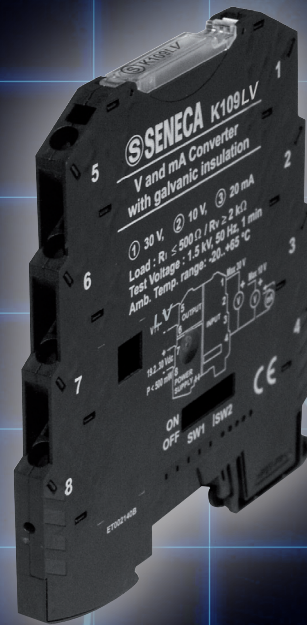


ATEX compliant product

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)

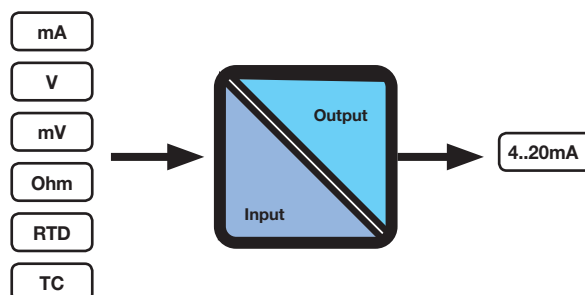
INPUT DATA

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

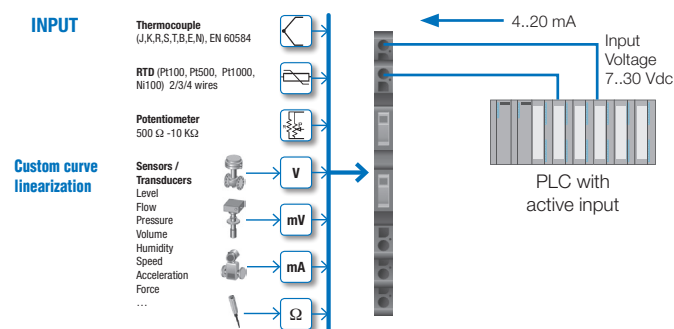
Channels	1
Type	CURRENT 4..20mA
Response time (10-90%)	140..620ms

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