
# TT31 Mode S Transponder

The TT31 is a power efficient, inexpensive, Mode S general aviation transponder. The TT31 meets the European elementary surveillance requirements, and fits the same mounting tray as the popular KT76A transponder, making it ideal for both new and retrofit installations. The TT31 front panel has a backlit graphic display that provides easy access to the transponder functions, including setting of the Flight ID. Squawk code and Flight ID input uses a conventional rotary knob, and all functions are easily operated.

## 5 reasons for a TT31:

1. Full Mode S Transponder
2. Support for ADS-B Out
3. Low Power Consumption
4. Plug and Play Installation
5. Easy to Use Interface

## Meet Current and Future Mandates

The TT31 transponder is a Class 1 Mode S level 2 datalink transponder, with support for extended squitter. It meets all the current requirements for non-diversity Mode S elementary surveillance transponders in Europe for both IFR and VFR flight. In the US it includes datalink support for TIS traffic uplinked from approach radars. TIS traffic can be displayed on a variety of cockpit displays, and coverage includes most US terminal areas. The TT31 also supports 1090 MHz Automatic Dependent Surveillance Broadcast (ADS-B) extended squitter, known as “ADS-B out”. Equipping with ADS-B Out will be required in the USA by 2020. By linking the TT31 to a suitable GPS receiver, the TT31 can transmit position information to appropriately equipped ground stations and other aircraft. This provides improved airborne surveillance, provides vital information for airport ground surveillance, and is a key feature of future airspace plans.

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# Low Power Design

The TT31 uses as little as half the electrical power of the leading competitor, and half the power of most legacy transponders, whilst still retaining a fully backlit display and transmitting a higher power signal. This is achieved by using modern high efficiency design techniques and making best use of the power available.

One of the biggest reliability challenges for General Aviation avionics products is heat, and by reducing power consumption, we have significantly reduced waste heat in the avionics stack. This means greater reliability for ALL your avionics, not just the TT31, and puts less load on the electrical system and battery of your aircraft.

# Flexible Installation

The TT31 is designed to be compatible with both legacy and new panels. The flexible power input means that 14 volt and 28 volt systems can be accommodated without any special configuration or dropper resistors (we recommend that any dropper resistor fitted for a previous transponder should always be removed). Automatic and manual panel lighting selections mean that an attractive presentation will be available in the simplest panel installations. And the TT31 is compatible with both parallel and serial altitude encoders; it can even act as a serial altitude repeater to provide a convenient altitude source for your GPS.

Mechanically the TT31 follows an industry standard form factor, and if you are upgrading from a KT76A or KT78A transponder, the TT31 is a simple plug-and-play replacement.

# European Minor Change Support

Although the TT31 is simple to install, any transponder upgrade on an EASA certified aircraft type will require a Minor Change Approval from EASA. Trig Avionics have pre-approved Minor Changes for many popular light aircraft, and these are available to your installer at no charge, making the TT31 one of the least expensive transponder installations available.


## Specifications

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| **Type:** | Class 1 Mode S Level 2 Datalink |
| **Certification:** | ETSO 2C112b, TSO C112, ETSO C166a , TSO C166b |
| **Compliance:** | ED73B, DO160E, DO178B level B, DO181C, DO260A |
| **Supply Voltage (DC):** | 10 – 33 V |
| **Typical Current Consumption:** | Idle: 0.22 A |
| **(at 14V)** | Active: 0.45 A |
| **Transmitter Power:** | 240W nominal at connector |
| **Operating Temperature:** | -20 to +55 C |
| **Cooling Requirement:** | No fan required |
| **Weight:** | 2.98 lbs (1.35 kg) |

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