Specifications



Photo is representative

Eaton 139575

Eaton Moeller® series Z5 Overload relay, Ir= 120 - 160 A, 1 N/O, 1 N/C, For use with: DILM185A, DILM225A

General specifications	
PRODUCT NAME	Eaton Moeller® series Z5 Thermal overload relay
CATALOG NUMBER	139575
MODEL CODE	Z5-160/FF225A
EAN	4015081363537
PRODUCT LENGTH/DEPTH	146 mm
PRODUCT HEIGHT	164 mm
PRODUCT WIDTH	128 mm
PRODUCT WEIGHT	1.47 kg
CERTIFICATIONS	CSA File No.: 012528 CSA Class No.: 3211-03 CSA-C22.2 No. 60947-4-1-14 IEC/EN 60947-4-1 CSA CE UL File No.: E29184 VDE 0660 IEC/EN 60947 UL UL 60947-4-1 UL Category Control No.: NKCR
GLOBAL CATALOG	139575
PRODUCT TYPE	Thermal overload relay

Product specifications

FEATURES	Test/off button Reset pushbutton manual/auto Phase-failure sensitivity (according to IEC/EN 60947, VDE 0660 Part 102) Trip-free release
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.

Resources

CATALOGS	eaton-product-overview-for-machinery-catalogue-ca08103003zen-en-us.pdf
CHARACTERISTIC CURVE	eaton-tripping-z5-overload-relay-characteristic-curve-005.eps eaton-tripping-z5-overload-relay-characteristic-curve.eps
DECLARATIONS OF CONFORMITY	eaton-thermal-overload-relay-declaration-of-conformity-eu250785en.pdf eaton-thermal-overload-relay-declaration-of-conformity-uk251268en.pdf
DRAWINGS	eaton-tripping-devices-overload-relay-z5-overload-relay-dimensions.eps eaton-tripping-devices-z5-overload-relay-3d-drawing.eps
ECAD MODEL	ETN.139575.edz
INSTALLATION INSTRUCTIONS	IL03407141Z2010_10 eaton-overload-relays-z5-zb150-il03407006z.pdf
MCAD MODEL	z5_100_ff225a.stp
SPECIFICATIONS AND DATASHEETS	Eaton Specification Sheet - 139575
SYSTEM OVERVIEW	eaton-contactors-system55-dilm-explosion-drawing.eps
WIRING DIAGRAMS	eaton-tripping-devices-overload-relay-zeb-overload-relay-wiring-diagram.eps eaton-general-release-zeb-overload-relay-wiring-diagram.eps

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	CLASS 10 A / IEC 60947-4-1, 8.2.1.5.1.1. c) 4 min
CLIMATIC PROOFING	Damp heat, constant, to IEC 60068-2-78 Damp heat, cyclic, to IEC 60068-2-30
RATED IMPULSE WITHSTAND VOLTAGE (UIMP)	4000 V (auxiliary and control circuits) 8000 V AC
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)	160 A
STATIC HEAT DISSIPATION, NON-CURRENT-DEPENDENT PVS	0 W
STRIPPING LENGTH (CONTROL CIRCUIT CABLE)	8 mm
VOLTAGE RATING - MAX	600 VAC
PRODUCT CATEGORY	Overload relay Z5
PROTECTION	With terminal cover, Protection against direct contact when actuated from front (EN 50274)
ADJUSTABLE CURRENT	160 A

RANGE - MAX	
ADJUSTABLE CURRENT RANGE - MIN	120 A
AMBIENT OPERATING TEMPERATURE - MAX	60 °C
AMBIENT OPERATING TEMPERATURE - MIN	-25 °C
AMBIENT OPERATING TEMPERATURE (ENCLOSED) - MAX	40 °C
AMBIENT OPERATING TEMPERATURE (ENCLOSED) - MIN	-25 °C
CONVENTIONAL THERMAL CURRENT ITH OF AUXILIARY CONTACTS (1-POLE, OPEN)	6 A
EQUIPMENT HEAT DISSIPATION, CURRENT-DEPENDENT PVID	24 W
HEAT DISSIPATION CAPACITY PDISS	0 W
HEAT DISSIPATION PER POLE, CURRENT-DEPENDENT PVID	8 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	160 A
OVERLOAD RELEASE CURRENT SETTING - MIN	120 A
RATED OPERATIONAL VOLTAGE (UE) - MAX	1000 V
RATED OPERATIONAL CURRENT (IE) AT AC-15, 120 V	1.5 A
ELECTRICAL CONNECTION TYPE OF MAIN CIRCUIT	Screw connection
RESET FUNCTION	Push-button Automatic
SCREWDRIVER SIZE	2, Terminal screw, Control circuit cables, Pozidriv screwdriver

	1 x 6 mm, Terminal screw, Control circuit cables, Standard screwdriver
MOUNTING METHOD	Direct attachment Separate mounting Direct mounting
DEGREE OF PROTECTION	IP00
OVERVOLTAGE CATEGORY	III
SAFE ISOLATION	240 V AC, Between auxiliary contacts, According to EN 61140 500 V AC, Between main circuits, According to EN 61140 440 V, Between auxiliary contacts and main contacts, According to EN 61140
SCREW SIZE	M10 x 35, Terminal screw, Main connections M3.5, Terminal screw, Control circuit cables
SHOCK RESISTANCE	10 g, Mechanical, Sinusoidal, Shock duration 10 ms
SHORT-CIRCUIT CURRENT RATING (BASIC RATING)	600 A, max. CB, SCCR (UL/CSA) 10 kA, SCCR (UL/CSA) 600 A Class J, max. Fuse, SCCR (UL/CSA)
SWITCHING CAPACITY (AUXILIARY CONTACTS, PILOT DUTY)	B300 at opposite polarity, AC operated (UL/CSA) B600 at opposite polarity, AC operated (UL/CSA) R300, DC operated (UL/CSA)
SHORT-CIRCUIT PROTECTION RATING	Max. 6 A gG/gL, fuse, Without welding, Auxiliary and control circuits 400 A gG/gL, Fuse, Type “1” coordination 250 A gG/gL, Fuse, Type “2” coordination Information on Type "1" and Type"2" coordination applies to 100 kA and 690 V
SUITABLE FOR	Branch circuits, (UL/CSA)
TEMPERATURE COMPENSATION	Continuous ≤ 0.25 %/K, residual error for T > 40°
TERMINAL CAPACITY (BUSBAR)	25 mm width, Main connection
TERMINAL CAPACITY (FLEXIBLE WITH CABLE LUG)	185 mm²
TERMINAL CAPACITY (FLEXIBLE WITH FERRULE)	2 x (0.75 - 2.5) mm², Control circuit cables 1 x (0.75 - 2.5) mm², Control circuit cables
TERMINAL CAPACITY (SOLID)	2 x (0.75 - 4) mm², Control circuit cables 1 x (0.75 - 4) mm², Control circuit cables
TERMINAL CAPACITY	2 x (18 - 14), Control circuit

(SOLID/STRANDED AWG)	cables 2/0 - 500 MCM, Main cables
TERMINAL CAPACITY (STRANDED WITH CABLE LUG)	185 mm²
TIGHTENING TORQUE	18 Nm, Main cable connection screw/bolt 1.2 Nm, Screw terminals, Control circuit cables
WIDTH ACROSS FLATS	16 mm (Hexagon head spanner SW)

PROJECT NAME:
PROJECT NUMBER:
PREPARED BY:
DATE:

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