

THERMOMETER WITH SWITCH CONTACTS DKR 250



Description:

Available in two options: maximal and minimal. Thermometer has two main parts head and stem. Under the removable cap on the back side, screw clamps 1 and 2 are located. A protective clamp is attached to the stem hexagon part. Temperature sensor is attached to the end of the thermowell. In the front screen is installed a regulation knob.

Adjustable pointer of maximal temperature is located to the right from contact pointer.

Adjustable pointer of minimal temperature is located to the left from contact pointer.

Applications:

DKR thermometer is designed to measure temperature as a plant thermometer and to signal when „desired temperature“ is reached. Thermowell has to be used when DKR is in liquid or in humid environment.

The maximum DKR thermometer is designed to indicate the maximum temperature

The minimum DKR thermometer is designed to indicate the minimum temperature.

Thermometer DKR must not be used as a safety element.

Installation:

Position of DKR is optional.

Installation has to be done according ČSN 33 2180 and connection to the electric circuit according to ČSN 34 0350 ed. 2 with a flat power cable 2x 0,5 mm². Tighten the clamp screws 1 and 2 with torque force no more than 0,4 Nm.

Connect safety clamp with safety power cable to safety power source.

Only specially trained person with qualification of § 6 Vyhlášky č.50/1978 Sb. (Czech law) can perform DKR installation to power source.

Head should be placed in an environment according to ČSN 33 2000-1 ed.2, Attachment NM, Table 32-NM1 with tolerated bias according to ČSN EN 60947-1 ed.4

- temperature from -5°C to +40°C
- relative humidity up to 50% (at lower temperatures may be higher, eg 90% at 20 °C)
- altitude up to 2000 m
- degree of pollution 3
- occurrence of solid objects AE1
- electromagnetic, electrostatic or ionizing effects of AM1
- intensity of sunshine AN11

Stem can be placed accordingly:

- freely
- by inserting into the sliding threaded neck screwed in the device
- by inserting into the thermowell socket screwed in the device

Immersion of thermometer:

- for measured range from -30 °C to +50 °C and 0 °C to +350 °C minimum immersion of 80 mm
- for other range minimum immersion of 60 mm

Thermowell has to be used in these cases:

- in measured place is static or dynamic pressure
- in measured place is harsh or aggressive environment not suitable for stem alone

Seal the thermowell once installed in device with flat ring 20x24 (20x26). Material choose according to use.

Technical Data

Scale division	Scale range	Measuring range	Stem length [mm]			
			ø 8 mm [stainless steel (AKVS)]			
			100	160	250	400
1 °C	-30 to +50 °C	-20 to +40 °C	x	x	x	x
1 °C	0 to 120 °C	+20 to +100 °C	x	x	x	x
2 °C	0 to 200 °C	+20 to +180 °C	x	x	x	x
5 °C	0 to 350 °C	+50 to +300 °C	x	x	x	x

Basic error of the thermometer	±2,5% of the range scale
Weight	approx. 440g
Protection	IP 20
Operating voltage	250V
Minimum working voltage	24V
Frequency	50Hz
Operating current	50mA
Connection	recommended to use flat cords H03VH-H 2x0,5 (ČSN EN 5052-2-71 or ČSN EN 5052-2-11)
Category of use	ohmic load, auxiliary relay
Lifetime	10 000 operating cycles

DKR thermometer meets these technical standards: EN 60947-5-1 ed.2 (35 4101), EN 60947-1 (35 4101), ČSN EN 60529 (33 0330), ČSN 33 0360 ed.2, ČSN 33 2000-1 ed.2.

Function description and commissioning:

Thermometer DKR 250, maximal version
Adjustable pointer of maximal temperature is located to the right from contact pointer. When temperature raises, contact pointer moves closer to adjustable pointer. When switching temperature is reached, contacts are connected.

Thermometer DKR 250, minimal version
Adjustable pointer of minimal temperature is located to the left from contact pointer. When temperature lowers, contact pointer moves closer to adjustable pointer. When switching temperature is reached, contacts are connected.

Set the desired switching (signalling) temperature manually by adjustable indicator using a suitable screwdriver.

Notice:

With the minimum DKR thermometer, set the pointer to the lower temperature limit (-30 ° C, 0 ° C) before the measured temperature drops below the set start-up temperature (finished work, device turned off, etc.).

Maintenance instructions:

If required inspect state of DKR thermometer, contacts and power cables. If the thermometer is damaged or contacts are wear off, then disconnect

the thermometer from power and do not use it any more.

Storage conditions:

Thermometers must be stored in a dry room with a maximum humidity of 70% and temperature from 0 ° C to 30 ° C, without sudden temperature changes. The storage room must be free of harmful gases. Handle it with extra caution, no shocks at all.

Disposal:

Dispose it accordingly: Find recycle service to deal with it.

Possible minor faults and their fix:

Minimum DKR thermometer with a long-term drop in the temperature below the set temperature, may deteriorate or even ruin the thermometer.

All DKR thermometer defects are removed exclusively by the manufacturer.

Warranty:

Assuming that the product is placed, plugged and used in accordance with the instructions found in the user manual, the manufacturer provides a warranty according to the law, unless otherwise agreed.

The manufacturer will refuse warranty service if the device has been damaged:

- during transport and storage by the client, or his/her customers
- when installing or disassembling to the client's equipment, or his/her customers
- when improper handling and installation to a device other than that specified in the instruction manual
- if the DKR has been exposed to an environment other than that specified in the manual

Warranty and post-warranty repairs

Warranty and post-warranty repairs are provided by the manufacturer. Pack and ship the faulty product to:

APATOR METRA s.r.o.

Havlíčková 919/24
787 01 Šumperk
Czech Republic

Tel.: 583 718 263
Fax: 583 718 150
E-mail: prodej@metra-su.cz
www: <http://www.metra-su.cz>