

MSC1000-026

Rotor Azimuth Conditioning Module

Airborne Data Acquisition Products



FEATURES

- Calculates rotor speed as a percent of operator entered tachometer frequency at 100% rotor speed.
- Accepts input signals from 2V to 100V peak-to-peak.
- Input tachometer rates from 30 Hz to 100 Hz maximum.



ELECTRICAL SPECIFICATIONS

Differential Input Characteristics (Per Channel)

- Input impedance: 1 Megohm minimum
- Tachometer waveforms consist of distorted (third harmonic) sinusoidal signals.
- Amplitude of contactor signals is between 2V and 100V peak-to-peak.
- Tachometer input signals range from 30 Hz to 100 Hz maximum.
- Maximum ratio of change is 10% full scale per second

Sample and Hold

- Module will latch data to bus on receipt of a sample and hold command.

Output

- 12 bits serial data

Operator Inputs

- Tachometer frequency at 100% rotor speed.
- Main rotor revolutions per second
- Tail to main rotor turns ratio.

Rotor Azimuth Card Outputs

- Main Rotor Azimuth
- Tail Rotor Azimuth
- Main Rotor Analog Azimuth
- Tail Rotor Analog Azimuth
- Main Rotor Azimuth Full Scale Count
- Tail Rotor Azimuth Full Scale Count
- Percent Main Rotor Speed
- Center Frequency

Miscellaneous

- Upon command, the card will measure and report the center frequency of the PLL. This is used for the N1, N2, and N3 calculations and allows for the widest dynamic range.
- The module measures the period of the tachometer frequency and converts to percent rotor speed based on a conversion factor calculated and supplied by the setup computer. The period is measured using 1 Mhz clock. The conversion scales the output for a given tachometer frequency input such that 130% main rotor speed equals FFFFH.

