

SC-100

LVDT Signal Conditioner

Smart Industrial AC-LVDT Signal Conditioner Module



Alliance Sensors Group's new SC-100 DIN-rail-mounting smart LVDT signal conditioner module makes setting up and calibrating an AC-LVDT installation very easy by offering built-in null indicators and front panel pushbuttons to set zero and full scale output. Engineered to work with the widest range of LVDT and inductive half-bridge linear sensors, the SC-100 module offers a choice of 4 excitation frequencies, works over a 40 dB range of full scale sensor outputs, and features 8 analog DC outputs, including a bipolar voltage output for legacy systems. Using its 2-wire RS-485 digital communications port, a user can remotely set up and operate an SC-100 module from a personal computer, and can get information for data acquisition. The very reliable SC-100 module comes with a 2-year limited warranty and offers many additional features that make it the easiest to use and best value of any industrial single channel AC-LVDT signal conditioner currently available.

Features:

- Smart calibration setup with front panel push buttons --- no pots, no calculations
- Built-in null indication --- front panel LEDs and DC null voltage output
- 2.5 kHz, 5.0 kHz, 7.5 kHz, and 10.0 kHz nominal excitation frequencies
- Fail-safe excitation syncing by auto-mastering prevents cross talk in multiple units
- Works with LVDT full scale outputs ranging from 50 mV to 5000 mV
- Half-duplex digital communications via RS-485 2-wire multi-drop bus

Specifications:

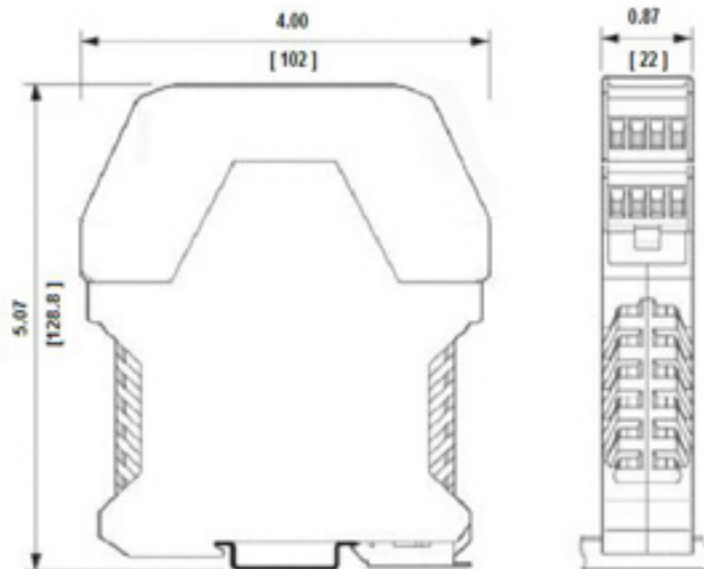
Operating power	+15 to +30 V DC (+24 V nom.), 60 mA max. at 24 V DC; +15 V DC and -15 V DC needed for ± 10 V DC bipolar output
Excitation voltage	3.0 Vrms (nom.) push-pull drive (factory default) 4.5 Vrms (nom.) push-pull drive (via jumper change) 1.5 Vrms (nom) single ended drive (for low impedance primary)
Excitation frequencies	2.5 kHz, 5 kHz, 7.5 kHz, 10 kHz (nominal)
Auto-master syncing	Master output couples up to fifteen slave units; if master fails, new master is automatically generated for fail-safe excitation
LVDT AC output range	50 mVrms to 5000 mVrms at LVDT's full scale position
Analog DC outputs	0 - 5 V, 1 - 5 V, 0.5 - 4.5 V, 0.5 - 9.5 V, 0 - 10 V, -10 to +10 V, 0 - 20 mA sourcing, 4 - 20 mA sourcing
Loop resistance	850 Ohms max. with 24 V DC supply)
Output non-linearity	$\leq 0.025\%$ of Full Span Output (FSO)

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Specifications (cont):

-3 dB response	10% of excitation frequency minimum (normal setting); 10 Hz (default) user adjustable (low noise setting)
Noise and ripple	≤ 2.5 mVrms (voltage output); ≤ 5 μ Arms (current loop output)
Null indicators	Front panel LEDs
Null output signal	Up to ± 3 V DC
Operating temperature	-20 to 75 C
Temperature coefficient	$\pm 0.002\%$ of FSO/ $^{\circ}$ C (combined zero and span shift)
Zero set	Front panel push button or RS-485 command
Full scale set	Front panel push button or RS-485 command
Digital interface	RS-485 2-wire multi-drop network, 16 addresses



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