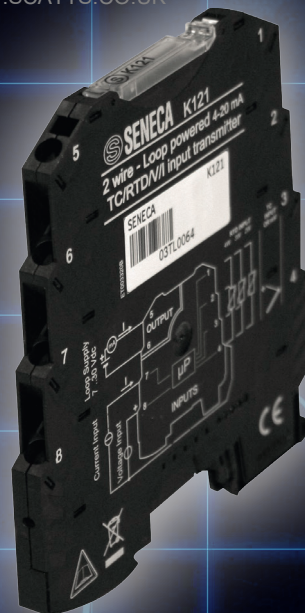


ATEX compliant product

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

K121



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) |

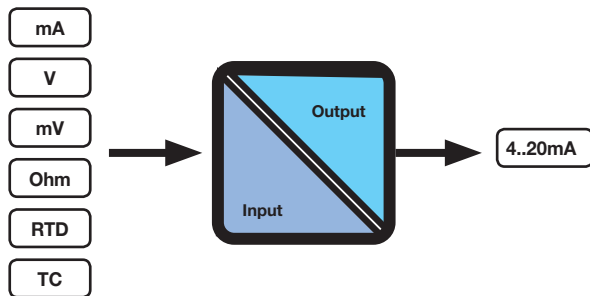
INPUT DATA

| | |
|----------------|--|
| 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

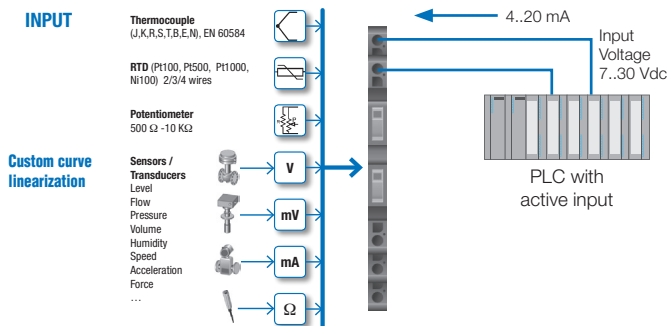
| | |
|------------------------|-----------------|
| Channels | 1 |
| Type | CURRENT 4..20mA |
| Response time (10-90%) | 140..620ms |

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 |



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