



Current transformer-operated overload relay, 110-160A, 1N/0+1N/C



Part no. ZW7-160  
007364  
EL Number 4131709  
(Norway)

General specifications		
Product name		Eaton Moeller® series ZW7 Current transformer-operated overload relay
Part no.		ZW7-160
EAN		4015080073642
Product Length/Depth		162.5 millimetre
Product height		97 millimetre
Product width		200.5 millimetre
Product weight		0.724 kilogram
Certifications		CSA UL 508 CE IEC/EN 60947 IEC/EN 60947-4-1 UL Category Control No.: NKCR CSA File No.: 012528 VDE 0660 CSA Class No.: 3211-03 UL File No.: E29184 UL CSA-C22.2 No. 14
Product Tradename		ZW7
Product Type		Current transformer-operated overload relay
Product Sub Type		None
Catalog Notes		Rated operational current: Switch-on and switch-off conditions based on DC-13, time constant as specified.
Features & Functions		
Features		Trip-free release Protection with heavy starting duty Reset pushbutton manual/auto Test/off button
General information		
Ambient operating temperature - min		-25 °C
Ambient operating temperature - max		50 °C
Ambient operating temperature (enclosed) - min		25 °C
Ambient operating temperature (enclosed) - max		40 °C
Class		Other
Climatic proofing		Damp heat, constant, to IEC 60068-2-78 Damp heat, cyclic, to IEC 60068-2-30
Degree of protection		IP00
Mounting method		Separate positioning Separate mounting
Mounting position		As required
Opening diameter		27 mm
Overload release current setting - min		110 A
Overload release current setting - max		160 A
Overvoltage category		III
Pollution degree		3
Product category		ZW7 current transformer-operated overload relays
Protection		Finger and back-of-hand proof, Protection against direct contact when actuated from front (EN 50274)
Rated impulse withstand voltage (Uimp)		8000 V AC 4000 V (auxiliary and control circuits)
Shock resistance		10 g, Mechanical, Sinusoidal, Shock duration 10 ms
Suitable for		Branch circuits, (UL/CSA)
Temperature compensation		Continuous

<b>Terminal capacities</b>		
Terminal capacity (flexible with ferrule)		1 x (0.75 - 2.5) mm <sup>2</sup> 2 x (0.75 - 2.5) mm <sup>2</sup>
Terminal capacity (solid)		1 x (0.75 - 4) mm <sup>2</sup> 2 x (0.75 - 4) mm <sup>2</sup>
Terminal capacity (solid/stranded AWG)		2 x (18 - 14)
Stripping length (control circuit cable)		8 mm
Screw size		M3.5, Terminal screw
Screwdriver size		2, Terminal screw, Pozidriv screwdriver 1 x 6 mm, Terminal screw, Control circuit cables, Standard screwdriver
Tightening torque		1.2 Nm, Screw terminals, Control circuit cables
<b>Electrical rating</b>		
Conventional thermal current I <sub>th</sub> of auxiliary contacts (1-pole, open)		6 A
Rated operational current (I <sub>e</sub> ) at AC-15, 120 V		1.5 A
Rated operational current (I <sub>e</sub> ) at AC-15, 220 V, 230 V, 240 V		1.5 A
Rated operational current (I <sub>e</sub> ) at AC-15, 380 V, 400 V, 415 V		0.9 A
Rated operational current (I <sub>e</sub> ) at DC-13, 110 V		0.4 A
Rated operational current (I <sub>e</sub> ) at DC-13, 220 V, 230 V		0.2 A
Rated operational current (I <sub>e</sub> ) at DC-13, 24 V		0.9 A
Rated operational current (I <sub>e</sub> ) at DC-13, 60 V		0.75 A
Rated operational voltage (U <sub>e</sub> ) - max		690 V
Safe isolation		240 V AC, Between auxiliary contacts, According to EN 61140 440 V AC, Between main circuits, According to EN 61140 440 V AC, Between auxiliary contacts and main contacts, According to EN 61140
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)
Voltage rating - max		600 V AC
<b>Short-circuit rating</b>		
Short-circuit protection		With overload relay in conjunction with a transformer as required for the contactor, Max. Fuse, Main conducting paths
Short-circuit protection rating		Max. 6 A gG/gL, Fuse, Auxiliary contacts
<b>Contacts</b>		
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
<b>Design verification</b>		
Equipment heat dissipation, current-dependent P <sub>vid</sub>		6.3 W
Heat dissipation capacity P <sub>diss</sub>		0 W
Heat dissipation per pole, current-dependent P <sub>vid</sub>		2.1 W
Rated operational current for specified heat dissipation (I <sub>n</sub> )		160 A
Static heat dissipation, non-current-dependent P <sub>vs</sub>		0 W
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.
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.
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.

Technical data ETIM 9.0

Low-voltage industrial components (EG000017) / Thermal overload relay (EC000106)			
Electric engineering, automation, process control engineering / Low-voltage switch technology / Overload protection device / Thermal overload relay (ecl@ss13-27-37-15-01 [AKF075019])			
Adjustable current range		A	110 - 160
Max. rated operation voltage Ue		V	690
Mounting method			Separate positioning
Type of electrical connection of main circuit			Screw connection
Number of auxiliary contacts as normally closed contact			1
Number of auxiliary contacts as normally open contact			1
Number of auxiliary contacts as change-over contact			0
Release class			Other
Reset function input			No
Reset function automatic			Yes
Reset function push-button			Yes