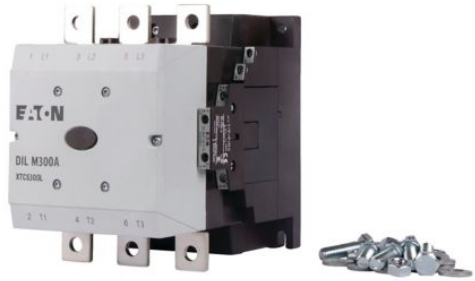
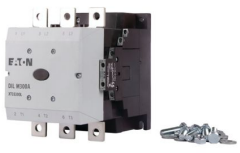
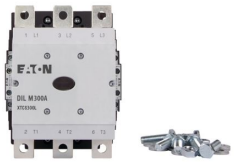
Specifications







Eaton 139558

Eaton Moeller® series DILM Contactor, 380 V 400 V 160 kW, 2 N/O, 2 NC, 110 - 120 V 50/60 Hz, AC operation, Screw connection

General specifications	
PRODUCT NAME	Eaton Moeller® series DILM Contactor
CATALOG NUMBER	139558
MODEL CODE	DILM300A-S/22(110-120V50/60HZ)
EAN	4015081363360
PRODUCT LENGTH/DEPTH	208 mm
PRODUCT HEIGHT	189 mm
PRODUCT WIDTH	140 mm
PRODUCT WEIGHT	7.1 kg
CERTIFICATIONS	UL Category Control No.: NLDX CSA Class No.: 3211-04 UL 60947-4-1 VDE 0660 UL File No.: E29096 IEC/EN 60947-4-1 UL/CSA CSA File No. 1017510 North America (UL listed, CSA certified) EN 45545: Fire protection on railway vehicles IEC 61373: Vibration and shock, tested for category 1 class B CE marking
CATALOG NOTES	• Contacts according to EN 50012 • EN 45545 - Fire protection on railway vehicles: Fire protection class of all plastics according to UL94:

Powering Business Worldwide

	V-0 / plastic weight in total: 1.872 kg • Conventional thermal current Ith of main contacts (1-pole, open) at 60°
GLOBAL CATALOG	139558

Product specifications

ACCESSORIES	Fitting options auxiliary contacts: on the side: 2 x DILM820-XHI11(V)-SI; 2 x DILM820-XHI11-SA
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.

Resources

CATALOGS	Product Range Catalog Switching and protecting motors
CHARACTERISTIC CURVE	eaton-contactors-component-dilm-characteristic-curve.eps eaton-contactors-component-dilm-characteristic-curve-003.eps eaton-contactors-short-time-loading-dilm-characteristic-curve-002.eps eaton-contactors-component-dilm-characteristic-curve-002.eps
DECLARATIONS OF CONFORMITY	DA-DC-00004798.pdf DA-DC-00004803.pdf
DRAWINGS	eaton-contactors-dilm-dimensions-007.eps eaton-contactors-mounting-dilm-dimensions.eps eaton-contactors-mounting-dilm-dimensions-002.eps eaton-contactors-mounting-dilm-3d-drawing-002.eps 2.1E+33 eaton-contactors-dilm-3d-drawing-004.eps
ECAD MODEL	ETN.DILM300A-S_22(110-120V50_60HZ).edz
INSTALLATION INSTRUCTIONS	IL03406005Z
MCAD MODEL	eaton-iec-contactors-3d-models-dilm250-300-s22.stp eaton-iec-contactors-drawings-dilm250-300-s22.dwg

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.
FITTED WITH:	Suppressor circuit in actuating electronics
OPERATING FREQUENCY	3000 mechanical Operations/h (AC operated) 200 Operations/h
POLLUTION DEGREE	3
CLIMATIC PROOFING	Damp heat, constant, to IEC 60068-2-78 Damp heat, cyclic, to IEC 60068-2-30
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
AMBIENT OPERATING TEMPERATURE - MAX	60 °C

WIRING DIAGRAMS	eaton-contactors-contact-dilm-wiring-diagram-004.eps

AMBIENT OPERATING TEMPERATURE - MIN	-40 °C
AMBIENT OPERATING TEMPERATURE (ENCLOSED) - MAX	40 °C
AMBIENT OPERATING TEMPERATURE (ENCLOSED) - MIN	-40 °C
AMBIENT STORAGE TEMPERATURE - MAX	80 °C
AMBIENT STORAGE TEMPERATURE - MIN	-40 °C
ASSIGNED MOTOR POWER AT 200/208 V, 60 HZ, 3-PHASE	100 HP
ASSIGNED MOTOR POWER AT 230/240 V, 60 HZ, 3-PHASE	125 HP
ASSIGNED MOTOR POWER AT 460/480 V, 60 HZ, 3-PHASE	250 HP
ASSIGNED MOTOR POWER AT 575/600 V, 60 HZ, 3-PHASE	300 HP
CONVENTIONAL THERMAL CURRENT ITH (1-POLE, ENCLOSED)	788 A
CONVENTIONAL THERMAL CURRENT ITH (3-POLE, ENCLOSED)	315 A
CONVENTIONAL THERMAL CURRENT ITH AT 55°C (3-POLE, OPEN)	418 A
CONVENTIONAL THERMAL CURRENT ITH OF MAIN CONTACTS (1-POLE, OPEN)	1000 A
EQUIPMENT HEAT DISSIPATION, CURRENT-DEPENDENT PVID	0 W
HEAT DISSIPATION CAPACITY PDISS	0 W
HEAT DISSIPATION PER POLE, CURRENT-DEPENDENT PVID	7 W
APPLICATION	Contactors for Motors
PRODUCT CATEGORY	Contactors
PROTECTION	Finger and back-of-hand proof with terminal

	shroud or terminal block, Protection against direct contact when actuated from front (EN 50274)
ELECTRICAL CONNECTION TYPE OF MAIN CIRCUIT	Rail connection
SCREWDRIVER SIZE	2, Terminal screw, Control circuit cables, Pozidriv screwdriver
VOLTAGE TYPE	AC
DEGREE OF PROTECTION	IP00
NUMBER OF AUXILIARY CONTACTS (NORMALLY CLOSED CONTACTS)	2
NUMBER OF AUXILIARY CONTACTS (NORMALLY OPEN CONTACTS)	2
NUMBER OF CONTACTS (NORMALLY CLOSED CONTACTS)	2
NUMBER OF CONTACTS (NORMALLY CLOSED) AS MAIN CONTACT	0
NUMBER OF CONTACTS (NORMALLY OPEN CONTACTS)	2
NUMBER OF MAIN CONTACTS (NORMALLY OPEN CONTACT)	3
RATED BREAKING CAPACITY AT 1000 V	950 A
RATED BREAKING CAPACITY AT 220/230 V	3000 A
RATED BREAKING CAPACITY AT 380/400 V	3000 A
RATED BREAKING CAPACITY AT 500 V	3000 A
RATED BREAKING CAPACITY AT 660/690 V	3000 A
RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 50 HZ - MAX	120 V
RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 50 HZ - MIN	110 V
RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 60 HZ - MAX	120 V

RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 60 HZ - MIN	110 V
DROP-OUT VOLTAGE	AC operated: 0.2 x US max - 0.4 x US min, AC operated AC operated: 0.25 x US max - 0.6 x US min, AC operated
OVERVOLTAGE CATEGORY	III
BEHAVIOR IN MARGINAL AND TRANSITIONAL CONDITIONS	Sealing - Pick-up phase (0 - 0.7 x Uc min: Contactor does not switch on Sealing - Voltage drops (0.2 - 0.6 x Uc min) > 12 ms: Drop-out of the contactor Sealing - Voltage drops (0.2 - 0.6 x Uc min ≤12 ms: Time is bridged successfully Sealing - Voltage drops (0.6 - 0.7 x Uc min: Contactor remains switched on Sealing - Pick-up phase (0.7 x Uc min - 1.15 x Uc max): Contactor switches on with certainty Sealing - Voltage interruptions 0 - 0.2 x Uc min) > 10 ms: Drop-out of the contactor Sealing - Excess voltage (1.15 - 1.3 x Uc max): Contactor remains switched on Sealing - Voltage interruptions (0 - 0.2 x Uc min ≤ 10 ms: Time is bridged successfully
DUTY FACTOR	100 %
ELECTROMAGNETIC COMPATIBILITY	Designed for operation in industrial environments. Its use in residential environments may cause radio-frequency interference, requiring additional noise suppression.
LIFESPAN, MECHANICAL	10,000,000 Operations (AC operated)
PICK-UP VOLTAGE	0.85 - 1.1 V AC x Us

POWER CONSUMPTION, PICK-UP, 50 HZ	325 W, Pull-in power, Coil in a cold state and 1.0 x Us 360 VA, Pull-in power, Coil in a cold state and 1.0 x Us
SAFE ISOLATION	1000 V AC, Between coil and contacts, According to EN 61140
POWER CONSUMPTION, PICK-UP, 60 HZ	325 W, Pull-in power, Coil in a cold state and 1.0 x Us 360 VA, Pull-in power, Coil in a cold state and 1.0 x Us
SCREW SIZE	M3.5, Terminal screw, Control circuit cables M10, Terminal screw, Main connections
POWER CONSUMPTION, SEALING, 50 HZ	4.2 W, Coil in a cold state and 1.0 x Us 6.7 VA, Coil in a cold state and 1.0 x Us
POWER CONSUMPTION, SEALING, 60 HZ	6.7 VA, Coil in a cold state and 1.0 x Us 4.2 W, Coil in a cold state and 1.0 x Us
RESISTANCE	500 mΩ (Admissible transitional contact resistance - of the external control circuit device when actuating A11)
RATED OPERATIONAL CURRENT (IE)	307 A at up to 525 V (Individual compensation, three-phase capacitors, open) 177 A at 690 V (Individual compensation, three-phase capacitors, open)
INRUSH CURRENT	Max. 30 x Ie (peak)
SWITCHING CAPACITY (AUXILIARY CONTACTS, GENERAL USE)	15 A, 600 V AC, (UL/CSA) 1 A, 250 V DC, (UL/CSA)
SWITCHING CAPACITY (AUXILIARY CONTACTS, PILOT DUTY)	P300, DC operated (UL/CSA) A600, AC operated (UL/CSA)
LIFESPAN, ELECTRICAL	100,000 Operations (at Condensor operation)
TERMINAL CAPACITY (COPPER BAND)	Fixing with flat cable terminal or cable terminal blocks; See terminal capacity for cable terminal blocks

TERMINAL CAPACITY (FLEXIBLE WITH FERRULE)	2 x (0.75 - 2.5) mm^2, Control circuit cables 1 x (0.75 - 2.5) mm^2, Control circuit cables
SHOCK RESISTANCE	10 g, N/O auxiliary contact, Mechanical, according to IEC/EN 60068-2-27, Half-sinusoidal shock 10 ms 8 g, N/C auxiliary contact, Mechanical, according to IEC/EN 60068-2-27, 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 - 2.5) mm^2, Control circuit cables 2 x (0.75 - 2.5) mm^2, Control circuit cables
TERMINAL CAPACITY (SOLID/STRANDED AWG)	2/0 - 500 MCM, Main cables 18 - 14, Control circuit cables
TERMINAL CAPACITY (BUSBAR)	25 mm width, Main connection
TERMINAL CAPACITY (FLEXIBLE WITH CABLE LUG)	50 - 240 mm^2
SWITCHING CAPACITY (MAIN CONTACTS, GENERAL USE)	350 A, Maximum motor rating (UL/CSA)
TERMINAL CAPACITY (STRANDED WITH CABLE LUG)	70 - 240 mm^2
POWER CONSUMPTION	Control transformer with uk ≤ 10%
TIGHTENING TORQUE	1.2 Nm, Screw terminals, Control circuit cables 24 Nm, Main cable connection screw/bolt
WIDTH ACROSS FLATS	16 mm
RATED CONTROL SUPPLY VOLTAGE (US) AT DC - MAX	0 V
RATED CONTROL SUPPLY VOLTAGE (US) AT DC - MIN	0 V
RATED INSULATION VOLTAGE (UI)	1000 V
RATED MAKING	3000 A

CAPACITY (COS PHI TO IEC/EN 60947)	
RATED OPERATIONAL CURRENT (IE) AT AC-3, 1000 V	95 A
RATED OPERATIONAL CURRENT (IE) AT AC-3, 220 V, 230 V, 240 V	300 A
RATED OPERATIONAL CURRENT (IE) AT AC-3, 380 V, 400 V, 415 V	300 A
RATED OPERATIONAL CURRENT (IE) AT AC-3, 440 V	300 A
RATED OPERATIONAL CURRENT (IE) AT AC-3, 500 V	300 A
RATED OPERATIONAL CURRENT (IE) AT AC-3, 660 V, 690 V	185 A
RATED OPERATIONAL CURRENT (IE) AT AC-4, 1000 V	76 A
RATED OPERATIONAL CURRENT (IE) AT AC-4, 220 V, 230 V, 240 V	240 A
RATED OPERATIONAL CURRENT (IE) AT AC-4, 400 V	240 A
RATED OPERATIONAL CURRENT (IE) AT AC-4, 440 V	240 A
RATED OPERATIONAL CURRENT (IE) AT AC-4, 500 V	240 A
RATED OPERATIONAL CURRENT (IE) AT AC-4, 660 V, 690 V	150 A
RATED OPERATIONAL CURRENT FOR SPECIFIED HEAT DISSIPATION (IN)	300 A
RATED OPERATIONAL POWER AT AC-3, 1000 V, 50 HZ	132 kW
RATED OPERATIONAL POWER AT AC-3, 240 V, 50 HZ	100 kW
RATED OPERATIONAL POWER AT AC-3, 380/400 V, 50 HZ	160 kW

RATED OPERATIONAL POWER AT AC-3, 415 V, 50 HZ	175 kW
RATED OPERATIONAL POWER AT AC-4, 1000 V, 50 HZ	108 kW
RATED OPERATIONAL POWER AT AC-4, 220/230 V, 50 HZ	75 kW
RATED OPERATIONAL POWER AT AC-4, 240 V, 50 HZ	82 kW
RATED OPERATIONAL POWER AT AC-4, 380/400 V, 50 HZ	132 kW
RATED OPERATIONAL POWER AT AC-4, 415 V, 50 HZ	142 kW
RATED OPERATIONAL POWER AT AC-4, 440 V, 50 HZ	150 kW
RATED OPERATIONAL POWER AT AC-4, 500 V, 50 HZ	170 kW
RATED OPERATIONAL POWER AT AC-4, 660/690 V, 50 HZ	137 kW
RATED OPERATIONAL POWER (NEMA)	186 kW
RATED OPERATIONAL VOLTAGE (UE) AT AC - MAX	1000 V
RESISTANCE PER POLE	0.077 mΩ
STATIC HEAT DISSIPATION, NON-CURRENT-DEPENDENT PVS	3.3 W
SWITCHING TIME (AC OPERATED, MAKE CONTACTS, CLOSING DELAY) - MAX	55 ms
SWITCHING TIME (AC OPERATED, MAKE CONTACTS, OPENING DELAY) - MAX	40 ms
SHORT-CIRCUIT CURRENT RATING (BASIC RATING)	18 kA, SCCR (UL/CSA) 600 A, max. CB, SCCR (UL/CSA) 700 A, max. Fuse, SCCR (UL/CSA)

SHORT-CIRCUIT CURRENT RATING (HIGH FAULT AT 480 V)	18 kA, Fuse, SCCR (UL/CSA) 250 A, max. CB, SCCR (UL/CSA) 700 A, Class L, max. Fuse, SCCR (UL/CSA) 65 kA, CB, SCCR (UL/CSA) 700 A, Class L/450 A, Class J, max. Fuse, SCCR (UL/CSA) 18/100 kA, Fuse, SCCR (UL/CSA)
SHORT-CIRCUIT CURRENT RATING (HIGH FAULT AT 600 V)	700 A, Class J, max. Fuse, SCCR (UL/CSA) 18 kA, Fuse, SCCR (UL/CSA) 18 kA, CB, SCCR (UL/CSA) 600 A, max. CB, SCCR (UL/CSA) 700 A, Class L/450 A, Class J, max. Fuse, SCCR (UL/CSA) 18/100 kA, Fuse, SCCR (UL/CSA)
SHORT-CIRCUIT PROTECTION RATING (TYPE 1 COORDINATION) AT 1000 V	200 A gG/gL
SHORT-CIRCUIT PROTECTION RATING (TYPE 1 COORDINATION) AT 400 V	400 A gG/gL
SHORT-CIRCUIT PROTECTION RATING (TYPE 1 COORDINATION) AT 690 V	400 A gG/gL
SHORT-CIRCUIT PROTECTION RATING (TYPE 2 COORDINATION) AT 1000 V	160 A gG/gL
SHORT-CIRCUIT PROTECTION RATING (TYPE 2 COORDINATION) AT 400 V	400 A gG/gL
SHORT-CIRCUIT PROTECTION RATING (TYPE 2 COORDINATION) AT 690 V	315 A gG/gL
SPECIAL PURPOSE RATING OF DEFINITE PURPOSE RATING	1800 A, LRA 600 V 60 Hz 3-ph, 100,000 cycles acc. to UL 1995, (UL/CSA) 300 A, FLA 600 V 60 Hz 3-ph, 100,000 cycles acc. to

	UL 1995, (UL/CSA) 2160 A, LRA 480 V 60 Hz 3-ph, 100,000 cycles acc. to UL 1995, (UL/CSA) 360 A, FLA 480 V 60 Hz 3-ph, 100,000 cycles acc. to UL 1995, (UL/CSA)
CONVENTIONAL THERMAL CURRENT ITH AT 40°C (3-POLE, OPEN)	490 A
CONVENTIONAL THERMAL CURRENT ITH AT 50°C (3-POLE, OPEN)	438 A
CONVENTIONAL THERMAL CURRENT ITH AT 60°C (3-POLE, OPEN)	400 A
RATED OPERATIONAL POWER AT AC-3, 440 V, 50 HZ	185 kW
RATED OPERATIONAL POWER AT AC-3, 500 V, 50 HZ	210 kW
RATED OPERATIONAL POWER AT AC-3, 690 V, 50 HZ	170 kW
ACTUATING VOLTAGE	110 - 120 V 50/60 Hz
ALTITUDE	Max. 2000 m
OPERATING VOLTAGE AT AC, 50 HZ - MIN	110 V
OPERATING VOLTAGE AT AC, 50 HZ - MAX	120 V
OPERATING VOLTAGE AT AC, 60 HZ - MIN	110 V
OPERATING VOLTAGE AT AC, 60 HZ - MAX	120 V

PROJECT NAME:	
PROJECT NUMBER:	
PREPARED BY:	
DATE:	

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