

## Overview

The ping200D (RT-2087/ZPX-A) is a complete system designed to meet the Transponder and Automatic Dependent Surveillance – Broadcast (ADS-B) requirements for operating in National Airspace Systems. AIMS certified for Department of Defense (DoD) and NATO use, the SWaP-optimized ping200D civil operating modes are fully configurable, with X-bit control for Mode A included.



## AIMS Certification (Pending Q2 2020)

- Complies with AIMS 17-1000, Appendix G, §1.1
- Level 2els Class 1 Mode S transponder
- Class B1S Extended Squitter ADS-B transmitter
- Calibrated internal altitude sensor/encoder
- Fully configurable as Mode A/C only, Mode S only, ES only, Mode AC + ES, Mode S + ES and Mode AC + S + ES
- Controllable X-Bit, per AIMS 17-1000 §4.1.6
- Waterproofed against streaming fluids
- Meets U.S. ADS-B OUT equipment performance requirements of 14 CFR §91.227
- Static pressure sensor accurate to 60,000 ft
- UCP own-ship and altitude packets
- SMA 1030/1090 MHz antenna connector

## Conformity

- DO-181E Level 2els, Class 1 Mode S transponder
- DO-260B Class B1S 1090 MHz ADS-B
- DO-178C Level C software development
- DO-254 Level C complex hardware development
- DO-160G environmental & RF test protocols
- AIMS 17-1000, Appendix G

## Regulatory

- FAA transmit license - manned aircraft and unmanned aircraft operating above 500 ftAGL
- FCC 47 CFR Part 87, ID 2AFFTP2005

## DOD Sponsorship

- Sponsorship and Certification is pursuant to 2019 Contract No. N6833519CO816P00001 with Prime Contractor [R Cubed Engineering](#) to the U.S. DOD, including Dept. of the Navy & Dept. of the Army.

## Technical Specification

Specification	Value
Input Voltage/Power	11-34 VDC (3S-8S LiPo) 1.5 W Continuous ON/ALT 4 W Peak (8ms maximum)
Size	47 x 54 x 9 mm <sup>3</sup>
Weight	50 grams
Operating Temp	-45 to 70 °C
Emission Designator	6M75 V1D
<b>Transponder</b>	
MTL 1030 MHz	-74 dBm ±3 dB Rx sensitivity
1090 MHz Tx Power	250 Watts (nominal)
<b>Altimeter</b>	
Range (MSL)	-1,000 to 60,000 ft
<b>Interfaces</b>	
<b>Control</b>	
Baudrate	2,400 – 921,600 bps
Protocol	UCP (uAvionix Communication Protocol)
<b>GPS Position</b>	
Baudrate	115,200 bps
Protocol	MAVLINK or UCP
<b>Connectors</b>	
Control / GPS	Flying Lead – Connectors Optional
Antenna	SMA
Baro	
<b>Options</b>	
1030/1090 MHz Transponder Antenna	
uAvionix truFYX SIL 3 Position Source	

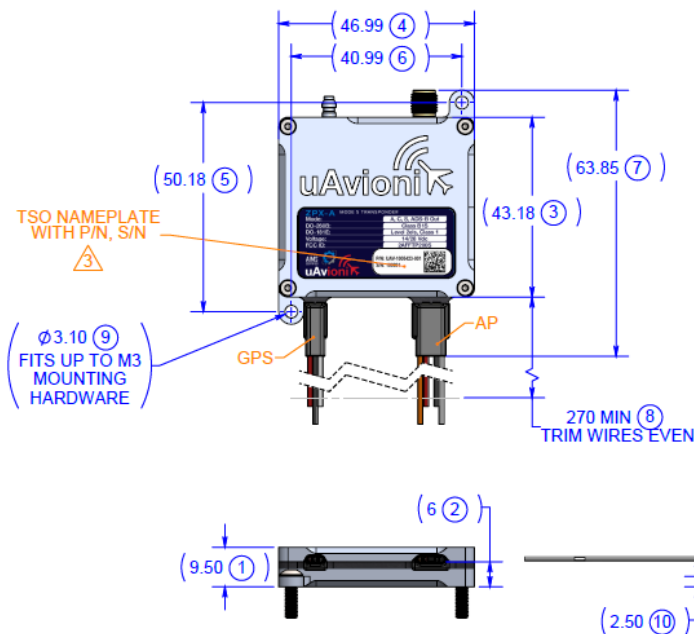
## Electrical Interface Specification

## Environmental & RF Specification

Pin	Type	Physical	Protocol
Black	22AWG	Aircraft Ground	
Red	22AWG	Aircraft Power	
Orange	24AWG	AP RXD	UCP
Gray	24AWG	AP TXD	UCP
White	24AWG	RXD	MAVLINK

Condition	DO-160G	Category
Temperature	4.0	B2
Temperature Variation	5.0	B
Humidity	6.0	A
Operational Shock	7.0	B
Vibration	8.0	S(M)
Waterproofness	10.0	S
Magnetic Field	15.0	Z
Power Input	16.0	BX
Voltage Spike	17.0	B
AF Conducted Susceptibility	18.0	B
Induced Signal Susceptibility	19.0	AC
RF Susceptibility	20.0	TT
RF Emissions	21.0	B
Lightning Induced Transient Susceptibility	22.0	A2G2L2
ESD	25.0	A

## Mechanical Specification



GPS WIRE BUNDLE	
COLOR	SIGNAL NAME
RED	POWER
BLACK	GROUND
WHITE	NAV RX

AP WIRE BUNDLE	
COLOR	SIGNAL NAME
ORANGE	COM RX
RED	POWER
BLACK	GROUND
GREY	COM TX

