Specifications

Eaton 164303

Eaton Moeller® series ZEB Overload relay, Direct mounting, Earth-fault protection: none, Ir= 35 - 175 A, 1 N/O, 1 N/C ZEB150-175

General specifications	
PRODUCT NAME	Eaton Moeller® series ZEB Electronic overload relay
CATALOG NUMBER	164303
EAN	4015081608348
PRODUCT LENGTH/DEPTH	157 mm
PRODUCT HEIGHT	208 mm
PRODUCT WIDTH	108 mm
PRODUCT WEIGHT	1.915 kg
CERTIFICATIONS	UL File No.: E1230 CSA Class No.: 3211-03 UL VDE 0660 CSA File No.: 2290956 CSA CE UL 508 CSA-C22.2 No. 14 IEC/EN 60947-4-1 IEC/EN 60947 UL Category Control No.: NKCR
CATALOG NOTES	Rated operational current: Switch-on and switch-off conditions based on DC-13, time constant as specified.

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Product specifications

PRODUCT CATEGORY	Electronic overload relays ZEB
FEATURES	Phase-failure sensitivity (according to IEC/EN 60947, VDE 0660 Part 102)
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	Does not apply, since the

Resources

BROCHURES	eaton-motor-starters-system-xstart-brochure-br03407001en-en-us.pdf Electronic overload relay ZEB
DRAWINGS	eaton-tripping-devices-overload-relay-zeb-overload-relay-dimensions.eps eaton-tripping-devices-zeb-overload-relay-characteristic-curve.eps eaton-tripping-devices-zeb-overload-relay-3d-drawing-003.eps
ECAD MODEL	DA-CE-ETN.ZEB150-175
INSTALLATION INSTRUCTIONS	IL04210002E
MCAD MODEL	zeb150_175_gf.dwg zeb150_175_gf.stp
WIRING DIAGRAMS	eaton-tripping-devices-overload-relay-zb-overload-relay-wiring-diagram.eps

PROTECTION OF ASSEMBLIES	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.
POLLUTION DEGREE	3
CLASS	Adjustable
CLIMATIC PROOFING	Damp heat, constant, to IEC 60068-2-78 Damp heat, cyclic, to IEC 60068-2-30
RATED IMPULSE WITHSTAND VOLTAGE (UIMP)	6000 V (auxiliary circuits) 6000 V AC
FUNCTIONS	Filament bulb (24 V)
PROTECTION	Finger and back-of-hand proof, Protection against direct contact when actuated from front (EN 50274)
STRIPPING LENGTH (CONTROL CIRCUIT CABLE)	8 mm
STRIPPING LENGTH (MAIN CABLE)	22 mm
VOLTAGE RATING - MAX	600 V
ADJUSTABLE CURRENT RANGE - MAX	175 A
ADJUSTABLE CURRENT RANGE - MIN	0 A
AMBIENT OPERATING TEMPERATURE - MAX	65 °C
AMBIENT OPERATING	-25 °C

TEMPERATURE - MIN	
AMBIENT OPERATING TEMPERATURE (ENCLOSED) - MAX	45 °C
CONVENTIONAL THERMAL CURRENT ITH OF AUXILIARY CONTACTS (1-POLE, OPEN)	5 A
EQUIPMENT HEAT DISSIPATION, CURRENT-DEPENDENT PVID	35.6 W
HEAT DISSIPATION CAPACITY PDISS	0 W
HEAT DISSIPATION PER POLE, CURRENT-DEPENDENT PVID	11.86 W
NUMBER OF AUXILIARY CONTACTS (CHANGE-OVER CONTACTS)	0
NUMBER OF AUXILIARY CONTACTS (NORMALLY CLOSED CONTACTS)	1
NUMBER OF AUXILIARY CONTACTS (NORMALLY OPEN CONTACTS)	1
NUMBER OF CONTACTS (NORMALLY CLOSED CONTACTS)	1
NUMBER OF CONTACTS (NORMALLY OPEN CONTACTS)	1
OVERLOAD RELEASE CURRENT SETTING - MAX	175 A
OVERLOAD RELEASE CURRENT SETTING - MIN	35 A
RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 50 HZ - MAX	0 V
RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 50 HZ - MIN	0 V
RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 60 HZ - MAX	0 V
ELECTRICAL CONNECTION TYPE OF MAIN CIRCUIT	Screw connection
RESET FUNCTION	Automatic Push-button
SCREWDRIVER SIZE	2, Terminal screw, Control circuit cables, Pozidriv screwdriver

	1 x 6 mm, Terminal screw, Control circuit cables, Standard screwdriver
VOLTAGE TYPE	Self powered
MOUNTING METHOD	Direct attachment Direct mounting
DEGREE OF PROTECTION	IP20
OVERVOLTAGE CATEGORY	III
RATED CONTROL SUPPLY VOLTAGE (US) AT AC, 60 HZ - MIN	0 V
RATED CONTROL SUPPLY VOLTAGE (US) AT DC - MAX	0 V
RATED CONTROL SUPPLY VOLTAGE (US) AT DC - MIN	0 V
RATED FREQUENCY - MAX	60 Hz
RATED FREQUENCY - MIN	50 Hz
RATED OPERATIONAL CURRENT (IE) AT AC-15, 120 V	1.5 A
RATED OPERATIONAL CURRENT (IE) AT AC-15, 220 V, 230 V, 240 V	1.5 A
RATED OPERATIONAL CURRENT (IE) AT AC-15, 380 V, 400 V, 415 V	0.9 A
RATED OPERATIONAL CURRENT (IE) AT DC-13, 110 V	0.4 A
RATED OPERATIONAL CURRENT (IE) AT DC-13, 220 V, 230 V	0.2 A
RATED OPERATIONAL CURRENT (IE) AT DC-13, 24 V	0.9 A
RATED OPERATIONAL CURRENT (IE) AT DC-13, 60 V	0.75 A
RATED OPERATIONAL CURRENT FOR SPECIFIED HEAT DISSIPATION (IN)	175 A
RATED OPERATIONAL VOLTAGE (UE) AT AC - MAX	690 V
STATIC HEAT DISSIPATION, NON-CURRENT-DEPENDENT PVS	0 W

EARTH FAULT PROTECTION	None
SAFE ISOLATION	600 V AC, Between main circuits, According to EN 61140 240 V AC, Between auxiliary contacts, According to EN 61140 440 V, Between auxiliary contacts and main contacts, According to EN 61140
SCREW SIZE	M3.5, Terminal screw, Control circuit cables
SHOCK RESISTANCE	15 g, Mechanical, According to IEC/EN 60068-2-27, Shock duration 10 ms Mechanical, According to IEC/EN 60068-2-27
SHORT-CIRCUIT CURRENT RATING (HIGH FAULT AT 600 V)	100 kA, Fuse, SCCR (UL/CSA) 400 A, Class J, max. Fuse, SCCR (UL/CSA)
SWITCHING CAPACITY (AUXILIARY CONTACTS, PILOT DUTY)	R300, DC operated (UL/CSA) B600, AC operated (UL/CSA)
SHORT-CIRCUIT PROTECTION RATING	Max. 6 A gG/gL, fuse, Without welding, Auxiliary and control circuits
SUITABLE FOR	Branch circuits, (UL/CSA)
TERMINAL CAPACITY (COPPER BAND)	6 x 18 x 0.8 mm Number of segments x width x thickness, Main cables
TERMINAL CAPACITY (FLEXIBLE WITH FERRULE)	2 x (0.75 - 2.5) mm², Control circuit cables
TERMINAL CAPACITY (SOLID)	2 x (0.75 - 4) mm², Control circuit cables 1 x (10 - 95) mm², Main cables
TERMINAL CAPACITY (SOLID/STRANDED AWG)	1 x (8 - 4/0), Main cables 2 x (18 - 12), Control circuit cables
TIGHTENING TORQUE	0.8 - 1.2 Nm, Screw terminals, Control circuit cables 7 lb-in, Screw terminals
VOLTAGE TYPE OF OPERATING VOLTAGE	AC
OPERATING VOLTAGE AT AC, 50 HZ - MIN	230 V
OPERATING VOLTAGE AT	690 V

AC, 50 HZ - MAX	
OPERATING VOLTAGE AT AC, 60 HZ - MIN	230 V
OPERATING VOLTAGE AT AC, 60 HZ - MAX	690 V
OPERATING VOLTAGE AT DC - MIN	0 V
OPERATING VOLTAGE AT DC - MAX	0 V

PROJECT NAME:
PROJECT NUMBER:
PREPARED BY:
DATE:

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