

### Overview

Ping20S is the world's smallest, lightest and most affordable 20W Mode S ADS-B transponder. At just 15 grams, it implements 'Sense and Avoid' for Drone operations in Controlled Airspace. No deviations from the Minimum Performance Standards of DO-181E and DO-260B at 20W nominal output power.



### Features

- Mode S transponder.
- ADS-B 1090ES DF17 transmitter.
- Meets the minimum performance requirements of the following RTCA specifications:
  - DO-181E Level 2e, Class 20W
  - DO-260B Class B1S
- DO-160G environmental Cat B2.
- GDL90 compatible CONTROL serial input. Compatible with popular autopilots.
- GDL90 ownship and altitude packets.
- SMA 1030/1090MHz Antenna Connector.
- Integrated GPS antenna.
- US Patents Pending.

### Regulatory

Meets the requirements of:  
DO-181E Level 2els (20W output power level)  
DO-2060B Class B1S, DO-229D Class Beta 1, ICAO Annex 10, Volume IV, EuroCAE ED-115 Class LcF

### Regulatory

- Meets the requirements of:
- FCC 47CFR part 87
  - TSO-C166b Class B1S @20W.
  - TSO-C122e Class 1 Level 1els @20W.
  - EuroCAE ED-115 Lc2 es V3 @20W.

### Quality Standards and Procedures

Designed and assembled in the USA, HALT and HASS tested, IPC-610 class II soldering, production functional testing. Software D.A. to DO-178B, Hardware D.A. to DO-252 Class C.

### Technical Specifications

Specification	Value
Input Power	11-16V 1W Ave On/Alt. 0.5W Standby
Size	40x25x13mm
Weight	15grams
Operating Temp	-45 to 80°C
Transponder	
MTL 1030MHz	-61dBm
Dynamic Range	-59 to 0dBm
1090 Transmit Power	20W Nominal
Interfaces	
Control	
Control	57600bps GDL 90
NAV Serial	115200bps
Options	
1030/1090MHz Transponder Antenna	

## Electrical Specification

### Power Interface

Pin	Type	
1	Power	11-16V
2	Ground	

Mating Connector: Molex 0436450200  
Pins: 0462350001

### Control Interface

Pin	Type		
1	Input	RXD/SDA	CONTROL
2	Output	TXD/SCL	GDL 90
3	Power	5V	
4	Ground		

Mating Connector: JST ZHR-4  
Pins: SZH-002T-P0.5

### Programmer Interface

Pin	Type		
1	Input	UTC	
2	Input	RXD	MavLink
3	Output	TXD	GDL 90
4	Power	5V	
5	Ground	Ground	

Mating Connector: JST ZHR-5  
Pins: SZH-002T-P0.5

### Indicators

LED	ON	FLASHING
GREEN	Powered	Receiving Interrogation
RED	FAULT	Reply / Transmit

## Mechanical Specification

