



FREQCON

CONFIGURABLE FREQUENCY TO ANALOGUE CONVERTER

- 0 – 250kHz Programmable Input Stage
- 3-Port Isolation to 1000Vdc
- Very High Accuracy
- Wide Range of Input Types
- Low Cost of Ownership
- Ultra-Compact, only 12.5mm Wide!



Description

The FREQCON is a frequency to analogue converter which can be configured using switches to perform any frequency to analogue converting function.

The range of frequency input available is 0 – 250kHz and any offset can be introduced on the input. The input can be averaged over a period between 0 and 45 seconds with a quickstep option available to respond quickly to sudden changes in input frequency.

Typical applications include the conversion and linearisation of the frequency output from a turbine meter, or the conversion of an optical sensor on rotating machinery to a 4-20mA output of r.p.m.

The operational status of the unit is indicated by the front panel LED. The unit can be powered by any supply from 12-36 Vdc and 12-32Vac.

Inputs

The inputs types and ranges included below are our standard ones only. Please contact our sales department for details on any application not specified below.

- 2-Wire Proximity
- Volt Free Contact
- Open Collector NPN or PNP
- 5V Logic TTL
- 24V Logic
- Inductive / Magnetic Pickup

Outputs

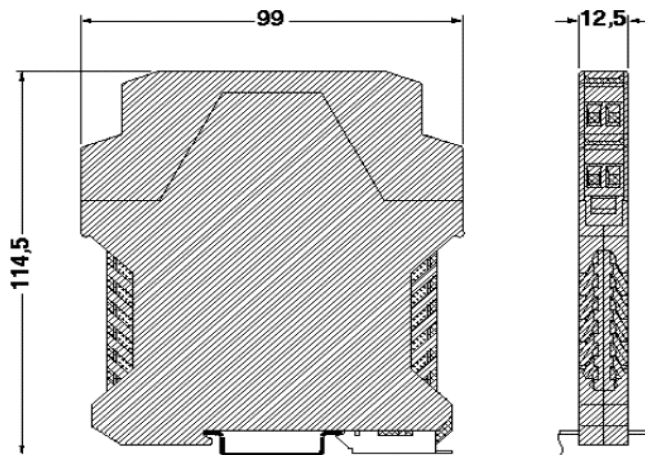
DC Current (Source or Sink) and Voltage

- 0-20mA, 4-20mA, 0-10mA into 750Ω maximum.
- 0-1V, 0-10V, 1-5V into a minimum 100kΩ



Performance Characteristics

Parameter	Min	Typ	Max	Comments
Supply Voltage	12V	24V	36V	
Supply Current		110mA	134mA	Max with 22V Transmitter Supply @ 24mA
Input Voltage Logic 0	-30V		+0.1V	
Input Voltage Logic 1	+0.1V		+30V	
Frequency Resolution			1.333 μ s	
Overall Accuracy		$\pm 0.01\%$	$\pm 0.06\%$	Input to Analogue Output
Input Accuracy		$\pm 0.01\%$		
Temp Coefficient			± 50 ppm/ \equiv C	
Load Resistance Error			± 5 ppm/ Ω	$0 < R_L < 750\Omega$ (mA Output)
Time Constant (10-90%)		50ms	60ms	
Operating Ambient	$0 \equiv$ C		$55 \equiv$ C	
Relative Humidity	0%		90%	
Isolation Voltage	1kV			
Surge Voltage	2.5kV for 50 μ S		Transient of 10kV/ μ S	
Notes	Absolute maximum ratings indicate sustained limits beyond which damage to the device may occur. Device is protected against reverse polarity connection. Accuracy figures based on an ambient temperature of $20 \equiv$ C. The Time Constant is dependent on which processing options have been selected and the applied frequency.			



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
Max Terminal Torque	0.4Nm

Connection Details

1. Power Input -ve
2. Power Input +ve
7. Input Ground
9. Frequency Input +ve
10. +8V or +24V Transmitter Supply
4. Output -ve
5. Output +ve

Ordering Information

Please supply:

Part Number:	FREQCON-6
Configuration Options:	e.g. Open Collector NPN
Input Freq Range:	e.g. 0 to 100Hz
Output Type:	e.g. mA, Volt
Output Range:	e.g. 4-20mA, 0-10V
Power Supply:	24Vdc