

SCM5B49

Voltage Output Modules

FEATURES

- ACCEPTS HIGH LEVEL VOLTAGE INPUTS TO $\pm 10V$
- PROVIDES HIGH LEVEL VOLTAGE OUTPUTS TO $\pm 10V$
- 1500 VOLT TRANSFORMER ISOLATION
- ANSI/IEEE C37.90.1e-1989 TRANSIENT PROTECTION
- 5 POLES OF FILTERING
- 110dB CMR
- 400Hz SIGNAL BANDWIDTH
- $\pm 0.05\%$ ACCURACY
- $\pm 0.02\%$ LINEARITY
- MIX AND MATCH SCM5B TYPES ON BACKPANEL
- CSA CERTIFIED, FM APPROVED, CE COMPLIANT

DESCRIPTION

Each SCM5B49 voltage output module provides a single channel of analog output. The track-and-hold circuit in the input stage can be operated in a hold mode where one DAC can supply many output modules, or a track mode where one DAC is dedicated to each module. In addition to the track-and-hold circuit, each module provides signal buffering, isolation, filtering, and conversion to a high level voltage output.

Setting of the track or hold mode is controlled by the logic state of WR EN, module pin 23. When pin 23 is low, the track mode is enabled. If pin 23 is open or high, the hold mode is enabled. The module is designed with a completely isolated computer side circuit which can be floated to $\pm 50V$ from Power Common, pin 16. This complete isolation means that no connection is required between I/O Common and Power Common for proper operation of the track and hold circuit. For a low state, simply connect pin 23, the Write-Enable pin, to I/O Common, pin 19.

The SCMPB02 and SCMPB06 backpanels allow host computer control of the WR EN control line, which allows multiplexing of one host DAC to up to 64 SCM5B49 output modules. During power up, the output remains 0V output for 100ms, which allows the track-and-hold circuit to be initialized.

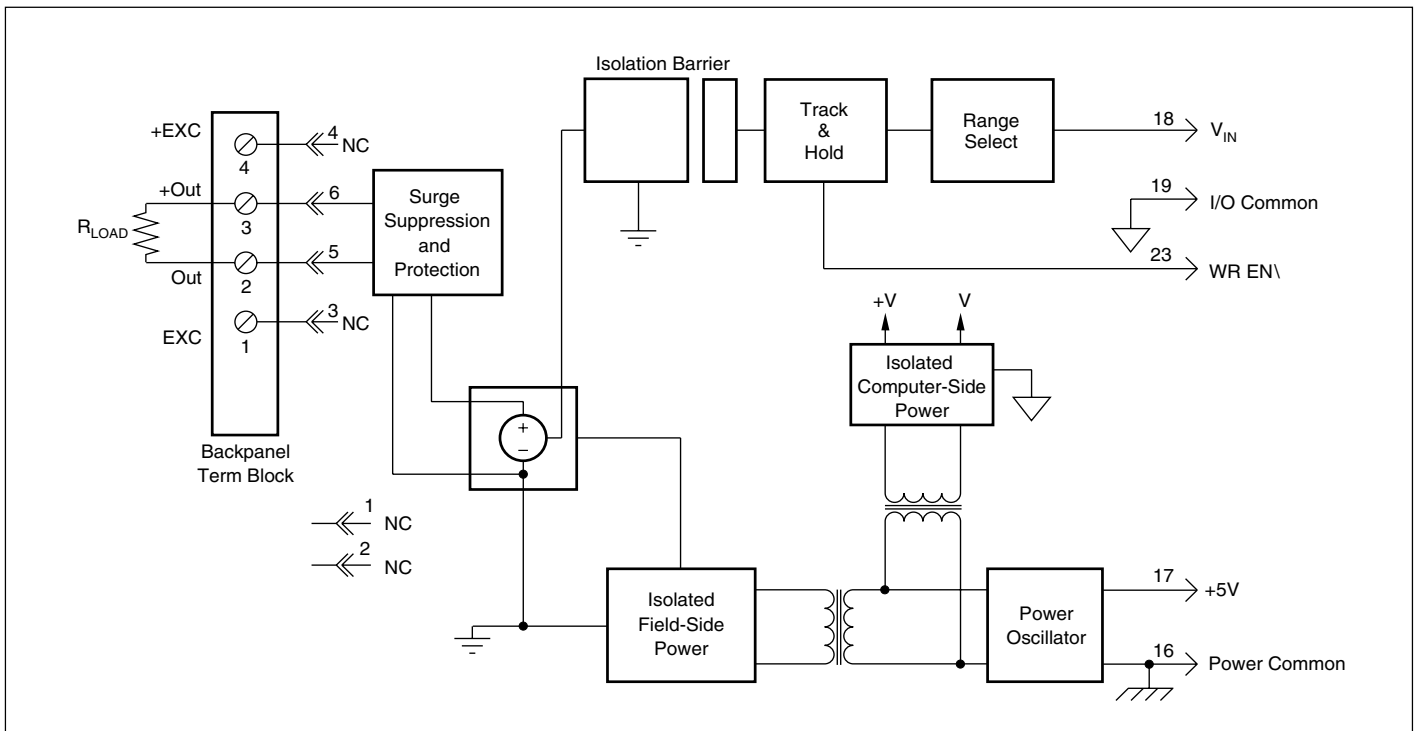


FIGURE 1. SCM5B49 Block Diagram.

SPECIFICATIONS Typical at TA= +25°C and +5V Power

Module	SCM5B49
Input Voltage Range Input Voltage Maximum Input Resistance	$\pm 5V$, 0 to +5V, $\pm 10V$, 0 to +10V $\pm 36V$ (no damage) 50M Ω
Output Voltage Range Over Range Capability Output Drive Output Resistance Output I Under Fault, Max Output Protection Transient	$\pm 5V$, 0 to +5V, $\pm 10V$, 0 to +10V 5% @ 10V output 50mA max 0.5 Ω 75mA ANSI/IEEE C37.90.1-1989
CMV, Output to Input Continuous Transient CMR (50 or 60Hz) NMR (-3dB at 400Hz)	1500Vrms max ANSI/IEEE C37.90.1-1989 110dB 100dB per Decade above 400Hz
Accuracy ⁽¹⁾ Nonlinearity Stability Zero Span Noise Output Ripple, 1kHz bandwidth Bandwidth, -3dB	$\pm 0.05\%$ span (0-5mA load) $\pm 0.02\%$ span $\pm 25ppm/^{\circ}C$ $\pm 20ppm/^{\circ}C$ 2mVp-p 400Hz
Sample and Hold Output Droop Rate Acquisition Time	0.2% Span/s 50 μs
Track-and-Hold Enable Control Max Logic "0" Min Logic "1" Max Logic "1" Input Current, "0"	+0.8V +2.4V +36V 0.5 μA
Power Supply Voltage Power Supply Current Power Supply Sensitivity	+5VDC $\pm 5\%$ 350mA Full load, 135mA No load $\pm 12.5ppm/\%$
Mechanical Dimensions	2.28" x 2.26" x 0.60" (58mm x 57mm x 15mm)
Environmental Operating Temp. Range Storage Temp. Range Relative Humidity RFI Susceptibility Emissions Immunity	-40°C to +85°C -40°C to +85°C 0 to 95% noncondensing $\pm 0.5\%$ Span error at 400MHz, 5W, 3ft EN50081-1, ISM Group 1, Class A (Radiated, Conducted) EN50082-1, ISM Group 1, Class A (ESD, RF, EFT)

NOTES: (1) Includes nonlinearity, hysteresis and repeatability.

ORDERING INFORMATION

MODEL	INPUT RANGE	OUTPUT RANGE
SCM5B49-01	0V to +5V	-5V to +5V
SCM5B49-02	-5V to +5V	-5V to +5V
SCM5B49-03	-5V to +5V	0V to +5V
SCM5B49-04	0V to +10V	-10V to +10V
SCM5B49-05	-10V to +10V	-10V to +10V
SCM5B49-06	-10V to +10V	0V to +10V
SCM5B49-07	-5V to +5V	-10V to +10V