

TDS - Safe Data Transmission



The main purpose of the Safe Data Transmission System (TDS) is to replace the copper cables which is the most common means used for safety link in railway signalling systems. The TDS system is composed by a set of U-TDS devices. The devices communicate each other by using the PVS safe protocol through an LAN network.

The main purpose of each U-TDS device is:

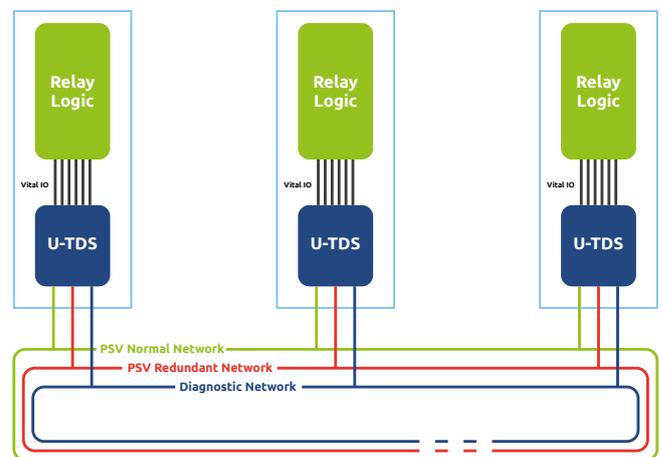
- Read the signalling systems logic states and send them to the specific remote U-TDS (up to 24);
- Receive the logic states from the remote U-TDS and drive the corresponding output connected with the railway relays;
- Manage up 2 redundancy LAN networks used to perform the safe communication of the logic states;
- Manage the diagnostic communication LAN network;

Each LAN network architecture is an optical fiber ring. The logic states are acquired and/or driven by the U-TDS's vital input/outputs. Every U-TDS can manage up to 18, 36 or 54 I/O depending on the configuration.

The U-TDS guarantees a high level of reliability required within the typical railway Signaling environments (sentry station, station) taking into account different sources of environmental stresses (vibration, temperature range, over voltages etc.) according to the IS 402 Railway Regulation (Installation environment A6).

This product complies with the following Italian Railway Specification:

- RFI DTCSTSSSTB SR IS 20 039 B (03/2016)
- RFI DTCSTSSSTB ST IS 20 022 A (03/2016)
- RFI DTCSTSSSTB ST IS 20 021 A (03/2016)
- RFI DTCSTSSSTB ST IS 00 001 C (03/2016)



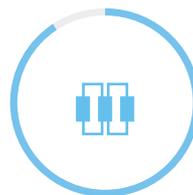
SAFETY

The U-TDS is made with a safety architecture that ensures a SIL 4 safety integrity level, according to the Genelec EN 50129, EN 50126, EN 50128 and EN 50159 regulations.



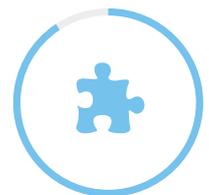
ADVANTAGES

Out of services reduction and maintenance cost savings given by the removal of the typical copper cable issues such as interruption, stealing or loss of insulation.



REDUNDANCY

For Each U-TDS configuration is possible to provide the redundant 1 out of 2 version. In this way a breakdown of a single sub-system does not affect the correct operation of the device.



MODULAR

The device is composed by modules with different features in order to be easily adapted to specific customer requirements.