

DSCIA32

Analog Current Input Signal Conditioners

Description

DSCIA32 Current input module is single channel analog input, which is filtered, isolated, amplified & converted to standard level output. A five pole filter is provided with signal filtering which provides up to 85dB NMR at 60Hz and 80dB 50Hz. The input signal is chopped by a proprietary converter circuit. After initial filter stage isolation is provided by transformer coupling which eliminates common mode spikes and surges.

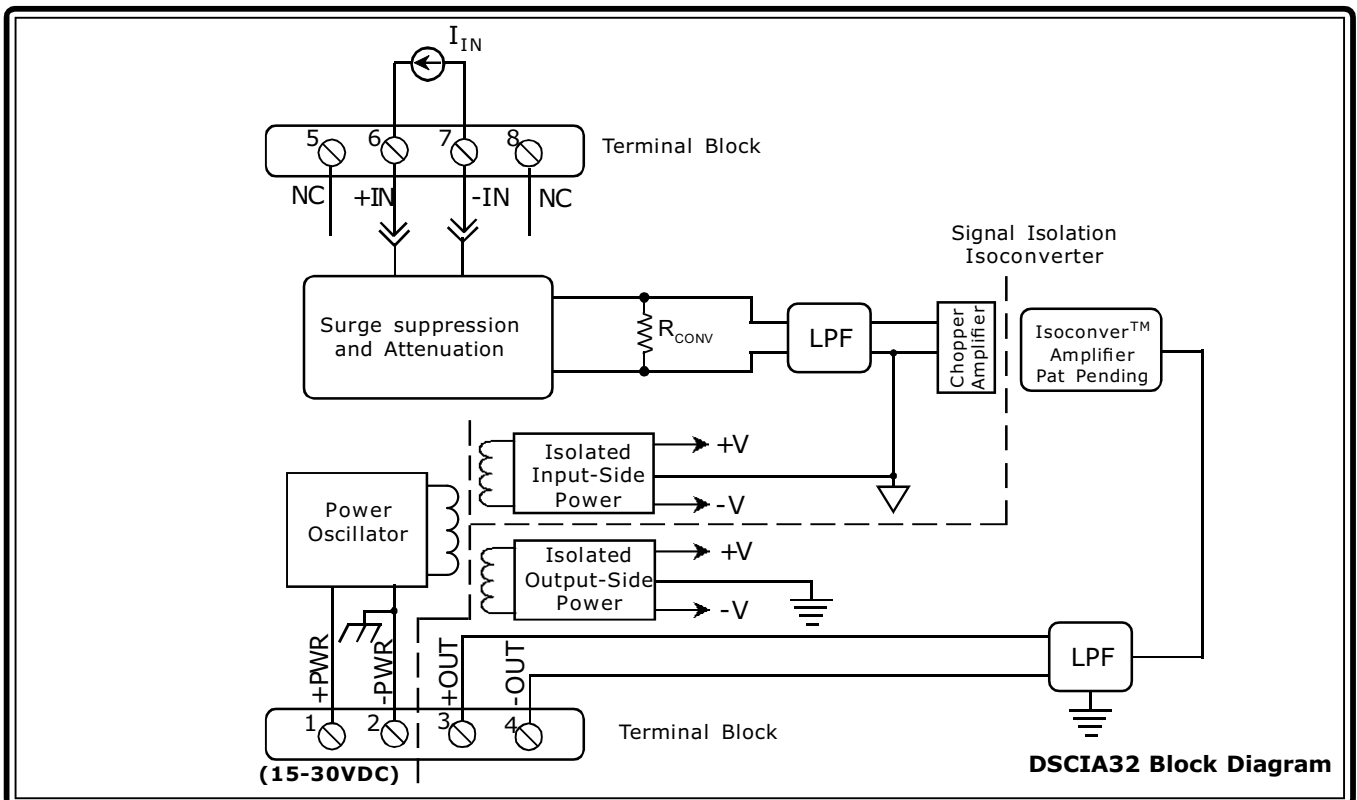
The output of this module is either voltage or current. In the case of current module a dedicated loop supply is provided at the output side. The output signal is isolated from power and input signal, hence it can be either floating or grounded.

Signal input has a input protection for 250V AC accidental connection and transient protection as per ANSI/IEEE C37.90.1. Output is also protected against short circuit, power supply input is protected against terminal reversal and transients. The signal and power wires can be connected directly on to heavy duty screw terminals provided.

These modules are most rugged, reliable and stable over long time and do not require frequent recalibration. However $\pm 5\%$ zero & span adjustment provides flexibility where fine tuning is warranted.

Features

- Wide range of Milliamps input Signals
- Standard Output of 0 to 10V, 0 to 5V, 1 to 5V, 0 to 20mA, or 4 to 20mA
- 1.5KV Isolation
- ANSI/IEEE C37.90.1 Transient Protection
- 250VAC Continuous Protection on Input
- True 3-Way Isolation
- Wide range of supply voltage(15 to 30V DC)
- 105dB CMR
- 5 poles of filtering
- $\pm 0.03\%$ Accuracy
- $\pm 0.01\%$ NonLinearity
- Standard DIN Rail Mountable
- CSA , FM , CE and ATEX Compliant



Specifications

Typical at $T_A = +25^\circ\text{C}$ and +24V supply voltage

Module	DSCIA32
Input Range	0-20mA or 4-20mA
Input Resistance	
Normal	<100Ω
Power Off	<100Ω
Overload	65KΩ
Input Protection	
Continuous	250V rms max.
Transient	ANSI/IEEE C37.90.1
Output Range	See Ordering Information
Load Resistance (I_{OUT})	600Ω max
Current Limit	8mA (V_{OUT}), 30mA (I_{OUT})
Output Protection	
Short to Ground	Continuous
Transient	ANSI/IEEE C37.90.1
CMV, Input to Output, Input to Power	
Continuous	1500V rms max
Transient	ANSI/IEEE C37.90.1
CMV, Output to Power	
Continuous	50VDC max
CMR (50Hz or 60Hz)	105dB
Accuracy ⁽¹⁾	$\pm 0.03\%$ Span
Nonlinearity	$\pm 0.01\%$ Span
Adjustability	$\pm 5\%$ Zero and Span
Stability	
Offset	$\pm 6\text{ppm}/^\circ\text{C}$ (V_{OUT}), $\pm 20\text{ppm}/^\circ\text{C}$ (I_{OUT})
Gain	$\pm 40\text{ppm}/^\circ\text{C}$
Output Noise, 100kHz Bandwidth	$300\mu\text{Vrms}$ (V_{OUT}), $1.2\mu\text{Arms}$ (I_{OUT})
Bandwidth, -3dB	100Hz
NMR (-3dB at 100Hz)	100dB/decade above 100Hz
Response Time, 90% Span	5ms
Power Supply Typical Voltage	24V DC (15 to 30VDC)
Power Supply Current	25mA (V_{OUT}), 55mA (I_{OUT})
Power Supply Sensitivity	$\pm 0.0001\%/%$
Power Supply Protection	
Reverse Polarity	Continuous
Transient	ANSI/IEEE C37.90.1
Environmental	
Operating Temp. Range	-40°C to +80°C
Storage Temp. Range	-40°C to +80°C
Relative Humidity	0 to 95% Noncondensing
Emissions EN61000-6-4	ISM, Group 1
Radiated, Conducted	Class A
Immunity EN61000-6-2	ISM, Group 1
RF	Performance A $\pm 0.05\%$ Span Error
ESD, EFT, Surge, Voltage Dips	Performance B
Mechanical Dimensions	2.95" x 0.89" x 4.13"
(h) (w) (d)	(75mm x 22.5mm x 105mm)
Mounting	DIN EN 50022-35x7.5 or -35x15 rail

NOTES:

(1) Includes nonlinearity, hysteresis and repeatability.

Ordering Information

Model	Input Range	Output Range
DSCIA32-01	4mA to 20mA	2,3,4,5,7
DSCIA32-02	0mA to 20mA	2,3,4,5,7
DSCIA32-03	$\pm 20\text{mA}$	1
DSCIA32-04	$\pm 20\text{mA}$	2,3,4,5,7

Output Ranges Available

Output Range	Part No. Suffix	Example
1. -10V to +10V	NONE	DSCIA32-03
2. 0V to +10V	NONE	DSCIA32-01
3. 4 to 20mA	C	DSCIA32-01C
4. 0 to 20mA	E	DSCIA32-01E
5. 0 to 5V	A	DSCIA32-01A
7. 1 to 5V	F	DSCIA32-01F

Dimensional drawing

