

D.T.MUX Sentinel™



Reference: SEN-155/112

D.T.MUX Sentinel – Crash-Protected Airborne Data Recorder is a lightweight, fully integrated crash-protected airborne data recorder (FDR / CVR / AIR) designed for helicopters, fixed-wing aircraft, and UAVs. It provides reliable recording of flight data, cockpit audio, and high-definition image/video (Full HD 1080p or Ultra HD 4K) within a compact and robust system.

More than a simple recorder, the Sentinel can also act as a Data Acquisition Unit (DAU) with the added benefit of crash protection. It is engineered to capture data from multiple sources via serial bus /Analog interfaces or internal sensors, filling gaps where external data may be missing. Operators can configure the unit to operate with all recording functions combined or individually, depending on mission needs.

The Sentinel is compliant with the crash-protection requirements of ED-155 and ED-112A standards, ensuring maximum survivability and data integrity. Its compact form factor and low weight make it easy to integrate into virtually any aircraft platform.

Key Features

- **All-in-one system:** Combines FDR, CVR, and AIR in a single lightweight unit
- **Crash-protected:** Meets ED-155 / ED-112A requirements
- **Flexible data acquisition:** Records from serial buses/Analog or internal sensors
- **High-resolution video:** Full HD / Ultra HD 4K
- **Minimal footprint:** Optimized for platforms where size, weight, and cost matter

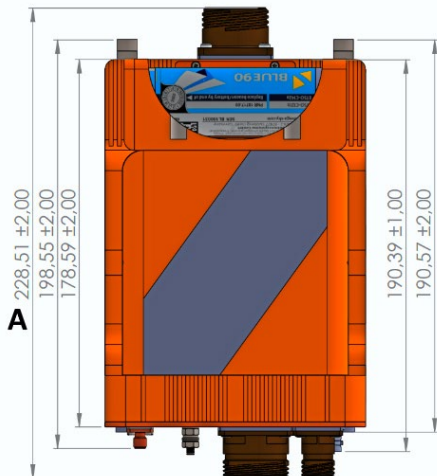
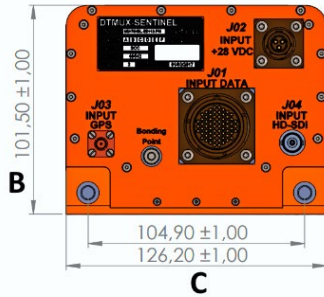
Applications

- Flight testing campaigns
- Crash / impact testing
- General aviation (fixed-wing & rotary-wing)
- UAV and military aviation platforms

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MECHANICAL

	Specification	Remark
Size	189.5 (231.8 iRIPS) x 126.2 x 101 mm	D x W x H ± 1mm
Weight	≈ 3.30kg / 3.75kg ≈ 4.85kg	ED155/ ED112 iRIPS
Connectors	MIL-DTL-38999	Serie III
Mounting	ARINC 404	Customizable



ELECTRICAL

Input Voltage	28Vdc (16 to 36Vdc)
Power consumption	≈ 12 to 40 watts (28Vdc)
Power Interruption	≈ 200 to 800ms
Standard	MIL-STD-704F / DO-160

VIDEO / IMAGE FUNCTION

D.T.MUX Sentinel has capacity to acquire and record image or video in UHD resolution from 1 to 30 fps. System can be coupled with cockpit Audio/video camera.



PN# **HDCAM/MIC** / PN#
UHDCAM-MIC, offer in same

box an area microphone and Full HD (2Mpx resolution) or Ultra HD 4K (8.5Mpx resolution) Video/image capture.

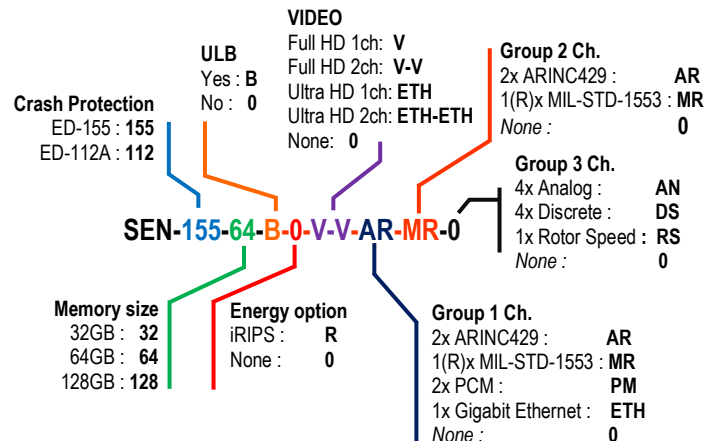
ENVIRONMENTAL

	Specification	Remark
Temperature	-40°C to 71°C	Operating
	-55°C to 90°C	Storage
Cooling	Passive	Convection
Humidity	95%	Non-Cond
Vibration	5Hz to 2KHz	6.29 g RMS
Shocks	20g 11ms	Operating
Acceleration	20g linear 3 axis	Operating
Altitude	+ 60,000 ft	Operating
Decompression	420Kpa/minute	Operating
MTBF	> 90,000 hours	Computed
EMI	DO-160	Rev G

STANDARD FUNCTIONALITY

	Specification
Gigabit Ethernet	Configuration/Control Data download and Streaming
Time synch	GPS Antenna input / Irig B / PTP v2
Voice	4x Audio channels
Recording	IRIG 106 Chapter 10 or DTMUX format
Sensors	Internal 3 Axis Gyro/ G force/ Pressure
COM port	RS-232 Configuration/Maintenance
Status	Status Led / Status output

SENTINEL PART NUMBER COMPOSITION



Internal battery (iRIPS)

Option: Internal Recorder Independent Power Supply option (battery) is available to sustain 10 minutes (±1 minute) of power interruption

Remote Control

Option: Remote control permits live status display, erase functionality event marking and integrated Area Microphone option.

