

INFORMATION

INSTALLATION OF AN ADS-B OUT SYSTEM WITH TRT800H/A TRANSPONDER ACCORDING TO CS-STAN CS-SC005b

CS-STAN Standard Change CS-SC005b contains acceptable methods and techniques for an installation of an ADS-B OUT system combined with a transponder system. It allows the embodiment of different configurations for the voluntary transmission of ADS-B data (e.g. GNSS position and velocity).

If TRT800H/TRT800A is used as transponder system two configurations addressed in CS-SC005b are applicable:

- CS-SC005b Configuration 2: TRT800H/A Transponder in combination with a class B ETSO-C199 TABS GNSS receiver
- CS-SC005b Configuration 3: TRT800H/A Transponder in combination with a not certified GNSS receiver

Minimum TRT800H/A requirements

In order to meet the EUROCAE ED-102A/RTCA DO-260B requirements addressed in CS-SC005b at least the following software and firmware versions must be installed on TRT800H/A transponder

- Firmware 104 (or higher)
- Software 6.3 (or higher)

The installed firmware/software version is displayed during transponder start sequence.

Installation option with ETSO-C199 TABS GNSS receiver (CS-SC005b-Configuration 2)

When an ETSO-C199 TABS GNSS receiver is directly connected via serial line interface to TRT800H/A, the quality indicators SIL and SDA must be configured separately. Configuration steps are described in paragraph "Option GPS Receiver" and "Static Source Integrity Level (SIL) configuration" of TRT800H/A installation manual.

Select receiver interface protocol "NMEA-RAIM" or "FREEFLIGHT" to process additional GNSS receiver integrity data. Selecting one of these protocols enables the possibility to configure SIL value to 0 or 1 (according to GNSS receiver manufacturer declarations) during TRT800H/A setup. If SIL = 1 is selected the SDA value is also set to 1 by transponder software automatically. Otherwise (SIL = 0 selected) SIL and SDA will be permanently set to 0.

Additionally NACp must be configured during TRT800H/A GNSS receiver setup. It can be set to "0" (NACp = 0 is transmitted permanently) or "auto" (NACp is continuously calculated on base of integrity data provided by GNSS receiver).

This configuration was tested by f.u.n.k.e. with the TRIG TN72 GNSS receiver and TA50 GPS antenna.

Installation option with not certified GNSS receiver (CS-SC005b-Configuration 3)

When a not certified receiver is directly connected via serial line interface to TRT800H/A, the quality indicators SIL and SDA cannot be configured. Configuration steps are described in paragraph "Option GPS Receiver" and "Static Source Integrity Level (SIL) configuration" of TRT800H/A installation manual. Select receiver interface protocol "NMEA-4800", "NMEA-9600" or "AR-NAV". If one of these protocols is selected SIL = 0 and SDA =0 is permanently set and transmitted by transponder

This configuration was tested by f.u.n.k.e. with Garmin GPS18xPC GNSS receiver.