

Overload relay, ZB65, $I_r = 10 - 16$ A, 1 N/O, 1 N/C, Direct mounting, IP00

Powering Business Worldwide™

Part no. ZB65-16
Catalog No. 278456
Alternate Catalog No. XTOB016DC1
EL-Nummer (Norway) 4131851

Delivery program

Product range	Overload relay ZB up to 150 A			
Product range	Accessories			
Accessories	Overload relays			
Frame size	ZB65			
Phase-failure sensitivity	IEC/EN 60947, VDE 0660 Part 102			
Description	Test/off button Reset pushbutton manual/auto Trip-free release			
Mounting type	Direct mounting			
	I_r	A	10 - 16	
Auxiliary contacts				
N/O = Normally open	1 N/O			
N/C = Normally closed	1 N/C			
For use with	DILM40 DILM50 DILM65 DILM72 DILMF40 DILMF50 DILMF65 DIULM40 DIULM50 DIULM65 SDAINLM70 SDAINLM90 SDAINLM115			
Short-circuit protection				
Type "1" coordination		gG/gL	A	63
Type "2" coordination		gG/gL	A	35

Notes

Overload trigger: tripping class 10 A

Short circuit protection: observe the maximum permissible fuse of the contactor with direct device mounting.

Suitable for protection of Ex e-motors.



II(2)G [Ex d] [Ex e] [Ex px], II(2)D [Ex p] [Ex t]

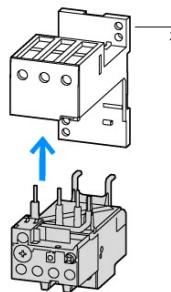
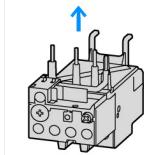
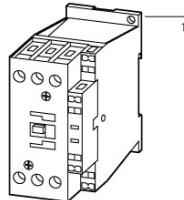
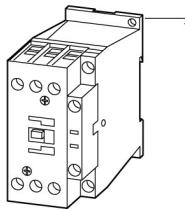
PTB 10 ATEX 3010

Observe manual MN03407005Z-DE/EN.

Notes

Fitted directly to the contactor

Separate mounting



1 Contactor
2 Bases

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	Operating range to IEC/EN 60947 PTB: -5 °C - +55 °C		
Open	°C	-25 - +55	
Enclosed	°C	-25 - 40	
Temperature compensation		Continuous	
Weight	kg	0.22	
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	6000
Overvoltage category/pollution degree			III/3
Rated insulation voltage	U _i	V	690
Rated operational voltage	U _e	V AC	690
Safe isolation to EN 61140			
Between auxiliary contacts and main contacts		V AC	440
Between main circuits		V AC	440
Temperatur compensation residual error > 40 °C			≤ 0.25 %/K
Current heat loss (3 conductors)			
Lower value of the setting range		W	2.5
Maximum setting		W	6.3
Terminal capacities		mm ²	
Solid		mm ²	1 x (1 - 16) 2 x (1 - 16)
Flexible with ferrule		mm ²	1 x (1 - 25) 2 x (1 - 25)
Stranded		mm ²	1 x (16 - 25)
Solid or stranded		AWG	14 - 2
Terminal screw			M6
Tightening torque		Nm	3.5
Stripping length		mm	11
Tools			

Pozidriv screwdriver	Size	2
Standard screwdriver	mm	1 x 6
Auxiliary and control circuits		
Rated impulse withstand voltage	U_{imp}	V 4000
Overtoltage category/pollution degree		III/3
Terminal capacities		mm ²
Solid		mm ² 1 x (0.75 - 4) 2 x (0.75 - 4)
Flexible with ferrule		mm ² 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_i	V AC 500
Rated operational voltage	U_e	V AC 500
Safe isolation to EN 61140		
between the auxiliary contacts		V AC 240
Conventional thermal current	I_{th}	A 6
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 \leq 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

Notes

Notes Ambient air temperature: Operating range to IEC/EN 60947, PTB: -5°C to +55°C
Main circuits terminal capacity solid and flexible conductors with ferrules: When using 2 conductors use equal cross-sections.

Rating data for approved types

Auxiliary contacts			
Pilot Duty			
AC operated			B300 at opposite polarity B600 at same polarity
DC operated			R300
Short Circuit Current Rating		SCCR	
Basic Rating			
SCCR		kA	5
max. Fuse		A	60
max. CB		A	60

480 V High Fault			
SCCR (fuse)	kA	100	
max. Fuse	A	35 Class J/CC	
SCCR (CB)	kA	65	
max. CB	A	25	
600 V High Fault			
SCCR (fuse)	kA	100	
max. Fuse	A	35 Class J/CC	

Design verification as per IEC/EN 61439

Technical data for design verification			
Rated operational current for specified heat dissipation	I_n	A	16
Heat dissipation per pole, current-dependent	P_{vid}	W	2.1
Equipment heat dissipation, current-dependent	P_{vid}	W	6.3
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	55
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 8.0

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	10 - 16	
Max. rated operation voltage U_e	V	690	
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
Release class		CLASS 10 A
Reset function input		No
Reset function automatic		Yes
Reset function push-button		Yes