Specifications

Eaton 136505

Eaton Moeller® series ZEB Overload relay, Direct mounting, Earth-fault protection: with, Ir= 20 - 100 A, 1 N/O, 1 N/C ZEB65-100-GF

General specifications	
PRODUCT NAME	Eaton Moeller® series ZEB Electronic overload relay
CATALOG NUMBER	136505
MODEL CODE	ZEB65-100-GF
EAN	4015081332854
PRODUCT LENGTH/DEPTH	136.3 mm
PRODUCT HEIGHT	116 mm
PRODUCT WIDTH	56 mm
PRODUCT WEIGHT	0.605 kg
CERTIFICATIONS	CE CSA-C22.2 No. 14 UL VDE 0660 CSA Class No.: 3211-03 UL File No.: E1230 CSA File No.: 2290956 IEC/EN 60947 UL Category Control No.: NKCR UL 508 IEC/EN 60947-4-1 CSA
CATALOG NOTES	Rated operational current: Switch-on and switch-off conditions based on DC-13, time constant as specified.
GLOBAL CATALOG	136505

Powering Business Worldwide

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-zeb-overload-relay-characteristic-curve.eps eaton-tripping-devices-zeb-overload-relay-dimensions-005.eps eaton-tripping-devices-zeb-overload-relay-3d-drawing-006.eps
ECAD MODEL	DA-CE-ETN.ZEB65-100-GF
INSTALLATION INSTRUCTIONS	IL04210002E
MCAD MODEL	zeb65-100.dwg zeb65-100.stp zeb65-45.dwg
WIRING DIAGRAMS	eaton-tripping-devices-overload-relay-zb-overload-relay-wiring-diagram.eps eaton-general-release-zeb-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, cyclic, to IEC 60068-2-30 Damp heat, constant, to IEC 60068-2-78
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)	14 mm
VOLTAGE RATING - MAX	600 V
ADJUSTABLE CURRENT RANGE - MAX	100 A
ADJUSTABLE CURRENT RANGE - MIN	20 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	25.4 W
HEAT DISSIPATION CAPACITY PDISS	0 W
HEAT DISSIPATION PER POLE, CURRENT-DEPENDENT PVID	8.47 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	100 A
OVERLOAD RELEASE CURRENT SETTING - MIN	20 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	Push-button Automatic
SCREWDRIVER SIZE	1 x 6 mm, Terminal screw, Standard screwdriver 2, Terminal screw, Pozidriv

	screwdriver
VOLTAGE TYPE	Self powered
MOUNTING METHOD	Direct mounting Direct attachment
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)	100 A
RATED OPERATIONAL VOLTAGE (UE) AT AC - MAX	690 V
STATIC HEAT DISSIPATION, NON-CURRENT-DEPENDENT PVS	0 W
EARTH FAULT	Yes

PROTECTION	Trip at approx. > 1.5 x Ir in 1 s Trip at approx. > 0.5 x Ir in 2 s
SAFE ISOLATION	240 V AC, Between auxiliary contacts, According to EN 61140 440 V, Between auxiliary contacts and main contacts, According to EN 61140 600 V AC, Between main circuits, According to EN 61140
SCREW SIZE	M3.5, Terminal screw, Control circuit cables
SHOCK RESISTANCE	Mechanical, According to IEC/EN 60068-2-27 15 g, Mechanical, According to IEC/EN 60068-2-27, Shock duration 10 ms
SHORT-CIRCUIT CURRENT RATING (HIGH FAULT AT 600 V)	100 kA, Fuse, SCCR (UL/CSA) 200 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 (FLEXIBLE WITH FERRULE)	2 x (0.75 - 2.5) mm², Control circuit cables
TERMINAL CAPACITY (SOLID)	1 x (16 - 50) mm², Main cables 2 x (0.75 - 4) mm², Control circuit cables
TERMINAL CAPACITY (SOLID/STRANDED AWG)	1 x (6 - 1), 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 AC, 50 HZ - MAX	690 V

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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