BIMETAL OVERLOAD RELAYS
278438

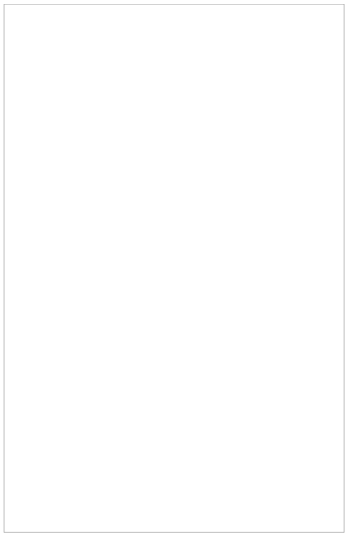

Photo is representative

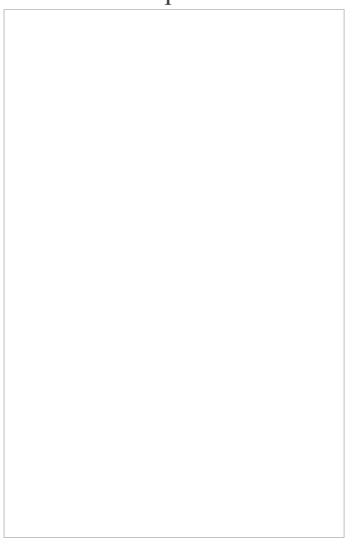

Photo is representative

278438

Eaton Moeller® series ZB Overload relay, ZB12, Ir=
Direct mounting, IP20

How to buy

Photo is representative

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Designed to work together

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276935

Eaton Moeller® series DILM Contactor, 380 V 400 V 5.5 kW, 3 N/O, 2 NC, 230 V 50 Hz, 240 V 60 Hz, AC operation, Screw terminals

106361

Eaton Moeller® series DILM Contactor, 380 V 400 V 4 kW, 2 N/O, 2 NC, 230 V 50 Hz, 240 V 60 Hz, AC operation, Screw terminals

276775

Eaton Moeller® series DILM Contactor, 380 V 400 V 4 kW, 2 N/O, 1 NC, 24 V DC, DC operation, Screw terminals

276943

Eaton Moeller® series DILM Co
V 400 V 5.5 kW, 3 N/O, 2 NC,
50/60 Hz, AC operation, Screw

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General specifications >

Product specifications >

GENERAL SPECIFICATIONS

PRODUCT NAME	Eaton Moeller® series ZB Thermal overload relay
CATALOG NUMBER	278438
MODEL CODE	ZB12-4
UPC	782116358687
EAN	4015082784386
PRODUCT LENGTH/DEPTH	88 mm
PRODUCT HEIGHT	67 mm
PRODUCT WIDTH	45 mm
PRODUCT WEIGHT	0.142 kg
CERTIFICATIONS	UL File No.: E29184 CSA IEC/EN 60947 VDE 0660 IEC/EN 60947-4-1 UL 60947-4-1 CSA Class No.: 3211-03 UL CSA File No.: 012528 CE CSA-C22.2 No. 60947-4-1-14 UL Category Control No.: NKCR

PRODUCT SPECIFICATIONS

RATED OPERATIONAL CURRENT FOR SPECIFIED HEAT DISSIPATION (IN)	4 A
TERMINAL CAPACITY (FLEXIBLE WITH FERRULE)	1 x (1 - 4) mm², Main cables 2 x (1 - 4) mm², Main cables 2 x (0.75 - 2.5) mm², Control circuit cables 1 x (0.75 - 2.5) mm², Control circuit cables
10.11 SHORT-CIRCUIT RATING	Is the panel builder's responsibility. The specificatio must be observed.
STRIPPING LENGTH (CONTROL CIRCUIT CABLE)	8 mm
AMBIENT OPERATING TEMPERATURE (ENCLOSED) - MIN	25 °C
10.4 CLEARANCES AND CREEPAGE DISTANCES	Meets the product standard's requirements.

10.12 ELECTROMAGNETIC COMPATIBILITY	Is the panel builder's responsibility. The specificatio must be observed.
MOUNTING METHOD	Direct attachment Direct mounting
10.2.5 LIFTING	Does not apply, since the entire switchgear needs to
STRIPPING LENGTH (MAIN CABLE)	10 mm
AMBIENT OPERATING TEMPERATURE (ENCLOSED) - MAX	40 °C
10.2.3.1 VERIFICATION OF THERMAL STABILITY OF ENCLOSURES	Meets the product standard's requirements.
RESET FUNCTION	Automatic Push-button
SHORT-CIRCUIT CURRENT RATING (HIGH FAULT AT 600 V)	6 A, Class J/CC, max. Fuse, SCCR (UL/CSA) 100 kA, Fuse, SCCR (UL/CSA)
10.8 CONNECTIONS FOR EXTERNAL CONDUCTORS	Is the panel builder's responsibility.
SCREW SIZE	M4, Terminal screw M3.5, Terminal screw, Control circuit cables
ADJUSTABLE CURRENT RANGE - MIN	2.4 A
PROTECTION	Finger and back-of-hand proof, Protection against di actuated from front (EN 50274)
AMBIENT OPERATING TEMPERATURE - MAX	55 °C
CLIMATIC PROOFING	Damp heat, cyclic, to IEC 60068-2-30 Damp heat, constant, to IEC 60068-2-78
FEATURES	Trip-free release Reset pushbutton manual/auto Test/off button Phase-failure sensitivity (according to IEC/EN 6094 102)
STATIC HEAT DISSIPATION, NON-CURRENT-DEPENDENT PVS	0 W
ELECTRICAL CONNECTION TYPE OF MAIN CIRCUIT	Screw connection
10.9.3 IMPULSE WITHSTAND VOLTAGE	Is the panel builder's responsibility.
VOLTAGE RATING - MAX	600 VAC
AMBIENT OPERATING TEMPERATURE - MIN	-25 °C
10.6 INCORPORATION OF SWITCHING DEVICES AND COMPONENTS	Does not apply, since the entire switchgear needs to
10.5 PROTECTION AGAINST ELECTRIC SHOCK	Does not apply, since the entire switchgear needs to
SAFE ISOLATION	440 V, Between auxiliary contacts and main contact 61140 440 V AC, Between main circuits, According to EN 240 V AC, Between auxiliary contacts, According t
RATED OPERATIONAL CURRENT (IE) AT AC-15, 230 V	

RATED OPERATIONAL CURRENT (IE) AT AC-15, 220 V, 230 V, 240 V	1.5 A
CLASS	CLASS 10 A
10.13 MECHANICAL FUNCTION	The device meets the requirements, provided the inf instruction leaflet (IL) is observed.
10.2.6 MECHANICAL IMPACT	Does not apply, since the entire switchgear needs to
10.9.4 TESTING OF ENCLOSURES MADE OF INSULATING MATERIAL	Is the panel builder's responsibility.
NUMBER OF CONTACTS (NORMALLY CLOSED CONTACTS)	1
10.3 DEGREE OF PROTECTION OF ASSEMBLIES	Does not apply, since the entire switchgear needs to
RATED OPERATIONAL CURRENT (IE) AT AC-15, 380 V, 400 V, 415 V	0.9 A
HEAT DISSIPATION PER POLE, CURRENT-DEPENDENT PVID	2 W
PRODUCT CATEGORY	• Accessories • Overload relay ZB up to 150 A
OVERLOAD RELEASE CURRENT SETTING - MIN	2.4 A
RATED OPERATIONAL CURRENT (IE) AT DC-13, 60 V	0.75 A
EQUIPMENT HEAT DISSIPATION, CURRENT-DEPENDENT PVID	6 W
HEAT DISSIPATION CAPACITY PDISS	0 W
SUITABLE FOR	Branch circuits, (UL/CSA)
TEMPERATURE COMPENSATION	≤ 0.25 %/K, residual error for T > 40° Continuous
TERMINAL CAPACITY (SOLID)	2 x (0.75 - 4) mm², Control circuit cables 1 x (0.75 - 4) mm², Control circuit cables 1 x (1 - 6) mm², Main cables 2 x (1 - 6) mm², Main cables
NUMBER OF AUXILIARY CONTACTS (NORMALLY CLOSED CONTACTS)	1
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.
RATED OPERATIONAL CURRENT (IE) AT DC-13, 220 V, 230 V	0.2 A
CONVENTIONAL THERMAL CURRENT ITH OF AUXILIARY CONTACTS (1-POLE, OPEN)	6 A
OVERLOAD RELEASE CURRENT SETTING - MAX	4 A
TERMINAL CAPACITY (SOLID/STRANDED AWG)	18 - 8, Main cables

	2 x (18 - 14), Control circuit cables
10.9.2 POWER-FREQUENCY ELECTRIC STRENGTH	Is the panel builder's responsibility.
DEGREE OF PROTECTION	IP20
OVERVOLTAGE CATEGORY	III
NUMBER OF AUXILIARY CONTACTS (CHANGE-OVER CONTACTS)	0
POLLUTION DEGREE	3
10.7 INTERNAL ELECTRICAL CIRCUITS AND CONNECTIONS	Is the panel builder's responsibility.
RATED IMPULSE WITHSTAND VOLTAGE (UIMP)	6000 V AC 4000 V (auxiliary and control circuits)
10.10 TEMPERATURE RISE	The panel builder is responsible for the temperature Eaton will provide heat dissipation data for the devi
TIGHTENING TORQUE	1.8 Nm, Screw terminals, Main cables 1.2 Nm, Screw terminals, Control circuit cables
ADJUSTABLE CURRENT RANGE - MAX	4 A
FRAME SIZE	ZB12
SCREWDRIVER SIZE	1 x 6 mm, Terminal screw, Standard screwdriver 2, Terminal screw, Pozidriv screwdriver
RATED OPERATIONAL CURRENT (IE) AT AC-15, 120 V	1.5 A
10.2.2 CORROSION RESISTANCE	Meets the product standard's requirements.
10.2.4 RESISTANCE TO ULTRA-VIOLET (UV) RADIATION	Meets the product standard's requirements.
10.2.7 INSCRIPTIONS	Meets the product standard's requirements.
NUMBER OF CONTACTS (NORMALLY OPEN CONTACTS)	1
SHORT-CIRCUIT PROTECTION RATING	25 A gG/gL, Fuse, Type “1” coordination Max. 6 A gG/gL, fuse, Without welding, Auxiliary 16 A gG/gL, Fuse, Type “2” coordination
NUMBER OF AUXILIARY CONTACTS (NORMALLY OPEN CONTACTS)	1
RATED OPERATIONAL CURRENT (IE) AT DC-13, 110 V	0.4 A
RATED OPERATIONAL VOLTAGE (UE) - MAX	690 V
SHOCK RESISTANCE	10 g, Mechanical, Sinusoidal, Shock duration 10 m
RATED OPERATIONAL CURRENT (IE) AT DC-13, 24 V	0.9 A
SWITCHING CAPACITY (AUXILIARY CONTACTS, PILOT DUTY)	R300, DC operated (UL/CSA) B300 at opposite polarity, AC operated (UL/CSA) B600 at opposite polarity, AC operated (UL/CSA)

Catalogs

Characteristic curve

Declarations of conformity

Drawings

eCAD model

Installation instructions

Manuals and user guides

mCAD model

Wiring diagrams

278438

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