

V550 LVDT/RVDT scanner

Features

- Conditions eight LVDT-type position transducers
- Self-scanning with onboard microprocessor
- Presents scaled, normalized position data to the VME bus
- 16-bit resolution with programmable noise filtering

The V550 is a 6U, one-slot VME module which will acquire position data from up to eight LVDT (linear variable differential transformer) position sensors. The LVDT sensors are excited by an ultrastable synthesized sinewave generator, and conditioned by a precision 16-bit A/D converter followed by digital signal processing. The resident microprocessor supervises scanning and signal conditioning, and places updated position data in VME-accessible dual-ported data registers for instant access from the VME bus.

The V550 provides 16-bit resolution, allowing sub-micron measurement with commercially available LVDTs. Users may select a range of DSP filtering factors to trade off position noise against acquisition rate.

The V550 provides unprecedented signal acquisition accuracy. Total RMS error (including absolute error, noise, and all drifts) is typically under 1.5 LSBs, equivalent to less than 25 PPM of full-scale span.



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Specifications: V550 LVDT/RVDT scanner

PUNCTION 8-channel VME LVDT/RVDT scanner DEVICE TYPE Register based slave: A16:D16:D08(EO) CHANNELS 8 - LVDT LVDT DRIVE Standard 3 Vrms, 2.4 KHz; other levels and frequencies available Drive is differential to minimize capacitive error effects Wiring shorts on any channel will not damage the module or disturb measurements of other channels ACCURACY Better than ±50 PPM STABILITY Temperature influence < 1 PPM per degree C Long-term drift < 4 PPM per year SCAN TIME Time to scan all eight channels varies from 84 ms to 1.8 sec depending on user-selected filtering factors DATA FORMAT Signed two's complement 16-bit data RESOLUTION 16 bits OPERATING TEMPERATURE 0 to 60°C; extended MIL/COTS ranges available CALIBRATION INTERVAL One year POWER Standard VME supplies: +5 V, 2 A max +12 V, 500 mA max -12 V, 500 mA max -12 V, 500 mA max CONNECTORS Two front-panel mounted female D25s, five leads per LVDT INDICATORS Three LEDs VME access, scan blinks at half the scan rate and pass/fail status PACKAGING 6U single-width VME module CONFORMANCE ANSI/VITA 1-1994 (R2002) VMEbus spec		
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