

< **DIL CONTACTORS**

239585



Overview



Specifications



Resources

Questions be

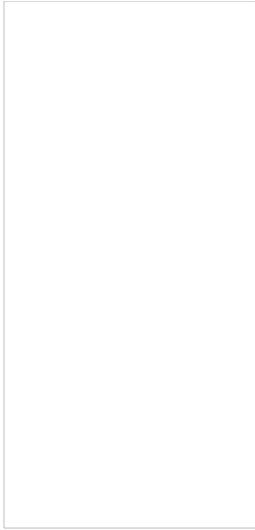
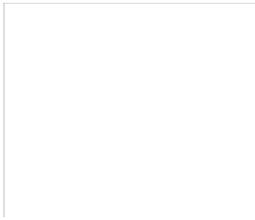
239585

Eaton Moeller® series DILM Contactor, 3 pole, 380 V 50/60 Hz, AC operation, Screw terminals

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277950

Eaton Moeller® series DILM Auxiliary contact module, 4 pole, Ith= 16 A, 2 N/O, 2 NC, Front fixing, Screw terminals, DILM40 - DILM170

277946

Eaton Moeller® series DILM Auxiliary contact module, 2 pole, Ith= 16 A, 1 N/O, 1 NC, Front fixing, Screw terminals, DILM40 - DILM170

278464

Eaton Moeller® series ZB Overload relay, ZB150, Ir= 70 - 100 A, 1 N/O, 1 N/C, Direct mounting, IP00

278425

Eaton Moeller® series DILM Auxiliary contact module, 2 pole, Ith= 10 A, 1 N/O, 1 NC, Side mounted, Screw terminals, DILM40 - DILM225A, -SI

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GENERAL SPECIFICATIONS

General specifications	>	PRODUCT NAME	Eaton Moeller® series DILM contactor
		CATALOG NUMBER	239585
Features & Functions	>	MODEL CODE	DILM150(RAC24)
		EAN	4015082395858
General	>	PRODUCT LENGTH/DEPTH	160 mm
		PRODUCT HEIGHT	170 mm
Ambient conditions, mechanical	>	PRODUCT WIDTH	90 mm
		PRODUCT WEIGHT	2.25 kg
Climatic environmental conditions	>	COMPLIANCES	CE Marked

Electro Magnetic Compatibility	>		UL 508 EN 60947-4-1 IEC 60947-4-1 CSA Std. C22.2 No. 14-05
Terminal capacities	>		VDE CSA File No.: 012528 IEC/EN 60947 IEC/EN 60947-4-1
Electrical Rating	>	CERTIFICATIONS	CSA Class No.: 2411-03, 3211-04 VDE 0660 UL 60947-4-1 UL File No.: E29096
Short-circuit rating	>		UL Category Control No.: NLDX CE CSA-C22.2 No. 60947-4-1-14
Conventional thermal current	>		UL CSA

		CATALOG NOTES	Contacts according to EN 50012
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Switching capacity

Switching time

FEATURES & FUNCTIONS

Magnet system	>	FITTED WITH:	Suppressor circuit in actuating electronics
		NUMBER OF POLES	Three-pole

Motor Rating

		GENERAL	
Communication	>	APPLICATION	Contactors for Motors
Contacts	>	FRAME SIZE	FS4
		LIFESPAN, MECHANICAL	10,000,000 Operations (AC operated)
Safety	>	OPERATING FREQUENCY	3600 mechanical Operations/h (AC operated)
		OVERVOLTAGE CATEGORY	III
Special purpose ratings	>	POLLUTION DEGREE	3
		PRODUCT CATEGORY	Contactors
Design verification	>	PROTECTION	Finger and back-of-hand proof, Protection against direct 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)
		RESISTANCE PER POLE	0.6 mΩ
		SUITABLE FOR	Also motors with efficiency class IE3
		UTILIZATION CATEGORY	AC-1: Non-inductive or slightly inductive loads, resistive AC-3: Normal AC induction motors: starting, switching AC-4: Normal AC induction motors: starting, plugging, inching
		VOLTAGE TYPE	AC

AMBIENT CONDITIONS, MECHANICAL

SHOCK RESISTANCE	5 g, N/C auxiliary contact, Mechanical, according to IEC 60068-2-27, Halfsinusoidal shock 10 ms when tabletop-mounted, Halfsinusoidal shock 10 ms
	7 g, N/O auxiliary contact, Mechanical, according to IEC 60068-2-27, Halfsinusoidal shock 10 ms
	7 g, N/O auxiliary contact, Mechanical, according to IEC 60068-2-27, Halfsinusoidal shock 10 ms when tabletop-mounted, Halfsinusoidal shock 10 ms
	10 g, N/O main contact, Mechanical, according to IEC 60068-2-27, Halfsinusoidal shock 10 ms
	10 g, N/O main contact, Mechanical, according to IEC 60068-2-27, Halfsinusoidal shock 10 ms when tabletop-mounted, Halfsinusoidal shock 10 ms
	5 g, N/C auxiliary contact, Mechanical, according to IEC 60068-2-27, Halfsinusoidal 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, constant, to IEC 60068-2-78 Damp heat, cyclic, to IEC 60068-2-30
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 of cables)
TERMINAL CAPACITY (FLEXIBLE WITH FERRULE)	2 x (0.75 - 2.5) mm ² , Control circuit cables 1 x (10 - 95) mm ² , Main cables 2 x (10 - 70) mm ² , Main cables 1 x (0.75 - 2.5) mm ² , Control circuit cables
TERMINAL CAPACITY (SOLID)	1 x (0.75 - 4) mm ² , Control circuit cables 2 x (0.75 - 2.5) mm ² , 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) mm ² , 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	M10, Terminal screw, Main cables 5 mm AF, Hexagon socket-head spanner, Terminal screw M3.5, Terminal screw, Control circuit cables
SCREWDRIVER SIZE	2, Terminal screw, Control circuit cables, Pozidriv 0.8 x 5.5/1 x 6 mm, Terminal screw, Control circuit cables screwdriver
TIGHTENING TORQUE	1.2 Nm, Screw terminals, Control circuit cables 14 Nm, Screw terminals, Main 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	1200 A
RATED OPERATIONAL CURRENT (IE) AT AC-1, 380 V, 400 V, 415 V	190 A
RATED OPERATIONAL CURRENT (IE) AT AC-3, 220 V, 230 V, 240 V	150 A
RATED OPERATIONAL CURRENT (IE) AT AC-3, 380 V, 400 V, 415 V	150 A
RATED OPERATIONAL CURRENT (IE) AT AC-3, 440 V	150 A
RATED OPERATIONAL CURRENT (IE) AT AC-3, 500 V	150 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 VOLTAGE (UI)	690 V
RATED OPERATIONAL CURRENT (IE) AT AC-1, 380 V, 400 V, 415 V	190 A
RATED OPERATIONAL POWER AT AC-3, 240 V, 50 HZ	52 kW
RATED OPERATIONAL POWER AT AC-3, 380/400 V, 50 HZ	75 kW
RATED OPERATIONAL POWER AT AC-3, 415 V, 50 HZ	91 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, 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

SHORT-CIRCUIT RATING

SHORT-CIRCUIT CURRENT RATING (BASIC RATING)	10 kA, SCCR (UL/CSA) 600 A, max. CB, SCCR (UL/CSA) 600 A, max. Fuse, SCCR (UL/CSA)
SHORT-CIRCUIT CURRENT RATING (HIGH FAULT AT 480 V)	65 kA, CB, SCCR (UL/CSA) 300/300 A, Class J, max. Fuse, 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 kA, CB, SCCR (UL/CSA) 30/100 kA, Fuse, SCCR (UL/CSA) 350 A, max. CB, SCCR (UL/CSA)
SHORT-CIRCUIT PROTECTION RATING (TYPE 1 COORDINATION) AT 400 V	250 A gG/gL
SHORT-CIRCUIT PROTECTION RATING (TYPE 1 COORDINATION) AT 690 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

CONVENTIONAL THERMAL CURRENT

CONVENTIONAL THERMAL CURRENT I_{th} (1-POLE, ENCLOSED)	360 A
CONVENTIONAL THERMAL CURRENT I_{th} (3-POLE, ENCLOSED)	144 A
CONVENTIONAL THERMAL CURRENT I_{th} AT 55°C (3-POLE, OPEN)	170 A
CONVENTIONAL THERMAL CURRENT I_{th} OF MAIN CONTACTS (1-POLE, OPEN)	400 A

SWITCHING CAPACITY

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

SWITCHING TIME

ARCING TIME	15 ms
SWITCHING TIME (AC OPERATED, MAKE CONTACTS, CLOSING DELAY) - MIN	28 ms
SWITCHING TIME (AC OPERATED, MAKE CONTACTS, CLOSING DELAY) - MAX	33 ms
SWITCHING TIME (AC OPERATED, MAKE CONTACTS, OPENING DELAY) - MIN	35 ms
SWITCHING TIME (AC OPERATED, MAKE CONTACTS, OPENING DELAY) - MAX	41 ms

MAGNET SYSTEM

DROP-OUT VOLTAGE	AC operated: 0.6 - 0.25 x UC, AC operated
DUTY FACTOR	100 %
PICK-UP VOLTAGE	0.8 - 1.15 V AC x Uc
POWER CONSUMPTION, PICK-UP, 50 HZ	180 VA, Dual-frequency coil in a cold state and 1.0 x
POWER CONSUMPTION, PICK-UP, 60 HZ	170 VA, Dual-frequency coil in a cold state and 1.0 x
POWER CONSUMPTION, SEALING, 50 HZ	2.3 W, Dual-frequency coil in a cold state and 1.0 x 3.1 VA, Dual-frequency coil in a cold state and 1.0 x
POWER CONSUMPTION, SEALING, 60 HZ	3.1 VA, Dual-frequency coil in a cold state and 1.0 x 2.3 W, Dual-frequency coil in a cold state and 1.0 x
RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 50 HZ - MIN	24 V
RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 50 HZ - MAX	24 V
RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 60 HZ - MIN	24 V
RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 60 HZ - MAX	24 V
RATED CONTROL SUPPLY VOLTAGE (US) AT DC - MIN	0 V
RATED CONTROL SUPPLY VOLTAGE (US) AT DC - MAX	0 V

MOTOR RATING

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

COMMUNICATION

CONNECTION	Screw terminals
CONNECTION TO SMARTWIRE-DT	No

CONTACTS

NUMBER OF AUXILIARY CONTACTS (NORMALLY CLOSED CONTACTS)	0
NUMBER OF AUXILIARY CONTACTS (NORMALLY OPEN CONTACTS)	0

SAFETY

SAFETY ISOLATION	690 V AC, Between the contacts, According to EN 60947-2 690 V AC, Between coil and contacts, According to EN 60947-2
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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	900 A, LRA 480 V 60 Hz 3-ph, 100,000 cycles acc. (UL/CSA) 150 A, FLA 480 V 60 Hz 3-ph, 100,000 cycles acc.

	(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) 30 HP, 200 V 60 Hz 3-ph, (UL/CSA) 104 A, 240 V 60 Hz 3-ph, (UL/CSA) 99 A, 600 V 60 Hz 3-ph, (UL/CSA) 75 HP, 480 V 60 Hz 3-ph, (UL/CSA) 92 A, 200 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)	90 A, FLA 600 V 60 Hz 3phase; (CSA) 90 A, FLA 480 V 60 Hz 3phase; (CSA) 540 A, LRA 480 V 60 Hz 3phase; (CSA) 540 A, LRA 600 V 60 Hz 3phase; (CSA)
SPECIAL PURPOSE RATING OF RESISTANCE AIR HEATING	160 A, 480 V 60 Hz 3phase, 277 V 60 Hz 1phase, 160 A, 600 V 60 Hz 3phase, 347 V 60 Hz 1phase,
SPECIAL PURPOSE RATING OF TUNGSTEN INCANDESCENT LAMPS	160 A, 600 V 60 Hz 3phase, 347 V 60 Hz 1phase, 160 A, 480 V 60 Hz 3phase, 277 V 60 Hz 1phase,
DESIGN VERIFICATION	
EQUIPMENT HEAT DISSIPATION, CURRENT-DEPENDENT PVID	32.1 W
HEAT DISSIPATION CAPACITY PDISS	0 W
RATED OPERATIONAL CURRENT FOR SPECIFIED HEAT DISSIPATION (IN)	150 A
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
10.2.6 MECHANICAL IMPACT	Does not apply, since the entire switchgear needs to
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
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
10.6 INCORPORATION OF SWITCHING DEVICES AND COMPONENTS	Does not apply, since the entire switchgear needs to

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. Eaton will provide heat dissipation data for the device.
10.11 SHORT-CIRCUIT RATING	Is the panel builder's responsibility. The specifications must be observed.
10.12 ELECTROMAGNETIC COMPATIBILITY	Is the panel builder's responsibility. The specifications must be observed.
10.13 MECHANICAL FUNCTION	The device meets the requirements, provided the instructions in the instruction leaflet (IL) is observed.

Catalogs

Characteristic curve

Declarations of conformity

Drawings

eCAD model

Installation instructions

Installation videos

mCAD model

System overview

Wiring diagrams



Questions before you buy

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