



Product Sheet

Multi-Service Datalink Transponder

MULTI-SERVICE DATALINK TRANSPONDER

The Multi-Service Datalink (MSDL) transponder enables reliable command, control, and telemetry exchange for unmanned flight vehicles, including support for encrypted communications and Beyond Line-of-Sight (BLOS) operations, ensuring secure and resilient connectivity in complex operational environments.

MSDL integrates multiple functions within a single compact, lightweight package. The system operates as a command receiver, digital command decoder, digital telemetry encoder, telemetry transmitter, and target interface, providing a fully integrated communications solution for flight test, training, and operational missions.

Communications through the MSDL support Target Control System (TCS) program, enabling realistic air-to-air and surface-to-air test and evaluation events equipped with modular, threat representative technologies, allowing test ranges to evaluate advanced weapon systems under operationally relevant conditions.

MSDL has been qualified to rigorous military standards, including MIL-STD-461 for electromagnetic interference (EMI), MIL-STD-810 for environmental durability, and MIL-HDBK-781 for reliability, making it one of the most capable and dependable airborne data link transponders available for high-performance unmanned platforms and aerial target systems.



Features

Environmental, EMI, and Reliability Qualified

Up to 35W RF Output Power

Three Antenna Ports

Up to 99 Available Frequency Channels in the range of 359.5 MHz to 375 MHz

GMSK Modulation

Ruggedized Aluminum Chassis

Applications

Encrypted Communications

Command Decoder/Encoder

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Environmental

Temperature:	Operating: -40°C to +71°C
Vibration:	Random, 20 to 2000 Hz, 11.514 G 48 minutes per orthogonal axis
Altitude:	50,000 ft
Shock:	Sawtooth, 20 G for 11ms, 18 shocks total
Humidity:	Saturation @ 40°C
EMI/RFI	Certified to MIL-STD-461F

Power Requirements

DC Power:	22 VDC to 32 VDC (28 VDC Nominal)
Reverse Polarity:	Yes
Power Consumption:	55 Watts maximum (1.8 amps @ 28 VDC)

Physical

Size:	3.50"H x 7.50"W x 7.00"D
Weight:	<8 lbs
Connectors:	Circular, N-Type Female, SMA Female
Finish:	Black Surf Paint
Installation:	Flange Mount Base Plate