

# 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

<b>PRODUCT NAME</b>	Eaton Moeller® series Z5 Thermal overload relay
<b>CATALOG NUMBER</b>	139575
<b>MODEL CODE</b>	Z5-160/FF225A
<b>EAN</b>	4015081363537
<b>PRODUCT LENGTH/DEPTH</b>	146 mm
<b>PRODUCT HEIGHT</b>	164 mm
<b>PRODUCT WIDTH</b>	128 mm
<b>PRODUCT WEIGHT</b>	1.47 kg
<b>CERTIFICATIONS</b>	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
<b>GLOBAL CATALOG</b>	139575

## Product specifications

<b>FEATURES</b>	Test/off button
	Reset pushbutton manual/auto
<b>10.10 TEMPERATURE RISE</b>	Phase-failure sensitivity (according to IEC/EN 60947, VDE 0660 Part 102)
	Trip-free release
<b>10.11 SHORT-CIRCUIT RATING</b>	The panel builder is responsible for the temperature rise calculation. Eaton will provide heat dissipation data for the devices.
	Is the panel builder's responsibility. The specifications for the switchgear must be observed.
<b>10.12 ELECTROMAGNETIC COMPATIBILITY</b>	Is the panel builder's responsibility. The specifications for the switchgear must be observed.
	The device meets the requirements, provided the information in the instruction leaflet (IL) is observed.
<b>10.13 MECHANICAL FUNCTION</b>	Meets the product standard's requirements.
	Meets the product standard's requirements.
<b>10.2.2 CORROSION RESISTANCE</b>	Meets the product standard's requirements.
	Meets the product standard's requirements.
<b>10.2.3.1 VERIFICATION OF THERMAL STABILITY OF ENCLOSURES</b>	Meets the product standard's requirements.
	Meets the product standard's requirements.
<b>10.2.3.2 VERIFICATION OF RESISTANCE OF INSULATING MATERIALS TO NORMAL HEAT</b>	Meets the product standard's requirements.
	Meets the product standard's requirements.
<b>10.2.3.3 RESIST. OF INSUL. MAT. TO ABNORMAL HEAT/FIRE BY INTERNAL ELECT. EFFECTS</b>	Meets the product standard's requirements.
	Meets the product standard's requirements.
<b>10.2.4 RESISTANCE TO ULTRA-VIOLET (UV) RADIATION</b>	Meets the product standard's requirements.
	Does not apply, since the entire switchgear needs to be evaluated.
<b>10.2.5 LIFTING</b>	Does not apply, since the entire switchgear needs to be evaluated.
	Does not apply, since the entire switchgear needs to
<b>10.2.6 MECHANICAL IMPACT</b>	Does not apply, since the entire switchgear needs to

## Resources

<b>CATALOGS</b>	<a href="#">eaton-product-overview-for-machinery-catalogue-ca08103003zen-en-us.pdf</a>
	<a href="#">Product Range Catalog Switching and protecting motors</a>
<b>CHARACTERISTIC CURVE</b>	<a href="#">eaton-tripping-z5-overload-relay-characteristic-curve.eps</a>
	<a href="#">eaton-tripping-z5-overload-relay-characteristic-curve-005.eps</a>
<b>DECLARATIONS OF CONFORMITY</b>	<a href="#">DA-DC-00004846.pdf</a>
	<a href="#">DA-DC-00004856.pdf</a>
<b>DRAWINGS</b>	<a href="#">eaton-tripping-devices-overload-relay-z5-overload-relay-dimensions.eps</a>
	<a href="#">eaton-tripping-devices-z5-overload-relay-3d-drawing.eps</a>
<b>ECAD MODEL</b>	<a href="#">ETN.139575.edz</a>
	<a href="#">eaton-overload-relays-z5-zb150-il03407006z.pdf</a>
<b>INSTALLATION INSTRUCTIONS</b>	<a href="#">IL03407141Z2010_10</a>
	<a href="#">z5_100_ff225a.stp</a>
<b>MCAD MODEL</b>	<a href="#">z5_100_ff225a.dwg</a>
	<a href="#">Eaton Specification Sheet - 139575</a>
<b>SPECIFICATIONS AND DATASHEETS</b>	<a href="#">eaton-contactors-system55-dilm-explosion-drawing.eps</a>
	<a href="#">eaton-general-release-zeb-overload-relay-wiring-diagram.eps</a>
<b>SYSTEM OVERVIEW</b>	<a href="#">eaton-tripping-devices-overload-relay-zeb-overload-relay-wiring-diagram.eps</a>
<b>WIRING DIAGRAMS</b>	

	be evaluated.
<b>10.2.7 INSCRIPTIONS</b>	Meets the product standard's requirements.
<b>10.3 DEGREE OF PROTECTION OF ASSEMBLIES</b>	Does not apply, since the entire switchgear needs to be evaluated.
<b>10.4 CLEARANCES AND CREEPAGE DISTANCES</b>	Meets the product standard's requirements.
<b>10.5 PROTECTION AGAINST ELECTRIC SHOCK</b>	Does not apply, since the entire switchgear needs to be evaluated.
<b>10.6 INCORPORATION OF SWITCHING DEVICES AND COMPONENTS</b>	Does not apply, since the entire switchgear needs to be evaluated.
<b>10.7 INTERNAL ELECTRICAL CIRCUITS AND CONNECTIONS</b>	Is the panel builder's responsibility.
<b>10.8 CONNECTIONS FOR EXTERNAL CONDUCTORS</b>	Is the panel builder's responsibility.
<b>10.9.2 POWER-FREQUENCY ELECTRIC STRENGTH</b>	Is the panel builder's responsibility.
<b>10.9.3 IMPULSE WITHSTAND VOLTAGE</b>	Is the panel builder's responsibility.
<b>10.9.4 TESTING OF ENCLOSURES MADE OF INSULATING MATERIAL</b>	Is the panel builder's responsibility.
<b>POLLUTION DEGREE</b>	3
<b>CLASS</b>	CLASS 10 A
<b>CLIMATIC PROOFING</b>	Damp heat, constant, to IEC 60068-2-78 Damp heat, cyclic, to IEC 60068-2-30
<b>RATED IMPULSE WITHSTAND VOLTAGE (UIMP)</b>	4000 V (auxiliary and control circuits) 8000 V AC
<b>RATED OPERATIONAL CURRENT (IE) AT AC-15, 220 V, 230 V, 240 V</b>	1.5 A
<b>RATED OPERATIONAL CURRENT (IE) AT AC-15, 380 V, 400 V, 415 V</b>	0.9 A
<b>RATED OPERATIONAL CURRENT (IE) AT DC-13, 110 V</b>	0.4 A
<b>RATED OPERATIONAL CURRENT (IE) AT DC-13, 220 V, 230 V</b>	0.2 A
<b>RATED OPERATIONAL</b>	0.9 A

<b>CURRENT (IE) AT DC-13, 24 V</b>	
<b>RATED OPERATIONAL CURRENT (IE) AT DC-13, 60 V</b>	0.75 A
<b>RATED OPERATIONAL CURRENT FOR SPECIFIED HEAT DISSIPATION (IN)</b>	160 A
<b>STATIC HEAT DISSIPATION, NON- CURRENT-DEPENDENT PVS</b>	0 W
<b>STRIPPING LENGTH (CONTROL CIRCUIT CABLE)</b>	8 mm
<b>VOLTAGE RATING - MAX</b>	600 VAC
<b>PRODUCT CATEGORY</b>	Overload relay Z5
<b>PROTECTION</b>	With terminal cover, Protection against direct contact when actuated from front (EN 50274)
<b>ADJUSTABLE CURRENT RANGE - MAX</b>	160 A
<b>ADJUSTABLE CURRENT RANGE - MIN</b>	120 A
<b>AMBIENT OPERATING TEMPERATURE - MAX</b>	60 °C
<b>AMBIENT OPERATING TEMPERATURE - MIN</b>	-25 °C
<b>AMBIENT OPERATING TEMPERATURE (ENCLOSED) - MAX</b>	40 °C
<b>AMBIENT OPERATING TEMPERATURE (ENCLOSED) - MIN</b>	25 °C
<b>CONVENTIONAL THERMAL CURRENT ITH OF AUXILIARY CONTACTS (1-POLE, OPEN)</b>	6 A
<b>EQUIPMENT HEAT DISSIPATION, CURRENT- DEPENDENT PVID</b>	24 W
<b>HEAT DISSIPATION CAPACITY PDISS</b>	0 W
<b>HEAT DISSIPATION PER POLE, CURRENT- DEPENDENT PVID</b>	8 W
<b>NUMBER OF AUXILIARY CONTACTS (CHANGE-</b>	0

<b>OVER CONTACTS)</b>	
<b>NUMBER OF AUXILIARY CONTACTS (NORMALLY CLOSED CONTACTS)</b>	1
<b>NUMBER OF AUXILIARY CONTACTS (NORMALLY OPEN CONTACTS)</b>	1
<b>NUMBER OF CONTACTS (NORMALLY CLOSED CONTACTS)</b>	1
<b>NUMBER OF CONTACTS (NORMALLY OPEN CONTACTS)</b>	1
<b>OVERLOAD RELEASE CURRENT SETTING - MAX</b>	160 A
<b>OVERLOAD RELEASE CURRENT SETTING - MIN</b>	120 A
<b>RATED OPERATIONAL VOLTAGE (UE) - MAX</b>	1000 V
<b>RATED OPERATIONAL CURRENT (IE) AT AC-15, 120 V</b>	1.5 A
<b>ELECTRICAL CONNECTION TYPE OF MAIN CIRCUIT</b>	Screw connection
<b>RESET FUNCTION</b>	Push-button Automatic
<b>SCREWDRIVER SIZE</b>	2, Terminal screw, Control circuit cables, Pozidriv screwdriver 1 x 6 mm, Terminal screw, Control circuit cables, Standard screwdriver
<b>MOUNTING METHOD</b>	Direct attachment Separate mounting Direct mounting
<b>DEGREE OF PROTECTION</b>	IP00
<b>OVERVOLTAGE CATEGORY</b>	III
<b>SAFE ISOLATION</b>	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
<b>SCREW SIZE</b>	M10 x 35, Terminal screw,

	Main connections M3.5, Terminal screw, Control circuit cables
<b>SHOCK RESISTANCE</b>	10 g, Mechanical, Sinusoidal, Shock duration 10 ms
<b>SHORT-CIRCUIT CURRENT RATING (BASIC RATING)</b>	600 A, max. CB, SCCR (UL/CSA) 10 kA, SCCR (UL/CSA) 600 A Class J, max. Fuse, SCCR (UL/CSA)
<b>SWITCHING CAPACITY (AUXILIARY CONTACTS, PILOT DUTY)</b>	B300 at opposite polarity, AC operated (UL/CSA) B600 at opposite polarity, AC operated (UL/CSA) R300, DC operated (UL/CSA)
<b>SHORT-CIRCUIT PROTECTION RATING</b>	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
<b>SUITABLE FOR</b>	Branch circuits, (UL/CSA)
<b>TEMPERATURE COMPENSATION</b>	Continuous ≤ 0.25 %/K, residual error for T > 40°
<b>TERMINAL CAPACITY (BUSBAR)</b>	25 mm width, Main connection
<b>TERMINAL CAPACITY (FLEXIBLE WITH CABLE LUG)</b>	185 mm <sup>2</sup>
<b>TERMINAL CAPACITY (FLEXIBLE WITH FERRULE)</b>	2 x (0.75 - 2.5) mm <sup>2</sup> , Control circuit cables 1 x (0.75 - 2.5) mm <sup>2</sup> , Control circuit cables
<b>TERMINAL CAPACITY (SOLID)</b>	2 x (0.75 - 4) mm <sup>2</sup> , Control circuit cables 1 x (0.75 - 4) mm <sup>2</sup> , Control circuit cables
<b>TERMINAL CAPACITY (SOLID/STRANDED AWG)</b>	2 x (18 - 14), Control circuit cables 2/0 - 500 MCM, Main cables
<b>TERMINAL CAPACITY (STRANDED WITH CABLE LUG)</b>	185 mm <sup>2</sup>
<b>TIGHTENING TORQUE</b>	18 Nm, Main cable connection screw/bolt 1.2 Nm, Screw terminals,

	Control circuit cables
<b>WIDTH ACROSS FLATS</b>	16 mm (Hexagon head spanner SW)

**PROJECT NAME:**

**PROJECT NUMBER:**

**PREPARED BY:**

**DATE:**



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