

Sensors HRH

Sensors HRH				
Type	Code No.	Description	Weight [g]	Packaging [pcs]
Sensor SHR-1-M	002471205	Brass sensor without cable, max. wire profile 2,5mm ² , op. temp.(-25 to...+60°C)	9,7	1
Sensor SHR-1-N	002471709	Stainless steel sensor without cable, max. wire profile 2,5mm ² , op. temp.(-25 to...+60°C)	9,7	1
Sensor SHR-2	002471203	Stainless steel sensor without cable, max. wire profile 2,5mm ² - IP68, op. temp.(+1...+80°C)	48,6	1
Sensor SHR-3	002471230	Stainless steel sensor with 3m cable PVSC 2x0,75mm ² - IP67, op. temp. (< 95°C)	239	1
Sensor HRH-10	002471703	Sensor with 10m cable	30	1
Sensor HRH-15	002471704	Sensor with 15m cable	35	1
Sensor HRH-20	002471705	Sensor with 20m cable	40	1
Sensor HRH-30	002471706	Sensor with 30m cable	48	1
Sensor HRH-40	002471707	Sensor with 40m cable	62	1

Thermostat relay TER-3 (A, B, C)



Advantages

- 1-module, DIN rail mounting
- Red LED indicates status of output, green LED indicates energization of the device
- Single thermostat for temperature monitoring and regulation in range of -30..+70 °C in six ranges
- Can be used for monitoring temperature e.g. in switchboards, heating systems, cooling systems, liquids, radiators, motors, devices, open spaces etc.
- Function of short-circuit or sensor disconnection monitoring
- Possibility to set function "heating" / "cooling" (setting is done by DIP switch)
- Adjustable hysteresis (sensitivity) , switching by potentiometer in range 0.5 -5 K
- Universal supply AC/DC 24V -240 V, not galvanically separated
- Output contact: 1x NO 16 A /250 V AC1
- It is possible to place the sensor directly on terminal block – for temperature monitoring in a switchboard or in its surroundings
- Choice of external thermo sensors with double insulation in standard lengths 3, 6 and 12 m

Thermostat relay TER-3 (A, B, C)				
Type	temp. range or sensor length	Code No.	Weight [g]	Packaging [pcs]
TER-3A	-30...+10 °C	002471801	73	1/10
TER-3B	0...+40 °C	002471813	73	1/10
TER-3C	+30...+70 °C	002471802	73	1/10

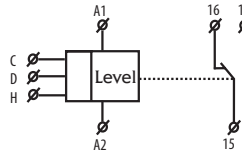
*Note: Order sensor TZ from the table below

Level switch HRH-5

Technical data

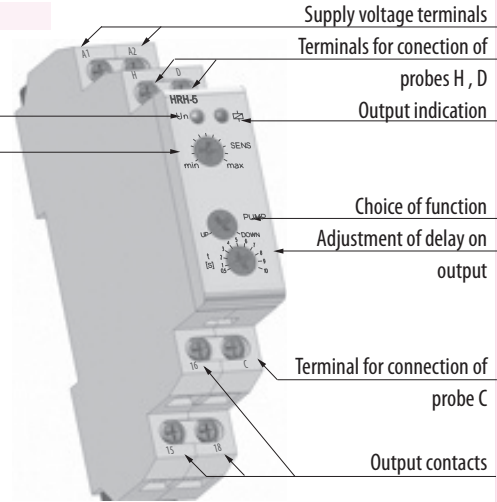
Technical data	
Functions:	2
Supply terminals:	A1 - A2
Supply voltage:	24... 240 V AC/ DC
Input:	max. 2 VA
Tolerance of supply voltage:	-15 %; +10 %
Measuring circuit	
Sensitivity (input resistance):	adjustable in range 5 kΩ -100 kΩ
Voltage in electrodes:	max. 3.5 V AC
Current in probes:	<0.1 mA AC
Time response:	max. 400 ms
Max. capacity of probe cable:	max. 400 ms
Time delay (t):	800 nF (sensitivity 5kΩ), 100 nF (sensitivity 100 kΩ)
Time delay after switching on (t1):	adjustable, 0.5 -10 sec
Accuracy	1.5 sec
Accuracy in setting (mechanical):	± 5 %
Output	
Number of contacts:	1x changeover (AgNi)
Rated current:	8 A / AC1
Switched output:	2500 VA, 240 W
Switched voltage:	250 V AC1 / 24 V DC
Min. switched output DC:	500 mW
Mechanical life (AC1):	1x10 ⁷
Electrical life:	1x10 ⁵
Other data	
Operational temperature:	-20.. +55 °C
Storing temperature:	-30.. +70 °C
Electrical strength:	3.75 kV (supply - sensors)
Operational position:	any
Mounting:	DIN rail EN 60715
Protection degree:	IP 40 from front panel
Overvoltage category:	III.
Pollution degree:	2
Profile of connecting wires (mm ²)	max.1x 4, max.2x2.5/ with sleeve max. 1x2.5, 2x1.5
Dimensions:	90 x 17.6 x 64 mm
Weight:	72 g
Applicable standards:	EN 60255-6, EN 61010-1

Symbol



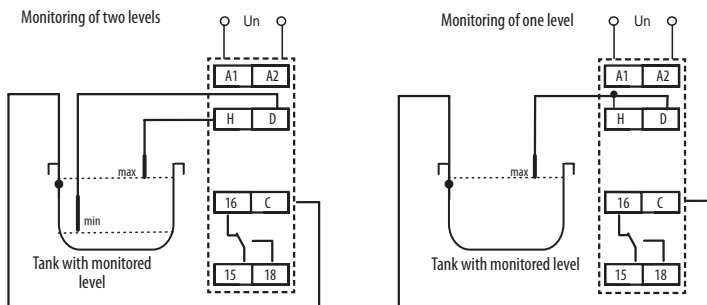
Description

Indication of supply voltage
Choice of function

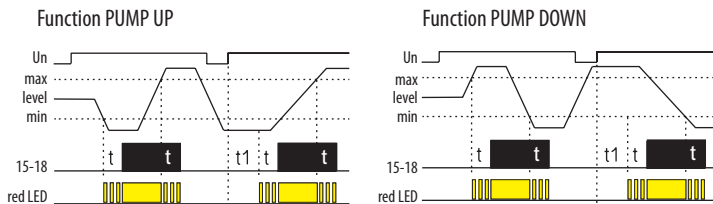


HRH-5

Connection



Functions

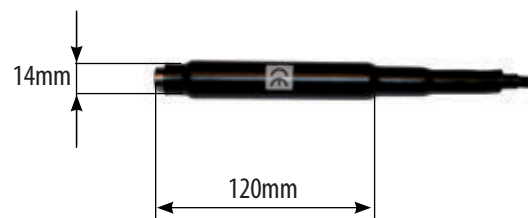


Relay is designated for monitoring of levels of conductive liquids with possibility of functions: PUMP UP or PUMP DOWN. To prevent polarization and liquid electrolysis of liquid, and undesirable oxidation of measuring probes, alternating current is used. For measuring use three measuring probes: H- upper level, D- lower level, C - common probe. In case you use a tank made of a conductive material, you can use it as probe C. In case you require monitoring of one level only, it is necessary to connect inputs H and D and connect them to one probe - in this case sensitivity is lowered by half (2.5... 50kΩ). Probe C can be connected with a protective wire of supply system (PE). To prevent undesirable switching out output contacts by various influences (sediment on probes, humidity...) it is possible to set sensitivity of the device according to conductivity of monitored liquid (corresponding to "resistance" of liquid) range 5 up to 100...kΩ. To reduce influences of undesirable switching of output contacts by liquid gurgles in tanks, it is possible to set delay of output reaction 0,5 - 10s.

Technical data - Measuring probes HRH

Technical data - Measuring probes HRH	
	HRH-5-measuring probes
Cables	10m, 15m, 20m, 30m, 40m
Max. cable size	1,5 mm ²
Insulation voltage Ui	750 V
Fluids	Conductible, unaggressive *

* Special probes for aggressive fluids

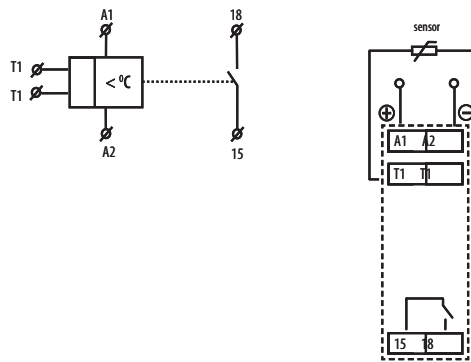


Technical data

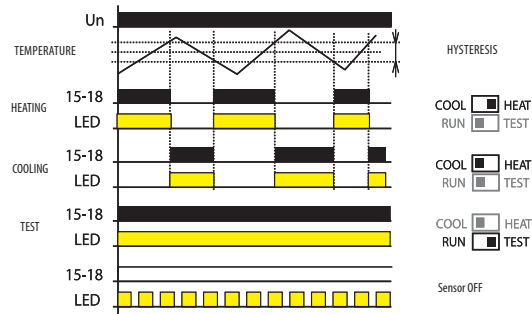
Thermostat relay TER-3 (A, B, C)

Technical data	
	TER-3 (A, B, C)
Function	single level
Supply	A1-A2
Universal supply	AC/DC 24-240 galvanically unseparated
Consumption	2 VA
Supply voltage tolerance	-15% - +10%
Measuring circuit	
Measuring terminals	T1 - T1
Temperature range	TER-3A TER-3B TER-3C -30...+10 °C 0...+40 °C -30...+70 °C
Hysteresis	adjustable in range 0.5...5K
Sensor	external, thermistor NTC
Sensor fault indication	flashing red LED
Setting accuracy - mechanical	5%
Switching difference	0,5°C
Temperature coefficient	< 0.1 % / °C
Output	
Number of contacts	1 x changeover (AgNi)
Rated current	16 A / AC1, 10A/24 V DC
Breaking capacity	4000 VA / AC1, 300W / DC
Switching voltage	250V AC1/ 24V DC
Min. breaking capacity DC	500 mW
Output indication	red LED
Mechanical life	3x10 ⁷
Electrical life	0,7x10 ⁵
Controlling	
Operating temperature	-20...+55 °C
Storage temperature	-30...+70 °C
Electrical strength	4 kV
Operating position	any
Mounting	DIN rail EN 60715
Protection degree	IP 40 from front panel
Overvoltage category	III.
Pollution degree	2
Max. cable size	2,5 mm ²
Dimensions	90 x 17,6 x 64 mm
Standards	EN 60730-2-9, EN 61010-1

Connection



Functions



TER-3 It is a single but practical thermostat with a separated sensor for monitoring temperature. The device is placed in a switchboard and an external sensor senses temperature of required space, object or liquid. Supply is not galvanically separated from the sensor. The sensor is double insulated. Maximal length of a delivered sensor is 12m. device has in-built indication of sensor damage, which means that in case of short-circuit or disconnection red LED flashes. Thanks to adjustable hysteresis, it is advantageous to regulate width of the range and thus define sensitivity of load switching. Sensed temperature is decreased by set hysteresis. When installing it is necessary to keep in mind that hysteresis is increased by temperature gradient between sensor's jacket and thermistor.

Description

