

# MODEL MD500L IFF TRANSPONDER

## DATA SHEET & TECHNICAL SPECIFICATIONS



### Features

- ▶ Operates in 1, 2, 3/A, or C Modes
- ▶ 400 Watt Peak Power Output (typ.)
- ▶ 100% Solid State for High Reliability
- ▶ IFF/TACAN Blanking & Suppression
- ▶ Interrogation side lobe suppression for use in busy air corridors
- ▶ Front panel and remote reply code selection
- ▶ Weighs less than 4 pounds
- ▶ Built-in duplexer for single antenna operation

### Applications

- ▶ Radar Identification
- ▶ Vehicle Tracking

The Model MD500L IFF Transponder is an L-Band augmentation device ideally suited for use in aerial target drones, unmanned vehicles, and cruise missiles as a radar enhancement device to provide automatic radar identification in response to interrogations from L-Band IFF and Air Traffic Control (ATC) radars. It also supports Mode C (altitude reporting) operation.

It features a modern compact design with less than 90 cubic inches (1475 cubic centimeters) volume and weighs 3.02 pounds (~1.4 kilograms) which is 35% smaller than previous versions. The transponder

incorporates the latest in solid state electronics design and features a 400 watts nominal peak power output. It also features IFF/TACAN blanking and suppression, reverse polarity power lead protection, and has a built in duplexer for single antenna operation. Also, the transponder was designed with both front panel and remote reply code selection for greater convenience and ease of use. The L-Band IFF meets the requirements of MIL-STD-810 and is designed to operate over the temperature range of -54° C to -40°C.

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### Environmental

- ▶ Temp, Operating: -40 ° C
- ▶ Temp, Storage: -80 ° F (-62° C) to 185 ° F (+85 ° C)
- ▶ Altitude: Sea Level to 100,000 feet
- ▶ Vibration: Random, 9.3 Grms max from 10 to 2000 Hz
- ▶ Acceleration: 20 G in each of 6 direction for 1 min per axis while operating
- ▶ Shock: 20 G (11 ms), 3 shocks each axis
- ▶ EMI/RFI: MIL-STD-461, tested per MIL-STD-462

### Electrical

- ▶ Frequency: 1030 / 1090 MHz
- ▶ Impedance, Input/Output: 50 ohms nominal
- ▶ Protection: Built-in series diodeprotection against fromDC input power reversal
- ▶ Input Voltage: 24 to 32 VDC, common GND
- ▶ Quiescent Current: 0.4 Amp nominal
- ▶ Input Current: 1.1 Amp typical @ 2500 prf
- ▶ Input Power: 40 Watts max, all conditions
- ▶ Suppression Modes:
  - (1) Decoding suppression during transmission
  - (2) Interrogation Side Lobe Suppression (ISLS)
  - (3) Over-interrogation reply limiting
  - (4) Suppression from an external IFF or TACAN system
  - (5) Provides suppression pulse to an IFF or TACAN system

### Physical

- ▶ Size: 5.00" W x 2.52" T x 5.13" D (12.7 x 6.40 x 13.03 cm)
- ▶ Weight: > 4 pounds
- ▶ Antenna Connector: TNC Female
- ▶ Pwr/Remote Connector: MS27474E14B35P
- ▶ IFF/TACAN Connector: BNC female
- ▶ Installation: Flange Mount Base Plate

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