

Specifications



Photo is representative



Eaton 197903

Eaton Moeller® series DILH Contactor, Ith = 850 A, RDC 48: 24 - 48 V DC, DC operation, Screw connection

General specifications

PRODUCT NAME	Eaton Moeller® series DILH contactor
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CATALOG NUMBER	197903
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MODEL CODE	DILH600/22(RDC48)
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EAN	4015081954223
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PRODUCT LENGTH/DEPTH	216 mm
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PRODUCT HEIGHT	237 mm
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PRODUCT WIDTH	160 mm
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PRODUCT WEIGHT	8.85 kg
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CERTIFICATIONS

IEC/EN 60947-4-1
CE marking
UL File No.: E29096
VDE 0660
UL 60947-4-1
UL Category Control No.: NLDX
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

CATALOG NOTES

- Contacts according to EN 50012
- 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
- For rated operational voltage

AC-1/Conventional thermal current Ith

**CONVENTIONAL
THERMAL CURRENT ITH
(3-POLE, ENCLOSED)** 600 A

**CONVENTIONAL
THERMAL CURRENT ITH
AT 40°C (3-POLE, OPEN)** 850 A

**CONVENTIONAL
THERMAL CURRENT ITH
AT 50°C (3-POLE, OPEN)** 760 A

**CONVENTIONAL
THERMAL CURRENT ITH
AT 55°C (3-POLE, OPEN)** 725 A

**CONVENTIONAL
THERMAL CURRENT ITH
AT 60°C (3-POLE, OPEN)** 695 A

**CONVENTIONAL
THERMAL CURRENT ITH
OF MAIN CONTACTS (1-
POLE, OPEN)** 1738 A

Contacts

**NUMBER OF AUXILIARY
CONTACTS (NORMALLY
CLOSED CONTACTS)** 2

**NUMBER OF AUXILIARY
CONTACTS (NORMALLY
OPEN CONTACTS)** 2

above 800 V AC
additional phase
separators
DILH800-XKP have
to be used

- Conventional
thermal current Ith
of main contacts (1-
pole, open) at 60°

Climatic environmental conditions

ALTITUDE Max. 2000 m

**AMBIENT OPERATING
TEMPERATURE - MAX** 70 °C

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

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

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

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

Design verification

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 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.
EQUIPMENT HEAT DISSIPATION, CURRENT-	0 W

Electrical rating	
RATED BREAKING CAPACITY AT 1000 V	1575 A
RATED BREAKING CAPACITY AT 220/230 V	4800 A
RATED BREAKING CAPACITY AT 380/400 V	4800 A
RATED BREAKING CAPACITY AT 500 V	4800 A
RATED BREAKING CAPACITY AT 660/690 V	2000 A
RATED INSULATION VOLTAGE (UI)	1000 V
RATED MAKING CAPACITY UP TO 440 V (COS PHI TO IEC/EN 60947)	6000 A
RATED OPERATIONAL VOLTAGE (UE) AT AC - MAX	1000 V
SAFE ISOLATION	1000 V AC, Between coil and contacts, According to EN 61140

DEPENDENT PVID	
HEAT DISSIPATION CAPACITY PDISS	0 W
RATED OPERATIONAL CURRENT FOR SPECIFIED HEAT DISSIPATION (IN)	650 A
STATIC HEAT DISSIPATION, NON-CURRENT-DEPENDENT PVS	6.4 W

General information	
ACCESSORIES	Fitting options auxiliary contacts: on the side: 2 x DILM820-XHI11(V)-SI; 2 x DILM820-XHI11-SA
APPLICATION	Mains contactors for resistive loads from 1000 A
CONNECTION	Screw terminals
DEGREE OF PROTECTION	IP00
ELECTROMAGNETIC COMPATIBILITY	Designed for operation in industrial environments. Its use in residential environments may cause radio-frequency interference, requiring additional noise suppression.
FITTED WITH:	Suppressor circuit in actuating electronics
LIFESPAN, MECHANICAL	3,000,000 Operations (DC operated) 3,000,000 Operations (AC operated)
OPERATING FREQUENCY	1000 mechanical Operations/h (AC operated) 1000 mechanical Operations/h (DC operated)
OVERVOLTAGE CATEGORY	III
POLLUTION DEGREE	3
PRODUCT CATEGORY	Contactors
RATED IMPULSE WITHSTAND VOLTAGE (UIMP)	12000 V
RESISTANCE	500 mΩ (Admissible transitional contact resistance - of the external control circuit device when

	actuating A11)
SHOCK RESISTANCE	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 8 g, N/C auxiliary contact, Mechanical, according to IEC/EN 60068-2-27, Half-sinusoidal shock 10 ms
SIGNAL LEVEL	5 V - 15 V, PLC signal level (A3 - A4) to IEC/EN 61131-2 (type 2), Magnet systems
UTILIZATION CATEGORY	AC-1: Non-inductive or slightly inductive loads, resistance furnaces
VOLTAGE TYPE	DC

Magnet system

BEHAVIOR IN MARGINAL AND TRANSITIONAL CONDITIONS

Sealing - Voltage drops ($0.6 - 0.7 \times U_c \text{ min}$): Contactor remains switched on

Sealing - Voltage drops ($0.2 - 0.6 \times U_c \text{ min}$) > 12 ms: Drop-out of the contactor

Sealing - Pick-up phase ($0.7 \times U_c \text{ min} - 1.15 \times U_c \text{ max}$): Contactor switches on properly

Sealing - Voltage drops ($0.2 - 0.6 \times U_c \text{ min} \leq 12 \text{ ms}$): Time is bridged specifically

Sealing - Voltage interruptions $0 - 0.2 \times U_c \text{ min}$) > 10 ms: Drop-out of the contactor

Sealing - Pick-up phase ($0 - 0.7 \times U_c \text{ min}$): Contactor does not switch on

Sealing - Voltage interruptions ($0 - 0.2 \times U_c \text{ min} \leq 10 \text{ ms}$): Time is bridged specifically

Sealing - Excess voltage ($1.15 - 1.3 \times U_c \text{ max}$): Contactor remains switched on

DUTY FACTOR	100 %
PICK-UP VOLTAGE	$0.7 - 1.15 \text{ V DC} \times U_s$
POWER CONSUMPTION	Control transformer with $u_k \leq 7\%$
POWER CONSUMPTION (PICK-UP) AT DC	450 VA
POWER CONSUMPTION (SEALING) AT DC	6.4 W
POWER CONSUMPTION, PICK-UP, 50 HZ	495 VA, Pull-in power, Coil in a cold state and $1.0 \times U_s$
POWER CONSUMPTION, PICK-UP, 60 HZ	495 VA, Pull-in power, Coil in a cold state and $1.0 \times U_s$
POWER CONSUMPTION, SEALING, 50 HZ	6.4 W, Coil in a cold state and $1.0 \times U_s$
POWER CONSUMPTION, SEALING, 60 HZ	6.4 W, Coil in a cold state and $1.0 \times U_s$
RATED CONTROL SUPPLY VOLTAGE (US) AT DC - MAX	48 V
RATED CONTROL SUPPLY VOLTAGE (US) AT DC - MIN	24 V

Switching capacity

SWITCHING CAPACITY (AUXILIARY CONTACTS, GENERAL USE)	1 A, 250 V DC, (UL/CSA) 10 A, 600 V AC, (UL/CSA)
SWITCHING CAPACITY (AUXILIARY CONTACTS, PILOT DUTY)	P300, DC operated (UL/CSA) A600, AC operated (UL/CSA)
SWITCHING CAPACITY (MAIN CONTACTS, GENERAL USE)	700 A, Maximum motor rating (UL/CSA)

SWITCHING TIME (AC OPERATED, MAKE CONTACTS, CLOSING DELAY) - MAX	80 ms
SWITCHING TIME (AC OPERATED, MAKE CONTACTS, OPENING DELAY) - MAX	110 ms

Terminal capacities

SCREW SIZE	M3.5, Terminal screw M10, Terminal screw
SCREWDRIVER SIZE	2, Terminal screw, Pozidriv screwdriver 0.8 x 5.5/1 x 6 mm, Terminal screw, Control circuit cables, Standard screwdriver
STRIPPING LENGTH (CONTROL CIRCUIT CABLE)	10 mm
TERMINAL CAPACITY (BUSBAR)	50 mm width, Main connection
TERMINAL CAPACITY (FLEXIBLE WITH CABLE LUG)	50 - 240 mm ²
TERMINAL CAPACITY (FLEXIBLE WITH FERRULE)	1 x (0.75 - 2.5) mm ² 2 x (0.75 - 2.5) mm ²
TERMINAL CAPACITY (SOLID)	1 x (0.75 - 2.5) mm ² 2 x (0.75 - 2.5) mm ²
TERMINAL CAPACITY (SOLID/STRANDED AWG)	18 - 14
TERMINAL CAPACITY (STRANDED WITH CABLE LUG)	70 - 240 mm ²
TIGHTENING TORQUE	1.2 Nm, Screw terminals 24 Nm, Main cable connection screw/bolt
WIDTH ACROSS FLATS	16 mm

Resources

BROCHURES	eaton-product-brochure-dilmdilh-power-contactors-brochure-br034010en-en-us.pdf
CHARACTERISTIC CURVE	eaton-contactors-characteristic-curve-2110dia-4.eps eaton-contactors-dilh-characteristic-curve.eps eaton-contactors-short-time-loading-dilm-characteristic-curve-002.eps
DECLARATIONS OF CONFORMITY	eaton-contactor-declaration-of-conformity-uk251104en.pdf eaton-contactor-declaration-of-conformity-eu250621en.pdf
DRAWINGS	eaton-contactors-dimensions-006.eps eaton-contactors-mounting-dilm-dimensions.eps eaton-contactors-mounting-dilm-dimensions-002.eps eaton-contactors-mounting-dilm-3d-drawing-002.eps
ECAD MODEL	DA-CE-ETN.DILH600_22(RDC48)
INSTALLATION INSTRUCTIONS	eaton-contactors-dilm-dilh-sond735-il034115zu.pdf eaton-contactors-dilh600-dilh800-il034082zu.pdf

MCAD MODEL	eaton-iec-contactors-mcad-3d-models-dilh600-800-S22.stp
	eaton-iec-contactors-mcad-drawings-dilh600-800-S22.dwg
WIRING DIAGRAMS	eaton-contactors-contact-dilm-wiring-diagram-004.eps

PROJECT NAME:

PROJECT NUMBER:

PREPARED BY:

DATE:



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