DATASHEET - ZB32-32



Overload relay, ZB32, Ir= 24 - 32 A, 1 N/O, 1 N/C, Direct mounting, IP20



Part no.	ZB32-32
Catalog No.	278454
Alternate Catalog	XT0B032CC1
No.	
EL-Nummer	4131849
(Norway)	

Delivery program

Product range			Overload relay ZB up to 150 A
Product range			Accessories
Accessories			Overload relays
Frame size			ZB32
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
сф	I _r	A	24 - 32
Contact sequence			$\begin{bmatrix} 1 & -1 & -1 & -1 & -1 & -1 \\ -1 & -1 & $
Auxiliary contacts			
N/O = Normally open			1 N/O
N/C = Normally closed			1 N/C
For use with			DILM17 DILM25 DILM32 DILM38 DILM58 DILMF10 DILMF17 DILMF17 DILMF25 DILMF25 DILMF32 DIULM25 DIULM25 DIULM25 DIULM25 DIULM25 DIULM25 DIULM25 DIULM25 DIULM25 DIULM25 DIULM25 DIULM25 DIULM32 SDAINLM30 SDAINLM45 SDAINLM55 DS7-34SX032
Short-circuit protection			
Type "1" coordination	gG/gL	А	125
Type "2" coordination	gG/gL	A	63
Notes			

Notes

Overload release: tripping class 10 A

short-circuit protective device: Observe the maximum permissible fuse of the contactor with direct device mounting.

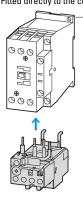
Suitable for protection of Ex e-motors.



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

Observe manual MN03407005Z-DE/EN.

Notes Fitted directly to the contactor



1 Contactor 2 Bases

Technical data General

Mechanical shock resistance g	General			
Animeter and and a set of the se	Standards			IEC/EN 60947, VDE 0660, UL, CSA
Image:	Climatic proofing			
ppFit - 5° - 4.5° °CppFit - 5° - 6° - 6° - 6° - 6° - 6° - 6° - 6°	Ambient temperature			
Enclosed PC 25-49 Temperature compensation Continuous Continuous Weight Continuous Continuous Mechanical shock resistance Sile Sile Sile Degree of Protection File Para and back-of-shand proof Protection against direct content statude from from (EN 5027 Hole) Term and back-of-shand proof Nature Nature Nature Nature Nature Nature Nature Nature Nature Nature Conducting pather Nature Nature Satistation voltage Nature Nature Between analise contacts and main contacts Nature Sature				Operating range to IEC/EN 60947 PTB: -5 °C - +55 °C
Temperature compensationInterviewInterviewInterviewInterviewWeightIAKBIAMechanical shock resistanceImage: Image: Ima	Open		°C	-25 - +55
New Procession Notestimic Constraints Notestimatestimatestimatestimic Constraints Notestimat	Enclosed		°C	- 25 - 40
Achanical shock resistance Image of Protection Image of Protection Image of Protection operation from from feb 500774 Image of Protection operation of the Store of Protection against direct contact when actuated from from fEb 500774 Image of Protection operation of the Store of Protection against direct contact when actuated from from fEb 500774 Image of Protection operation of the Store of Protection against direct contact when actuated from from fEb 500774 Image of Protection operation of the Store of Protection operation of the Store of Protection of	Temperature compensation			Continuous
betwee devices on against direct contact when actuated from from (EN 50274) Fead and back-of-hand proof Attude Imperand back-of-hand proof Attude Max Attide Max Bated inpulse withstand votage Vine 600 Overvotage category/pollution degree Vine 90 Bated inpulse withstand votage Vine 90 Bated inpulse with stand votage Vine 90 Inpulse with stand votage Vine 90 Inpulse with stand vota	Weight		kg	0.141
Protection against direct contact when actuated from front (EN 50274) Image and back-of-hand proof Altitude m Max. 200 Main conducting paths May 600 Nevroltage category/pollution degree M 1/// 3 Rated insulation voltage Uap VA 600 Attitude Uap VA 600 Rated operational voltage Ua VA 600 Safe isolation to EN 61140 Va 600 600 Safe isolation to EN 61140 Va 600 600 Between auxiliary contacts and main contacts VA 600 600 Between auxiliary contacts and main contacts VA 600 600 Current heat loss (3 conductors) VA 600 600 Lower value of the setting range VA 600 600 Maximum setting VA 600 600 Maximum setting VA 600 600 Maximum setting range VA 600 600 Solid Rate 600	Mechanical shock resistance		g	Sinusoidal
AltidenMax.2000Mair conducting pathsVarp Mage600Overoltage category/pollution degreeVarp Mair Conducting11/3Rated insulation voltageVarp MageVarp 	Degree of Protection			IP20
Main conducting paths Value Value 600 Rate dimpulse withstand voltage I/Inp VAC 600 Overvoltage category/pollution degree I/Inp I/Inp I/Inp Rated insulation voltage U V 90 Rated operational voltage U 90 Inp Rated operational voltage U VAC 90 Safe isolation to EN 61140 U VAC 40 Between auxiliary contacts and main contacts V 40 40 Temperatur compensation residual error > 40 °C V 40 40 Maximum setting V 6205 %/K 40 Terminel capacities V 6205 %/K 40 Maximum setting range V 6 40 Italian auximum setting range V 6 6 Solid Solid Maximum setting 4 4 Italian auximum setting V 6 6 6 6 6 6 6 6 6 6	Protection against direct contact when actuated from front (EN 50274)			Finger and back-of-hand proof
Rated impulse with an uotage Jump Mean VAC Mean 600 Overvoltage category/pollution degree III/3 III/3 Rated operational voltage U ₁ VAC 600 Sated operational voltage VAC 600 600 Sate solation to EN 61140 VAC 700 700 Between auxiliary contacts and main contacts VAC 700 700 Between auxiliary contacts and main contacts VAC 700 700 Between auxiliary contacts and main contacts VAC 700 700 Getween auxiliary contacts and main contacts VAC 700 700 Guerrent heat loss (3 conductors) VAC 700 700 700 Guerrent heat loss (3 conductors) Maximum setting range Maximum setting range Maximum setting range Maximum setting range 700 700 700 700	Altitude		m	Max. 2000
Overvoltage category/pollution degreeImpact of the source of	Main conducting paths			
Rated insulation voltage Ui V 600 Rated operational voltage Ue VAC 600 Safe isolation to EN 61140 V Few Few Between auxiliary contacts and main contacts VAC 400 Temperatur compensation residual error > 40 °C VAC 400 Current heat loss (3 conductors) VAC 500 Awxinum setting range VAC 700 Solid Maxinum setting Maxinum setting Flexible with ferrule Maxinum setting Maxinum setting Solid or stranded Maxinum setting Maxinum setting	Rated impulse withstand voltage	U _{imp}	V AC	6000
Rated operational voltage Ue VAC Point Safe isolation to EN 61140 Main Main Main Between auxiliary contacts and main contacts Main VAC 440 Between main circuits VAC Main Sold Temperatur compensation residual error > 40 °C VAC Sold Sold Current heat loss (3 conductors) Main Main Sold Interninal capacities Main Main Sold Solid Solid Main Main Sold Interninel capacities Main Main Sold Sold Solid or stranded Main Main Sold Sold	Overvoltage category/pollution degree			III/3
Safe isolation to EN 61140MBetween auxiliary contacts and main contactsV AC40Between main circuitsV AC40Temperatur compensation residual error > 40 °CV AC505 %KCurrent heat loss (3 conductors)V34Auxinum setting rangeM34Maxinum settingN6Solidmm ² 11 (1 f) 2(1 f f)Solid or strandedmm ² 12 (1 f) 2(1 f f)Solid or strandedMB88	Rated insulation voltage	Ui	V	690
Between auxiliary contacts and main contactsV AC40Between main circuitsV AC40Temperatur compensation residual error > 40 °C5025 %/KCurrent heat loss (3 conductors)V MC3.4Auxinum settingM6Maxinum settingM6Terminal capacitiesmm ² x11 - 6)SolidRm ² x11 - 6)Flexible with ferruleMaxinumMMCSolid or strandedMMCS0.8	Rated operational voltage	U _e	V AC	690
Between main circuitsV AC40Temperatur compensation residual error > 40 °C65.25 %/KCurrent heat loss (3 conductors)V M6Lower value of the setting rangeV M3.4Maximum settingMMTerminal capacitiesmm²mm²Solidmm²x(1 - 6) x(1 - 6)Fexible with ferruleMAWGSolid or strandedAWG8.8	Safe isolation to EN 61140			
Temperatur compensation residual error > 40 °C Perform 25%/K Curren theat loss (3 conductors) Perform 26%/K Lower value of the setting range O V 3.4 Maximum setting O V 6 Terminal capacities Perform Perform Perform Solid Solid or stranded Maximum Solid or stranded Solid or stranded	Between auxiliary contacts and main contacts		V AC	440
Current heat loss (3 conductors) Mode Lower value of the setting range W 3.4 Maximum setting W 6 Terminal capacities mm ² 1 Solid mm ² 1×(1-6) ×(1-6) Flexible with ferrule mm ² 1×(1-4) ×(1-4) Solid or stranded AWG 18-8	Between main circuits		V AC	440
Lower value of the setting rangeW3.4Maximum settingW6Terminal capacitiesmm²mm²Solidmm²1x(1-6) x(1-6)Flexible with ferrulemm²1x(1-2) x(1-4)Solid or strandedMG²1x(1-4) x(1-4)	Temperatur compensation residual error > 40 °C			≦ 0.25 %/K
Maximum setting W 6 Terminal capacities mm ² mm ² Solid mm ² 1 × (1 - 6) 2 × (1 - 6) Flexible with ferrule mm ² 1 × (1 - 4) 2 × (1 - 4) Solid or stranded AWG 18 - 8	Current heat loss (3 conductors)			
Terminal capacities mm ² Solid mm ² Flexible with ferrule mm ² Solid or stranded AWG	Lower value of the setting range		W	3.4
Solid mm ² 1 × (1 - 6) 2 × (1 - 6) Flexible with ferrule mm ² 1 × (1 - 4) 2 × (1 - 4) Solid or stranded AWG 18 - 8	Maximum setting		W	6
Flexible with ferrule mm² 1 x (1 - 4) 2 x (1 - 4) Solid or stranded AWG 18 - 8	Terminal capacities		mm ²	
Solid or stranded AWG 18 - 8	Solid		mm ²	
	Flexible with ferrule		mm ²	
Terminal screw M4	Solid or stranded		AWG	18 - 8
	Terminal screw			M4

Separate mounting

BH 0 0 HB

2

9000

0

04/05/2022

Tightening torque		Nm	1.8
Stripping length		mm	10
Tools			
Pozidriv screwdriver		Size	2
Standard screwdriver		mm	1x6
Auxiliary and control circuits			
Rated impulse withstand voltage	U _{imp}	V	4000
Overvoltage category/pollution degree			111/3
Terminal capacities		mm ²	
Solid		mm ²	1 × (0.75 - 4) 2 × (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	Ui	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	l _e	А	
AC-15			
Make contact			
120 V	le	A	1.5
220 V 230 V 240 V	l _e	А	1.5
380 V 400 V 415 V	le	А	0.5
500 V	le	А	0.5
Break contact			
120 V	l _e	А	1.5
220 V 230 V 240 V	l _e	A	1.5
380 V 400 V 415 V	le	A	0.9
500 V	l _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	le	A	0.9
60 V	l _e	A	0.75
110 V	l _e	A	0.4
220 V	l _e	A	0.2
Short-circuit rating without welding	5		
max. fuse		A gG/gL	6
Notes		0.70-	

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	
600 V High Fault		

SCCR (fuse)	kA	100
max. Fuse	А	60 Class J

Design verification as per IEC/EN 61439

Technical data for design verification			
Rated operational current for specified heat dissipation	I _n	А	32
Heat dissipation per pole, current-dependent	P _{vid}	W	2
Equipment heat dissipation, current-dependent	P _{vid}	W	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	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

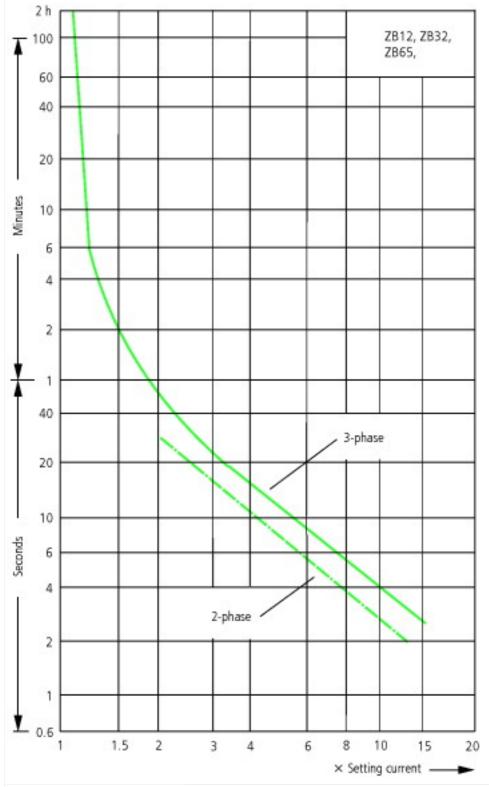
Low-voltage industrial components (EG000017) / Thermal overload relay (EC000106)

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	А	24 - 32
Max. rated operation voltage Ue	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

Approvals

Product Standards	IEC/EN 60947-4-1; UL 60947-4-1; CSA - C22.2 No. 60947-4-1-14; 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: IP20, UL/CSA Type: -

Characteristics



These tripping characteristics are mean values of the spreads at 20 °C ambient air temperature in a cold state. Tripping time depends on response current.

When the devices are at operational temperature the tripping time of the overload relay falls to approx. 25 % of the read off value.

- 1: Minimum level, 3-phase
- 2: Maximum level, 3-phase
- 3: Minimum marker, 2-phase
- 4: Highest marker, 2-phase

Dimensions

