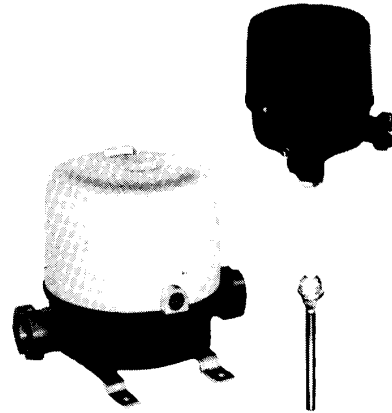


# THERMOTRAN

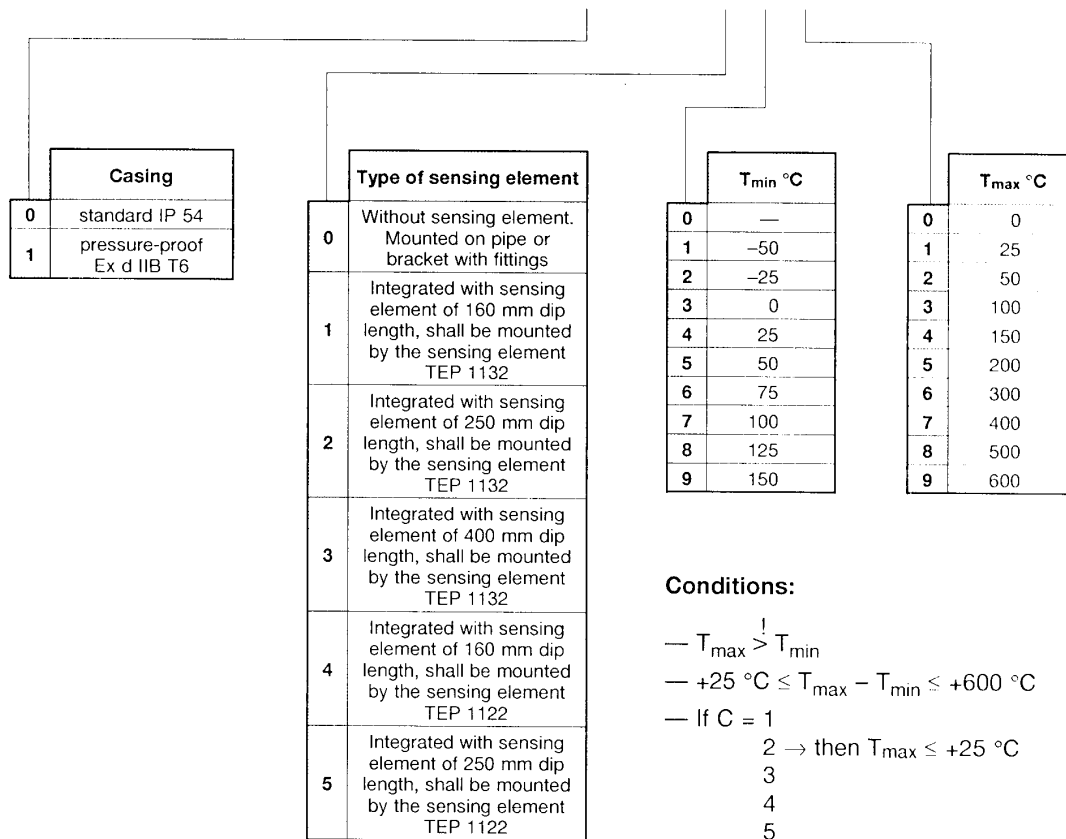
## TEMPERATURE TRANSMITTER WITH LINEARIZED CHARACTERISTIC

The electrical temperature transmitters are suitable to measure and transmit temperatures in technological systems (gas- and oil pipelines, tanks, furnaces etc.) by means of resistance thermometers.



Type number

**3 3 5 B - 0 - C D E - 0**

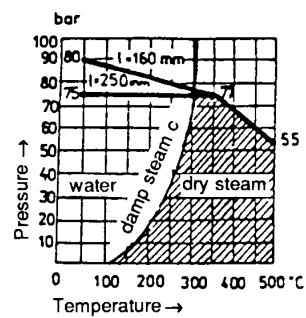
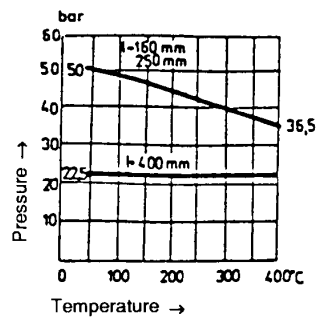


The transmitter transmits the direct current signal (4...20 mA) proportional to the measured temperature to the signal processing equipment — controllers, secondary indicating instruments and recorders as well as data processing devices — in two-wire system. The two-wire transmitter with standard casing can be used as a transmitter for intrinsically safe measuring circuits, whereas the transmitter with pressure-proof casing can be directly mounted in explosion hazardous areas.

## Specification

Measuring range	between -50 to +600 °C (in three bands, adjustable in 1:3 ratio)
Sensing element	Pt 100 (100 ohm/0 °C)
Output signal range	4...20 mA D.C.
Supply voltage	14...48 V D.C.
Accuracy	±0.25%
Ambient temperature range	-50 to +70 °C
Protection	IP 54
Explosion safety	
3768-0-00A-0 } with service unit	Ex i <sub>a</sub> II C
3772-0-A0B-0 }	
With pressure-proof casing	Ex d IIB T6
Mass of the transmitter	max. 2.5 kg

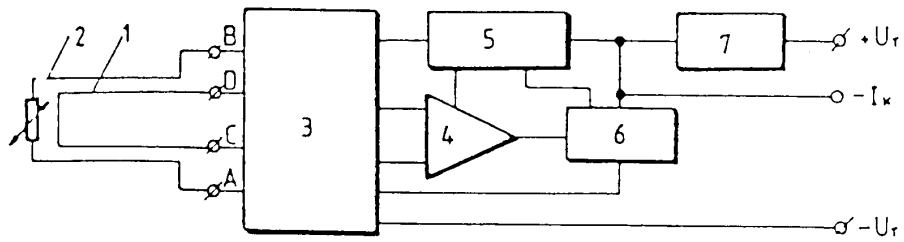
Admissible load of sensors type TEP 1132 and TEP 1122 vs. pressure and temperature



Parameter: dip length

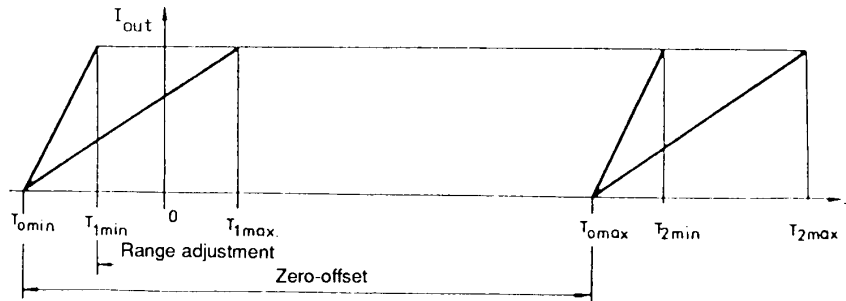
TEP 1132

TEP 1122



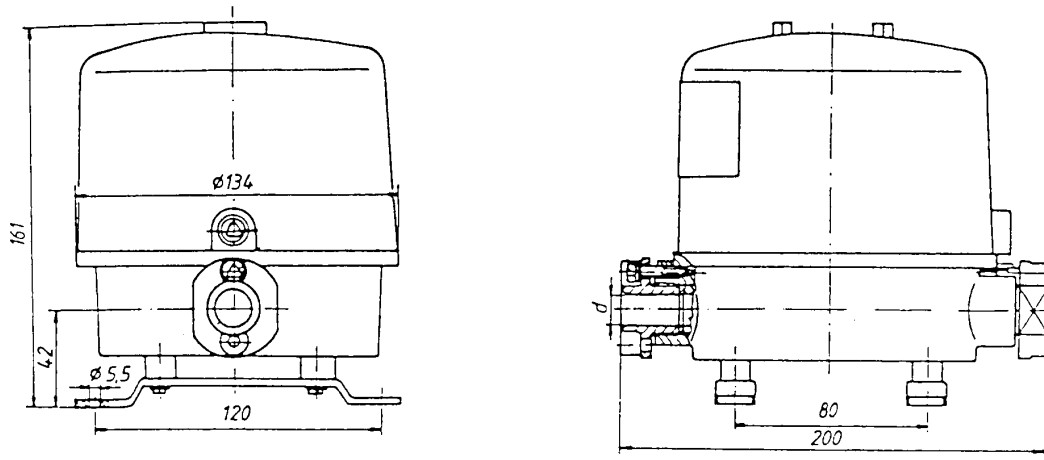
- |                                   |   |
|-----------------------------------|---|
| 1 — compensating lead             | 5 — D.C. stabilizer                               |
| 2 — sensor with measuring wire    | 6 — current generator with overcurrent protection |
| 3 — bridge circuit                | 7 — polarity protection                           |
| 4 — two-stage measuring amplifier |   |

The resistance thermometer connected to the input of the THERMOTRAN electrical temperature transmitter is incorporated into a D.C. bridge circuit powered by a D.C. stabilizer. Any change in temperature causes the change in resistance of the sensor; consequently the output voltage of the bridge will change. The output voltage of the bridge controls, by means of a two-stage high precision D.C. amplifier, the current generator provided with overcurrent protection in order to supply the output current. The output current generates across a resistance of the bridge a voltage drop decreasing the output voltage of the bridge (error voltage). The non-linearity of the resistance thermometers will be linearized by means of a special solution by the transmitter, so the output current vs. temperature characteristic will be linear.

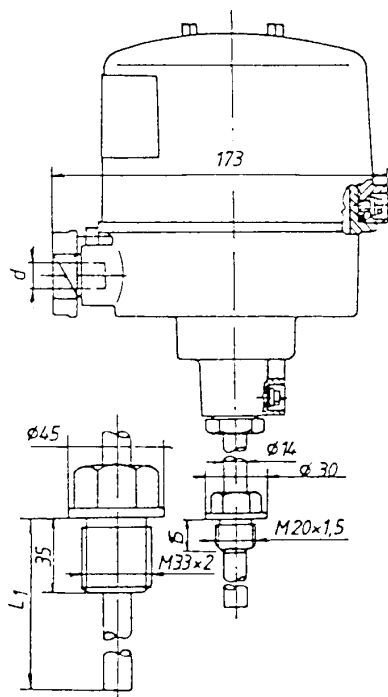


The bridge circuit provides the possibility for compensation in case of a large distance between sensor and transmitter. In case of sensor failure an error signal will be generated. The transmitter is arranged on a printed circuit board, most of its parts are integrated into hybrid circuits. Its bridge circuit enables the measuring range to be altered (zero-offset, range adjustment) by the user between specified limits. The PCB has been encapsulated into a plastic casing with IP 40 protection. Zero-adjustment can be performed on the top without opening the casing. The unit is designed in standard or pressure-proof aluminium casing with IP 54 protection, integrated with, or separated from the sensing element.

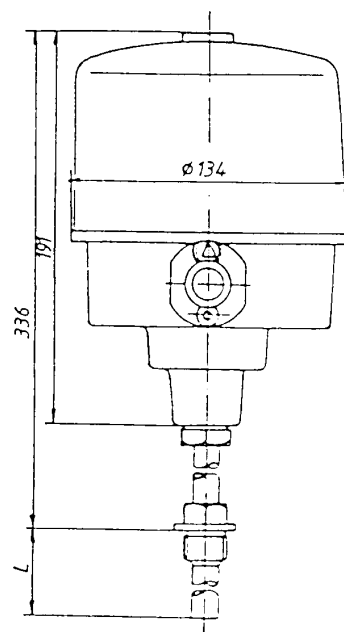
**TRANSMITTER BUILT SEPARATELY FROM SENSING ELEMENT**



**TRANSMITTER INTEGRATED WITH SENSING ELEMENT**



TEP 1122  
L = 160 mm  
250 mm



TEP 1132  
L = 160 mm  
250 mm  
400 mm

**Outline drawing**