Eaton 158229

Eaton Moeller® series DILM Contactor, 3 pole, 380 V 400 V 4 kW, 1 N/O, 550 V 50 Hz, 600 V 60 Hz, AC operation, Screw terminals

PRODUCT NAME	Eaton Moeller® series DILM contactor
CATALOG NUMBER	158229
PRODUCT LENGTH/DEPTH	75 mm
PRODUCT HEIGHT	68 mm
PRODUCT WIDTH	45 mm
PRODUCT WEIGHT	0.22 kg
CERTIFICATIONS	CSA UL IEC/EN 60947 VDE 0660
CATALOG NOTES	Also tested according to AC-3e.

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NUMBER OF POLES	Three-pole
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.
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	Does not apply, since the entire switchgear needs to

CHARACTERISTIC CURVE	eaton-contactors-switch-dilm-characteristic-curve-002.eps eaton-contactors-switch-dilm-characteristic-curve.eps
	eaton-contactors-dila-dilm7-15-dilmp20-il03407013z.pdf
	eaton-contactors-contact-dilm-wiring-diagram.eps
	eaton-contactors-module-dilm-dimensions.eps eaton-contactors-module-dilm-dimensions-002.eps eaton-contactors-frame-dilm-dimensions.eps eaton-contactors-dilm-3d-drawing-007.eps

ASSEMBLIES	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.
OPERATING FREQUENCY	9000 mechanical Operations/h (AC operated)
POLLUTION DEGREE	3
CLIMATIC PROOFING	Damp heat, constant, to IEC 60068-2-78 Damp heat, cyclic, to IEC 60068-2-30
CONNECTION TO SMARTWIRE-DT	No
RATED IMPULSE WITHSTAND VOLTAGE (UIMP)	8000 V AC
UTILIZATION CATEGORY	AC-3: Normal AC induction motors: starting, switch off during running AC-1: Non-inductive or slightly inductive loads, resistance furnaces AC-4: Normal AC induction motors: starting, plugging, reversing, inching
CONNECTION	Screw terminals
FRAME SIZE	FS1
AMBIENT OPERATING TEMPERATURE - MAX	60 °C
AMBIENT OPERATING	-25 °C

TEMPERATURE - MIN	
AMBIENT OPERATING TEMPERATURE (ENCLOSED) - MAX	40 °C
AMBIENT OPERATING TEMPERATURE (ENCLOSED) - MIN	25 °C
AMBIENT STORAGE TEMPERATURE - MAX	80 °C
AMBIENT STORAGE TEMPERATURE - MIN	40 °C
CONVENTIONAL THERMAL CURRENT ITH (1-POLE, ENCLOSED)	45 A
CONVENTIONAL THERMAL CURRENT ITH (3-POLE, ENCLOSED)	18 A
CONVENTIONAL THERMAL CURRENT ITH AT 55°C (3-POLE, OPEN)	21 A
CONVENTIONAL THERMAL CURRENT ITH OF MAIN CONTACTS (1-POLE, OPEN)	50 A
EQUIPMENT HEAT DISSIPATION, CURRENT-DEPENDENT PVID	0 W
HEAT DISSIPATION CAPACITY PDISS	0 W
HEAT DISSIPATION PER POLE, CURRENT-DEPENDENT PVID	0.2 W
APPLICATION	Contactors for Motors
PRODUCT CATEGORY	Contactors
PROTECTION	Finger and back-of-hand proof, Protection against direct contact when actuated from front (EN 50274)
ARCING TIME	10 ms
ELECTRICAL CONNECTION TYPE OF MAIN CIRCUIT	Screw connection
SCREWDRIVER SIZE	2, Terminal screw, Pozidriv screwdriver 0.8 x 5.5/1 x 6 mm, Terminal screw, Standard screwdriver
VOLTAGE TYPE	AC

DEGREE OF PROTECTION	IP20
NUMBER OF AUXILIARY CONTACTS (NORMALLY CLOSED CONTACTS)	0
NUMBER OF AUXILIARY CONTACTS (NORMALLY OPEN CONTACTS)	1
NUMBER OF CONTACTS (NORMALLY CLOSED) AS MAIN CONTACT	0
NUMBER OF CONTACTS (NORMALLY OPEN CONTACTS)	1
NUMBER OF MAIN CONTACTS (NORMALLY OPEN CONTACT)	3
RATED BREAKING CAPACITY AT 220/230 V	90 A
RATED BREAKING CAPACITY AT 380/400 V	90 A
RATED BREAKING CAPACITY AT 500 V	70 A
RATED BREAKING CAPACITY AT 660/690 V	50 A
RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 50 HZ - MAX	550 V
RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 50 HZ - MIN	550 V
RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 60 HZ - MAX	600 V
RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 60 HZ - MIN	600 V
DROP-OUT VOLTAGE	AC operated: 0.6 - 0.3 x UC, AC operated
OVERVOLTAGE CATEGORY	III
DUTY FACTOR	100 %
EMITTED INTERFERENCE	According to EN 60947-1
INTERFERENCE IMMUNITY	According to EN 60947-1
LIFESPAN, MECHANICAL	10,000,000 Operations (AC operated)
PICK-UP VOLTAGE	0.8 - 1.1 V AC x Uc
POWER CONSUMPTION,	24 VA, Dual-frequency coil

PICK-UP, 50 HZ	in a cold state and 1.0 x Us, at 50 Hz
SAFE ISOLATION	400 V AC, Between the contacts, According to EN 61140 400 V AC, Between coil and contacts, According to EN 61140
POWER CONSUMPTION, PICK-UP, 60 HZ	30 VA, Dual-frequency coil in a cold state and 1.0 x Us, at 60 Hz
SCREW SIZE	M3.5, Terminal screw
POWER CONSUMPTION, SEALING, 50 HZ	3.4 VA, Dual-frequency coil in a cold state and 1.0 x Us, at 50 Hz 1.4 W, Dual-frequency coil in a cold state and 1.0 x Us, at 50 Hz
POWER CONSUMPTION, SEALING, 60 HZ	4.4 VA, Dual-frequency coil in a cold state and 1.0 x Us, at 60 Hz 1.4 W, Dual-frequency coil in a cold state and 1.0 x Us, at 60 Hz
TERMINAL CAPACITY (FLEXIBLE WITH FERRULE)	2 x (0.75 - 2.5) mm^2 1 x (0.75 - 2.5) mm^2
SHOCK RESISTANCE	3.4 g, N/C auxiliary 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 5.7 g, N/O main contact, Mechanical, according to IEC/EN 60068-2-27 when tabletop-mounted, Half-sinusoidal shock 10 ms 5 g, N/C auxiliary contact, Mechanical, according to IEC/EN 60068-2-27, Half-sinusoidal shock 10 ms 3.4 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
TERMINAL CAPACITY (SOLID)	1 x (0.75 - 4) mm^2 2 x (0.75 - 2.5) mm^2
TERMINAL CAPACITY (SOLID/STRANDED AWG)	Single 18 - 10, double 18 - 14
TIGHTENING TORQUE	1.2 Nm, Screw terminals
RATED CONTROL SUPPLY VOLTAGE (US) AT DC - MAX	0 V
RATED CONTROL SUPPLY VOLTAGE (US) AT DC - MIN	0 V
RATED INSULATION VOLTAGE (UI)	690 V
RATED MAKING CAPACITY UP TO 690 V (COS PHI TO IEC/EN 60947)	112 A
RATED OPERATIONAL CURRENT (IE) AT AC-1, 380 V, 400 V, 415 V	22 A
RATED OPERATIONAL CURRENT (IE) AT AC-3, 220 V, 230 V, 240 V	9 A
RATED OPERATIONAL CURRENT (IE) AT AC-3, 380 V, 400 V, 415 V	9 A
RATED OPERATIONAL CURRENT (IE) AT AC-3, 440 V	9 A
RATED OPERATIONAL CURRENT (IE) AT AC-3, 500 V	7 A
RATED OPERATIONAL CURRENT (IE) AT AC-3, 660 V, 690 V	5 A
RATED OPERATIONAL CURRENT (IE) AT AC-4, 220 V, 230 V, 240 V	6 A
RATED OPERATIONAL CURRENT (IE) AT AC-4, 400 V	6 A
RATED OPERATIONAL CURRENT (IE) AT AC-4, 440 V	6 A
RATED OPERATIONAL CURRENT (IE) AT AC-4, 500 V	5 A

RATED OPERATIONAL CURRENT (IE) AT AC-4, 660 V, 690 V	4.5 A
RATED OPERATIONAL CURRENT (IE) AT DC-1, 110 V	20 A
RATED OPERATIONAL CURRENT (IE) AT DC-1, 220 V	15 A
RATED OPERATIONAL CURRENT (IE) AT DC-1, 60 V	20 A
RATED OPERATIONAL CURRENT FOR SPECIFIED HEAT DISSIPATION (IN)	9 A
RATED OPERATIONAL POWER AT AC-3, 240 V, 50 HZ	3 kW
RATED OPERATIONAL POWER AT AC-3, 380/400 V, 50 HZ	4 kW
RATED OPERATIONAL POWER AT AC-3, 415 V, 50 HZ	5.5 kW
RATED OPERATIONAL POWER AT AC-4, 220/230 V, 50 HZ	1.5 kW
RATED OPERATIONAL POWER AT AC-4, 240 V, 50 HZ	1.6 kW
RATED OPERATIONAL POWER AT AC-4, 380/400 V, 50 HZ	2.5 kW
RATED OPERATIONAL POWER AT AC-4, 415 V, 50 HZ	2.8 kW
RATED OPERATIONAL POWER AT AC-4, 440 V, 50 HZ	3 kW
RATED OPERATIONAL POWER AT AC-4, 500 V, 50 HZ	2.8 kW
RATED OPERATIONAL POWER AT AC-4, 660/690 V, 50 HZ	3.6 kW
RATED OPERATIONAL POWER (NEMA)	3.7 kW
RATED OPERATIONAL VOLTAGE (UE) AT AC - MAX	690 V

RESISTANCE PER POLE	2.5 mΩ
STATIC HEAT DISSIPATION, NON-CURRENT-DEPENDENT PVS	1.4 W
STRIPPING LENGTH (CONTROL CIRCUIT CABLE)	10 mm
STRIPPING LENGTH (MAIN CABLE)	10 mm
SWITCHING TIME (AC OPERATED, MAKE CONTACTS, CLOSING DELAY) - MAX	21 ms
SWITCHING TIME (AC OPERATED, MAKE CONTACTS, CLOSING DELAY) - MIN	15 ms
SWITCHING TIME (AC OPERATED, MAKE CONTACTS, OPENING DELAY) - MAX	18 ms
SWITCHING TIME (AC OPERATED, MAKE CONTACTS, OPENING DELAY) - MIN	9 ms
SHORT-CIRCUIT PROTECTION RATING (TYPE 1 COORDINATION) AT 400 V	35 A gG/gL
SUITABLE FOR	Also motors with efficiency class IE3
SHORT-CIRCUIT PROTECTION RATING (TYPE 1 COORDINATION) AT 690 V	20 A gG/gL
SHORT-CIRCUIT PROTECTION RATING (TYPE 2 COORDINATION) AT 400 V	20 A gG/gL
SHORT-CIRCUIT PROTECTION RATING (TYPE 2 COORDINATION) AT 690 V	16 A gG/gL
CONVENTIONAL THERMAL CURRENT ITH AT 40°C (3-POLE, OPEN)	22 A
CONVENTIONAL THERMAL CURRENT ITH AT 50°C (3-POLE, OPEN)	21 A

CONVENTIONAL THERMAL CURRENT ITH AT 60°C (3-POLE, OPEN)	20 A
RATED OPERATIONAL POWER AT AC-3, 440 V, 50 HZ	5.5 kW
RATED OPERATIONAL POWER AT AC-3, 500 V, 50 HZ	4.5 kW
RATED OPERATIONAL POWER AT AC-3, 690 V, 50 HZ	4.5 kW
ACTUATING VOLTAGE	550 V 50 Hz, 600 V 60 Hz
ALTITUDE	Max. 2000 m
OPERATING VOLTAGE AT AC, 50 HZ - MIN	24 V
OPERATING VOLTAGE AT AC, 50 HZ - MAX	690 V
OPERATING VOLTAGE AT AC, 60 HZ - MIN	24 V
OPERATING VOLTAGE AT AC, 60 HZ - MAX	690 V

PROJECT NAME:	
PROJECT NUMBER:	
PREPARED BY:	
:	

Eaton House
30 Pembroke Road
Dublin 4,
Eaton.com

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