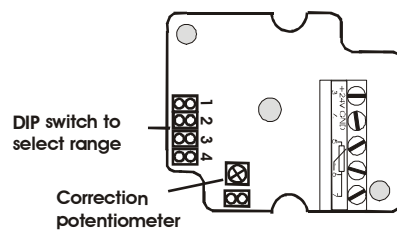


LKM469 INSTRUCTIONS FOR USE

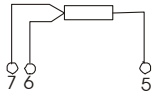
Type 469 is a transmitter for Pt100/1000 temperature sensors. It converts temperature-contingent resistance into a standard current signal from 4..20mA. It is primarily intended for assembly in a Bopla housing PK101, but may also be mounted in other appropriate housings.

ADJUSTERS

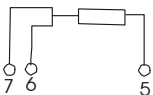
On the top of a transmitter adjustment control is for fine adjustment of the output voltage. The location of the controller is shown in the picture. The regulator is secured against accidental change by sealing.



INPUT CIRCUIT FOR THE SENSORS

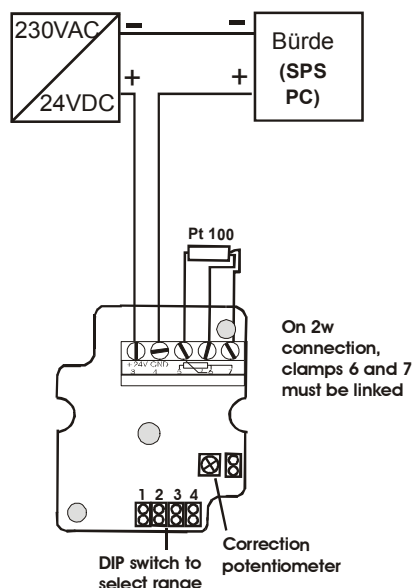


The Type 469 is operated in three-wire, i.e. the resistance of the cable is not included in the measurement result if the cable have the same length and consist of the same conductor material.



The Type 469 can also be operated in two-wire circuit by shorting the terminals 6 and 7. Here, however, go into the lead resistances with the result. For small corrections, the zero-point controller can be adjusted.

EXTERNAL CIRCUIT



The output current is linear with temperature. In view of the connector is shown connected to a controller. The device works in 2-wire technology. This means that it is receiving from the loop. For test purposes, the current can be directly measured with a meter from terminal 4 to ground

RANGE SELECTION

About 4 DIP switches can be adjusted 12 different ranges. The transmitter is delivered with the most adjustable range (-20.. 150 °C set, all the switches). All other settings are shown in the table below.

The query for the range takes place during each measure. So can it also be changed in the operating mode. The detection of the sensor (Pt100/Pt1000) is also in operation automatically

Measuring range		Jumper 1 2 3 4
MB1:	-20°C ... +150°C	1-1-1-1
MB2:	-50°C ... + 50°C	0-1-1-1
MB3:	-20°C ... + 80°C	1-0-1-1
MB4:	-30°C ... + 60°C	0-0-1-1
MB5:	0°C ... + 40°C	1-1-0-1
MB6:	0°C ... + 50°C	0-1-0-1
MB7:	0°C ... +100°C	1-0-0-1
MB8:	0°C ... +150°C	0-0-0-1
MB9:	0°C ... +200°C	1-1-1-0
MB10:	-100°C...+100°C	0-1-1-0
MB11:	-30°C ... + 70°C	1-0-1-0
MB12:	-40°C... +60°C	0-0-1-0

Jumper = 1 = plugged in
Jumper = 0 = unplugged

FAULT SEARCH AND FAULT ANALYSIS

During measurement operations with resistance thermometers, design-contingent or metrological causes may distort the obtained data. Below, please find the most common causes leading up to faulty measurements.

Fault experienced	Cause of disturbance
No current at output	No supply voltage Reversed polarity [terminals] Defective test equipment [Cable] damage in feeder line
Output signal ca. 3,2mA	Sensor shorted out
Output signal >20mA	Sensor burnout
Unstable temperature indicator	Poor insulation in feeder lines Moisture in sensor or sensor connection Improper cable installation permits irradiating disturbances at output. Use shielded cable
Excessively high reading	2 wire: Lead resistance 3 wire: Lead resistance of 3 cable cores out of sync
Measured data do not comport with expected results	Check measuring range selection



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