



Overload relay, Direct mounting, Earth-fault protection: none, $I_r = 35 - 175$ A, 1 N/O, 1 N/C

EATON
Powering Business Worldwide™

Part no. ZEB225-175
Catalog No. 164307
Alternate Catalog No. XTOE175HCS
EL-Nummer (Norway) 0004137385

Delivery program

Product range	Electronic overload relays ZEB		
Phase-failure sensitivity	IEC/EN 60947, VDE 0660 Part 102		
Description	Test/off button Reset pushbutton Manual/auto reset selectable Protection with heavy starting duty (Class 10A-30)		
Mounting type	Direct mounting		
Earth-fault protection	none		
Setting range			
Overload releases	I_r	A	35 - 175
Contact sequence			
Auxiliary contacts			
N/O = Normally open	1 N/O		
N/C = Normally closed	1 N/C		
For use with	DILM185A DILM225A		

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	$^{\circ}\text{C}$	-25 - +65			
Ambient temperature open max.	$^{\circ}\text{C}$	65			
Enclosed	$^{\circ}\text{C}$				
Ambient temperature enclosed max.	$^{\circ}\text{C}$	45			
Mechanical shock resistance	g	15 Shock duration 10 ms according to IEC 60068-2-27			
Degree of Protection	IP00				
Protection against direct contact when actuated from front (EN 50274)	With terminal cover				

Main conducting paths

Rated impulse withstand voltage	U_{imp}	V AC	6000
Overvoltage category/pollution degree			III/3
Rated insulation voltage	U_i	V AC	690
Rated operational voltage	U_e	V AC	690
Rated frequency	f	Hz	50/60
Safe isolation to EN 61140			
Between auxiliary contacts and main contacts		V AC	600

Between main circuits	V AC	600
Terminal capacities	mm ²	
Solid	mm ²	1 x 10 - 95
ein- oder mehrdrähtig	AWG	1 x 8 - 4/0
Flat conductor	Lamellenzahl x Breite x Dicke	6 x 18 x 0.8
Stripping length	mm	22

Auxiliary and control circuits

Rated impulse withstand voltage	U _{imp}	V	6000
Overvoltage category/pollution degree			III/3
Terminal capacities	mm ²		
Solid	mm ²	2 x (0.75 - 4)	
Flexible with ferrule	mm ²	2 x (0.75 - 2.5)	
Solid or stranded	AWG	2 x (18 - 12)	
Terminal screw		M3.5	
Tightening torque		Nm	0.8 - 1.2
Tightening torque		lb-in	7
Stripping length		mm	8
Tools			
Pozidriv screwdriver		Size	2
Standard screwdriver		mm	1 x 6
Rated insulation voltage	U _i	V AC	500
Rated operational voltage	U _e	V AC	500
Safe isolation to EN 61140		V AC	240
between the auxiliary contacts			
Conventional thermal current	I _{th}	A	5
Rated operational current	I _e	A	
AC-15			
Make contact			
120 V	I _e	A	1.5
220 V 230 V 240 V	I _e	A	1.5
380 V 400 V 415 V	I _e	A	0.5
500 V	I _e	A	0.5
Break contact			
120 V	I _e	A	1.5
220 V 230 V 240 V	I _e	A	1.5
380 V 400 V 415 V	I _e	A	0.9
500 V	I _e	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 _e	A	0.9
60 V	I _e	A	0.75
110 V	I _e	A	0.4
220 V	I _e	A	0.2
Short-circuit rating without welding			
max. fuse		A gG/gL	6

Rating data for approved types

Auxiliary contacts		
Pilot Duty		
AC operated		B600
DC operated		R300
Short Circuit Current Rating	SCCR	
600 V High Fault		

SCCR (fuse)	kA	100
max. Fuse	A	400 Class J

Design verification as per IEC/EN 61439

Technical data for design verification			
Rated operational current for specified heat dissipation	I _n	A	175
Heat dissipation per pole, current-dependent	P _{vid}	W	11.86
Equipment heat dissipation, current-dependent	P _{vid}	W	35.6
Static heat dissipation, non-current-dependent	P _{vs}	W	0
Heat dissipation capacity	P _{diss}	W	0
Operating ambient temperature min.		°C	-25
Operating ambient temperature max.		°C	65
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) / Electronic overload relay (EC001080)		
Electric engineering, automation, process control engineering / Low-voltage switch technology / Overload protection device / Electronic overload relay (ecl@ss10.0.1-27-37-15-02 [AKF076014])		
Adjustable current range	A	0 - 175
Mounting method		Direct attachment
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
Rated control supply voltage Us at AC 50Hz	V	0 - 0
Rated control supply voltage Us at AC 60Hz	V	0 - 0
Rated control supply voltage Us at DC	V	0 - 0
Release class		Adjustable
Voltage type for actuating		Self powered
Reset function automatic		Yes

Reset function input

No

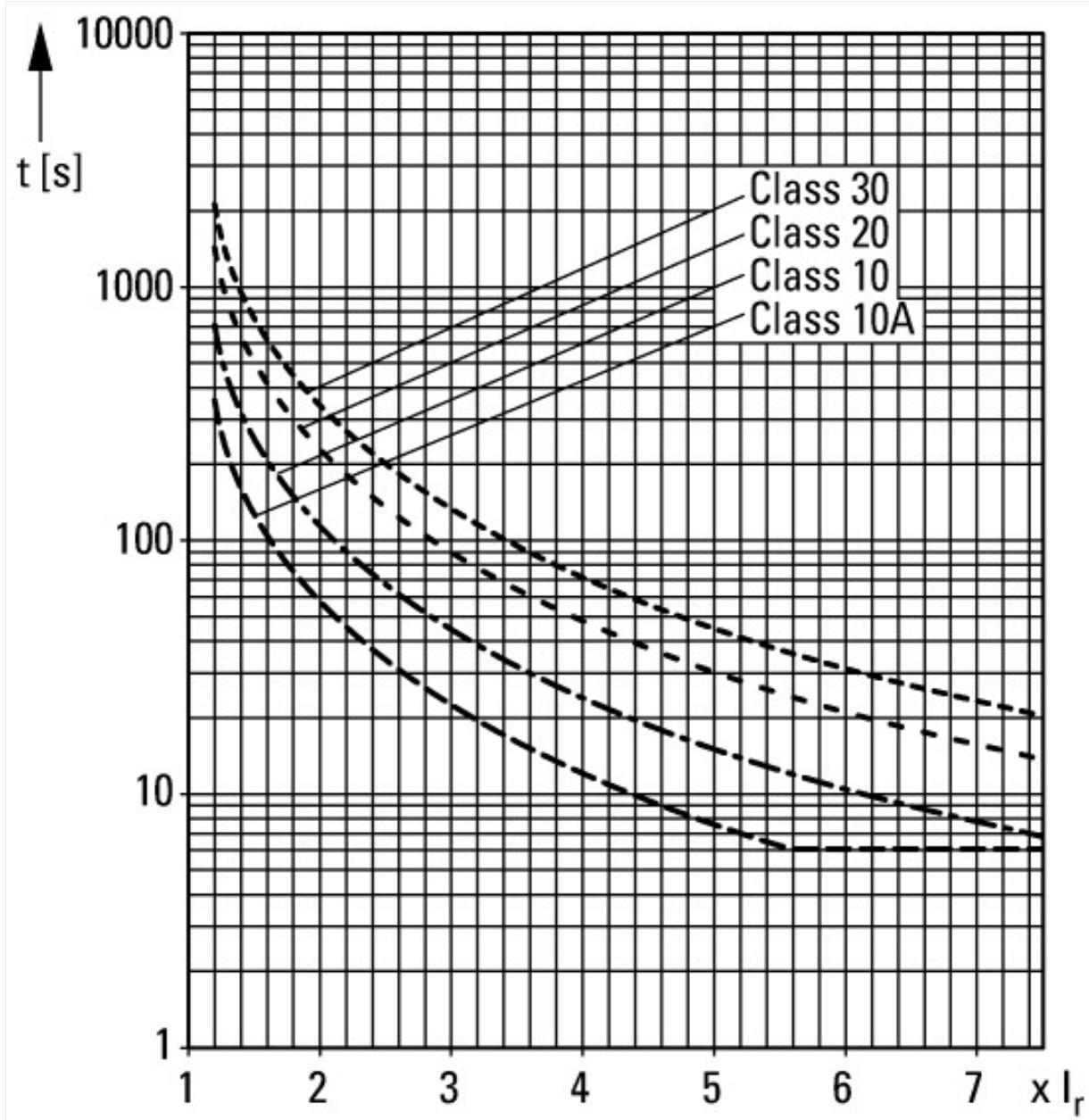
Reset function push-button

Yes

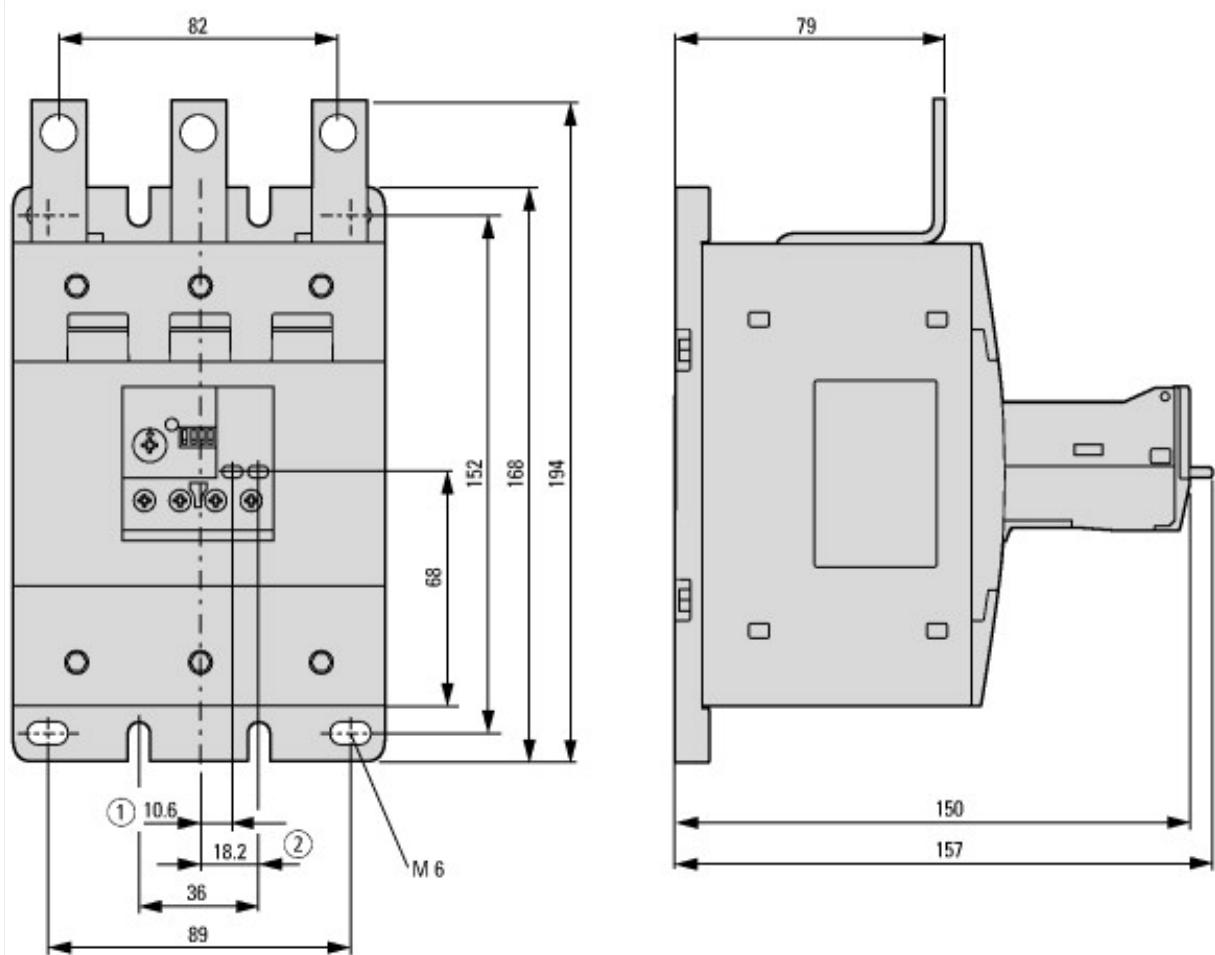
Approvals

Product Standards	UL 508; CSA-C22.2 No. 14; IEC/EN 60947-4-1; CE marking
UL File No.	E1230
UL Category Control No.	NKCR
CSA File No.	2290956
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: IP20, UL/CSA Type: -

Characteristics



Dimensions



- ① RESET
② TRIP/TEST

Assets (links)

Instruction Leaflets
IL04210002E2018_08