-2-78

Electro Magnetic Compatibility

EMITTED INTERFERENCE According to EN 60947-1

**INTERFERENCE
IMMUNITY** According to EN 60947-1

Terminal capacities

**TERMINAL CAPACITY
(COPPER BAND)** 2 x (6 x 16 x 0.8) mm
(Number of segments x
width x thickness), Main
cables

**TERMINAL CAPACITY
(FLEXIBLE WITH
FERRULE)** 1 x (0.75 - 2.5) mm²,
Control circuit cables
1 x (10 - 95) mm², Main
cables
2 x (10 - 70) mm², Main
cables
2 x (0.75 - 2.5) mm²,
Control circuit cables

**TERMINAL CAPACITY
(SOLID)** 2 x (0.75 - 2.5) mm²,
Control circuit cables
1 x (0.75 - 4) mm², Control
circuit cables

**TERMINAL CAPACITY
(SOLID/STRANDED AWG)** 18 - 14, Control circuit
cables
Single 8...3/0, double
8...2/0, Main cables

**TERMINAL CAPACITY
(STRANDED)** 2 x (16 - 70) mm², Main
cables

	1 x (16 - 95) mm ² , Main cables
STRIPPING LENGTH (MAIN CABLE)	24 mm
STRIPPING LENGTH (CONTROL CIRCUIT CABLE)	10 mm
SCREW SIZE	M3.5, Terminal screw, Control circuit cables M10, Terminal screw, Main cables 5 mm AF, Hexagon socket-head spanner, Terminal screw, Main cables
SCREWDRIVER SIZE	2, Terminal screw, Control circuit cables, Pozidriv screwdriver 0.8 x 5.5/1 x 6 mm, Terminal screw, Control circuit cables, Standard screwdriver
TIGHTENING TORQUE	14 Nm, Screw terminals, Main cables 1.2 Nm, Screw terminals, Control circuit cables

Electrical Rating

**RATED BREAKING
CAPACITY AT 220/230 V** 1500 A

**RATED BREAKING
CAPACITY AT 380/400 V** 1500 A

**RATED BREAKING
CAPACITY AT 500 V** 1500 A

**RATED BREAKING
CAPACITY AT 660/690 V** 1320 A

**RATED OPERATIONAL
CURRENT (IE) AT AC-1,
380 V, 400 V, 415 V** 225 A

**RATED OPERATIONAL
CURRENT (IE) AT AC-3,
220 V, 230 V, 240 V** 170 A

**RATED OPERATIONAL
CURRENT (IE) AT AC-3,
380 V, 400 V, 415 V** 170 A

**RATED OPERATIONAL
CURRENT (IE) AT AC-3,
440 V** 170 A

**RATED OPERATIONAL
CURRENT (IE) AT AC-3,
500 V** 170 A

**RATED OPERATIONAL
CURRENT (IE) AT AC-3,
660 V, 690 V** 100 A

**RATED OPERATIONAL
CURRENT (IE) AT AC-4,
220 V, 230 V, 240 V** 65 A

**RATED OPERATIONAL
CURRENT (IE) AT AC-4,
400 V** 65 A

**RATED OPERATIONAL
CURRENT (IE) AT AC-4,
500 V** 65 A

**RATED OPERATIONAL
CURRENT (IE) AT AC-4,
660 V, 690 V** 50 A

**RATED OPERATIONAL
CURRENT (IE) AT DC-1, 60
V** 160 A

**RATED OPERATIONAL
CURRENT (IE) AT DC-1,
110 V** 160 A

**RATED OPERATIONAL
CURRENT (IE) AT DC-1,
220 V** 90 A

RATED INSULATION 690 V

Short-circuit rating

**SHORT-CIRCUIT CURRENT
RATING (BASIC RATING)** 600 A, max. CB, SCCR
(UL/CSA)
10 kA, SCCR (UL/CSA)
600 A, max. Fuse, SCCR
(UL/CSA)

**SHORT-CIRCUIT CURRENT
RATING (HIGH FAULT AT
480 V)** 300/300 A, Class J, max.
Fuse, SCCR (UL/CSA)
65 kA, CB, SCCR (UL/CSA)
30/100 kA, Fuse, SCCR
(UL/CSA)
250 A, max. CB, SCCR
(UL/CSA)

**SHORT-CIRCUIT CURRENT
RATING (HIGH FAULT AT
600 V)** 300/600 A, Class J, max.
Fuse, SCCR (UL/CSA)
30/100 kA, Fuse, SCCR
(UL/CSA)
30 kA, CB, SCCR (UL/CSA)
350 A, max. CB, SCCR
(UL/CSA)

**SHORT-CIRCUIT
PROTECTION RATING
(TYPE 1 COORDINATION)
AT 690 V** 250 A gG/gL

**SHORT-CIRCUIT
PROTECTION RATING
(TYPE 1 COORDINATION)
AT 400 V** 250 A gG/gL

**SHORT-CIRCUIT
PROTECTION RATING
(TYPE 2 COORDINATION)
AT 400 V** 250 A gG/gL

**SHORT-CIRCUIT
PROTECTION RATING
(TYPE 2 COORDINATION)
AT 690 V** 250 A gG/gL

VOLTAGE (UI)	
RATED OPERATIONAL POWER AT AC-3, 240 V, 50 HZ	57 kW
RATED OPERATIONAL POWER AT AC-3, 380/400 V, 50 HZ	90 kW
RATED OPERATIONAL POWER AT AC-3, 415 V, 50 HZ	100 kW
RATED OPERATIONAL POWER AT AC-4, 220/230 V, 50 HZ	20 kW
RATED OPERATIONAL POWER AT AC-4, 240 V, 50 HZ	22 kW
RATED OPERATIONAL POWER AT AC-4, 415 V, 50 HZ	39 kW
RATED OPERATIONAL POWER AT AC-4, 440 V, 50 HZ	41 kW
RATED OPERATIONAL POWER AT AC-4, 500 V, 50 HZ	47 kW
RATED OPERATIONAL POWER AT AC-4, 660/690 V, 50 HZ	48 kW
RATED OPERATIONAL VOLTAGE (UE) AT AC - MAX	690 V

Conventional thermal current	
CONVENTIONAL THERMAL CURRENT ITH (1-POLE, ENCLOSED)	415 A
CONVENTIONAL THERMAL CURRENT ITH (3-POLE, ENCLOSED)	166 A
CONVENTIONAL THERMAL CURRENT ITH AT 55°C (3-POLE, OPEN)	190 A
CONVENTIONAL THERMAL CURRENT ITH OF MAIN CONTACTS (1-POLE, OPEN)	460 A

Switching capacity	
SWITCHING CAPACITY (MAIN CONTACTS, GENERAL USE)	225 A, Maximum motor rating (UL/CSA)

Switching time

ARCING TIME	15 ms
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SWITCHING TIME (DC OPERATED, MAKE CONTACTS, CLOSING DELAY) - MAX	35 ms
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SWITCHING TIME (DC OPERATED, MAKE CONTACTS, OPENING DELAY) - MAX	30 ms
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Magnet system

DROP-OUT VOLTAGE	0.6 - 0.15 x UC, DC operated At least smoothed two-phase bridge rectifier or three-phase rectifier
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DUTY FACTOR	100 %
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PICK-UP VOLTAGE	48 - 60 V DC (RDC 60) 0.7 - 1.2 V DC x U _c
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POWER CONSUMPTION (PICK-UP) AT DC	149 W
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POWER CONSUMPTION (SEALING) AT DC	1.9 W
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RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 50 HZ - MIN	0 V
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RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 50 HZ - MAX	0 V
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RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 60 HZ - MIN	0 V
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RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 60 HZ - MAX	0 V
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RATED CONTROL SUPPLY VOLTAGE (US) AT DC - MIN	48 V
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RATED CONTROL SUPPLY VOLTAGE (US) AT DC - MAX	60 V
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Motor Rating

ASSIGNED MOTOR POWER AT 115/120 V, 60 HZ, 1-PHASE	10 HP
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ASSIGNED MOTOR POWER AT 200/208 V, 60 HZ, 3-PHASE	50 HP
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ASSIGNED MOTOR POWER AT 230/240 V, 60 HZ, 1-PHASE	30 HP
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ASSIGNED MOTOR POWER AT 230/240 V, 60 HZ, 3-PHASE	60 HP
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ASSIGNED MOTOR POWER AT 460/480 V, 60 HZ, 3-PHASE	125 HP
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ASSIGNED MOTOR POWER AT 575/600 V, 60 HZ, 3-PHASE	125 HP
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Contacts

NUMBER OF AUXILIARY CONTACTS (NORMALLY CLOSED CONTACTS)	0
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Communication

CONNECTION TO SMARTWIRE-DT	No
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Safety

SAFE ISOLATION	690 V AC, Between coil and contacts, According to EN 61140 690 V AC, Between the contacts, According to EN 61140
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Special purpose ratings

SPECIAL PURPOSE RATING OF BALLAST ELECTRICAL DISCHARGE LAMPS	160 A (600V 60Hz 3phase, 347V 60Hz 1phase) 160 A (480V 60Hz 3phase, 277V 60Hz 1phase)
SPECIAL PURPOSE RATING OF DEFINITE PURPOSE RATING	1020 A, LRA 480 V 60 Hz 3-ph, 100,000 cycles acc. to UL 1995, (UL/CSA) 170 A, FLA 480 V 60 Hz 3-ph, 100,000 cycles acc. to UL 1995, (UL/CSA)
SPECIAL PURPOSE RATING OF ELEVATOR CONTROL	40 HP, 240 V 60 Hz 3-ph, (UL/CSA) 100 HP, 600 V 60 Hz 3-ph, (UL/CSA) 99 A, 600 V 60 Hz 3-ph, (UL/CSA) 30 HP, 200 V 60 Hz 3-ph, (UL/CSA) 92 A, 200 V 60 Hz 3-ph, (UL/CSA) 104 A, 240 V 60 Hz 3-ph, (UL/CSA) 75 HP, 480 V 60 Hz 3-ph, (UL/CSA) 96 A, 480 V 60 Hz 3-ph, (UL/CSA)
SPECIAL PURPOSE RATING OF REFRIGERATION CONTROL (CSA ONLY)	540 A, LRA 600 V 60 Hz 3phase; (CSA) 90 A, FLA 480 V 60 Hz 3phase; (CSA) 90 A, FLA 600 V 60 Hz 3phase; (CSA) 540 A, LRA 480 V 60 Hz 3phase; (CSA)
SPECIAL PURPOSE RATING OF RESISTANCE AIR HEATING	160 A, 600 V 60 Hz 3phase, 347 V 60 Hz 1phase, (UL/CSA) 160 A, 480 V 60 Hz 3phase, 277 V 60 Hz 1phase, (UL/CSA)
SPECIAL PURPOSE RATING OF TUNGSTEN INCANDESCENT LAMPS	160 A, 480 V 60 Hz 3phase, 277 V 60 Hz 1phase, (UL/CSA) 160 A, 600 V 60 Hz 3phase, 347 V 60 Hz 1phase, (UL/CSA)

Design verification

EQUIPMENT HEAT DISSIPATION, CURRENT-DEPENDENT PVID	41.1 W
HEAT DISSIPATION CAPACITY PDISS	0 W
HEAT DISSIPATION PER POLE, CURRENT-DEPENDENT PVID	13.7 W
RATED OPERATIONAL CURRENT FOR SPECIFIED HEAT DISSIPATION (IN)	170 A
STATIC HEAT DISSIPATION, NON-CURRENT-DEPENDENT PVS	1.9 W
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 RESIST. OF INSUL. MAT. TO ABNORMAL HEAT/FIRE BY INTERNAL ELECT. 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.
10.9.2 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.

Ressurser

CHARACTERISTIC CURVE

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contactors-
switch-dilm-
characteristic-
curve.eps](#)

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**DECLARATIONS OF
CONFORMITY**

[DA-DC-
00004818.pdf](#)

[DA-DC-
00004781.pdf](#)

ECAD MODEL

[ETN.107017.edz](#)

INSTALLERINGSINSTRUKSJONER

[eaton-dil-
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instruction-
leaflet-
il03407039z.pdf](#)

KOBLINGSSKJEMA

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003.eps](#)

MCAD MODEL

[DA-CS-
dil_m80_170](#)

[DA-CD-
dil_m80_170](#)

PEP ECO-PASSPORT

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PROJECT NAME:

PROJECT NUMBER:

PREPARED BY:

DATO:



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