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HIGHLAND TECHNOLOGY

V420 isolated resistance simulator

Features



- 8-channel, isolated, wide-range, 2/4 wire resistance simulator
- Fast, monotonic, glitch-free resistance value programming
- Suitable for simulating resistors, platinum/copper RTDs, thermistors, strain gages, load cells
- Users may directly program resistances or RTD simulation (copper or platinum) temperatures
- Four programmable resistance ranges from 5 ohms to 65.5 Kohms
- Any channel is switchable to front-panel calibration check connector for in-system test without disconnecting field wiring
- Simple register based VME interface with no handshaking required
- Optional built-in self-test (BIST) and mil/COTS versions available
- Optional termination panels and bridge completion boards available

The V420 is an 8-channel, isolated, programmable resistance simulator. It uses entirely solid-state simulation to eliminate transient errors associated with relay switching, and provide for monotonic resistance changes. Channels are individually programmable in four resistance ranges, from 5 ohms to 65.5K. Channels can operate from microvolts up to 35V / 50mA. Overload protection and channel error detection are included.

Any channel may be rerouted, under software control, to the front-panel calibration-check connector, allowing the board to be tested for calibration by a precision DVM without disturbing the connections to the equipment under test. The BIST option adds an onboard precision ohmmeter, allowing loopback checking and full automatic self-test. Optional external termination and bridge-completion boards are available.

18 Otis Street San Francisco, CA www.HighlandTechnology.com tel: 415 551-1700 fax: 415 551-5129

Specifications : V420 isolated resistance simulator

FUNCTION	8-channel VME isolated resistance simulator
DEVICE TYPE	16-bit VME register-based slave: A24:A16:D16 Implements 256 16-bit registers at switch selectable addresses in the VME 16 or 24 bit addressing spaces
CHANNELS	8, 2-wire or 4-wire, galvanically isolated
RANGES	Standard resistance ranges: 5 Ω to 500 Ω 50 Ω to 5 kΩ 500 Ω to 50 kΩ 5 kΩ to 65 kΩ Extended resistance ranges: 5 kΩ to 1 MΩ Platinum RTD ranges: -125°C to 700°C 100 Ω Pt385 (α = .00385) -125°C to 700°C 1 kΩ Pt385 (α = .00385) -120°C to 950°C 100 Ω ITS-90 (α = .00393) -120°C to 950°C 1 kΩ ITS-90 (α = .00393) -120°C to 950°C 500Ω ITS-90 (α = .00393) Copper RTD ranges: -100°C to 260°C 10 Ω (α = .00427)
OPERATING RANGE	±35 V differential, ±50 mA DC or peak AC per channel
PROTECTION	±50 V differential ±750 V common-mode ESD to 5 kV, human body model
RESOLUTION	Standard resistance ranges: Variable from 12-15 bits with higher resolution at the lower end of the range RTD ranges: 0.0625°C
ACCURACY	±0.1% typical (±1% max) of resistance setting ±0.25°C on RTD ranges DC offset error < 10 µV
NON-LINEARITY	±5 ppm/V ±25 ppm/W
TEMPERATURE COEFFICIENT	±20 ppm/°C
OPERATING TEMPERATURE	0 to 60°C; extended MIL/COTS ranges available
CALIBRATION INTERVAL	1 year
POWER	Standard VME supplies: +5 V, 1 A max +12 V, 1 A max -12 V, 1 A max
CONNECTORS	2 D25 female for channels D9 male for test
INDICATORS	LEDs indicate VME access, CPU activity, error conditions Additional user programmable LED
PACKAGING	6U single-wide VME module
CONFORMANCE	ANSI/VITA 1-1994 (R2002) VMEbus spec; does not support byte writes IEC-751 for "385" curve platinum RTDs ITS-90 for "393" curve platinum RTDs

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