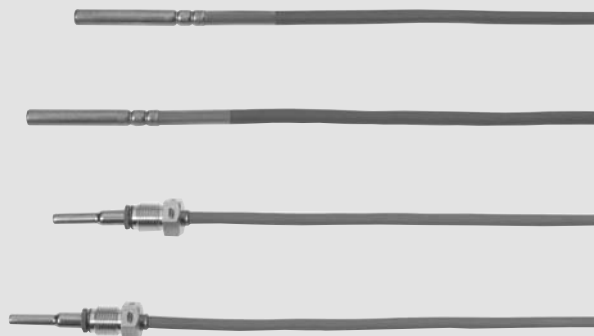# Temperature Sensors and Pockets

For fitting in pockets or directly in liquid flow

Heat resistant silicone cable

Delivered as a set

Sensor tube material, stainless steel

Fast response time

TS 27.01 111

EN 1434

TS 27.01 112

EN 1434

## Application

A sensor set is used together with an electronic heat meter for measuring flow and return flow temperatures in heating installations.

Depending on the type, the sensors can be used directly in the liquid flow (direct sensor) or fitted in a sensor pocket.

The sensor has a built-in platinum resistor with an electric resistance, which changes with the temperature. Measuring the resistance value gives an analog indication of the temperature.

A heat meter calculates the differential temperature of a heating installation on the basis of measured flow and return flow temperatures. Based on the differential temperature and the volume of liquid measured, the energy consumed can then be calculated and summed up.

## Kamstrup

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WEB: www.kamstrup.com

# Technical data

|  | Pocket mounted sensor | Short direct sensor |
|---|---|---|
| Element | Pt500 according to EN 60751 | |
| $\Delta t$ deviation | 0.04°C | |
| Pairing | 40°C and 130°C, control/sample at 85°C (depending on approval) | |
| Temperature of medium | 0...150°C short-term 160°C | |
| Ambient temperature | -10...70°C | |
| Storage & transp. temp. | -25...70°C | |
| Response time $\tau_{0.5}$ | 5 sec. | 2 sec. |
| Medium | Heating water | |
| Humidity | <98% RF condensing | |
| Pressure level | Pocket | PN16 |
| Diameter | ø5.85 mm | ø4/5.6 mm |
| Sensor tube length | 45 mm | >27.5 mm |
| Silicone cable | 2 x 0.5 mm², 1.5 m, 3 m, 5 m, 10 m and 20 m | 2 x 0.25 mm², 1.5 m and 3 m |
| Sensor tube material | AISI 304, W-no. 1.4301 | AISI 316 Ti, W-no. 1.4571 |
| Density | IP65 | IP67 |

# Approvals

## HEAT SENSOR

TS27.01/111, DS/EN 1434  θ: 20...150°C, ΔΘ: 3...130 K

TS27.01/112, DS/EN 1434  θ: 20...130°C, ΔΘ: 3...130 K

# Technical data

## POCKETS

| | |
|---|---|
| Temperature of medium | 0 - 160°C |
| Medium | Heating water |
| Response time $\tau_{0.5}$ | Max. 8 s for 65 and 90 mm pocket Max. 25 s for 140 mm pocket |
| Pressure level | PN25 |
| Flow velocity | Max. 3 m/sec. |
| Diameter | 8 mm (14.5 mm) |
| Length | 65, 90 and 140 mm |
| Connection | R½ |
| Nipple and sensor tube material | AISI 304, W-no. 1.4301 for 65 and 90 mm AISI 316, W-no. 1.4571 for 140 mm |

## CHANGE-OVER NIPPLES, SHORT DIRECT SENSOR

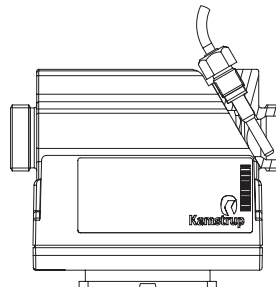| | |
|---|---|
| Connection | R½ or R¾ |
| Material | MS 58 pb |

# Fitting examples

## EXAMPLE 1

Direct mounted short sensor, type no. 66-00-0F0/0G0, fitted in an elbow by means of change-over nipple, type no. 65-56-491.
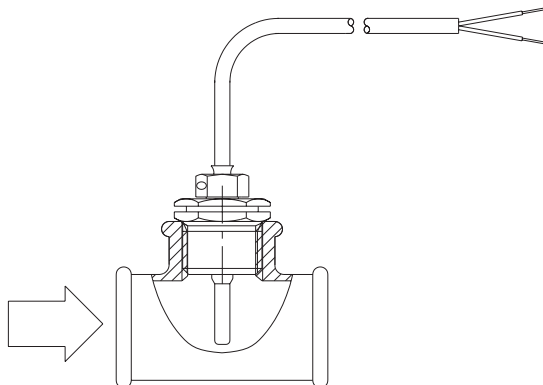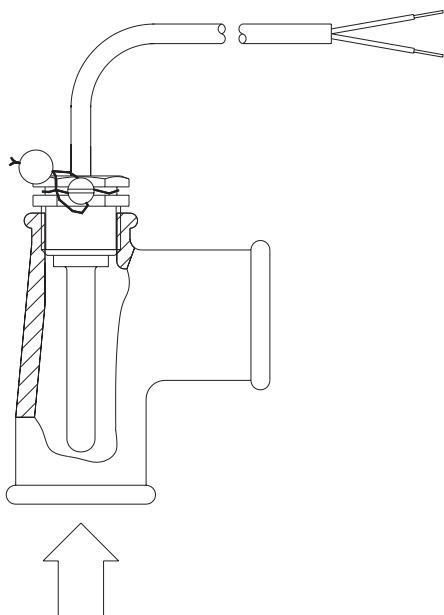


## EXAMPLE 2

Direct mounted short sensor, type no. 66-00-0F0/0G0, fitted in ULTRAFLOW®, type no. 65-S-CDAA-XXX.
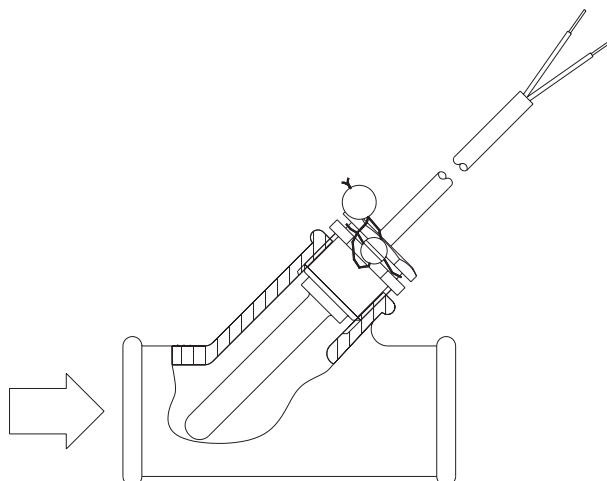


## EXAMPLE 3

Pocket mounted sensor, type no. 66-00-0A0/0B0/0C0/0D0/0E0, fitted in an elbow by means of sensor pocket, type no. 65-57-3XX.
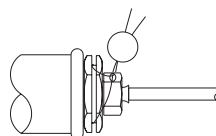


## EXAMPLE 4

Pocket mounted sensor, type no. 66-00-0A0/0B0/0C0/0D0/0E0, fitted in an elbow with 45° angle by means of sensor pocket, type no. 65-57-3XX.
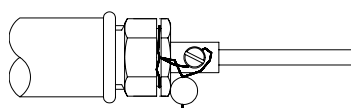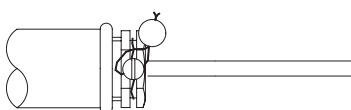


# Sealing examples

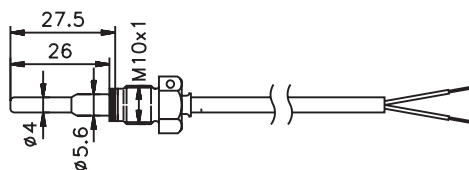Direct mounted short sensor seal with change-over nipple M10 x R½.



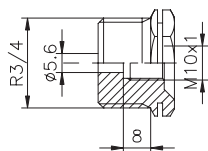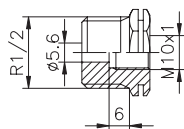Pocket mounted sensor seal in sensor pocket.





3

# Dimensional drawings

27.5
26
M10x1
ø4
ø5.6

**POCKET MOUNTED SENSOR**

45
ø5.85

**CHANGE-OVER NIPPLES**
**DIRECT MOUNTED SHORT SENSOR**

R1/2
ø5.6
M10x1
6

R3/4
ø5.6
M10x1
8

**SENSOR POCKET**

140
R 1/2
ø8

140 mm

90
R 1/2
ø7.43
14.5

90 mm

65
R 1/2
ø7.43
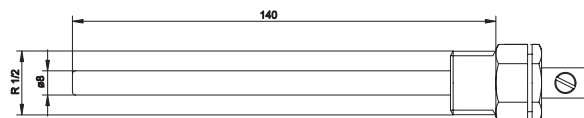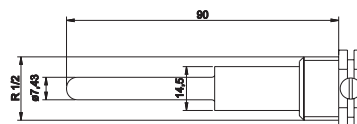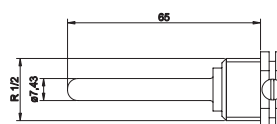
65 mm

# Order specification

| TEMPERATURE SENSOR SET | |
|---|---|
| **TYPE NO.*** | **DESCRIPTION** |
| 66-00-0A0 XXX | Pt500 pocket mounted temperature sensor set with 1.5 m cable |
| 66-00-0B0 XXX | Pt500 pocket mounted temperature sensor set with 3.0 m cable |
| 66-00-0C0 XXX | Pt500 pocket mounted temperature sensor set with 5 m cable |
| 66-00-0D0 XXX | Pt500 pocket mounted temperature sensor set with 10 m cable |
| 66-00-0E0 XXX | Pt500 direct mounted short temperature sensor set with 20 m cable |
| 66-00-0F0 XXX | Pt500 direct mounted short temperature sensor set with 1.5 m cable |
| 66-00-0G0 XXX | Pt500 direct mounted short temperature sensor set with 3.0 m cable |

*Type numbers may vary due to local approvals*

| ACCESSORIES | |
|---|---|
| **TYPE NO.** | **DESCRIPTION** |
| 65-56-491 | Change-over nipple M10 - R½ for direct mounted short temperature sensor |
| 65-56-492 | Change-over nipple M10 - R¾ for direct mounted short temperature sensor |
| 65-57-324 | Sensor pocket, length = 65 mm |
| 65-57-327 | Sensor pocket, length = 90 mm |
| 65-57-314 | Sensor pocket, length = 140 mm |