

## LKM120 INSTRUCTIONS FOR USE

### Programmable 2-Lead Transmitter LKM120 for Pt100 and Ni 100

The measurement transducer is fed from the current loop and can be operated with a 2-, 3-, or 4-lead circuit. It has a very high degree of accuracy and is very compact as well. An optional programming kit can be used to program the transducer using a PC.

## PROGRAMMING

The following accessories are required for programming:

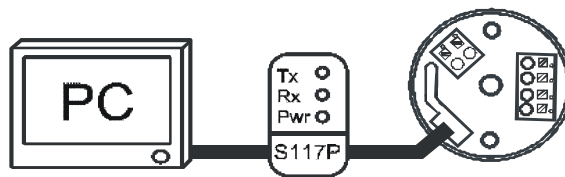
PC  
 USB/RS232 TTL converter  
 Connection cable  
 Programming software

The software is installed and the converter is connected with the PC and the measurement transducer.

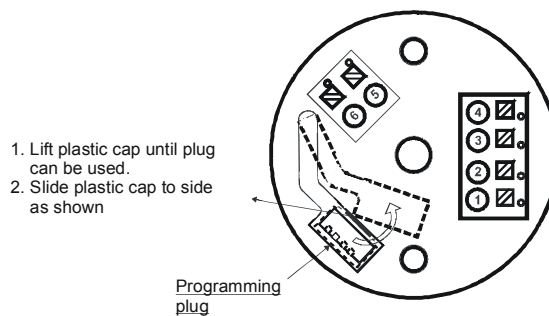
The port of the interface must be entered after launching the software.

Simply open the Options/Settings menu and select the correct port in the COM port area.

Note: Only port COM 1 to COM 8 are currently supported.



The mating connector of the measurement transducer is hidden under a plastic covering cap. Lift and turn this cap as depicted in the illustration. The transmitter is powered via the programming cable.

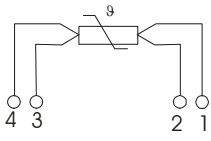


The following functions can be set:

Connection type  
 50/60 Hz suppression (**measuring time increases to 600 ms**)  
 Measuring filter (1,2,5,10,30,60 s)  
 Output, normal or inverse  
 Sensor type  
 Resistance compensation for 2-lead circuit  
 Output signal in case of short circuit and sensor breakage

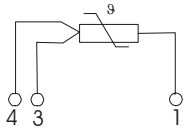
## CONNECTION OPTIONS

The sensor can be connected in 3 different ways.



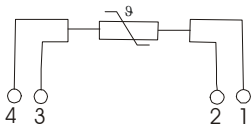
### 4-lead connection

All 4 terminals of the measurement transducer are used. This circuit is suitable for longer cable lengths between sensor and measurement transducer. Lead resistances are compensated up to a value of 25  $\Omega$  compensated. The individual leads may have different resistance values.



### 3-lead connection

Only 3 leads are needed for the connection. This connection type is suitable for medium distances. To achieve input lead compensation, all individual cables must have the same resistance value. This is the most frequently used connection type.

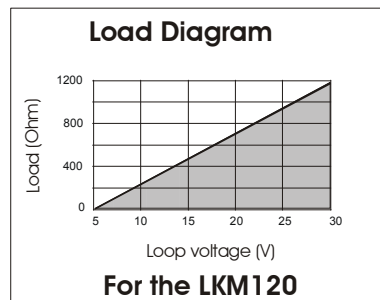


### 2-lead connection

Input leads are not compensated with this type. This circuit is intended only for short distances. Wires with a greater cross-section should be used as well. The programming software offers a compensation option if lead resistances are known.

## OUTPUT

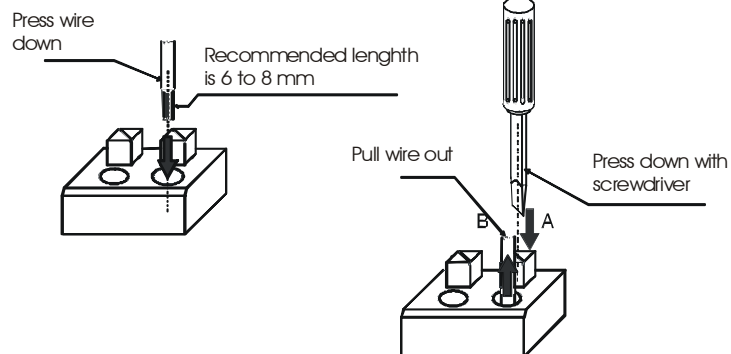
The current output uses a 2-lead circuit. This means the measurement transducer needs approx. 3.6 mA for itself if the total is 5 V. Depending on the supply voltage, the loop may include different resistances. The diagram in illustration 4 provides additional information. The use of shielded cables with sufficient cross-sections is recommended.



## TERMINAL CONNECTION

### Factory setting

3-lead circuit  
Filter on  
Pt100  
Measuring range 0 to 100 °C  
Sensor breakage 21 mA



Status as of July 2011

