

ISOCON-LIN

3-Port Isolating Signal Lineariser



- **Universal input/output- user selectable**
- **31 point custom linearisation 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**

DESCRIPTION

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 750Ω

0-1V, 0-10V, 1-5V into a minimum 100kΩ

Others available up to a maximum of:
Current: 0-20mA. Voltage: 0-10Vdc

Inputs

Standard Ranges are shown below - contact Sales for others.

DC/AC Current & Voltage

0-20mA, 4-20mA, 0-10mA into 15Ω

0-1V, 0-10V, 1-5V into 1MΩ

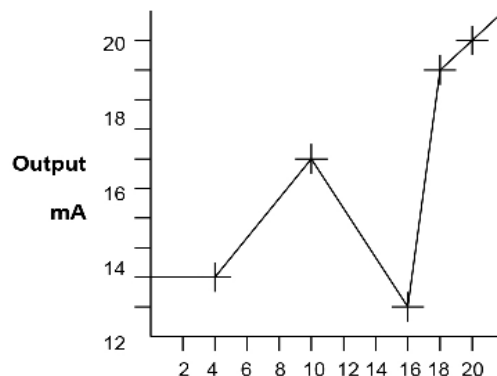
Min & Max Full Scale Ranges are:

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

* 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:



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7 Cobham Road
Ferndown Industrial Estate
Wimborne, Dorset, BH21 7PE
Telephone: +44 (0)1202 897969

Email: c3w_sales@sensata.com

ISO9001 CERTIFIED

[cynergy3-isocon-lin-v2](http://www.cynergy3.com)



www.cynergy3.com

ISCON-LIN

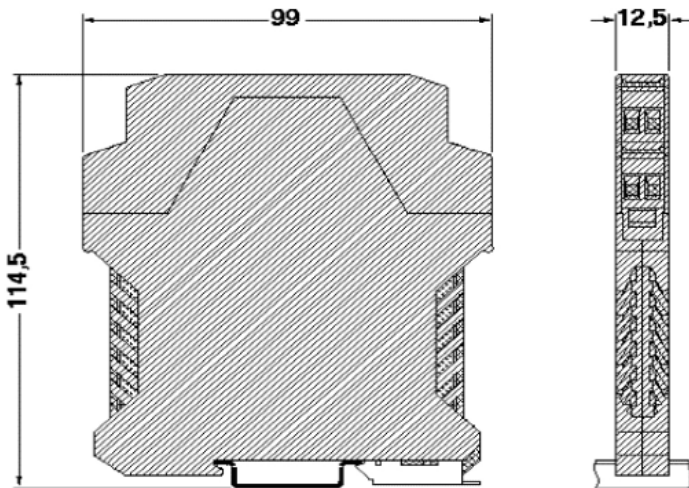
3-Port Isolating Signal Lineariser

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) | | 1M Ω | | Dependent on range (Typ=10V) |
| Input Impedance (mA) | | 15 Ω | | Dependent on range (Typ=20mA) |
| Volt drop (mA input) | | 0.3 | | At 20mA input |
| Output Linearity Error | | $\pm 0.01\%$ | $\pm 0.05\%$ | |
| Temp Coefficient | | | $\pm 50\text{ppm}/^\circ\text{C}$ | |
| Load Resistance Error | | | $\pm 5\text{ppm}/\Omega$ | $0 < R_L < 750 \Omega$ |
| Time Constant (10-90%) | 25ms (fast) | 60ms (normal) | | Selectable fast/normal response |
| Operating Ambient | 0 $^\circ\text{C}$ | | 55 $^\circ\text{C}$ | |
| Relative Humidity | 0% | | 90% | |
| Isolation Voltage <small>see note 1</small> | 1kV | | | |
| Surge Voltage | 2.5kV for 50 μs | | 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 250 Ω load and 20 $^\circ\text{C}$ 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