



everight SENSOR SUPPORT **S1A**
SENSORS ELECTRONICS

World's Most Advanced AC-LVDT Signal Conditioner

The Everight **S1A** DIN rail module ends the usual difficulties that accompany AC-LVDT set up with a built-in null indicator and simple front panel pushbuttons to set *zero* and *full scale*. Engineered to work with the widest range of AC-LVDTs and inductive half-bridges, the **S1A** module monitors LVDT operation and indicates most common failures. The **S1A** offers a choice of four excitation frequencies and eight analog DC outputs, as well as an RS-485 digital communications port. These features make the Everight **S1A** the world leader in AC- LVDT signal conditioning...

- *Smart setup with 2 front panel push buttons --- NO POTS*
- *Built-in null indicator: LEDs and separate DC null voltage output*
- *Choice of 1, 3, 5, or 10 kHz nominal excitation frequencies*
- *Use with 3-, 4-, 5-, or 6-wire LVDTs and inductive half-bridges including 3-wire GE LVRTs*
- *Choice of 6 DC voltage outputs and 2 current loop outputs*
- *40 dB range of FS outputs from LVDT: 50 mV rms to 5 Volts rms*
- *Fail-safe master /slave syncing eliminates beat frequencies*
- *15 - 32 Volts DC operation, 80 mA maximum operating current.*
- *Self-diagnostic for LVDT winding failures or cable disconnection*
- *Independent failure warning flag via open collector output*
- *Digital communications link via RS-485 multi-drop bus with up to 16 individual module addresses*
- *Hot swappable: set-up can be saved /reloaded via RS-485 port*
- *Color coded plug-in connections to 22.5 mm wide DIN-rail module*
- *TWO (2) YEAR warranty instead of industry standard (1) year*



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Everight Sensors **S1A** LVDT Signal Conditioner Specifications

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|--------------------------------|--|
| Operating power: | +15 to +32 V DC (+24 V DC nominal), 60 mA max. at 24 V DC; +15 V DC and -15 V DC for -10 V to +10 V DC bipolar output |
| Excitation voltage: | 3.0 Vrms sine wave push-pull drive nominal (factory default) 4.5 Vrms sine wave push-pull drive via on-board jumper shift 1.5 Vrms single ended drive for low impedance (100 -150 Ω) primary |
| Excitation frequencies: | 1 kHz, 3 kHz, 5 kHz, 10 kHz (nominal) |
| Master/slave syncing: | Master output couples up to fifteen slave inputs; if original master fails, new master is automatically generated for fail-safe excitation control. |
| LVDT AC Output Signal: | 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 -10 V, -10 to +10 V, 0.5 - 9.5 V, 0 -20 mA sourcing, 4 -20 mA sourcing |
| Loop resistance: | 850 Ω max (current loop output mode, 24 V DC supply) |
| Output non-linearity: | $\leq 0.025\%$ of Full Span Output (FSO) |
| Frequency response: | -3 dB at 10% of excitation frequency (nominal) (standard: DS2-4 <i>off</i>) -3 dB at 10 Hz (nominal) (low noise setting: DS2-4 <i>on</i>) |
| Noise and ripple: | ≤ 2 mVrms (voltage output), or ≤ 4 μ Arms (current loop output.) |
| Fault indication: | Loss of excitation, open primary or secondary, LVDT disconnected |
| Fault output: | LED indicators, open collector output, 50 mA, 26.5 V DC max. |
| Null detection: | Front panel LEDs, ± 30 mV threshold out of $\approx \pm 1.6$ V signal level |
| Null output: | LEDs, DC null voltage signal ($\approx \pm 3$ V DC = \pm FS) |
| Operating Temperature: | -20 $^{\circ}$ C to +75 $^{\circ}$ C |
| 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 |

S1A Module Outline Dimensions

