

Programmable transmitter 7100

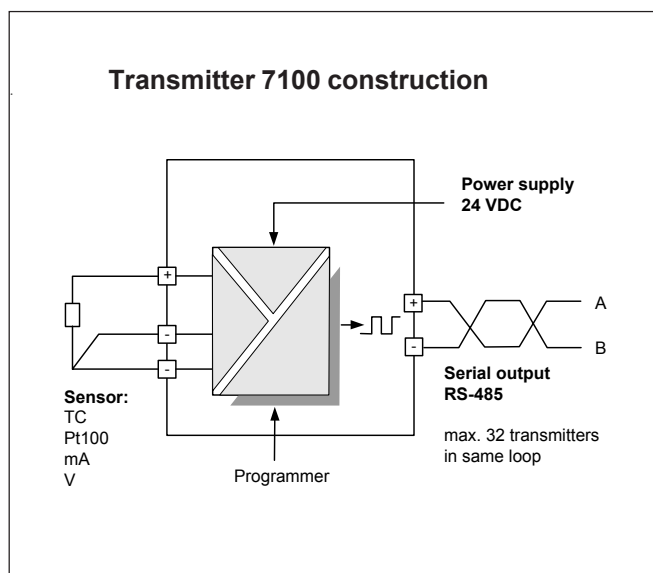
- Thermocouples B,C,D,E,G,J,K,L,N,R,S,T
- RTD's Pt100, Pt500, Pt1000 ja Ni100, Ni1000
- Process inputs: 0..20mA, 4..20 mA, -20 .. +20 mA
0..5 V, 0..10 V, -10 .. +10 V
- IR-thermocouples
- mV-inputs -100 .. +100 mV
- RS485 output
- Programming by PC or hand held programmer 6790
- Galvanic isolation, input/output/power supply
- Power supply 24VDC



Serial transmitter 7100 is exceptionally versatile and accepts all common temperature and process signal inputs. You can connect its digital output direct to devices having RS485 serial port. The 32 transmitters may be connected to one serial bus. Transmitter suits for applications where digital input is required, like PC serial port or programmable logic controllers.

Nokeval serial converter 711 can execute RS485/RS232 conversions (two RS485 ports) if only RS232 port is available. Serial transmitters are slightly more accurate than transmitters with analog output because you do not need to convert output to current or voltage output signal. The linearity of A/D-converter is < 0.005 %, excluded sensor error. Power supply is isolated from input and output (three-way isolation).

Typical application is data aquisition for PC, f.ex. Nokeval 16-96 channel data collection software WinX (separate data sheet available).



Technical specification:

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....1350°C	< 0.4°C -40...1300°C
L	-100.....900°C	< 0.4°C -50...900°C
T	-150.....400°C	< 0.3°C -150...400°C
N	0....1300°C	< 0,4°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	< 0.5°C 400....1700°C
G (W)	1000...2200°C	< 0.5°C 1000...1700°C (<3 °C >1700 °C)
Rangeselection		freely selectable
Calibration accuracy		< 0.1 % of max. span
Cold junction compensation		< 0.05 °C / °C
Sensor wire influence		< 1 kohm, negligible

RTD's:

Range	Pt100, Pt500, Pt1000, Ni100 -200....+700 °C (Pt100, Pt500) -200....+300 °C (Pt1000) -60....+175 °C (Ni100)
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Sensor connections	3- or 4-wire
Max. Sensor wire influence	< 30 Ω /wire
Sensor current	0.3 mA
Calibration accuracy	0.05 % of span or 0.1 C
Linearity	< 0.1 °C (-200..700 °C)
Sensor error correction	freely offset selection(span)
Other RTD's	0-1000 Ω, potentiometer 50-500 Ω

mV-inputs:

Accuracy	-100..+100 mV 0.02 % of span
Linearity	0.01 % of span
input impedance	> 10 MΩ

Process inputs:

Input impedance	0..20 mA, 4..20 mA, -20..+20 mA, 0..5, 0..10 V, -10..+10V Current: 5 Ω and voltage: 1 MΩ
Accuracy	0.02 % of span
Linearity	0.01% of span

IR-anturit:

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

Output:

Protocol Nokeval SCL
 Baud rate 300, 1200, 2400, 9600, 19200 bps
 Output RS485, 2-wire
 Max. distance 1000 m
 Address 0-31

Configuration:

serial data RS485 (terminal block) or front panel connector by PC or hand held programmer

Programming socket:

Connection 2-pole Nokeval POL-connection
 Serial data RS232, 1200 bps, 9600bps,
 PC-connection 9-pole D-connector by PC's serial port
 Programmer Hand held programmer 6790

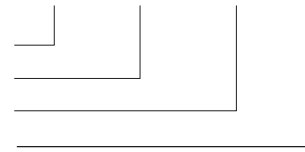
General:

Power supply 24 VDC, ±15 %
 Power consumption max. 40 mA
 Temperature effects <0.003 %/°C
 Galvanic isolation input/output 1000 VDC/ 1 min.
 Measuring rate 4 samples/s.
 AD-converter 16 bit
 Output DAC 12 bit
 Operating temperature 0..60 °C
 Ambient storage -20...+70 °C
 Humidity (non -condensing) 0..95 %RH
 Weight 80 g
 Connection 1.5 mm², AWG 16

How to order:

Type: 7100 - Pt100 - 0/600 - 9600

Model
 Sensor input
 Range
 Baud rate

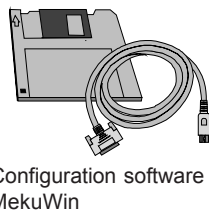
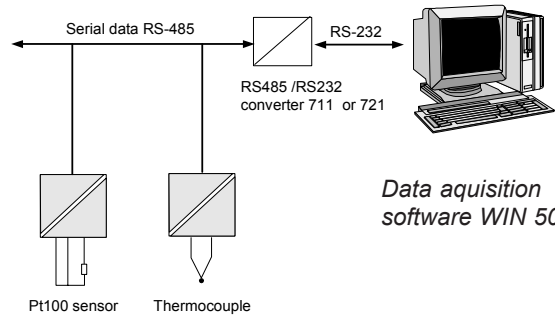


Example. 7100-Pt100-600-9600, sensor: Pt100, range: 0..600 °C, baud rate 9600 bps

Transmitter is freely programmable but if you like it factory configured use above mentioned marking procedure.

Optional:

Cable for transmitter/PC POL-RS232
 Configuration software MekuWin
 Hand held programmer 6790



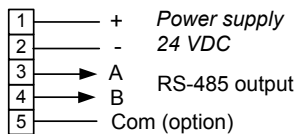
Tree ways of configuration:

Hand held programmer 6790 or by PC software and cable to to plug of transmitter or serial data by RS-485 bus.

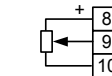
Connection and dimensions:

Note !

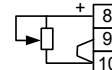
Jumper selection for Pt100 4-wire connection



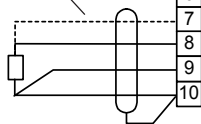
Potentiometer 3-wire connection 50-500 ohm



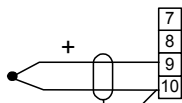
Potentiometer 2-wire connection 0-1000 ohm



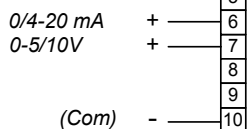
Pt100-sensor 3- or 4-wire



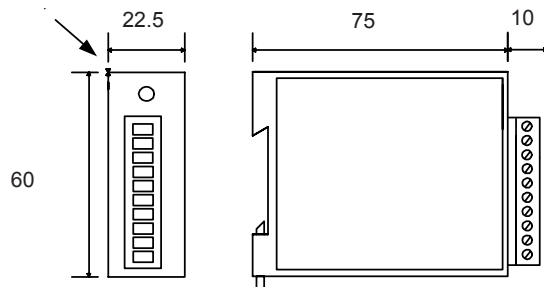
Thermocouple, mV-inputs and IR-sensors



mA- and voltage inputs



Socket for POL-RS232 cable



Removable terminals <1.5 mm²
 Rail acc. to DIN 5002 (35mm)