

Certified Mode S ADS-B Transponder



UAX-90039-01

Overview

ping200X is a complete system designed to meet the Transponder and Automatic Dependent Surveillance – Broadcast (ADS-B) surveillance requirements for operating an Unmanned Aircraft (UA) in controlled airspace.

The system replies to Mode A, Mode C, and Mode S interrogations and squitters ADS-B messages, all in accordance with RTCA performance standards for Mode S transponders and Extended Squitter ADS-B. Together, they provide ATC and nearby aircraft equipped with a TCAS or ADS-B receiver full knowledge of the UA's 3-D whereabouts. Heightened situational awareness leads to timely maneuvering, adequate separation, and enhanced airspace safety that benefits everyone.

Also integrated into ping200X is a certified pressure altitude sensor and encoder that complies with SAE aviation standard AS 8003.

TSO Authorized Equipment

- TSO-C88b internal altitude sensor/encoder
- TSO-C112e Level 2els, Class 1 Mode S transponder
- TSO-C166b Class B1S Extended Squitter transmitter
- Configurable, non-TSO variant available as Modes A/C only, Mode S only, ES only, Modes A/C + ES, Mode S + ES, and Modes A/C, S + ES
- Meets the U.S. ADS-B Out equipment performance requirements of 14 CFR 91.227
- Static pressure with TSO accuracy to 35,000 ft.
- GDL90+ ownship and altitude packets
- SMA 1030/1090 MHz Antenna Connector

Conformity

- DO-181E Level 2els, Class 1
- DO-260B Class B1S
- DO-178C Level C
- DO-254 Level C
- DO-160G

Regulatory

- FAA transmit license manned aircraft and unmanned aircraft operating above 500ft AGL
- FCC 47 CFR Part 87 ID 2AFFTP200S



Technical Specifications

Technical Sp				
Specification	Value			
	11-34V (3S-8S LiPo)			
Input Power	1.5W Continuous On/Alt. 4W			
	Peak (8ms maximum)			
Size	47 x 54 x 9 mm			
Weight	50 grams			
SIL/SDA	3/2			
Operating Temperature	-45 to 70°C			
	Transponder			
MTL 1030MHz	-74dBm ±3dB			
1090MHz				
Transmit	250W Nominal			
Power				
	Altimeter			
Range	-1000 to 35,000ft – TSO-C88b complian			
85	35,000 to 60,000ft – ±1% accuracy			
Interfaces				
	Control			
Baudrate	1200-2Mbps			
Protocol	GDL90+			
Position				
Baudrate	115200bps			
Protocol	uAvionix OEM Protocol			
	Options			
•	Iz Transponder Antenna			
DoD AIMS Cer	tification (applied for; pending)			



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ECCN 7A994





Electrical Specification

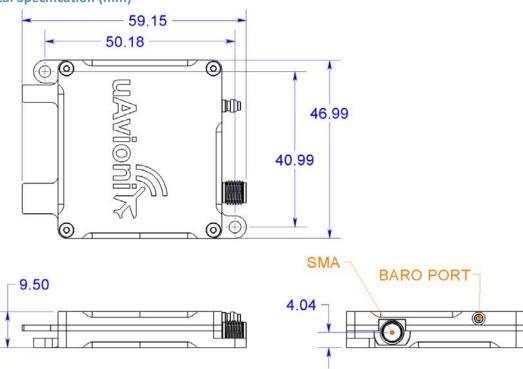
Interface

Pin	Туре	Physical	Protocol
Black	22AWG	Aircraft	
		Ground	
Red	22AWG	Aircraft	
		Power	
Orange	24AWG	AP RXD	UCP
Gray	24AWG	AP TXD	UCP
White	24AWG	RXD	uAvionix
			OEM
			Protocol

Environmental

Condition	DO-160G	Category
Temperature	4.0	B2
Temperature Variation	5.0	В
Humidity	6.0	Α
Operational Shock	7.0	В
Vibration	8.0	S (Curve M)
Magnetic Field	15.0	Z
Power Input	16.0	BX
Voltage Spike	17.0	В
AF Conducted Susceptibility	18.0	В
Induced Signal Susceptibility	19.0	AC
RF Susceptibility	20.0	TT
RF Emissions	21.0	В
Lightning Induced Transient Susceptibility	22.0	A2XXXX
ESD	25.0	Α

Mechanical Specification (mm)



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