

## 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 configure 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 differences 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 commissioning in narrow spaces.



### Specifications:

#### Thermocouples:

##### Sensor Range Linearity:

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

Ranges	Pt100, Pt500, Pt1000, Ni100 -200...+700 °C (Pt100, Pt500) -200...+300 °C (Pt1000) -60...+175 °C (Ni100)
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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:

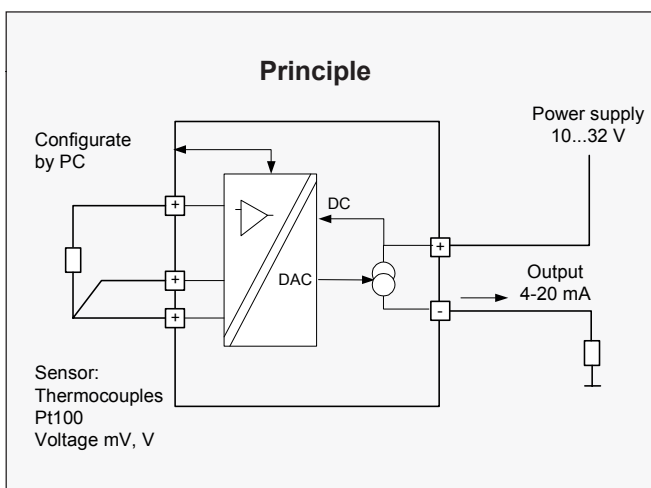
Accuracy	-100...+100 mV
Linearity	0.03% of span
Input impedance	0.01% of span >10 Mohm

#### Process inputs:

Ranges	0..20 mA, 4..20 mA, -20..+20 mA 0.5 V, 0..10 V, -10..+10V
Input impedance	freely selectable 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 mm <sup>2</sup> , AWG 16
Protection, housing/terminal	IP 20
Mounting	Rail according to DIN EN 50022

**How to order:**

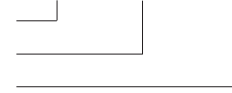
Transmitters are freely configurable by PC software therefore the order code is simply 6720.

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

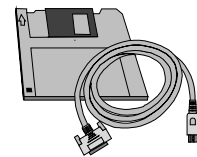


**Optional:**

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



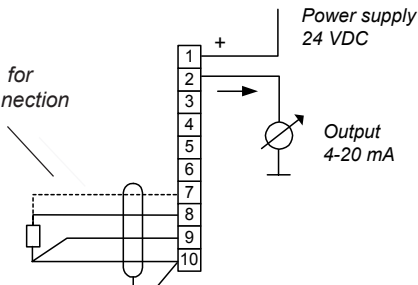
Hand held programmer 6790



Configuration software MekuWin

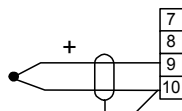
**Connection and dimensions:**

Note!  
Jumper selection for Pt100 4-wire connection

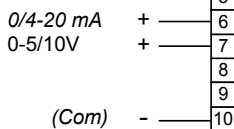


Pt100-sensor 3- or 4-wire

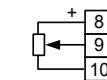
Thermocouple, mV-inputs and IR-sensors



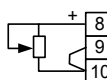
mA- and Voltage inputs



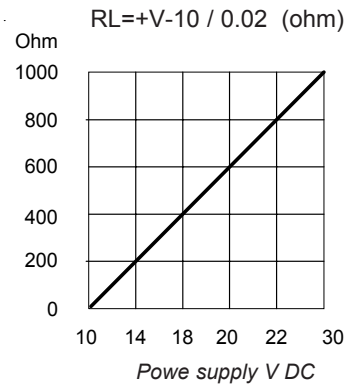
Potentiometer 3-wire connection 50-500 ohm



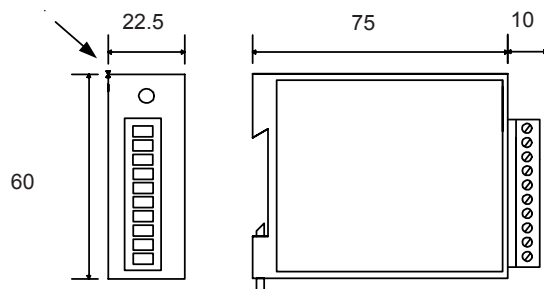
Potentiometer 2-wire connection 0-1000 ohm



**Maximum load for output 4-20 mA**



Socket for POL-RS232 cable



Removable terminals <1.5 mm<sup>2</sup>  
Rail acc. to DIN EN 50022 (35mm)