

Signal conditioning

VCON-AC AC INPUT ISOLATING CONVERTER



- AC current and voltage inputs
- Isolated mA or Voltage output
- Zero & Span Pots For Output
- Optional Isolated Transmitter Supply
- High Accuracy, Low Cost
- Only 17.5mm Wide on DIN Rail

Description

The VCON family of Isolating Signal Converters can accept a wide range of AC Current or Voltage inputs.

The units produce a high level DC output of either voltage or current.

Full 3 port isolation is standard but the unit can be supplied as

- Non-Isolated
- Input Only Isolation
- Output Only Isolation
- Full 3-Port Isolation

Typically applications include the isolation and conversion to 4–20mA of the 0–1Aac or 0–5Aac outputs from industry standard current transformers.

The units can also accept the 0 – 330mVac outputs from voltage transformers and convert to a 4–20mA or 0–10Vdc output.

For high voltage AC conversions a Divider unit may be required to lower the AC voltage before feeding it into the VCON-AC unit.

The unit may be powered from a wide range of power supplies, ranging from 12Vdc to 24Vac.

Inputs

Factory Configured inputs for AC Current & Voltage

Min & Max Full Scale Ranges are:

AC Current	0 to 100mA rms	0 to 5A rms
AC Voltage	0 to 200mV rms	0 to 250V rms

Note: For input voltages greater than 30Vac a Divider unit must be specified.

Outputs

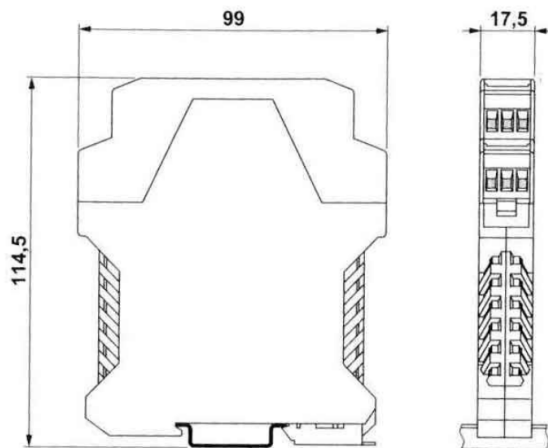
Standard User Configurable Ranges:

0–20mA, 4–20mA into 750Ω max
0–5V, 0–10V into a 100kΩ min

Factory configured ranges up to a maximum of:
Current: 0–20mA. Voltage: 0–15Vdc



Technical Specifications				
Parameter	Min	Typ	Max	Comments
Supply Voltage (V)		24V		Options: 12,24Vdc 24Vac
Supply Current (mA)		45	100	Based on 24 V dc supply
Input Impedance (Volt)	100k Ω	1M Ω	10M Ω	Dependent on range (Typ=10V)
Input Impedance(mA)	0.02 Ω	5 Ω	2k Ω	Dependent on range (Typ=20mA)
Volt drop (mA input)		0.1	0.15	At 20mA input
Output Linearity Error		$\pm 0.03\%$	$\pm 0.1\%$	$R_L = 250\Omega$ (1% for sinusoidal ac inputs)
Temp Coefficient			$\pm 100\text{ppm}/^\circ\text{C}$	
Load Resistance Error			$-20\text{ppm}/\Omega$	$0 < R_L < 750\Omega$
Time Constant (10-90%)		30ms		Damping option can be selected
Operating Ambient	0 $^\circ\text{C}$		55 $^\circ\text{C}$	
Relative Humidity	0%		90%	
Isolation Voltage ^{see note 1}	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. VCON-HL 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 110g

Connection details	
1.	Power Input -ve
2.	Power Input +ve
4.	Process Input -ve
5.	Process Input +ve T
3.	Trans supply +ve
6.	Trans supply -ve
10.	Output -ve
12.	Output +ve

Ordering information	
Please supply:	
Part Number:	II-VCONAC-6-IA-A-000
Input Type:	e.g AC current
Input Range:	e.g 0-5A ac
Output Type:	e.g mA, Volt
Output Range:	e.g 4-20mA, 0-10V
Power Supply:	e.g 24Vdc
Isolation:	Full 3-Port
Transmitter Supply:	Yes / No