RADAR ALTIMETER
MODEL 4503-100

SUPPLYING HIGH PERFORMANCE FLIGHT INSTRUMENTATION, RF/MICROWAVE ASSEMBLIES, POWER AMPLIFIERS, IFF AND DATA ACQUISITION SYSTEMS FOR SEVERE ENVIRONMENTS.

DESCRIPTION

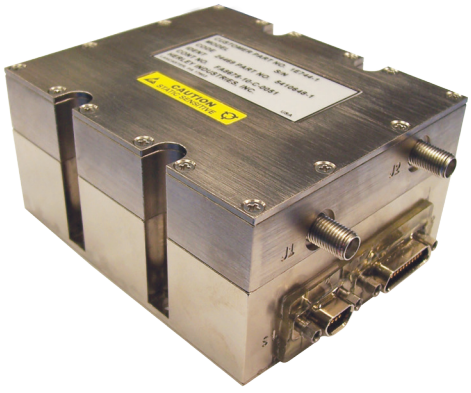
The Ultra Electronics Herley 4503-100 is a linear FM (Chirped) Radar Altimeter (RALT), using modular construction, and advanced digital signal processing (DSP) techniques, to provide a small volume, low power consumption, low cost, high performance RALT. The Transmitter employs Adaptive Power Control (APC) minimize transmit power over the full altitude range. The DSP dynamically controls APC, transmitter sweep rate and deviation, to provide an accuracy of one foot or better at low altitudes. The transmitter bandwidth, and sweep rates are adaptively controlled by the DSP software, to achieve one (1) ft. or better altitude resolution at very low altitudes. The RALT is programmable with features that are defined by the end-user.

These include eight (8) user-defined trip points at the digital RS-422 output. In addition, the analog outputs can be programmed to provide a user defined "0-20VDC" and "-5VDC to +20VDC" output levels, with selectable slopes and offsets.

The RALT unit provides SMA (F) connectors for transmit and receive ports, and is only 3.5" X 3.0" X 1.75" in size. The use of solid-state devices and an efficient thermal design enables the RALT to be operational between -40°C and +71°C temperature with conduction cooling.

FEATURES

- Low-Altitude, All-Weather Linear FM (Chirped)
- Built in Self-Test
- Automatic Power Control (APC)
- Three Selectable Analog Output Formats; RS-422 Digital Output, ARINC 429, RS232
- Eight User Defined Trip Points on Digital Output
- Out-of-Range Indicator
- Modular, Solid-State Design
- Designed to Meet MIL-STD-461E



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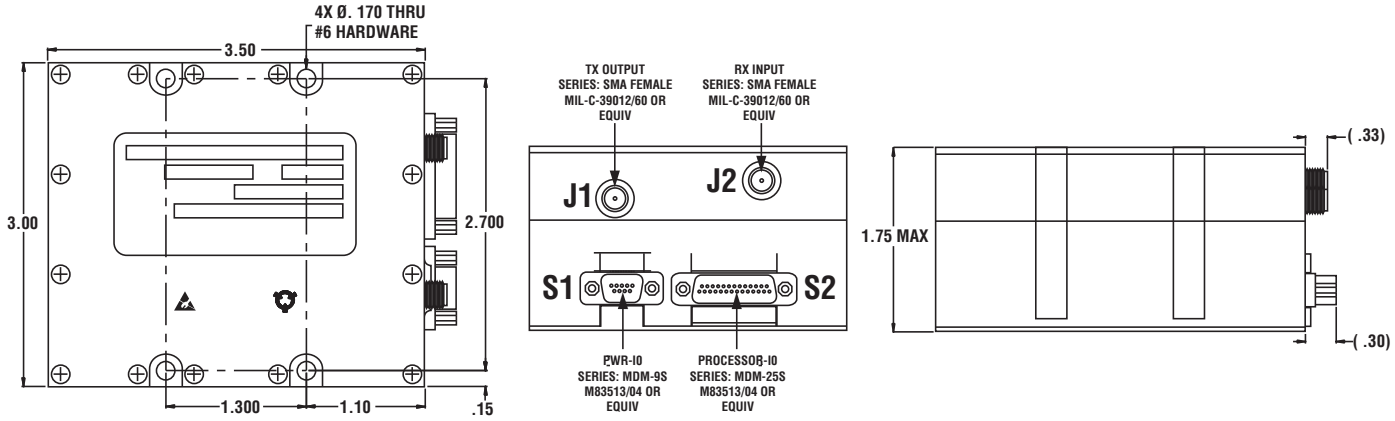

SPECIFICATIONS

- Altitude Range: 1 ft. To 4000 *ft. Typical
- Accuracy: ± (1ft. + 1% Altitude) Digital Output Typical; ± (1ft. + 2% Altitude) Analog Output Typical
- Track Rate: > 2000 ft./sec.
- Frequency: 4300 MHz nominal
- Deviation: 100 MHz minimum
- Transmitter Output Power: +26 dBm Typical
- Update Rate: 50 Hz Typical
- Data Latency: < 40 msecs, depending on configurationRequired Antenna Isolation For Maximum Altitude: 80 dB min

OUTPUTS

- Analog Output: 20 VDC max., programmable slope and offsets; -5 VDC to +20 VDC, with programmable slopes and offsets
- Digital Output: RS-422, RS232, ARINC 429
- Out-of-Range Indicator: 5 VDC TTL
- Trip Points: Up to eight (8) trip points at Digital Output, programable

POWER, MECHANICAL, ENVIRONMENTAL

- Power: 24 – 32 VDC, 15WDC max., Reverse Polarity Protection included
- Warm-Up Time: < 3 minutes after application of power
- Temperature: - 40°C to +71°C, Operating; - 55°C to +125°C, Storage
- Connectors: SMA (F) for Tx & Rx Ports; 9-Pin Micro-D for Power Port; 25-Pin Micro-D for RS-422, Analog, and Discrete Outputs
- Size (excluding connectors): 3.5" X 3.0" X 1.75" (88.9 mm X 76.2 mm X 44.5 mm)
- Weight: 1.2 lbs.
- EMI: Designed to meet MIL-STD-461E
- Environmental: Designed to meet MIL-STD-810F

Ultra ELECTRONICS

making a difference

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