



VEO

MONITORING RELAY / TEMPERATURE

V2TF01

Art.Nr.: 2100100

V2TF01P

Art.Nr.: 2100110



- ✓ Temperature monitoring (PTC)
- ✓ Short-circuit monitoring
- ✓ Supply voltage 24-240 V AC/DC
- ✓ 1 normally open contact
- ✓ Width 22,5 mm

Status indication

- ✓ LED U: Supply voltage
- ✓ LED TFailure: Temperature failure



TECHNICAL DATA

SUPPLY CIRCUIT (=MEASURING CIRCUIT)

Terminals	A1-A2	
Supply voltage	24 ... 240 V AC/DC	
Supply voltage tolerance	-15 / +10 %	
Rated frequency	16,6 ... 400 Hz or DC	
Rated frequency tolerance	16,0 ... 420 Hz	
Rated consumption	24 V DC	typ. 0,45 W / 0,55 VA
	230 V AC	typ. 0,5 W / 0,85 VA
Duty-cycle	100 %	
Backup power time	< 60 ms	
Recovery time	> 100 ms	
Drop-out voltage	≥ 5 V	

MEASURING CIRCUIT

Terminals	T1-T2	
Measurand	temperature (PTC)	
Monitoring functions	overtemperature	
Measuring range	-	
Switch-off resistance	≥ 3,6 kΩ	
Switch-on resistance	≤ 1,6 kΩ	
Summing initial resistance	≤ 1,5 kΩ	
Short-circuit monitoring	yes	
	switch-on resistance	≤ 20 Ω



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MEASURAND

Reset		autoreset
No-load voltage	max.	4 V
Sensor current	max.	0,5 mA

TIMING CIRCUIT

Start-up delay	fixed	approx. 50 ms
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STATUS INDICATION

Supply voltage	LED U (green) on	supply voltage applied
Temperature monitor	LED TFailure (red) on	indication of overtemperature

OUTPUT

Terminals		13-14
Kind of output		Relay
Number of contacts	normally open contact	1
Contact material		AgNi
Rated voltage (IEC 60947-1)		250V
Maximum switching voltage		400V AC
Minimum switching voltage / switching current		12 V / 10 mA
Rated current (IEC 60947-5-1)	AC-1	8 A / 250 V
	AC-15	1,5 A / 240 V (B300)
	DC-12	8 A / 24 V
Endurance	mechanical	30 x 10 ⁶ switching cycles
	electrical (AC-1)	100 x 10 ³ switching cycles
Rated frequency of operation	with load	6/min
	without load	1200/min
Fuse rating		8 A fast acting

ACCURACY

Base accuracy		± 10 %
Temperature influence		< 0,05 % / °C

ENVIRONMENTAL CONDITIONS

Ambient temperature	operation	-25 ... +60°C
	storage	-40 ... +70°C



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ENVIRONMENTAL CONDITIONS

Relative humidity		5 ... 95 %
Vibration	EN 60947-1	2 ... 13,2 Hz: 1 mm; 13,2 ... 100 Hz: 7 m/s ²
Shock	EN 60947-1	150 m/s ² 11 ms

GENERAL DATA

Dimensions	W × H × D	22,5 x 67 x 76 mm
Mounting		DIN rail (EN60715)
Mounting position		any
Housing material		PA 66, self-extinguishing plastic, class V-0
Degree of protection	housing	IP40
	terminals	IP20
Electrical connection	V2TF01	Screw terminal
Wire size	flexible with wire end ferrule	0,5 ... 2,5 mm ² (20 AWG ... 13 AWG)
	flexible without wire end ferrule	0,5 ... 4 mm ² (20 AWG ... 12 AWG)
	rigid	0,5 ... 4 mm ² (20 AWG ... 12 AWG)
Stripping length		8 mm
Tightening torque		max. 1Nm
Electrical connection	V2TF01P	Push-in terminal
Wire size	flexible with wire end ferrule	0,25 ... 1,5 mm ² (24 AWG ... 16 AWG)
	flexible with plastic ferrule	0,25 ... 0,75 mm ² (24 AWG ... 19 AWG)
	flexible without wire end ferrule	0,2 ... 1,5 mm ² (24 AWG ... 16 AWG)
	rigid	0,2 ... 1,5 mm ² (24 AWG ... 16 AWG)
Stripping length		8 mm
MTTF		-
Weight		70 g

ISOLATION DATA

Pollution degree (IEC 60947-5-1)		2
Overvoltage category (IEC 60947-5-1)		III
Rated insulation voltage (IEC 60947-1)	supply circuit / output circuit	300 V
	supply circuit / thermistor circuit	300 V
	thermistor circuit / output circuit	300 V



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ISOLATION DATA

Rated impulse withstanding voltage
(IEC 60947-1)

supply circuit /
output circuit 6 kV

supply circuit /
thermistor circuit 4 kV

thermistor circuit /
output circuit 6 kV

Insulation test voltage
(IEC 60947-1)

supply circuit /
output circuit 3000 V

supply circuit /
thermistor circuit 1500 V

thermistor circuit /
output circuit 3000 V

Degree of protection

supply circuit /
output circuit protective separation

supply circuit /
thermistor circuit basic insulation

thermistor circuit /
output circuit protective separation

STANDARDS

Product standard

IEC 60947-5-1

Interference immunity

IEC 61000-6-2

Interference emission

IEC 61000-6-4

Approvals



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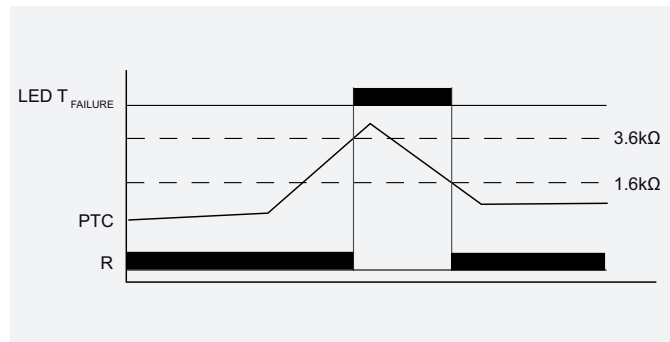
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FUNCTIONS

Temperature monitoring

If the supply voltage U is applied and the cumulative resistance of the PTC-circuit is less than $3.6\text{k}\Omega$ (standard temperature of the motor), the output relay R switches into on-position. When the cumulative resistance of the PTC-circuit exceeds $3.6\text{k}\Omega$, the output relay R switches into off-position. The output relay R switches into on-position again after the cumulative resistance falls below $1.6\text{k}\Omega$.





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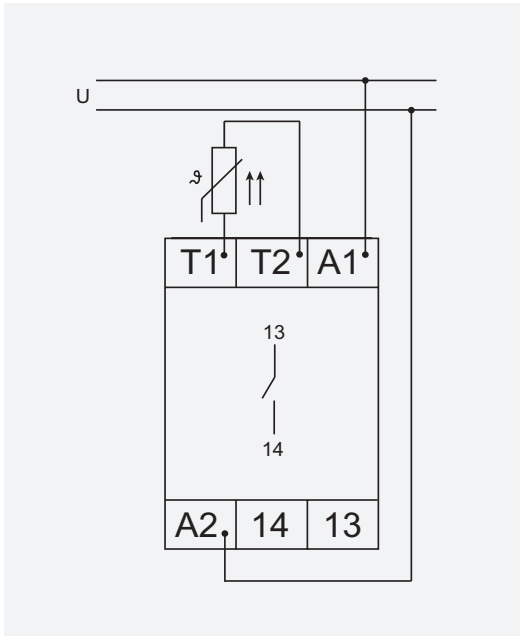
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CONNECTIONS





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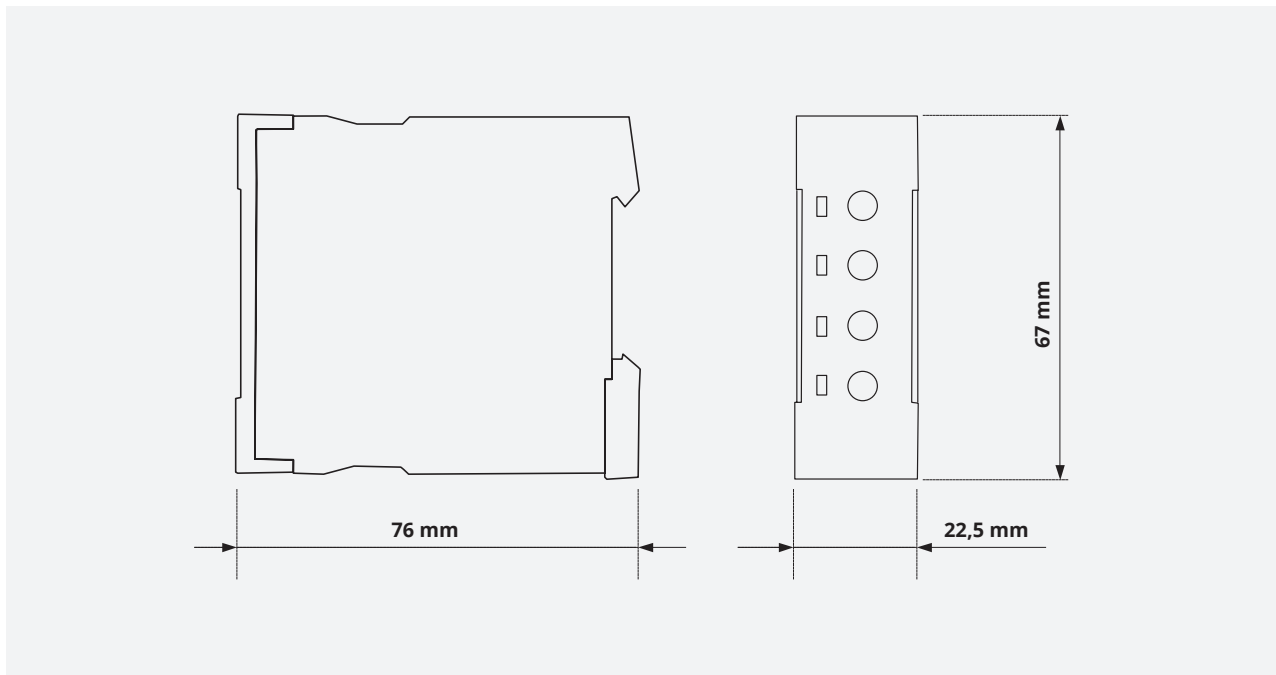
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DIMENSIONS



CONTACT



TELE Haase Steuergeräte Ges.m.b.H.

Vorarlberger Allee 38
1230 Vienna
Austria

CALL US



+43 / 1 / 614 74 - 0

ONLINE SUPPORT



info@tele-online.com