

# The TT21 and the TT22 Mode S Transponders with ADS-B Out



The TT21 and the TT22 are the smallest and lightest Mode S general aviation transponders. Both transponders can operate from battery power and they feature ADS-B Out, a key feature of future airspace plans.

## 4 reasons for a TT21 / TT22:

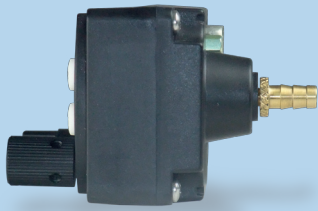
1. Smallest Mode S transponder
2. Lightest Mode S transponder
3. Can operate from battery power
4. Features ADS-B Out

The TT21 and the TT22 can fit into the tiniest space – into gliders, antique aircraft, flex-wing microlight panels and of course into conventional aircraft as well. The front panel controller can be installed in a standard 2¼ inch instrument cut-out, or where space is really tight it can fit a compact cut-out just 42mm high. Only a few centimetres are needed behind the panel to allow room for the connector and the static port interface. The transponder box itself is also only 45mm high, 62mm wide and 141mm long, and can be installed anywhere convenient in the airframe. A lightweight cable connects controller and transponder; it can be as long as you need.

The TT21 and the TT22 are the lightest transponders on the market. A whole system – including connectors - weighs less than 500 grams, with less than 100 grams of that in the front panel controller. This translates into more payload and better efficiency. In gliders or balloons, the TT21 and TT22 can operate from battery power for long duration flights. In powered aircraft you can be sure that the transponder is not making heavy demands on your electrical system.

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The TT21 and TT22 support 1090 MHz Automatic Dependent Surveillance Broadcast (ADS-B) extended squitter, known as “ADS-B Out”. ADS-B provides improved airborne surveillance and vital information for airport ground surveillance. Controllers are able to safely reduce the separation between ADS-B equipped aircraft. ADS-B also allows for new, more direct routes, improving the efficiency of aircraft operations while using less fuel. ADS-B is a major step forward for the modernisation of an outdated aerospace infrastructure and will help to improve the safety of flights even as air traffic increases. An appropriate GPS receiver is required to enable the ADS-B capability.



The TT21 and the TT22 are both a two part system: One part is a controller which is installed in the panel and the other part is the transponder box. An altitude encoder is built in to the controller. The TT21 and the TT22 are easy to operate: The controller has a simple layout and a clear LCD screen. Squawk code and Flight ID input uses a conventional rotary knob.

The controller is splash proof for open cockpit installations. It also acts as the configuration module for the combined system. With the controller remaining attached to the aircraft, swapping the transponder box is possible without needing any reprogramming of airframe settings. A quick release latch secures the main unit to the mounting tray, allowing it to be easily removed for security reasons.



	<b>TT21 Mode S for Light Aviation</b>	<b>TT22 Mode S for High Performance Aircraft</b>
<b>Type</b>	Class 2 Mode S level 2els	Class 1 Mode S level 2els
<b>Certification</b>	ETSO C88a, 2C112b, C166a and TSO C88b, C112c, C166a, approved for IFR and VFR flight	
<b>Compliance</b>	ED-73B, ED-14F / DO-160F, DO-178B level B, DO-254 level C, DO-260A class B0, DO-181C	
<b>Supply Voltage (DC)</b>	9 – 33 V	
<b>Typical Current Consumption (at 14V)</b>	idle: 0.15 A, active: 0.28 A	idle: 0.15 A, active: 0.34 A
<b>Transmitter Power</b>	130 W nominal at connector	250 W nominal at connector
<b>Operating temperature</b>	-40°C to +70°C for the transponder; -25°C to +70°C for the controller	
<b>Cooling Requirement</b>	No fan required	
<b>Weight</b>	1.0 lb (450 g)	
<b>Dimensions</b>	Controller: 63 x 44 x 54 mm; Transponder: 62 x 45 x 141 mm	

