

aselsan

ASELSAN ERTMS/ETCS

LEVEL 1 & 2 ON-BOARD AUTOMATIC TRAIN
PROTECTION SYSTEM

COMPATIBLE WITH INTERNATIONAL RAILWAY STANDARDS
CONFIGURABLE TO ANY RAILWAY VEHICLE WITH ITS MODULAR AND COMPACT STRUCTURE
SIL 4 SAFETY LEVEL AND HIGH AVAILABILITY



ASELSAN ERTMS/ETCS

LEVEL 1 & 2 ON-BOARD AUTOMATIC TRAIN PROTECTION SYSTEM

ASELSAN ERTMS/ETCS On-Board System is based on the ERTMS traffic management system standard. An infrastructure for smart and safe railway operation is provided by adding new technologies and automation capabilities to the standard system. Efficiency can be maximized thanks to integrated employee planning, analysis, management, security, information systems and maintenance functions.

- Compatible with ETCS Baseline 3 Maintenance Release 1 [(ETCS B3 MR1) or higher] and Global System for Mobile Communications – Railway Baseline 1 (GSM-R B1).
- Compatible with all documents (Subsets) defined by TSI CCS:2016.
- System safety level is SIL-4.
- Compatible with ERTMS/ETCS Level 1 and Level 2.
- Compatible with CENELEC standards (EN 50126, EN 50128 and EN 50129).
- Compatible with safe communication infrastructure EN 50159 standard.
- Compatible with EN 50155, EN 50125-1 and EN 45545 standards.

ERTMS/ETCS On-Board System Units

- European Vital Computer (EVC)
- BTM Subsystem
- GSM-R Data Radio Subsystem
- Driver Machine Interface (DMI)
- Juridical Recorder Unit (JRU)
- Odometer Subsystem

EVC

- Performs train control and protection according to information such as movement authorization, speed limits,

speed restrictions in the relevant mode and temporary speed restrictions.

- Performs functions as SIL-4 with 99.99% availability.
- Compatible with EN 50128 and EN 50129 standards.
- Provides diagnostic data for fault and maintenance purposes.

BTM Subsystem

- Used for localization and receiving data from the track.
- Compatible with Subset-036 and Subset-085.

GSM-R Data Radio Subsystem

- Sends and receives messages for train protection and control by establishing a communication session with the Radio Block Center (RBC).
- Compatible with EIRENE FRS and EIRENE SRS.

DMI

- Shows the basic information defined in standard to driver and enables to enter data by driver when needed.
- Safety level is SIL-4.
- Compatible with ERA_ERTMS_015560.

JRU

- Used for legal data recording for accident or investigation purposes.
- Compatible with Subset-027 and IEEE1482.1:2013.

Odometer Subsystem

- Performs functions such as speed measurement, position measurement and direction detection as SIL-4 according to the signals received from units such as Doppler Radar and Wheel Sensor.

