

# Specifications

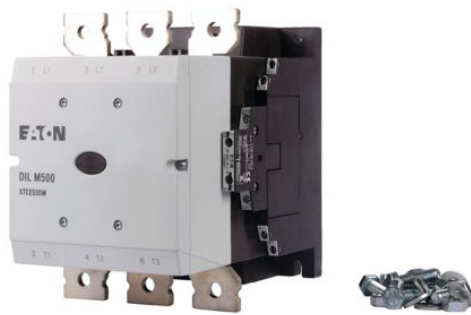


Photo is representative



## Eaton 208214

Eaton Moeller® series DILM Contactor, 380 V 400 V 265 kW, 2 N/O, 2 NC, RAC 500: 250 - 500 V 40 - 60 Hz/250 - 700 V DC, AC and DC operation, Screw connection

### General specifications

PRODUCT NAME	Eaton Moeller® series DILM Contactor
CATALOG NUMBER	208214
MODEL CODE	DILM500/22(RAC500)
EAN	4015082082147
PRODUCT LENGTH/DEPTH	216 mm
PRODUCT HEIGHT	219 mm
PRODUCT WIDTH	160 mm
PRODUCT WEIGHT	8.662 kg

### CERTIFICATIONS

IEC/EN 60947-4-1  
VDE 0660  
UL Category Control No.: NLDX  
UL 60947-4-1  
UL File No.: E29096  
CSA Class No.: 3211-04  
UL/CSA  
CSA file No. 012528  
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
- Also tested according to AC-3e up to 500 V.
- Also suitable for motors with efficiency class IE3.
- EN 45545 - Fire protection on railway vehicles: Fire protection class of all plastics according to UL94: V-0 / plastic weight in total: 2.576 kg
- Conventional thermal current I<sub>th</sub> of main contacts (1-pole, open) at 60°

## Product specifications

<b>ACCESSORIES</b>	Fitting options auxiliary contacts: on the side: 2 x DILM820-XHI11(V)-SI; 2 x DILM820-XHI11-SA
<b>10.10 TEMPERATURE RISE</b>	The panel builder is responsible for the temperature rise calculation. Eaton will provide heat dissipation data for the devices.
<b>10.11 SHORT-CIRCUIT RATING</b>	Is the panel builder's responsibility. The specifications for the switchgear must be observed.
<b>10.12 ELECTROMAGNETIC COMPATIBILITY</b>	Is the panel builder's responsibility. The specifications for the switchgear must be observed.
<b>10.13 MECHANICAL FUNCTION</b>	The device meets the requirements, provided the information in the instruction leaflet (IL) is observed.
<b>10.2.2 CORROSION RESISTANCE</b>	Meets the product standard's requirements.
<b>10.2.3.1 VERIFICATION OF THERMAL STABILITY OF ENCLOSURES</b>	Meets the product standard's requirements.
<b>10.2.3.2 VERIFICATION OF RESISTANCE OF INSULATING MATERIALS TO NORMAL HEAT</b>	Meets the product standard's requirements.
<b>10.2.3.3 RESIST. OF INSUL. MAT. TO ABNORMAL HEAT/FIRE BY INTERNAL ELECT. EFFECTS</b>	Meets the product standard's requirements.
<b>10.2.4 RESISTANCE TO ULTRA-VIOLET (UV) RADIATION</b>	Meets the product standard's requirements.
<b>10.2.5 LIFTING</b>	Does not apply, since the entire switchgear needs to be evaluated.
<b>10.2.6 MECHANICAL IMPACT</b>	Does not apply, since the entire switchgear needs to be evaluated.
<b>10.2.7 INSCRIPTIONS</b>	Meets the product standard's requirements.
<b>10.3 DEGREE OF PROTECTION OF ASSEMBLIES</b>	Does not apply, since the entire switchgear needs to be evaluated.
<b>10.4 CLEARANCES AND CREEPAGE DISTANCES</b>	Meets the product standard's requirements.
<b>10.5 PROTECTION AGAINST ELECTRIC SHOCK</b>	Does not apply, since the entire switchgear needs to be evaluated.
<b>10.6 INCORPORATION OF SWITCHING DEVICES AND COMPONENTS</b>	Does not apply, since the entire switchgear needs to be evaluated.
<b>10.7 INTERNAL ELECTRICAL CIRCUITS</b>	Is the panel builder's responsibility.

## Resources

<b>CATALOGS</b>	<a href="#">Product Range Catalog Switching and protecting motors</a>  <a href="#">Switching and protecting motors - catalog</a>
<b>CHARACTERISTIC CURVE</b>	<a href="#">eaton-contactors-short-time-loading-dilm-characteristic-curve-002.eps</a>  <a href="#">eaton-contactors-component-dilm-characteristic-curve.eps</a>  <a href="#">eaton-contactors-component-dilm-characteristic-curve-003.eps</a>  <a href="#">eaton-contactors-component-dilm-characteristic-curve-002.eps</a>
<b>DECLARATIONS OF CONFORMITY</b>	<a href="#">DA-DC-00004804.pdf</a>  <a href="#">DA-DC-00004796.pdf</a>
<b>DRAWINGS</b>	<a href="#">eaton-contactors-mounting-dilm-dimensions.eps</a>  <a href="#">eaton-contactors-mounting-dilm-dimensions-002.eps</a>  <a href="#">eaton-contactors-dilm-dimensions-009.eps</a>  <a href="#">eaton-contactors-dilm-3d-drawing-005.eps</a>  <a href="#">eaton-contactors-mounting-dilm-3d-drawing-002.eps</a>
<b>ECAD MODEL</b>	<a href="#">DA-CE-ETN.DILM500_22(RAC500)</a>
<b>INSTALLATION INSTRUCTIONS</b>	<a href="#">IL03406002Z</a>
<b>MCAD MODEL</b>	<a href="#">eaton-iec-contactors-drawings-dilm500-570-s22.dwg</a>  <a href="#">eaton-iec-contactors-3d-models-dilm500-570-s22.stp</a>
<b>SPECIFICATIONS AND DATASHEETS</b>	<a href="#">Eaton Specification Sheet - 208214</a>
<b>WIRING DIAGRAMS</b>	<a href="#">eaton-contactors-contact-dilm-wiring-diagram-004.eps</a>

<b>AND CONNECTIONS</b>	
<b>10.8 CONNECTIONS FOR EXTERNAL CONDUCTORS</b>	Is the panel builder's responsibility.
<b>10.9.2 POWER-FREQUENCY ELECTRIC STRENGTH</b>	Is the panel builder's responsibility.
<b>10.9.3 IMPULSE WITHSTAND VOLTAGE</b>	Is the panel builder's responsibility.
<b>10.9.4 TESTING OF ENCLOSURES MADE OF INSULATING MATERIAL</b>	Is the panel builder's responsibility.
<b>FITTED WITH:</b>	Suppressor circuit in actuating electronics
<b>OPERATING FREQUENCY</b>	200 Operations/h 2000 mechanical Operations/h (AC operated) 2000 mechanical Operations/h (DC operated)
<b>POLLUTION DEGREE</b>	3
<b>CLIMATIC PROOFING</b>	Damp heat, cyclic, to IEC 60068-2-30 Damp heat, constant, to IEC 60068-2-78
<b>RATED IMPULSE WITHSTAND VOLTAGE (UIMP)</b>	8000 V AC
<b>UTILIZATION CATEGORY</b>	AC-4: Normal AC induction motors: starting, plugging, reversing, inching AC-1: Non-inductive or slightly inductive loads, resistance furnaces AC-3: Normal AC induction motors: starting, switch off during running
<b>CONNECTION</b>	Screw terminals
<b>AMBIENT OPERATING TEMPERATURE - MAX</b>	60 °C
<b>AMBIENT OPERATING TEMPERATURE - MIN</b>	-40 °C
<b>AMBIENT OPERATING TEMPERATURE (ENCLOSED) - MAX</b>	40 °C
<b>AMBIENT OPERATING TEMPERATURE (ENCLOSED) - MIN</b>	-40 °C
<b>AMBIENT STORAGE TEMPERATURE - MAX</b>	80 °C
<b>AMBIENT STORAGE TEMPERATURE - MIN</b>	-40 °C
<b>ASSIGNED MOTOR POWER AT 230/240 V, 60 HZ, 3-PHASE</b>	200 HP
<b>ASSIGNED MOTOR POWER AT 460/480 V, 60 HZ, 3-PHASE</b>	400 HP
<b>ASSIGNED MOTOR POWER AT 575/600 V, 60 HZ, 3-PHASE</b>	500 HP

<b>CONVENTIONAL THERMAL CURRENT ITH (1-POLE, ENCLOSED)</b>	1500 A
<b>CONVENTIONAL THERMAL CURRENT ITH (3-POLE, ENCLOSED)</b>	600 A
<b>CONVENTIONAL THERMAL CURRENT ITH AT 55°C (3-POLE, OPEN)</b>	682 A
<b>CONVENTIONAL THERMAL CURRENT ITH OF MAIN CONTACTS (1- POLE, OPEN)</b>	1625 A
<b>EQUIPMENT HEAT DISSIPATION, CURRENT- DEPENDENT PVID</b>	0 W
<b>HEAT DISSIPATION CAPACITY PDISS</b>	0 W
<b>HEAT DISSIPATION PER POLE, CURRENT- DEPENDENT PVID</b>	19.33 W
<b>APPLICATION</b>	Contactors for Motors
<b>PRODUCT CATEGORY</b>	Contactors
<b>PROTECTION</b>	Finger and back-of-hand proof with terminal shroud or terminal block, Protection against direct contact when actuated from front (EN 50274)
<b>ELECTRICAL CONNECTION TYPE OF MAIN CIRCUIT</b>	Rail connection
<b>SCREWDRIVER SIZE</b>	2, Terminal screw, Control circuit cables, Pozidriv screwdriver
<b>VOLTAGE TYPE</b>	AC/DC
<b>DEGREE OF PROTECTION</b>	IP00
<b>NUMBER OF AUXILIARY CONTACTS (NORMALLY CLOSED CONTACTS)</b>	2
<b>NUMBER OF AUXILIARY CONTACTS (NORMALLY OPEN CONTACTS)</b>	2
<b>NUMBER OF CONTACTS (NORMALLY CLOSED CONTACTS)</b>	2
<b>NUMBER OF CONTACTS (NORMALLY CLOSED) AS MAIN CONTACT</b>	0
<b>NUMBER OF CONTACTS (NORMALLY OPEN CONTACTS)</b>	2
<b>NUMBER OF MAIN CONTACTS (NORMALLY OPEN CONTACT)</b>	3
<b>RATED BREAKING CAPACITY AT 1000 V</b>	950 A
<b>RATED BREAKING CAPACITY AT 220/230 V</b>	5000 A

<b>RATED BREAKING CAPACITY AT 380/400 V</b>	5000 A
<b>RATED BREAKING CAPACITY AT 500 V</b>	5000 A
<b>RATED BREAKING CAPACITY AT 660/690 V</b>	5000 A
<b>RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 50 HZ - MAX</b>	500 V
<b>RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 50 HZ - MIN</b>	250 V
<b>RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 60 HZ - MAX</b>	500 V
<b>RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 60 HZ - MIN</b>	250 V
<b>DROP-OUT VOLTAGE</b>	AC operated: 0.2 x US max - 0.6 x US min, AC operated 0.2 x US max - 0.6 x US min, DC operated
<b>OVERVOLTAGE CATEGORY</b>	III
<b>BEHAVIOR IN MARGINAL AND TRANSITIONAL CONDITIONS</b>	Sealing - Pick-up phase (0 - 0.7 x Uc min: Contactor does not switch on Sealing - Excess voltage (1.15 - 1.3 x Uc max): Contactor remains switched on 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: Time is bridged successfully Sealing - Voltage drops (0.2 - 0.6 x Uc min) > 12 ms: Drop-out of the contactor Sealing - Voltage interruptions 0 - 0.2 x Uc min) > 10 ms: Drop-out of the contactor
<b>DUTY FACTOR</b>	100 %
<b>ELECTROMAGNETIC COMPATIBILITY</b>	Designed for operation in industrial environments. Its use in residential environments may cause radio-frequency interference, requiring additional noise suppression.
<b>LIFESPAN, MECHANICAL</b>	7,000,000 Operations (AC operated) 7,000,000 Operations (DC operated)
<b>PICK-UP VOLTAGE</b>	0.7 - 1.15 V DC x Us

	0.7 - 1.15 V AC x Us
<b>POWER CONSUMPTION, PICK-UP, 50 HZ</b>	350 W, Pull-in power, Coil in a cold state and 1.0 x Us 450 VA, Pull-in power, Coil in a cold state and 1.0 x Us
<b>SAFE ISOLATION</b>	1000 V AC, Between coil and contacts, According to EN 61140
<b>POWER CONSUMPTION, PICK-UP, 60 HZ</b>	450 VA, Pull-in power, Coil in a cold state and 1.0 x Us 350 W, Pull-in power, Coil in a cold state and 1.0 x Us
<b>SCREW SIZE</b>	M3.5, Terminal screw, Control circuit cables M10, Terminal screw, Main connections
<b>POWER CONSUMPTION, SEALING, 50 HZ</b>	19.6 VA, Coil in a cold state and 1.0 x Us 11.7 W, Coil in a cold state and 1.0 x Us
<b>POWER CONSUMPTION, SEALING, 60 HZ</b>	11.7 W, Coil in a cold state and 1.0 x Us 19.6 VA, Coil in a cold state and 1.0 x Us
<b>RESISTANCE</b>	500 mΩ (Admissible transitional contact resistance - of the external control circuit device when actuating A11)
<b>RATED OPERATIONAL CURRENT (IE)</b>	307 A at up to 525 V (Individual compensation, three-phase capacitors, open) 177 A at 690 V (Individual compensation, three-phase capacitors, open)
<b>INRUSH CURRENT</b>	Max. 30 x Ie (peak)
<b>SWITCHING CAPACITY (AUXILIARY CONTACTS, GENERAL USE)</b>	1 A, 250 V DC, (UL/CSA) 15 A, 600 V AC, (UL/CSA)
<b>SWITCHING CAPACITY (AUXILIARY CONTACTS, PILOT DUTY)</b>	P300, DC operated (UL/CSA) A600, AC operated (UL/CSA)
<b>LIFESPAN, ELECTRICAL</b>	100,000 Operations (at Condensor operation)
<b>TERMINAL CAPACITY (COPPER BAND)</b>	Fixing with flat cable terminal or cable terminal blocks; See terminal capacity for cable terminal blocks
<b>TERMINAL CAPACITY (FLEXIBLE WITH FERRULE)</b>	2 x (0.75 - 2.5) mm², Control circuit cables 1 x (0.75 - 2.5) mm², Control circuit cables
<b>SHOCK RESISTANCE</b>	8 g, N/C auxiliary contact, Mechanical, according to IEC/EN 60068-2-27, Half- sinusoidal shock 10 ms 10 g, N/O 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

<b>TERMINAL CAPACITY (SOLID)</b>	1 x (0.75 - 2.5) mm <sup>2</sup> , Control circuit cables 2 x (0.75 - 2.5) mm <sup>2</sup> , Control circuit cables
<b>TERMINAL CAPACITY (SOLID/STRANDED AWG)</b>	18 - 14, Control circuit cables 2/0 - 500 MCM, Main cables
<b>SIGNAL LEVEL</b>	5 V - 15 V, PLC signal level (A3 - A4) to IEC/EN 61131-2 (type 2), Magnet systems
<b>TERMINAL CAPACITY (BUSBAR)</b>	30 mm width, Main connection
<b>TERMINAL CAPACITY (FLEXIBLE WITH CABLE LUG)</b>	50 - 240 mm <sup>2</sup>
<b>SWITCHING CAPACITY (MAIN CONTACTS, GENERAL USE)</b>	550 A, Maximum motor rating (UL/CSA)
<b>TERMINAL CAPACITY (STRANDED WITH CABLE LUG)</b>	70 - 240 mm <sup>2</sup>
<b>POWER CONSUMPTION</b>	Control transformer with $u_k \leq 6\%$
<b>TIGHTENING TORQUE</b>	24 Nm, Main cable connection screw/bolt 1.2 Nm, Screw terminals, Control circuit cables
<b>WIDTH ACROSS FLATS</b>	16 mm
<b>RATED CONTROL SUPPLY VOLTAGE (US) AT DC - MAX</b>	700 V
<b>RATED CONTROL SUPPLY VOLTAGE (US) AT DC - MIN</b>	250 V
<b>RATED INSULATION VOLTAGE (UI)</b>	1000 V
<b>RATED MAKING CAPACITY (COS PHI TO IEC/EN 60947)</b>	5500 A
<b>RATED OPERATIONAL CURRENT (IE) AT AC-3, 1000 V</b>	95 A
<b>RATED OPERATIONAL CURRENT (IE) AT AC-3, 220 V, 230 V, 240 V</b>	500 A
<b>RATED OPERATIONAL CURRENT (IE) AT AC-3, 380 V, 400 V, 415 V</b>	500 A
<b>RATED OPERATIONAL CURRENT (IE) AT AC-3, 440 V</b>	500 A
<b>RATED OPERATIONAL CURRENT (IE) AT AC-3, 500 V</b>	500 A
<b>RATED OPERATIONAL CURRENT (IE) AT AC-3, 660 V, 690 V</b>	325 A
<b>RATED OPERATIONAL CURRENT (IE) AT AC-4, 1000 V</b>	95 A
<b>RATED OPERATIONAL</b>	360 A

<b>CURRENT (IE) AT AC-4, 220 V, 230 V, 240 V</b>	
<b>RATED OPERATIONAL CURRENT (IE) AT AC-4, 400 V</b>	360 A
<b>RATED OPERATIONAL CURRENT (IE) AT AC-4, 440 V</b>	360 A
<b>RATED OPERATIONAL CURRENT (IE) AT AC-4, 500 V</b>	360 A
<b>RATED OPERATIONAL CURRENT (IE) AT AC-4, 660 V, 690 V</b>	260 A
<b>RATED OPERATIONAL CURRENT FOR SPECIFIED HEAT DISSIPATION (IN)</b>	500 A
<b>RATED OPERATIONAL POWER AT AC-3, 1000 V, 50 HZ</b>	132 kW
<b>RATED OPERATIONAL POWER AT AC-3, 240 V, 50 HZ</b>	170 kW
<b>RATED OPERATIONAL POWER AT AC-3, 380/400 V, 50 HZ</b>	250 kW
<b>RATED OPERATIONAL POWER AT AC-3, 415 V, 50 HZ</b>	290 kW
<b>RATED OPERATIONAL POWER AT AC-4, 1000 V, 50 HZ</b>	132 kW
<b>RATED OPERATIONAL POWER AT AC-4, 220/230 V, 50 HZ</b>	112 kW
<b>RATED OPERATIONAL POWER AT AC-4, 240 V, 50 HZ</b>	122 kW
<b>RATED OPERATIONAL POWER AT AC-4, 380/400 V, 50 HZ</b>	200 kW
<b>RATED OPERATIONAL POWER AT AC-4, 415 V, 50 HZ</b>	216 kW
<b>RATED OPERATIONAL POWER AT AC-4, 440 V, 50 HZ</b>	229 kW
<b>RATED OPERATIONAL POWER AT AC-4, 500 V, 50 HZ</b>	250 kW
<b>RATED OPERATIONAL POWER AT AC-4, 660/690 V, 50 HZ</b>	240 kW
<b>RATED OPERATIONAL POWER (NEMA)</b>	298 kW
<b>RATED OPERATIONAL VOLTAGE (UE) AT AC - MAX</b>	1000 V
<b>RESISTANCE PER POLE</b>	0.089 mΩ

<b>STATIC HEAT DISSIPATION, NON-CURRENT-DEPENDENT PVS</b>	11.7 W
<b>SWITCHING TIME (AC OPERATED, MAKE CONTACTS, CLOSING DELAY) - MAX</b>	80 ms
<b>SWITCHING TIME (AC OPERATED, MAKE CONTACTS, OPENING DELAY) - MAX</b>	110 ms
<b>SHORT-CIRCUIT CURRENT RATING (BASIC RATING)</b>	30 kA, SCCR (UL/CSA) 800 A, max. Fuse, SCCR (UL/CSA) 600 A, max. CB, SCCR (UL/CSA)
<b>SHORT-CIRCUIT CURRENT RATING (HIGH FAULT AT 480 V)</b>	30/100 kA, Fuse, SCCR (UL/CSA) 100 kA, CB, SCCR (UL/CSA) 600 A, max. CB, SCCR (UL/CSA) 800/600 A, Class J, max. Fuse, SCCR (UL/CSA)
<b>SHORT-CIRCUIT CURRENT RATING (HIGH FAULT AT 600 V)</b>	800/600 A, Class J, max. Fuse, SCCR (UL/CSA) 30 kA, CB, SCCR (UL/CSA) 30/100 kA, Fuse, SCCR (UL/CSA) 600 A, max. CB, SCCR (UL/CSA)
<b>SHORT-CIRCUIT PROTECTION RATING (TYPE 1 COORDINATION) AT 1000 V</b>	250 A gG/gL
<b>SHORT-CIRCUIT PROTECTION RATING (TYPE 1 COORDINATION) AT 400 V</b>	630 A gG/gL
<b>SHORT-CIRCUIT PROTECTION RATING (TYPE 1 COORDINATION) AT 690 V</b>	630 A gG/gL
<b>SHORT-CIRCUIT PROTECTION RATING (TYPE 2 COORDINATION) AT 1000 V</b>	200 A gG/gL
<b>SHORT-CIRCUIT PROTECTION RATING (TYPE 2 COORDINATION) AT 400 V</b>	500 A gG/gL
<b>SHORT-CIRCUIT PROTECTION RATING (TYPE 2 COORDINATION) AT 690 V</b>	500 A gG/gL
<b>SPECIAL PURPOSE RATING OF DEFINITE PURPOSE RATING</b>	520 A, FLA 600 V 60 Hz 3-ph, 100,000 cycles acc. to UL 1995, (UL/CSA) 3900 A, LRA 480 V 60 Hz 3-ph, 100,000 cycles acc. to UL 1995, (UL/CSA) 3120 A, LRA 600 V 60 Hz 3-ph, 100,000 cycles acc. to UL 1995, (UL/CSA)

	635 A, FLA 480 V 60 Hz 3-ph, 100,000 cycles acc. to UL 1995, (UL/CSA)
<b>CONVENTIONAL THERMAL CURRENT ITH AT 40°C (3-POLE, OPEN)</b>	800 A
<b>CONVENTIONAL THERMAL CURRENT ITH AT 50°C (3-POLE, OPEN)</b>	715 A
<b>CONVENTIONAL THERMAL CURRENT ITH AT 60°C (3-POLE, OPEN)</b>	650 A
<b>RATED OPERATIONAL POWER AT AC-3, 440 V, 50 HZ</b>	315 kW
<b>RATED OPERATIONAL POWER AT AC-3, 500 V, 50 HZ</b>	355 kW
<b>RATED OPERATIONAL POWER AT AC-3, 690 V, 50 HZ</b>	300 kW
<b>ACTUATING VOLTAGE</b>	RAC 500: 250 - 500 V 40 - 60 Hz/250 - 700 V DC
<b>ALTITUDE</b>	Max. 2000 m
<b>OPERATING VOLTAGE AT AC, 50 HZ - MIN</b>	250 V
<b>OPERATING VOLTAGE AT AC, 50 HZ - MAX</b>	500 V
<b>OPERATING VOLTAGE AT AC, 60 HZ - MIN</b>	250 V
<b>OPERATING VOLTAGE AT AC, 60 HZ - MAX</b>	500 V

<b>PROJECT NAME:</b>
<b>PROJECT NUMBER:</b>
<b>PREPARED BY:</b>
<b>DATE:</b>