Thermistor overload relay for machine protection, multi-function, 24-240V50/60HZ/DC



Part no. EMT6-DBK Catalog No. 066168 Alternate Catalog EMT6-DBK

No.

**EL-Nummer** 4131788

(Norway)

# **Delivery program**

Product range			EMT6 thermistor overload relay for machine protection
Description			Multifunction device
Function			Selector switch with/without manual reset Trip with short-circuit in the sensor cable Zero-voltage safe For manual or remote resetting Test button Short-circuit recognition and zero-voltage safety can be deactivated Mains and fault LED display
Rated operational current			
AC-15			
240 V	I <sub>e</sub>	Α	3
AC14			
300 V	I <sub>e</sub>	Α	3
400 V	I <sub>e</sub>	Α	3
			Value applies starting with release 001.
conventional thermal current	I <sub>th</sub>	Α	6
Rated control voltage	$U_s$	V	24 - 240 V 50 - 400 Hz 24 - 240 V DC

#### Notes



BVS 14 ATEX F003 X

II(2)G [Ex e] [Ex d] [Ex px]

II(2)D [Ex t] [Ex p]

Observe manual MN03407006Z-DE/EN.

Can be snap fitted on a top-hat rail to IEC/EN 60715.

### **Technical data**

## General

delleral			
Standards			IEC/EN 60947, VDE 0660, EN 55011
Climatic proofing			Damp heat, constant, to IEC 60068-2-78; Damp heat, cyclic, to IEC 60068-2-30
Ambient temperature			
Open	0	°C	-25 - +60
Enclosed	0	°C	- 25 - 45
Storage	0	°C	- 45 - 85
Mounting position			As required
Weight	k	kg	0.15
Mechanical shock resistance half-sinusoidal shock 10 ms to IEC 60068-2-27	g	9	10
Degree of Protection			IP20
Protection against direct contact when actuated from front (EN 50274)			Finger and back-of-hand proof
Safe isolation to EN 61140			
between the contacts	V	V AC	250

between contacts and power supply		V AC	250
Auxiliary and control circuits			
Rated impulse withstand voltage	$U_{imp}$	V AC	4000
Rated impulse withstand voltage	U <sub>imp</sub>	V AC	6000
	·		Value applies starting with release 001.
Overvoltage category/pollution degree			III/3
Terminal capacities Auxiliary and control circuits			
Solid		mm <sup>2</sup>	1 x (0.5 - 2.5)
			2 x (0.5 - 1.5)
Flexible with ferrule		mm <sup>2</sup>	1 x (0.5 - 2.5) 2 x (0.5 - 1.5)
Solid or stranded		AWG	20 - 14
Terminal screw			M3.5
Tightening torque		Nm	1.2
Tools			-
Pozidriv screwdriver		Size	2
Standard screwdriver		mm	1x6
Auxiliary power circuit			
Rated insulation voltage	Ui	V	400
			Value applies starting with release 001.
Rated operational current	I <sub>e</sub>	A	
AC14	-		
Make contact			
300 V	l <sub>e</sub>	A	3
380 V 400 V 415 V	I <sub>e</sub>	A	3
300 0 400 0 413 0	'e	^	
Durali contest			Value applies starting with release 001.
Break contact 300 V		Λ	2
	l <sub>e</sub>	A	3
380 V 400 V 415 V	l <sub>e</sub>	Α	3
			Value applies starting with release 001.
AC-15			
Make contact			
220 V 230 V 240 V	l <sub>e</sub>	Α	3
300 V	le	Α	1
380 V 400 V 415 V	I <sub>e</sub>	Α	1
			Value applies starting with release 001.
Break contact			
220 V 230 V 240 V	I <sub>e</sub>	Α	3
300 V	I <sub>e</sub>	Α	1
380 V 400 V 415 V	I <sub>e</sub>	Α	1
			Value applies starting with release 001.
Max. short-circuit protective device			
Fuse	gG/gL	Α	6
Control circuit			
Rated insulation voltage	Ui	V	240
Rated operational voltage	U <sub>e</sub>	V	240
Pick-up and drop-out values		x U <sub>e</sub>	0.85 - 1.1
Power consumption			
AC		VA	3.5
DC		W	2
Trip at approx.		Ω	3600
Recovery at approx.		Ω	1600
Sensor circuit			Sensor circuit parameters at U <sub>S</sub> and +20 °C: max. Cable length to sensor 250m (not insulated) Total cold resistance $\sum$ R <sub>K</sub> $\leq$ 1500 $\Omega$ - R <sub>T1-T2</sub> (T1, T2 shorted): I <sub>T1-T2</sub> = 1.9 mA - R <sub>T1-T2</sub> (4 k $\Omega$ ): U <sub>T1-T2</sub> = max. 3 V DC, I <sub>T1-T2</sub> = max. 0.8 mA

		- R <sub>T1-T2</sub> (T1, T2 open): U <sub>T1-T2</sub> = 5.1 V DC typ. (5.5 V DC max.)
Electromagnetic compatibility (EMC)		
Electrostatic discharge (ESD)		
applied standard		IEC/EN 61000-4-2
Air discharge	kV	8
Contact discharge	kV	6
Electromagnetic fields (RFI)		
applied standard		IEC/EN 61000-4-3
	V/m	80 - 1000 MHz: 10 1.4 - 2 GHz: 3 2.0 - 2.7 GHz: 1
Radio interference suppression		EN 55011 Class B
Burst	kV	Supply cables: 2 Signal cables: 1 according to IEC/EN 61000-4-4
power pulses (Surge)		2 kV (symmetrical) 4 kV (asymmetrical) according to IEC/EN 61000-4-5
Immunity to line-conducted interference to (IEC/EN 61000-4-6)	V	10

# Design verification as per IEC/EN 61439

Technical data for design verification			
Rated operational current for specified heat dissipation	In	Α	0
Heat dissipation per pole, current-dependent	P <sub>vid</sub>	W	0
Equipment heat dissipation, current-dependent	P <sub>vid</sub>	W	0
Static heat dissipation, non-current-dependent	P <sub>vs</sub>	W	0.8
Heat dissipation capacity	P <sub>diss</sub>	W	0
Operating ambient temperature min.		°C	-25
Operating ambient temperature max.		°C	60

#### **Technical data ETIM 8.0**

Relays (EG000019) / Temperature monitoring relay (EC001446)

Electric engineering, automation, process control engineering / Low-voltage switch technology / Monitoring equipment (low-voltage switch technology) / Temperature monitoring equipment (ecl@ss10.0.1-27-37-18-10 [AKF104014])

Rated control supply voltage Us at AC 50HZ Rated control supply voltage Us at AC 60HZ Rated control supply voltage Us at AC 60HZ Rated control supply voltage Us at DC V 24 - 240 Voltage type for actuating With detachable clamps Number of measuring circuits I 1 Error registration possible External reset possible Number of contacts as normally closed contact I 1 Number of contacts as normally open contact I 1 Number of contacts as change-over contact I 2 Number of contacts as change-over contact I 3 Number of contacts as contact I 4 Number of contacts as contact I 5 Number of contacts as contact I 6 Number of contacts as contact I 7 Number of contacts as contact I 7 Number of contacts as contact I 9 Number of contacts as contact I 1 Number of contacts as	(constraint in the first term to the first term term to the first term term to the first term term to the first term to the first term term term to the firs			
Rated control supply voltage Us at DC  V 24 - 240  Voltage type for actuating  With detachable clamps  Number of measuring circuits  External reset possible  Number of contacts as normally closed contact  Number of contacts as normally open contact  Number of contacts as change-over contact  Number of contacts as change-over contact  Number of contacts as change over contact  Resistance measuring range  Width  Midth  mm 23  Height  V 24 - 240  AC/DC  No  AC/DC  No  No  1  1  1  1  1  1  1  1  1  1  1  1  1	Type of electric connection			Screw connection
Rated control supply voltage Us at DC  Voltage type for actuating  With detachable clamps  Number of measuring circuits  Error registration possible  External reset possible  Number of contacts as normally closed contact  Number of contacts as normally open contact  Number of contacts as change-over contact  Temperature measuring range  CC  Ohm  750 - 12000  Width  Height  W 24 - 240  AC/DC  AC/DC  No  AC/DC  No  AC/DC  No  No  1  1  1  1  1  1  1  1  1  1  1  1  1	Rated control supply voltage Us at AC 50HZ	V		24 - 240
Voltage type for actuating With detachable clamps Number of measuring circuits  Error registration possible Fixernal reset possible Number of contacts as normally closed contact Number of contacts as normally open contact Number of contacts as normally open contact  Number of contacts as change-over contact  Temperature measuring range  "C" 0-0 Resistance measuring range  "C" 0-0 Width  mm 23 Height  mm 83	Rated control supply voltage Us at AC 60HZ	V		24 - 240
With detachable clamps Number of measuring circuits  Error registration possible External reset possible External reset possible Number of contacts as normally closed contact Number of contacts as normally open contact Number of contacts as change-over contact  Temperature measuring range  C 0 - 0  Resistance measuring range  Width  mm 23  Height  No  No  No  No  1  1  C 0  C 0 - 0  Moderate as a change-over contact  mm 23	Rated control supply voltage Us at DC	V		24 - 240
Number of measuring circuits  Error registration possible External reset possible Number of contacts as normally closed contact Number of contacts as normally open contact Number of contacts as normally open contact Number of contacts as change-over contact  Temperature measuring range  "C" 0-0 Resistance measuring range  Width  Midth	Voltage type for actuating			AC/DC
Error registration possible  External reset possible  Number of contacts as normally closed contact  Number of contacts as normally open contact  Number of contacts as change-over contact  Temperature measuring range  CC 0 - 0  Resistance measuring range  Width  mm 23  Height  Yes  Yes  1  0  1  0  1  1  1  1  1  1  1  1  1	With detachable clamps			No
External reset possible  Number of contacts as normally closed contact  Number of contacts as normally open contact  Number of contacts as change-over contact  Temperature measuring range  C 0-0  Resistance measuring range  Ohm 750-12000  Width  mm 23  Height  Messible  Yes  1  1  0  1  1  1  1  1  1  1  1  1  1	Number of measuring circuits			1
Number of contacts as normally closed contact  Number of contacts as normally open contact  Number of contacts as change-over contact  Number of contacts as change-over contact  C 0-0  Resistance measuring range  Ohm 750 - 12000  Width  mm 23  Height  mm 83	Error registration possible			Yes
Number of contacts as normally open contact  Number of contacts as change-over contact  Temperature measuring range  C 0 - 0  Resistance measuring range  Ohm 750 - 12000  Width  mm 23  Height  mm 83	External reset possible			Yes
Number of contacts as change-over contact  C 0 - 0  Resistance measuring range  Ohm 750 - 12000  Width  mm 23  Height  mm 83	Number of contacts as normally closed contact			1
Temperature measuring range °C 0 - 0 Resistance measuring range 0hm 750 - 12000 Width mm 23 Height mm 83	Number of contacts as normally open contact			1
Resistance measuring range	Number of contacts as change-over contact			0
Width mm 23 Height mm 83	Temperature measuring range	°C	2	0 - 0
Height mm 83	Resistance measuring range	Of	hm	750 - 12000
	Width	mı	m	23
Depth mm 103	Height	mı	m	83
ir iii ii	Depth	mı	m	103