



## Current transformer-operated overload relay, 60-90A, 1N/O+1N/C

**Part no.** ZW7-90  
**Catalog No.** 002618  
**Alternate Catalog No.** XTOT090C3S  
**EL-Nummer (Norway)** 4131707

## Delivery program

Product range			ZW7 current transformer-operated overload relays
Description			Test/off button Reset pushbutton manual/auto Trip-free release Protection with heavy starting duty
Mounting type			Separate mounting
<b>Setting range</b>			
Overload releases 	$I_r$	A	60 - 90
Contact sequence			
<b>Auxiliary contacts</b>			
N/O = Normally open			1 N/O
N/C = Normally closed			1 N/C
<b>Notes</b>			
The main current parameters are defined by the main current wiring which is used.			

## Technical data

## General

Standards			IEC/EN 60947, VDE 0660, UL, CSA
Climatic proofing			Damp heat, constant, to IEC 60068-2-78 Damp heat, cyclic, to IEC 60068-2-30
Ambient temperature			
Open		°C	-25 - +50
Enclosed		°C	-25 - 40
Temperature compensation			Continuous
Mounting position			As required
Weight		kg	0.8
Mechanical shock resistance		g	10 Sinusoidal Shock duration 10 ms
Degree of Protection			IP00
Protection against direct contact when actuated from front (EN 50274)			Finger and back-of-hand proof
Altitude		m	Max. 2000

## Main conducting paths

Rated impulse withstand voltage	$U_{imp}$	V AC	8000
Overvoltage category/pollution degree			III/3
Rated insulation voltage	$U_i$	V	1000
Rated operational voltage	$U_e$	V AC	1000
Safe isolation to EN 61140			
Between auxiliary contacts and main contacts		V AC	440
Between main circuits		V AC	440
Short-circuit protection Maximum fuse			With overload relay in conjunction with a transformer as required for the contactor
Current heat loss (3 conductors)			
Lower value of the setting range		W	3

Maximum setting		W	10
Push-through opening	Ø	mm	27
<b>Auxiliary and control circuits</b>			
Rated impulse withstand voltage	U <sub>imp</sub>	V	4000
Overvoltage category/pollution degree			III/3
Terminal capacities		mm <sup>2</sup>	
Solid		mm <sup>2</sup>	1 x (0.75 - 4) 2 x (0.75 - 4)
Flexible with ferrule		mm <sup>2</sup>	1 x (0.75 - 2.5) 2 x (0.75 - 2.5)
Solid or stranded		AWG	2 x (18 - 14)
Terminal screw			M3.5
Tightening torque		Nm	1.2
Stripping length		mm	8
Tools			
Pozidriv screwdriver		Size	2
Standard screwdriver		mm	1 x 6
Rated insulation voltage	U <sub>i</sub>	V AC	500
Rated operational voltage	U <sub>e</sub>	V AC	500
Safe isolation to EN 61140			
between the auxiliary contacts		V AC	240
Conventional thermal current	I <sub>th</sub>	A	6
Rated operational current	I <sub>e</sub>	A	
AC-15			
Make contact			
120 V	I <sub>e</sub>	A	1.5
220 V 230 V 240 V	I <sub>e</sub>	A	1.5
380 V 400 V 415 V	I <sub>e</sub>	A	0.5
500 V	I <sub>e</sub>	A	0.5
Break contact			
120 V	I <sub>e</sub>	A	1.5
220 V 230 V 240 V	I <sub>e</sub>	A	1.5
380 V 400 V 415 V	I <sub>e</sub>	A	0.9
500 V	I <sub>e</sub>	A	0.8
DC L/R ≤ 15 ms			
			Switch-on and switch-off conditions based on DC-13, time constant as specified.
24 V	I <sub>e</sub>	A	0.9
60 V	I <sub>e</sub>	A	0.75
110 V	I <sub>e</sub>	A	0.4
220 V	I <sub>e</sub>	A	0.2
Short-circuit rating without welding			
max. fuse		A gG/gL	6

## Notes

Ambient temperature: Operating range to IEC/EN 60947, PTB: -5°C to +50°C

Terminal capacities Main circuits solid and flexible with ferrule: When connecting 2 conductors, only the following combinations are admissible:

Rated operational current: Making and breaking currents to DC-13, time constant as stated

Short-circuit rating: See transparent overlay "Fuses" for time/current characteristics (Please enquire)

## Rating data for approved types

Auxiliary contacts			
Pilot Duty			
AC operated			B300 at opposite polarity B600 at same polarity
DC operated			R300

Design verification as per IEC/EN 61439

Technical data for design verification			
Rated operational current for specified heat dissipation	I <sub>n</sub>	A	90
Heat dissipation per pole, current-dependent	P <sub>vid</sub>	W	2.1
Equipment heat dissipation, current-dependent	P <sub>vid</sub>	W	6.3
Static heat dissipation, non-current-dependent	P <sub>vs</sub>	W	0
Heat dissipation capacity	P <sub>diss</sub>	W	0
Operating ambient temperature min.		°C	-25
Operating ambient temperature max.		°C	50
IEC/EN 61439 design verification			
10.2 Strength of materials and parts			
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 Verification of resistance of insulating materials to abnormal heat and fire due to internal electric 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 Insulation properties			
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 7.0

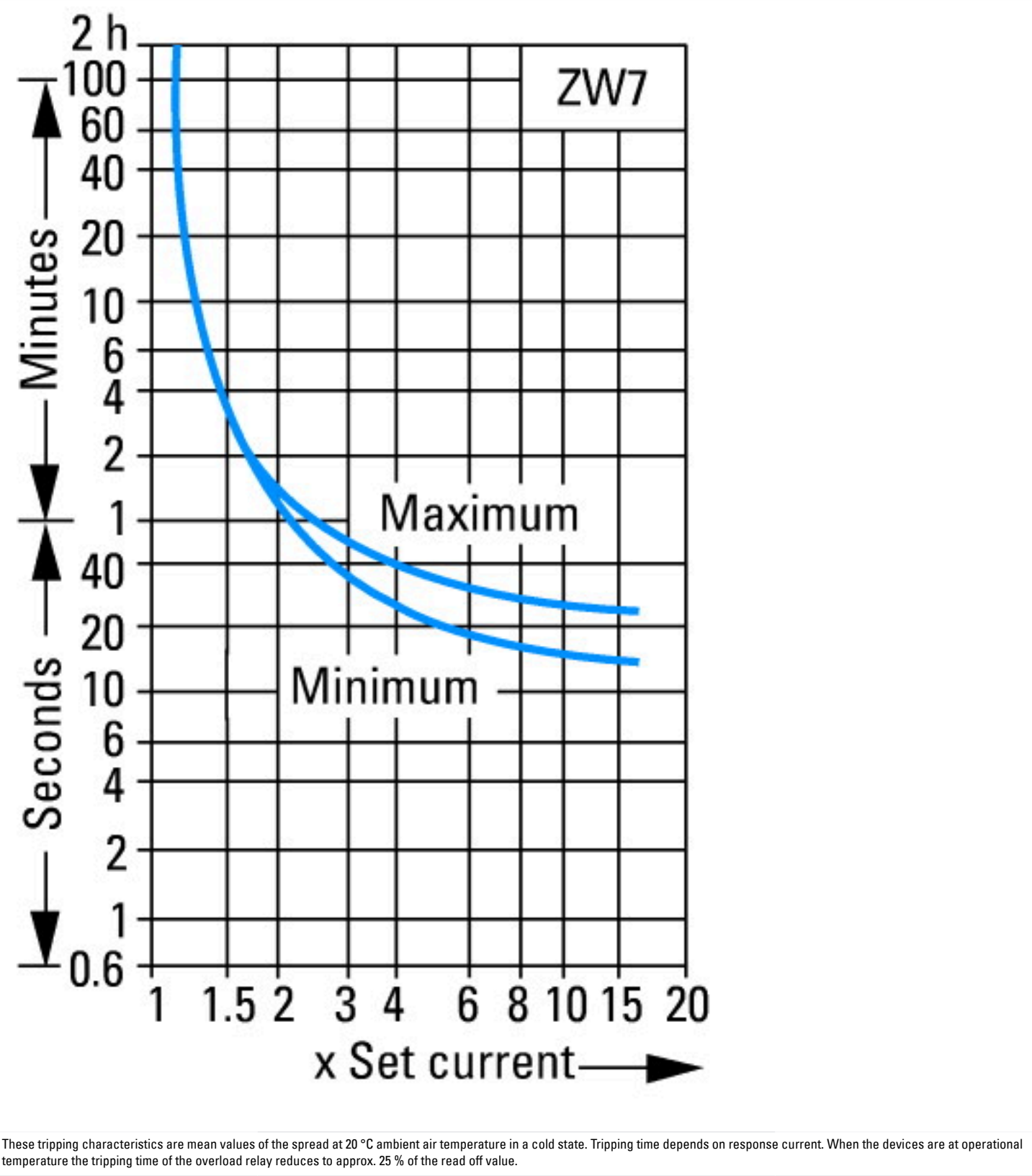
Low-voltage industrial components (EG000017) / Thermal overload relay (EC000106)			
Electric engineering, automation, process control engineering / Low-voltage switch technology / Overload protection device / Thermal overload relay (ecl@ss10.0.1-27-37-15-01 [AKF075014])			
Adjustable current range		A	60 - 90
Max. rated operation voltage U <sub>e</sub>		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

Approvals

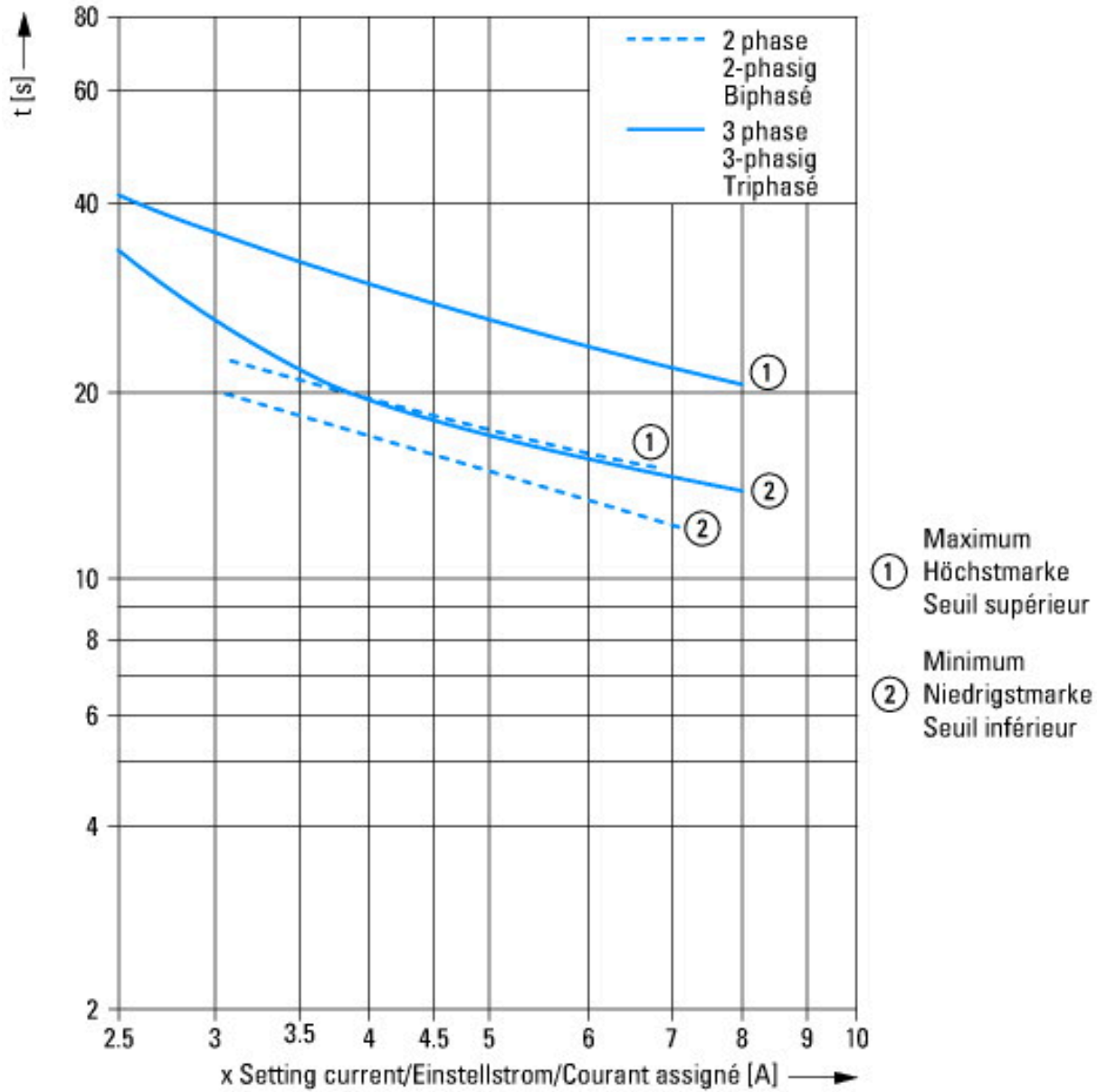
Product Standards			UL 508; CSA-C22.2 No. 14; IEC/EN 60947-4-1; CE marking
UL File No.			E29184

UL Category Control No.		NKCR
CSA File No.		12528
CSA Class No.		3211-03
North America Certification		UL listed, CSA certified
Specially designed for North America		No
Suitable for		Branch circuits
Max. Voltage Rating		600 V AC
Degree of Protection		IEC: IP00, UL/CSA Type: -

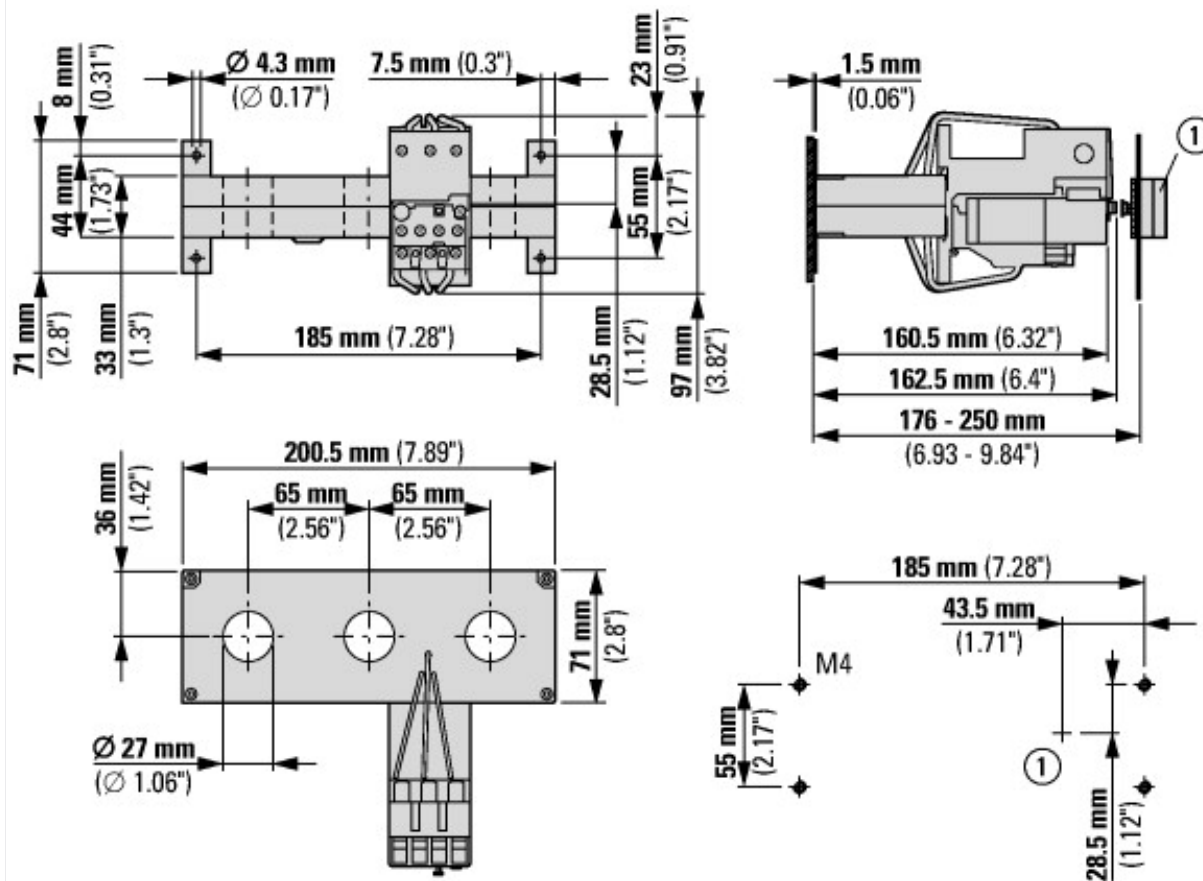
Characteristics



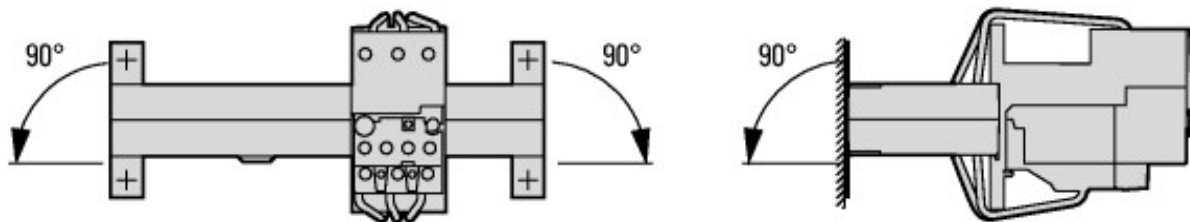
Tolerances for tripping times: max.  $\pm 20\%$   
Toleranzen für Auslösezeiten: max.  $\pm 20\%$   
Tolérances temps de déclenchement:  $\pm 20\%$



## Dimensions



① Reset/on



Permissible mounting positions

## Assets (links)

### Declaration of CE Conformity

00002858

### Instruction Leaflets

IL04210001Z2018\_05

## Additional product information (links)

### IL04210001Z, Overload relay, Current transformer-operated overload relay

IL04210001Z, Overload relay, Current transformer-operated overload relay

[ftp://ftp.moeller.net/DOCUMENTATION/AWA\\_INSTRUCTIONS/IL04210001Z2018\\_05.pdf](ftp://ftp.moeller.net/DOCUMENTATION/AWA_INSTRUCTIONS/IL04210001Z2018_05.pdf)

### IL03407125Z, Tripping characteristics

IL03407125Z, Tripping characteristics

[ftp://ftp.moeller.net/DOCUMENTATION/AWA\\_INSTRUCTIONS/IL03407125Z2017\\_08.pdf](ftp://ftp.moeller.net/DOCUMENTATION/AWA_INSTRUCTIONS/IL03407125Z2017_08.pdf)