Registered to AS9100D: 2016 & ISO 9001: 2015

GRDCS/DFCS DATALINK TRANSPONDER

DATA SHEET & TECHNICAL SPECIFICATIONS

Features

- Operates with single power supply
- Designed for extended temperature range Power consumption < 100 Watts
- Bi-phase modulated 915 MHz Transmit/Receive
- Direct Sequence Spread Spectrum (DSSS)
- Peak RF Output Power of ≥ 200 Watts
- Communication to IFC via RS-422 Channel

Applications

- Vehicle Tracking
- Distance Measurement Equipment

The Gulf Range Drone Control System (GRDCS) / Drone Formation Control System (DFCS) Datalink Transponder is an L-Band transmitter/receiver designed to function as a Distance Measuring Equipment (DME) to support GRDCS/DFCS navigation requirements.

The use of Time-Of-Arrival (TOA) measurements to compute distances requires the transponder to reply to uplinked command messages from ground control stations with precisely timed downlink telemetry messages. The update rate for the datalink messages is nominally 10 messages/second.

The GRDCS/DFCS RF Transponder is capable of interrogation rates from 20 Hz (50 milliseconds) to 2 Hz (500 milliseconds).

The GRDCS/DFCS RF Transponder supports datalink message communication by decoding and transferring uplink command data to the Integrated Flight Controller (IFC) system, and by encoding downlink telemetry data representing aircraft flight control mode status and sensor readings from the IFC. The GRDCS/DFCS RF Transponder communicates with the IFC via EIA RS-422

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Approved for Public Release: DOPSR 18-S-2400

Environmental

Random Vibration:	Operating: 0.015g2/Hz 20 to 100 Hz 0.04g2/Hz 100 to 2000 Hz for 5 minutes in each orthogonal direction (8.8 Grms)
Temperature:	Operating: -40° C to +71° C Storage: -54° C to +125° C
Cooling:	Passive Conductive (no moving parts)
Shock:	Half Sine, 20 G's peak, 11 ms, 3 axes
Altitude:	Sea level up to 50,000 feet
Humidity:	To 95% at any temperature forming frost or condensation

Physical

Size:	9.75" W x 7.42" T x 4.00" D
Weight:	less than 13 pounds (excluding the mounting brackets)
Connectors:	J1 = TNC; J2 = MS27474Y12B35P

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