

ISOCON-LIN

3-PORT ISOLATING SIGNAL LINEARISER



- Universal input/output- user selectable
- 31 Point Custom Linearization of Input
- User configurable Input & Output
- Wide range AC or DC Supply
- Isolated Transmitter Supply
- Very High Accuracy, Low Cost
- Only 12.5mm Wide on DIN rail

The new **ISOCON-LIN** Isolating Signal Converter can accept a wide range of inputs including 4-20mA, thermocouple, RTD and voltage signals. The units produce a high level DC output of either voltage or current which can be custom linearised to form virtually any output curve required

Full 3 port isolation is standard as is an isolated transmitter supply which can be used to power any standard 2-wire 4-20mA transmitter.

The input type and range can be user selected using simple DIL switches inside the unit. All RTD and Thermocouple inputs can be fully linearised.

Up to 31 linearisation points can be specified and the units can either be factory set to your specification or user-set in the field.

Other features include optional inversion of the input signal, an optional second analogue output (see Dualcon data sheet) and optional Relay alarm outputs (see 4002ALM-6 data sheet)

The unit is supplied with two power supply options, either wide ranging ac or dc. The ac version operates from any supply from 90 to 264 Vac and the dc version operates from 12 to 36 Vdc.

Outputs

DC Current and Voltage

0-20mA, 4-20mA, 0-10mA into 750 Ω

0-1V, 0-10V, 1-5V into a minimum 100k Ω

Others available up to a maximum of:

Current: 0-20mA. Voltage: 0-10Vdc

Standard Ranges are shown below - contact Sales for others.

DC/AC Current & Voltage

0-20mA, 4-20mA, 0-10mA into 15 Ω

0-1V, 0-10V, 1-5V into 1M Ω

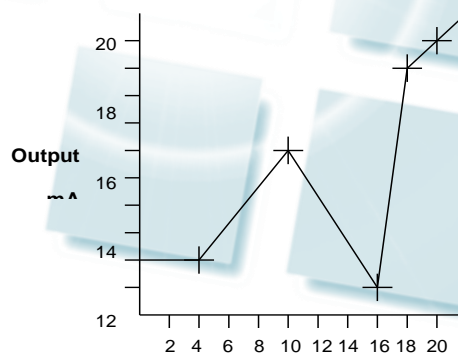
Min & Max Full Scale Ranges are:

| | | |
|--------------------|------------------|-------------------|
| DC Current | 0 - 1mA | 0 - 5A |
| Bipolar DC Current | ± 5 mA | ± 10 mA |
| DC Voltage | 0 - 1V | 0 - 300V* |
| Bipolar DC Voltage | ± 5 V | ± 10 V |
| 2 Wire Pot | 0 - 125 Ω | 0 - 1k Ω |
| 3 Wire Pot | 0 - 1k Ω | 0 - 100k Ω |

* Note: For input voltages greater than 60Vdc a Divider unit must be specified.

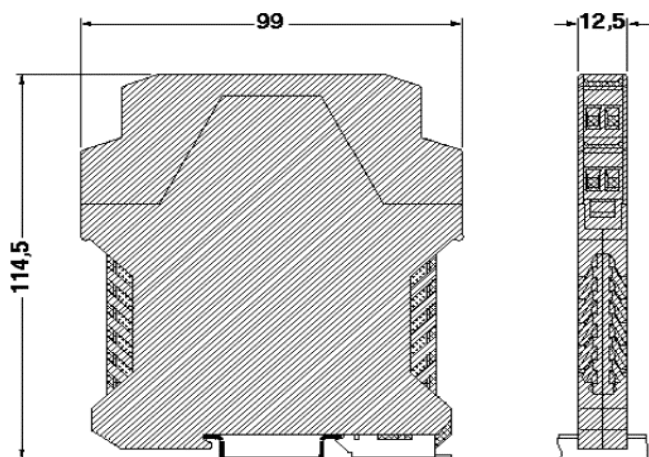
Thermocouples & RTD sensors can also be accepted

A typical linearization function could look like this:



Technical Specifications

| Parameter | Min | Typ | Max | Comments |
|---|---|---------------|----------------------|---|
| Supply Voltage | 12 | 24V | 36Vdc/32Vac | 90 to 264 for ac input version |
| Supply Current (mA) | | 45 | 85 | For 24 V dc supply (260mA for 50ms on start-up) |
| Input Impedance (Volt) | | 1MΩ | | Dependent on range (Typ=10V) |
| Input Impedance(mA) | | 15Ω | | Dependent on range (Typ=20mA) |
| Volt drop (mA input) | | 0.3 | | At 20mA input |
| Output Linearity Error | | ±0.01% | ±0.05% | |
| Temp Coefficient | | | ±50ppm/°C | |
| Load Resistance Error | | | ±5ppm/Ω | 0 < RL < 750Ω |
| Time Constant (10-90%) | 25ms (fast) | 60ms (normal) | | Selectable fast/normal response |
| Operating Ambient | 0°C | | 55°C | |
| Relative Humidity | 0% | | 90% | |
| Isolation Voltage ^{see note 1} | 1kV | | | |
| Surge Voltage | 2.5kV for 50μs | | Transient of 10kV/μs | |
| Notes | Absolute maximum ratings indicate sustained limits beyond which damage to the device may occur. Accuracy figures based on 24Vdc supply, 4-20mA output with 250Ω load and 20°C ambient. Device is protected against reverse polarity connection. ISOCON does NOT provide safety isolation when the input is connected to the mains. | | | |



Installation data

| | |
|----------------------|---------------------------------|
| Mounting | DIN Rail TS35 |
| Orientation | Any |
| Connections | Screw Clamp with pressure plate |
| Conductor size | 0.5-4.0mm |
| Insulation Stripping | 12mm |
| Weight | Approx 95g |

Connection details

| | | | | |
|-----|---------------|-----|------------|--------------------------|
| 1. | Power Input | -ve | | |
| 2. | Power Input | +ve | | |
| 4. | Process Input | -ve | T/C -ve | RTD -ve |
| 5. | Process Input | +ve | T/C +ve | RTD +ve |
| 3. | Trans supply | +ve | | RTD 4 th Wire |
| 6. | | | T/C Shield | RTD 3 rd Wire |
| 10. | Output | -ve | | |
| 12. | Output | +ve | | |

Ordering information

| | |
|-----------------------|--|
| Please supply: | |
| Part Number: | II-ISOCON-LIN-3-JJJJ-J-L02 |
| Input Type: | e.g mA, Volt, T/C, RTD |
| Input Range: | e.g 4-20, 0-10, 0-500 $^\circ\text{C}$ |
| Output Type: | e.g mA, Volt |
| Output Range: | e.g 4-20mA, 0-10V |
| Power Supply: | -6 (DC) or -3 (AC) |
| Isolation: | Full 3-Port |
| Options: | Specify Linearisation Required for Factory configuration |

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