

ISOCON

Isolating Signal Converter



The ISOCON 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.

Key Features

- Universal Input/Output - User Selectable
- Full 3-Port Isolation
- Wide Range AC or DC Supply
- Isolated Transmitter Supply
- Very High Accuracy, Low Cost
- Only 12.5mm wide on DIN Rail



Options & Ordering Codes

ISOCON		-	6
Series			
Isolating Signal Converter	ISOCON	3	90-264VAC Supply
		6	12-32VAC & 12-36VDC Supply



Description

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. Non-interactive zero and span controls make adjustment of the unit quick and simple.

Other features include optional inversion of input signal an optional second analogue output (see DUALCON technical datasheet) and an optional Relay alarm output. The unit is supplied with two power supply options either wide ranging AC or DC. The AC version operates from any supply from 90V to 264VAC and the DC version operates from 12V to 32VAC and 12V to 36VDC.

For specials such as custom linearisation etc. please contact IMO.

Inputs

Standard ranges are shown below. Contact IMO for others.		
AC/DC Current & Voltage		
0-20mA, 4-20mA, 0-10mA into 15		
0-1V, 0-10V, 1-5V into 1M		
Min. & Max. Full Scale Ranges are as follows:		
DC Current	0-1mA	0-5A
Bipolar DC Voltage	±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.

Outputs

AC/DC Current & Voltage	
0-20mA, 4-20mA, 0-10mA into 15 maximum 1kΩ	
0-10V, 1-5V into minimum 7kΩ	
Others available up to a maximum of:	
Current: 0-20mA	Voltage: 0-10VDC

Thermocouples

Types E, J, K, N, R, S, T, B linearised or non-linearised. Ranges: Wide range of inputs
Cold junction compensation (can be turned off)
Upscale or downscale RTD burnout options

Resistance Thermometers

2, 3 or 4 wire PT100 or PT1000, linearised or non-linearised
Ranges: Wide range of inputs
Upscale or downscale RTD burnout options

ISOCON

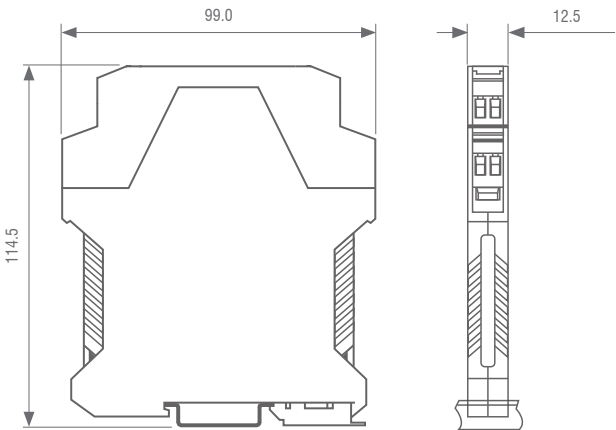
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Technical Specifications

Parameter	Minimum	Typ.	Maximum	Notes
Supply Voltage	12V	24V	36VDC/32VAC	90 to 264V for AC input version
Supply Current (mA)		45	85	For 24VDC (260mA for 50ms on startup)
Input Impedance (Volt)		1M Ω		Dependant on range (Typ=10V)
Input Impedance (mA)		15 Ω		Dependant on range (Typ=20mA)
Volt Drop (mA input)		0.3	0.15	At 20mA input
Output Linearity Error		$\pm 0.01\%$	$\pm 0.05\%$	
Temperature Coefficient			$\pm 50\text{ppm}/^\circ\text{C}$	
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*	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 250Ω load and 20$^\circ\text{C}$ ambient. Device is protected against reverse polarity connection. 1) ISOCON does NOT provide safety isolation when the input is connected to the mains			

Dimensions (mm)



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 4th Wire
6		T/C Shield	RTD 3rd Wire
10	Output -ve		
12	Output +ve		