domat

MEMBER OF CEZ ESCO

RPTF   Pendulum room temperature sensor - passive

RPTF1   RPTF2

Summary

The RPTF1 and RPTF2 sensors are analogue room temperature sensors with passive output. It is used for temperature measuring in larger rooms, production halls, etc. Due to the measuring method applied with the pendulum room sensor in combination with its positioning within the room, excellent and room-representative measuring results are achieved. RPTF2 the pendulum room sensor (globe thermometer) determines the effective active portion of radiation or the radiant heat at the measured location.

Application

- **HVAC systems – temperature measuring and control in rooms, stores, halls etc.**
- **monitoring and recording of room temperature in large interiors**

Function

The sensor uses a sensing element, the signal of which is available at the screw terminals. The default sensor type is Pt1000, for the other sensor types see table below.

The units are intended for operating in a normal and chemically non-aggressive environment. They do not need any servicing or maintenance and shall be mounted so as the cable gland faces the floor, and the measuring tube/ball is hanging in the room.

Technical data

Measuring range	**RPTF1** -50...+90 °C
	RPTF2 -30...+80 °C
Load	≥100 MΩ, at 20 °C (500 V DC)
Accuracy	see table below
Recommended measuring current	ca. 1 mA
RPTF1 - tube	stainless steel, 1.4571, V4A, $\varnothing$ 15 mm, nominal length NL=100 mm

RPTF2 - globe	plastic, black colour, ∅ 50 mm
Cable	PVC, LiYY, 2x0.25 mm², length 1.5 m, other lengths (3 m, 6 m etc.) on demand
Dimensions	see below
Ambient humidity	max. 95 % r.H.
Protection class	III (according to EN 60730)
Protection	IP 65 (according to EN 60529)

Sensor types

Type	Ordering	Accuracy
Pt100	on request	DIN EN 60751 class B
Pt1000	**default sensor type**	**DIN EN 60751 class B**
Ni1000-6180 (Sauter)	on request	DIN EN 43760 class B
Ni1000-5000 (L&G)	on request	
NTC 1,8 kOhm	on request	DIN EN 44070

When designing sensor cabling, please note that the cable resistance will cause measuring error. For a 50 m cable and a Pt1000 sensor the error is as follows:
wires 0.50 mm2 ... measuring error 0.90 K
wires 0.75 mm2 ... measuring error 0.60 K
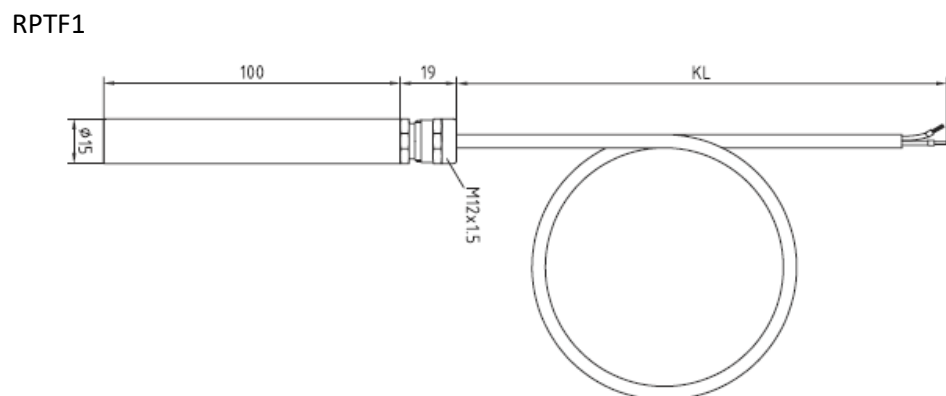wires 1.00 mm2 ... measuring error 0.44 K.

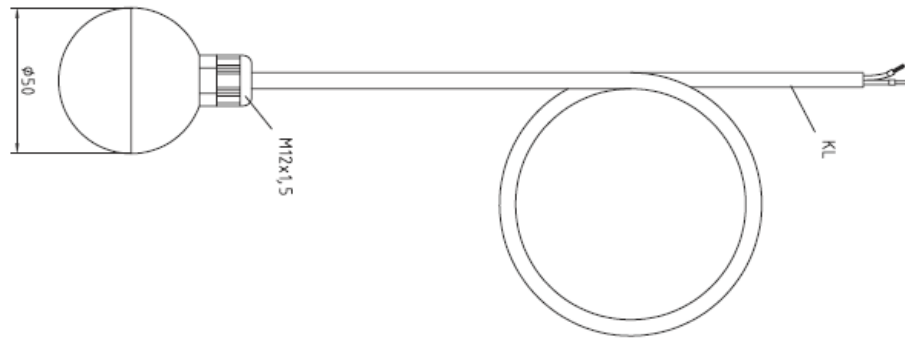For other cable lengths, the errors are more or less linear.

Terminals

4 wire connection may be delivered as option.

Dimensions

RPTF1

RPTF2

$\phi 50$

M12x1,5

KL

Changes in versions

03/2015 – Modifying of sensor accuracy table, change in accuracy class and measuring error.
12/2021 – Stylistic adjustments, logo change.