Multirange 2-wire 4-20 mA transmitter 6720

- **Thermocouples B,C,D,E,G,J,K,L,N,R,S,T**
- **RTD-sensor Pt100**
- **mV-input -100 .. +100 mV**
- **Process inputs: 0..20mA, 4..20 mA, -20 .. +20 mA,
  0..5 V, 0..10 V and -10 ..+10 V**
- **Thermopile IR-sensors**
- **Programmable by PC**
- **Input- Output isolation 2 kV**
- **Digital filter**
- **2-wire output 4..20 mA**
- **High accuracy 0.05% of span**

Transmitter 6720 is exceptionally versatile and accepts all most common sensor inputs. You can configurate it by PC via Cable POL-RS232. Transmitter front has configuration connector which connects adapter cable POL-RS232 to serial port of the PC. Menu based configuration program is easy to use and together with low cost cable makes delivery economical even in case of one unit only. The 16 bit A/D converter enables high measuring accuracy. Linearity of A/D converter is 0.008% and resolution of output signal 0.03% of full scale (12 bit DAC). Galvanic isolation is specially important with thermocouples but potential differencies with other measuring circuits can be avoided also with process input signals. Transmitter is fast to install and its flexibility opens new possibilities in industrial and maintenance measurements.

The 2-wire connection is easy and versatile to use in all applications. Small size of the case (22.5 x 60 x 75 mm) helps comissioning in narrow spaces.

Principle

Configurate by PC

Power supply 10...32 V

DC

DAC

Output 4-20 mA

Sensor:
Thermocouples
Pt100
Voltage mV, V

Specifications:

Thermocouples:

Sensor	Range	Linearity		
E	-100....900°C	< 0.3°C	-50....900°C	
J	-150....900°C	< 0.3°C	-50...900°C	
K	-150....1300°C	< 0.3°C	-40...400°C	
L	-100....900°C	< 0.5°C	-50... 900°C	
T	-150... 400°C	< 0.3°C	-150...400°C	
N	0...1300°C	< 0,3°C	0....1300°C	
R	0...1700°C	< 0.4°C	400....1700°C	(<1°C < 300 °C)
S	0...1700°C	< 0.4°C	300...1700°C	(<1°C < 300 °C)
C (W5)	0....2200°C	< 0.4°C	400....2200°C	(<0.4°C< 400 °C)
D (W3)	0....2200°C	< 0.4°C	500....2200°C	(<1°C < 500 °C)
B	400...1700°C	< 0.4°C	400....1700°C	
G (W)	1000... 2200°C	< 0.5°C	1000...1700°C	(<3 °C >1700 °C)

Range selection	freely selectable
Calibration accuracy	< 0.1 % of span or 1°C
Cold junction compensation	< 0.05 °C /°C
Sensor wire influence	< 1kohm, negligible

| **RTD sensors**	Pt100, Pt500, Pt1000, Ni100
Ranges	-200....+700 °C (Pt100, Pt500)
	-200....+300 °C (Pt1000)
	-60....+175 °C (Ni100)
Connections	3 or 4-wire connections
Sensor current	0.3 mA
Calibration accuracy	<0.15 °C (0 °C)
Linearity	< 0.1 °C (-100..200 °C)
	< 0.5 °C (300-700°C)
Max. sensor wire resistance	< 30 ohm/wire
Resistance input	0-1000 ohm

mV-input:	-100...+100 mV
Accuracy	0.03% of span
Linearity	0.01% of span
Input impedance	>10 Mohm

Process inputs:	0..20 mA, 4..20 mA, -20..+20 mA
	0..5 V, 0..10 V, -10..+10V
Ranges	freely selectable
Input impedance	Current: 5 ohm and voltage: 1 Mohm
Accuracy	0.03% of span
Linearity	0.01% of span

IR-sensors	Exergen 140F-K and 440F-K
Range 140F-K (60°C)	-40..+350°C (linearized range)
Range 440F-K (220°C)	-30..+600°C (linearized range)
Emissivity correction	selectable by PC
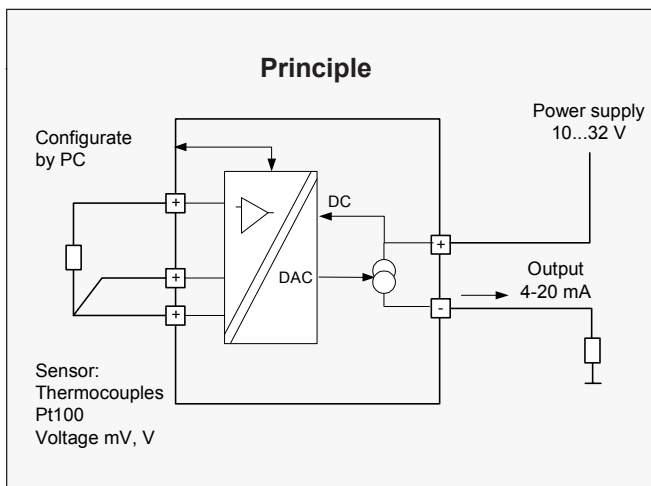
Output:

2-wire	4..20 mA
Straight and reversed	4..20 mA / 20..4 mA
Resolution	0.03 % of span (DAC)
Sensor break monitoring	3.5 or 24 mA

Configuration:

Connection	2-pole Nokeval POL-connection (transmitter)
Serial data	RS232, 1200 bps, 9-pins D-connector (PC)
Serial protocol	Nokeval SCL-protocol (ASCII)

General:

|	
Power supply range	10..32 VDC, polarity protected
Galvanic isolation	2000 VDC/ 1 min.
Measuring rate	2-3 samples/s
AD-converter	16 bit
Output DAC	12 bit
Zero/span selection	Freely selectable
Calibration temperature	22 °C
Temperature effects	<0.005 %/°C
Calibration temperature	22°C
Operating temperature	0..60 °C
Ambient storage	-20...+70 °C
Humidity (non -condensing)	0 to 95 %RH
Maximum load	See table below
Case dimensions	22.5 x 60 x 75 mm
Weight	80 g
Connection	1.5 mm², AWG 16
Protection, housing/terminal	IP 20
Mounting	Rail according to DIN EN 50022

How to order:

Transmitters are freely configurable by PC software therefore the order code is simply 6720.

Transmitters can also be delivered for ordered range:
F.ex. Sensor input: Pt100, needed range: 0..600 °C

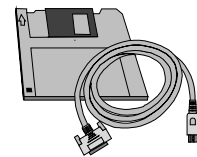| Type:	6720 - Pt100 - 0/600
Model	
Sensor input	
Range	
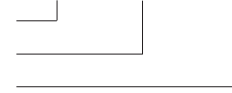
Optional:

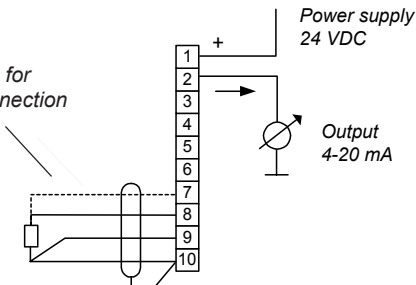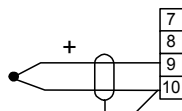|	
Cable for transmitter/PC	POL-RS232
Configuration software	POL-6720

Hand held programmer 6790

Configuration software MekuWin

Connection and dimensions:

Note !
Jumper selection for Pt100 4-wire connection

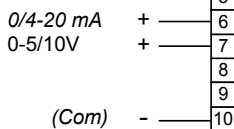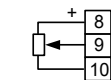Power supply 24 VDC

Output 4-20 mA

Pt100-sensor 3- or 4-wire

Thermocouple, mV-inputs and IR-sensors

mA- and Voltage inputs

0/4-20 mA +
0-5/10V +
(Com) −
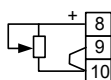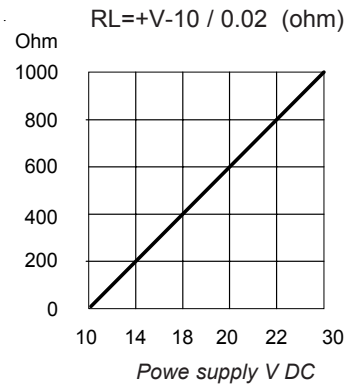
Potentiometer 3-wire connection 50-500 ohm

Potentiometer 2-wire connection 0-1000 ohm

Maximum load for output 4-20 mA

$RL = +V-10 / 0.02$ (ohm)

Ohm

Powe supply V DC

Socket for POL-RS232 cable

22.5   75   10

60
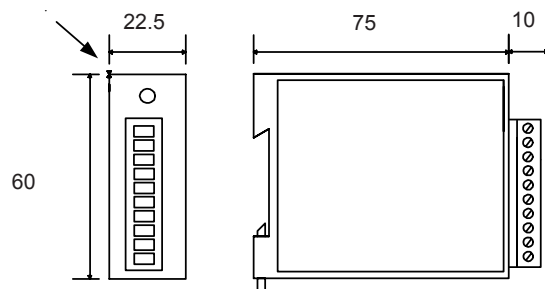
Removable terminals <1.5 mm²
Rail acc. to DIN EN 50022 (35mm)