

## DSCIA39

## Current Output Signal Conditioners

## Description

DSCIA39 Current output 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.

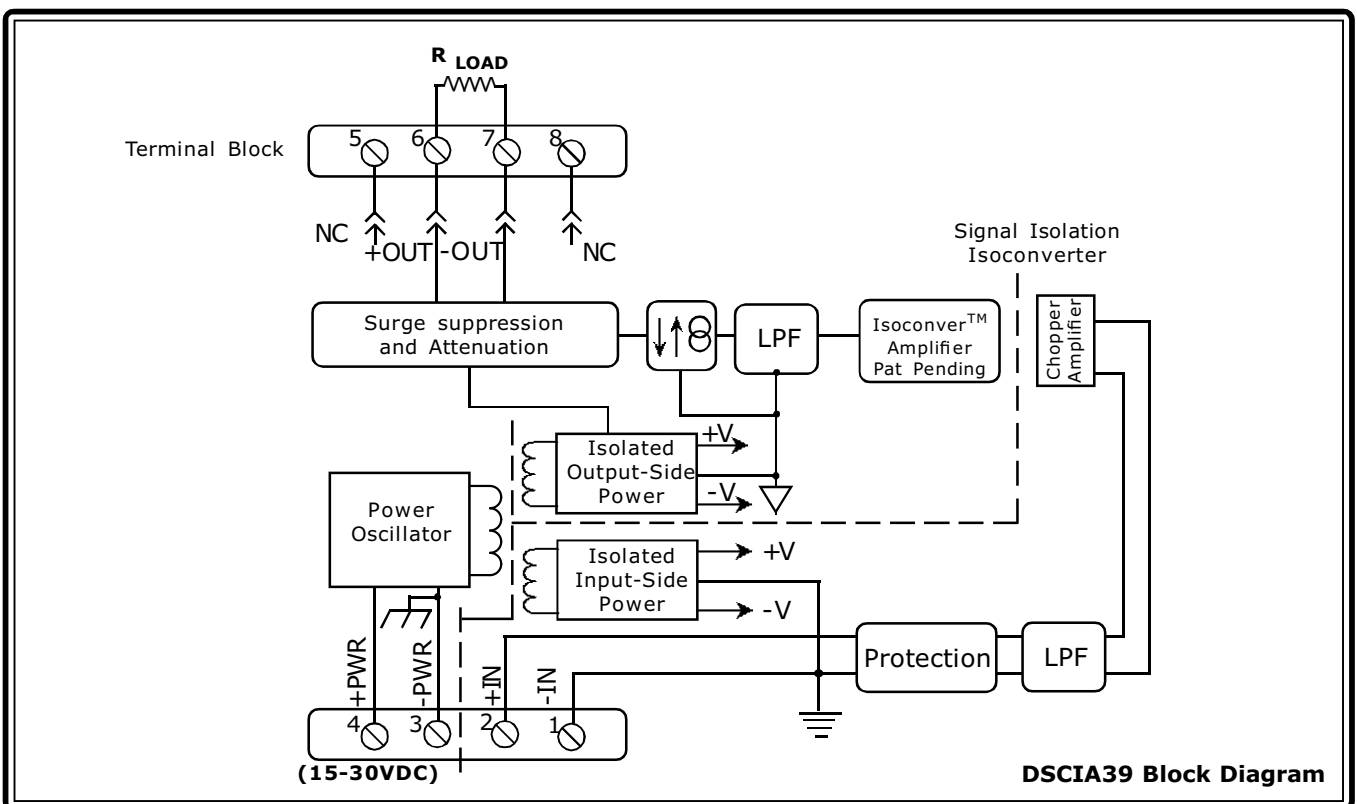
The output of this module is current. a dedicated loop supply is provided at the output side. The output signal is isolated from power and input signal, hence it can be either floating or grounded.

Signal output has a output 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 & voltage input Signals
- Standard Output of 0 to 20mA, 4 to 20mA or -20 to +20mA
- 1.5KV Isolation
- ANSI/IEEE C37.90.1 Transient Protection
- 250VAC Continuous Protection on Output
- True 3-Way Isolation
- Wide range of supply voltage(15 to 30V DC)
- 100dB CMR
- 5 poles of filtering
- $\pm 0.03\%$  Accuracy
- $\pm 0.01\%$  NonLinearity
- Standard DIN Rail Mountable
- CSA , FM , CE and ATEX Compliant



## Specifications

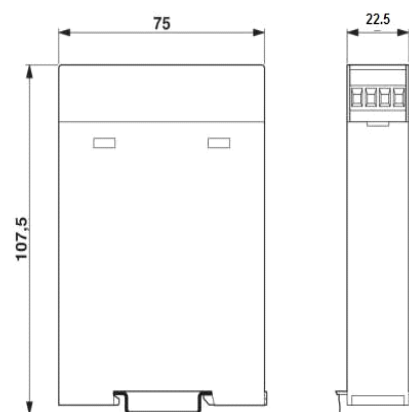
Typical at  $T_A = +25^{\circ}\text{C}$  and +24V supply voltage

## Ordering Information

Module	DSCIA39-01,-02,-03,-04	DSCIA39-05	DSCIA39-07
Input Range	$\pm 10\text{V}$ or 0 to +10V	0 to 20mA	$\pm 10\text{V}$
Input Resistance			
Normal	2M $\Omega$	<100 $\Omega$	*
Power off	2M $\Omega$	<100 $\Omega$	*
Overload	2M $\Omega$	65K $\Omega$	*
Input Protection			
Continuous	$\pm 35\text{V}$ max	75mA	*
Transient	ANSI/IEEE C37.90.1	*	*
Output Range	4-20mA or 0 to 20mA	0 to 20mA	-20 to +20mA
Over range capability	10%	*	5%
Output compliance voltage (open circuit)	22VDC	*	+15VDC
Load Resistance range	0 to 750 $\Omega$	*	0 to 500 $\Omega$
Output Protection			
Continuous	250V rms max.	*	*
Transient	ANSI/IEEE C37.90.1	*	*
CMV, O/p to I/p, O/p to power			
Continuous	1500Vrms max	*	*
Transient	ANSI/IEEE C37.90.1	*	*
CMV, Input to Power			
Continuous	50V DC max	*	*
CMR (50Hz or 60Hz)	100dB	*	*
Accuracy <sup>(1)</sup>	$\pm 0.03\%$ span	*	$\pm 0.05\%$
Nonlinearity	$\pm 0.01\%$ span	*	*
Adjustability	$\pm 5\%$ zero & span	*	*
Stability			
Zero	$\pm 20\text{ppm}/^{\circ}\text{C}$	*	*
Span	$\pm 40\text{ppm}/^{\circ}\text{C}$	*	*
O/p noise 100KHz bandwidth	4 $\mu\text{A}$ rms	$\pm 50\text{ppm}/^{\circ}\text{C}$	*
Bandwidth, -3dB	1KHz	*	*
NMR	100dB/Decade above 1KHz	*	*
Response Time, 90% span	475 $\mu\text{s}$	*	*
Power Supply Typical Voltage	24V DC (15 to 30VDC)	*	*
Power Supply Current	65mA	*	*
Power Supply Sensitivity	$\pm 0.0003\%/%$	*	*
Power Supply Protection			
Reverse Polarity	Continuous	*	*
Transient	ANSI/IEEE C37.90.1	*	*
Environmental			
Operating Temp. Range	-40 $^{\circ}\text{C}$ to +80 $^{\circ}\text{C}$	*	*
Storage Temp. Range	-40 $^{\circ}\text{C}$ to +80 $^{\circ}\text{C}$	*	*
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			
(h) (w) (d)	2.95" x 0.89" x 4.13"	*	*
Mounting	(75mm x 22.5mm x 105mm) DIN EN 50022-35x7.5 or -35x15 rail	*	*

Model	Input Range	Output Range
DSCIA39-01	0V to +10V	4mA to 20mA
DSCIA39-02	-10V to +10V	4mA to 20mA
DSCIA39-03	0V to +10V	0mA to 20mA
DSCIA39-04	-10V to +10V	0mA to 20mA
DSCIA39-05	4mA to 20mA	4mA to 20mA
DSCIA39-07	0V to +10V	-20mA to +20mA

## Dimensioned drawing



## NOTES:

\* Same specification as DSCIA39-01, -02, -03, -04

(1) Includes non-linearity, hysteresis and repeatability.