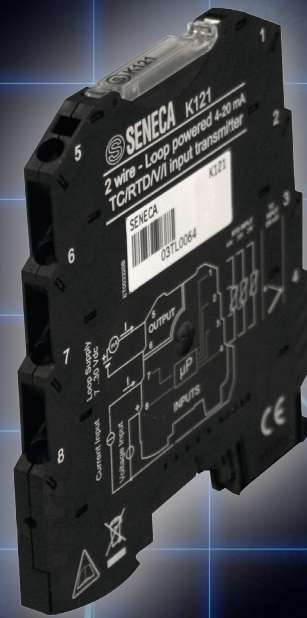


ATEX compliant product

II 3G Ex nA IIC T4 Gc X (gas)
II 3D Ex tc IIIC T135°C Dc X (dust)
EN 60079-0:2012
EN 60079-15:2010



K121

LOOP POWERED ISOLATOR / UNIVERSAL CONVERTER (mA, V, Ohm, RTD, TC)

Highlights

- **Powered by loop**
- **Universal Input (TC, RTD 2,3,4 wires, V, mA, Ω)**
- **Output 4..20 mA (loop powered)**
- **Accuracy class 0,1%**
- **Galvanic isolation 1,5 kVac (2 ways)**
- **PC Configuration by EASYLP / EASY SETUP**
- **Operating temperature - 20..+65 °C**
- **ATEX compliant**

K121 is a high performance universal converter / isolator designed to convert main analog signals (mA, mV, V, PT100, Pt1000, Pt500, Ni100, TCs, Ohm) and turn it into 4..20 mA loop powered signal.

The module offers best-in-class accuracy (0,1%, 16 bit) and reduced response time (Voltage and Current input) @140 ms.

The output mode (normal/inverted), scale overrange, output in case of fault sensor are selectable parameters by PC software EASY SETUP / EASY LP. A 2-way galvanic isolation among input // output circuits assures the integrity of your datas.

K121 new version is also ATEX II 3G Ex nA IIC T4 Gc X and II 3D Ex tc IIIC T135°C Dc X compliant.



 **SENECA**
www.seneca.it



LOOP POWERED ISOLATOR / UNIVERSAL CONVERTER (mA, V, Ohm, RTD, TC)



TECHNICAL DATA

GENERAL DATA

Power supply	7..30 Vdc (from loop 4..20mA)
Side Power	
Hot swapping	Yes
Current consumption	24 mA
Power consumption	<660 mW
A/D Conversion	16 bit
Rejection	50 o 60 Hz (configurable)
Settings	software (EASY)
Filter	Added for stable reading
Dimensions (w x h x d)	6,2 x 93,1 x 102,5 mm
Isolation	1,5 KVac (3-way)
Isolation technique	Digital (optocoupler)
Data processing	32 bit floating point
Colour	Black
Enclosure	PBT
Weght	45 g
Operating temperature	-20..+65 °C
Connections	8 Clamp terminals
Protection degree	IP 20
Precision class	0,10%
Thermal drift	< 120 ppm/K
Status indicators	Fault, alarm
Special functions	Cold junction compensation Filter Reversed output
Approvals	CE, II 3G Ex nA IIC T4 Gc X, II 3D Ex tc IIIC T135°C Dc X
Norms	Safety (EN 61010-1), EMC (EN 61000-6-2, EN 61000-6-4, EN 61000-4-2, EN 61000-4-3, EN 61000-4-4, EN 61000-4-5, EN 61000-4-6, EN 61000-4-11), Atex (EN 60079-0, EN 60079-15)

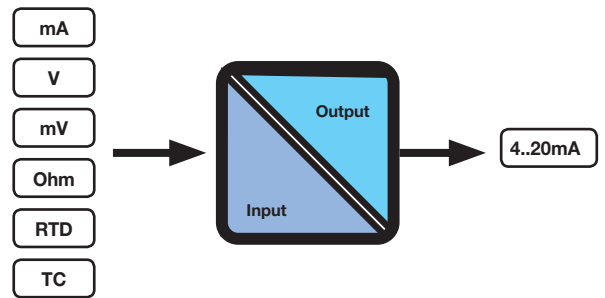
INPUT DATA

Channels	1
Type	THERMOCOUPLE J, K, R, S, T, E, B, N (EN 60584) RTD (PT100, PT500, PT1000, NI100) connection 2,3,4 wires Voltage (V) ± 30V, impedance 200 kΩ Voltage (mV) ±150 mV, impedance 10 MΩ Current: ±24 mA, impedance 40 Ω Potentiometer: 500 Ω..10 KΩ Resistance: up to 1760 Ω
Absolute value	

OUTPUT DATA

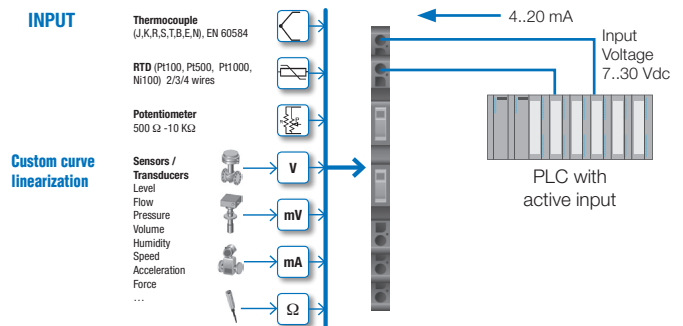
Channels	1
Type	CURRENT 4..20mA
Response time (10-90%)	140..620ms

SIGNAL / ISOLATION DIAGRAM



APPLICATION EXAMPLE

UNIVERSAL ANALOG SIGNAL CONVERSION



ORDER CODES

Code	Description
K121	Loop powered isolator / universal converter (mA, V, Ohm, RTD, TC)

ACCESSORIES

EASY USB	USB UART TTL CONVERTER
S117P1	RS232/USB, TTL/USB, RS485/USB ASYNCHRONOUS SERIAL CONVERTER
K-SUPPLY	REDUNDANT POWER SUPPLY MODULE FOR K LINE MODULES
K-BUS	EXPANDABLE POWER SUPPLY CONNECTOR, EN 60175

SOFTWARE

EASY SETUP	Suite for all programmable SENECA devices
EASY LP	Sw configurator for loop powered devices