

VARIMETER Temperature Monitoring Relay BA 9094

Translation
of the original instructions



- According to IEC/EN 60255-1
- 2 PT 100 inputs with separate outputs or alternatively common output
- Optionally 1 PT 100 input with 2 separate outputs for 2 different response values
- Separate adjustable response and release values for each input
- Optionally with fixed response and release values
- Broken wire detection in sensor circuit
- Closed circuit operation
- 2 wire connection
- Width 45 mm

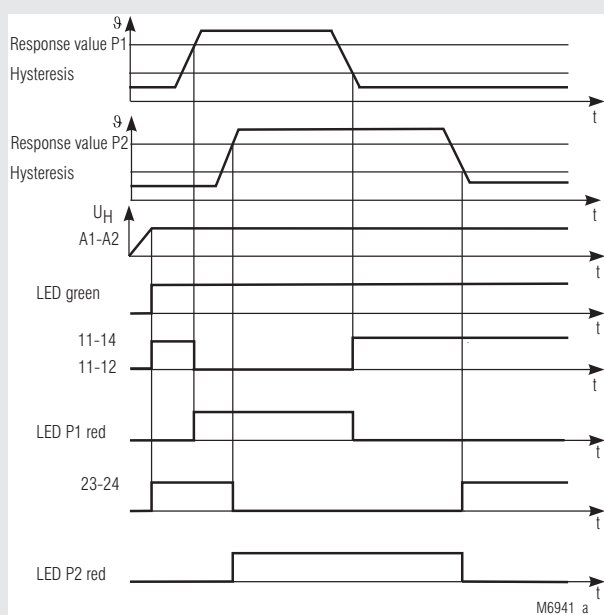
Product Description

The temperature monitoring relay BA 9094 of the VARIMETER series is used for temperature monitoring of motors, ball bearings and rooms. Up to two PT100 sensors can be connected. The response and release values for each input can be set separately.

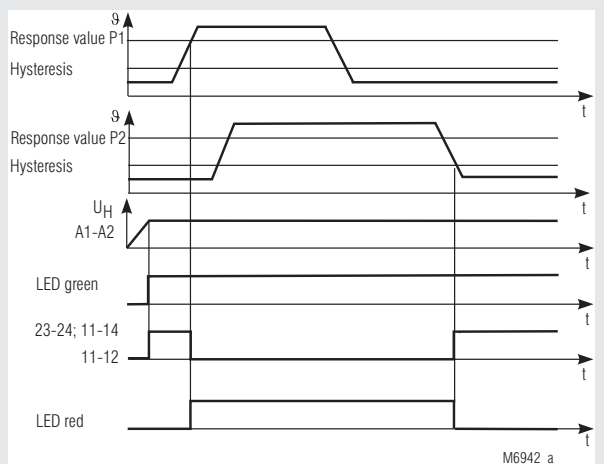
Additional Information About This Topic

- Relay-Workshop No. 19

Function Diagrams



BA 9094.28, BA 9094.28/100



BA 9094.20

Approvals and Markings



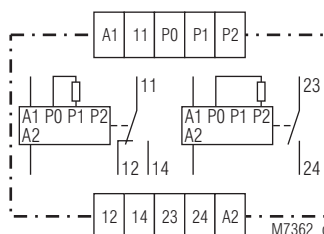
Applications

- Monitoring of temperature e.g. Motors, ball bearings, rooms etc.
- Moisture monitoring, see relay-workshop no. 19

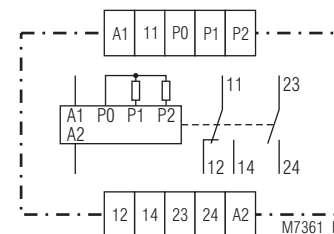
Function

On overtemperature and broken wire the output relay deenergises

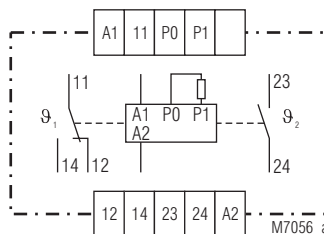
Circuit Diagrams



BA 9094.28



BA 9094.20



BA 9094.28/100

Connection Terminals

Terminal Designation	Signal description
A1, A2	Auxiliary voltage
P0, P1, P2	Connection for resistance thermometer PT100
11, 12, 14	Changeover contact
23, 24	NO contact

Indicator

Green LED:	On, when auxiliary supply connected
Red LED P1, P2:	On, when overtemperature

Notes

An input which is not used must be bridged

Technical Data

Input

Inputs:	2 PT 100 inputs
Setting range	
response value:	20 °C ... 100 °C 60 °C ... 150 °C other ranges on request
Hysteresis:	85 % ... 95 % of response value

Auxiliary Circuit

Auxiliary voltage U_H:	AC 24, 42, 110, 230 V DC 24 V
Voltage range:	0,8 ... 1,1 U _H
Nominal consumption:	3,4 VA
Nominal frequency:	50/60 Hz

Output

Contacts:	
BA 9094.28:	1 changeover contact for P1 1 NO contact for P2
BA 9094.20:	1 changeover, 1 NO contact for P1, P2
Thermal current I_{th}:	
BA 9094.28:	6 A
BA 9094.20:	4 A
Switching capacity	
To AC15:	
BA 9094.28:	5 A / AC 230 V IEC/EN 60947-5-1
BA 9094.20	
NO contact:	2 A / AC 230 V IEC/EN 60947-5-1
NC contact:	1 A / AC 230 V IEC/EN 60947-5-1
Electrical life	IEC/EN 60947-5-1
BA 9094.28:	
At 5 A, AC 230 V cos φ = 1:	> 0,1 x 10 ⁶ switching cycles
BA 9094.20:	
At 1 A, AC 230 V cos φ = 1:	> 0,1 x 10 ⁶ switching cycles
Short-circuit strength	
max. fuse rating:	4 A gG / gL IEC/EN 60947-5-1
Mechanical life:	> 30 x 10 ⁶ switching cycles

General Data

Operating mode:	Continuous operation
Temperature range:	
Operation:	- 20 ... + 60 °C
Storage:	- 25 ... + 70 °C
Altitude:	≤ 2000 m
Clearance and creepage distances	
Rated impulse voltage / pollution degree:	4 kV / 2 IEC 60664-1
EMC	
Electrostatic discharge:	8 kV (air) IEC/EN 61000-4-2
HF irradiation	
80 MHz ... 2.7 GHz:	10 V / m IEC/EN 61000-4-3
Fast transients:	2 kV IEC/EN 61000-4-4
Surge voltages	
Between	
wires for power supply:	1 kV IEC/EN 61000-4-5
Between wire and ground:	2 kV IEC/EN 61000-4-5
HF wire guided:	10 V IEC/EN 61000-4-6
Interference suppressions:	Limit value class B EN 55011

Technical Data

Degree of protection:	
Housing:	IP 40 IEC/EN 60529
Terminals:	IP 20 IEC/EN 60529
Housing:	Thermoplastic with V0 behaviour according to UL subject 94
Vibration resistance:	Amplitude 0,35 mm, frequency 10 ... 55 Hz IEC/EN 60068-2-6 20 / 060 / 04
Climate resistance:	
Terminal designation:	EN 50005
Wire connection:	DIN 46228-1/-2/-3/-4 2 x 2,5 mm ² solid or 2 x 1,5 mm ² stranded wire with sleeve with self-lifting captive Plus-minus terminal screws M3.5 with self-lifting clamping piece IEC/EN 60999-1
Wire fixing:	
Stripping length:	10 mm
Fixing torque:	0.8 Nm
Mounting:	DIN rail IEC/EN 60715
Weight:	320 g

Dimensions

Width x height x depth:	45 x 74 x 132 mm
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Standard Type

BA 9094.28 AC 230 V 50/60 Hz 2 x 20 ... 100°C	
Article number:	0048194
• Output:	1 changeover contact for P1 1 NO contact for P2
• Nominal voltage U _N :	AC 230 V
• Response value:	2 x 20 ... 100°C
• Width:	45 mm

Variants

BA 9094. __ /001:	With fixed response and release value Response value: 135°C ± 2°C other values on request Release value: 125°C ± 2°C other values on request
BA 9094.28/100:	Only 1 PT 100 input with 2 separate outputs for 2 different response values

Ordering example for variants

