SCIM7B39

Isolated Process Current Output Modules

Description

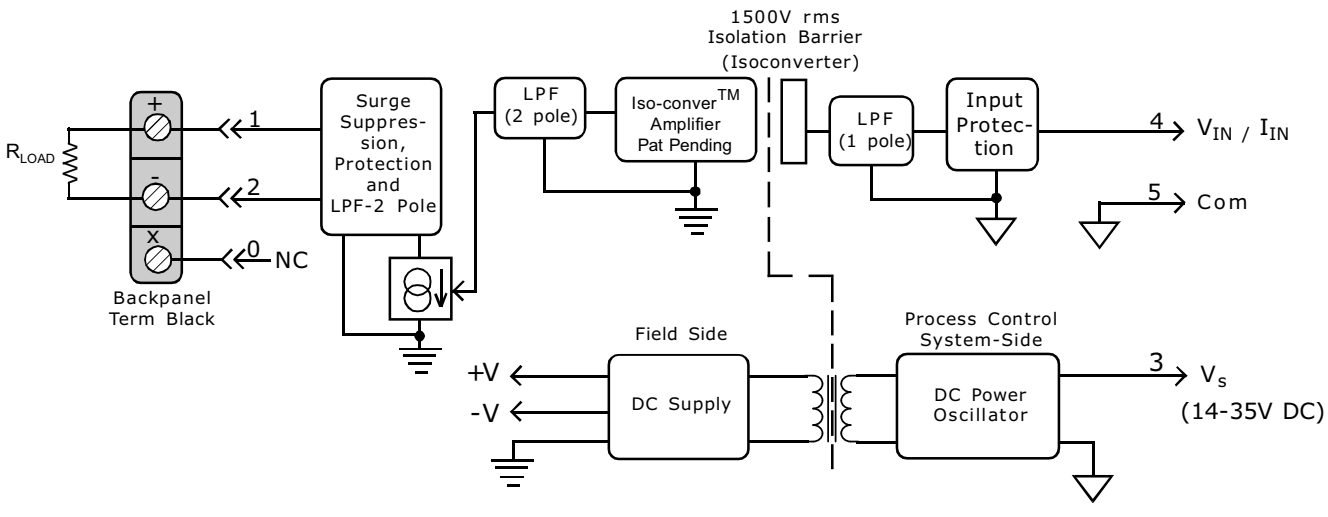
SCIM7B39 process current modules is a single channel analog input which if filtered, isolated, amplified, and converted to standard-level voltage output.A five pole filter is provided with signal filtering, this module provides either 0-20mA or 4-20m current to the field

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 signal is then reconstructed and filtered for process control system output.

These modules accepts a wide 14 - 35VDC power supply range (+24VDC nominal).The mechanical size (2.13''x1.705''x0.605'' max.) save space and are ideal for high channel density applications. They are designed for easy DIN Rail mounting using nay of the "DIN" backpanels.

Features

- Accepts High level Voltage Input
- Provides 4-20mA or 0-20mA Current Output
- 1.5KV Isolation
- Accuracy ±0.03% of span typical, ±0.1% max
- ANSI/IEEE C37.90.1 Transient Protection
- 120V rms Continuous Protected on Output
- Noise, 46u A P-P (5MHz), 4uA rms (100KHz)
- 110dB CMRR,
- 80dB per Decade of Attenuation above 100Hz
- CSA , FM , CE and ATEX Compliant
- CSA Certified, FM Approved,



SCIM7B39 Block Diagram

Specifications

Typical at T_A=+25°C and +5V Power supply

Module	SCIM7B39-01,-02,-03	SCIM7B39-04
Input		
Signal Range	1 to +5V, 0 to +10V	4 - 20mA
Bias Current	±1nA	N/A
Resistance		
Normal	10MΩ	270Ω
Power off	30KΩ min	>20KΩ
Overload	30KΩ min	N/A
Protection	±35V peak (no damage)	±7.5V peak
Compliance	N/A	35V DC max
Output		
Signal Range(1)	4 to 20mA, 0 to 20mA	4 to 20mA
Effective available power(1)	320mΩ	*
Protection		
Continuous	120Vrms max	*
Transient	ANSI/IEEE C37.90.1	*
Current limit	32mA	*
CMV (Input-to-Output)		
Continous	1500V rms	*
Transient	ANSI/IEEE C37.90.1	*
CMRR (50 or 60Hz)	110dB	*
Accuracy(2)	±0.03% Span typical, ±0.1% Span max	*
Nonlinearity(3)	±0.01% Span typical, ±0.02% Span max	*
Stability (-40°C to +85°C)		
Gain	±25ppm/°C	±50ppm/°C
Output Offset	±0.0035% Span/°C	±0.0045% Span/°C
Noise		
Peak at 5MHz B/W	46uA	*
RMS at 10Hz to 100HKz B/W	4uA	*
Peak at 0.1Hz to 10Hz B/W	42nA	*
Open Output Loop Detection	N/A	Input Resistance >20KΩ
Response		
Detection time	N/A	5ms
Frequency and Time Response		
Bandwidth, -3dB	100Hz	*
NMR (-3dB at 100Hz)	80dB/Decade above 100Hz	*
Step Response, 90% span	5ms	*
Power supply voltage	18 to 35V DC	*
Power supply Current(1)	56mA	*
Power supply Sensitivity	±0.0003%/%V_S	*
Mechanical Dimensions	2.13"x1.705"x0.605"max	*
(H) (W) (D)	(54.1 x 43.3 x 15.4mm) max	*
Environmental		
Operating Temp.Range	-40°C to +85°C	*
Storage Temp. Range	-40°C to +85°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 ±0.5% Span Error	*
ESD,EFT,Surge,	Performance B	*
Voltage Dips		

Note:

* Same specifications as SCIM7B39-01, -02, -03.

(1). Output range and supply current specifications are based on minimum output load resistance. Maximum output load resistance is calculated by P_E / I_{out}^2 where P_E is the output effective available power that guarantees output range, accuracy, and linearity specifications. Output effective available power is independent of supply voltage.

(2). Accuracy includes the effects of repeatability, hysteresis, and linearity.

(3). Non-linearity is calculated using the best-fit straight line method.

Ordering Information

Model	Input Range	Ouput Range
SCIM7B39-01	+1 to +5V	4 - 20mA
SCIM7B39-02	0 to +10V	0 - 20mA
SCIM7B39-03	0 to +10V	4 to 20mA
SCIM7B39-04	4 to 20mA	4 to 20mA