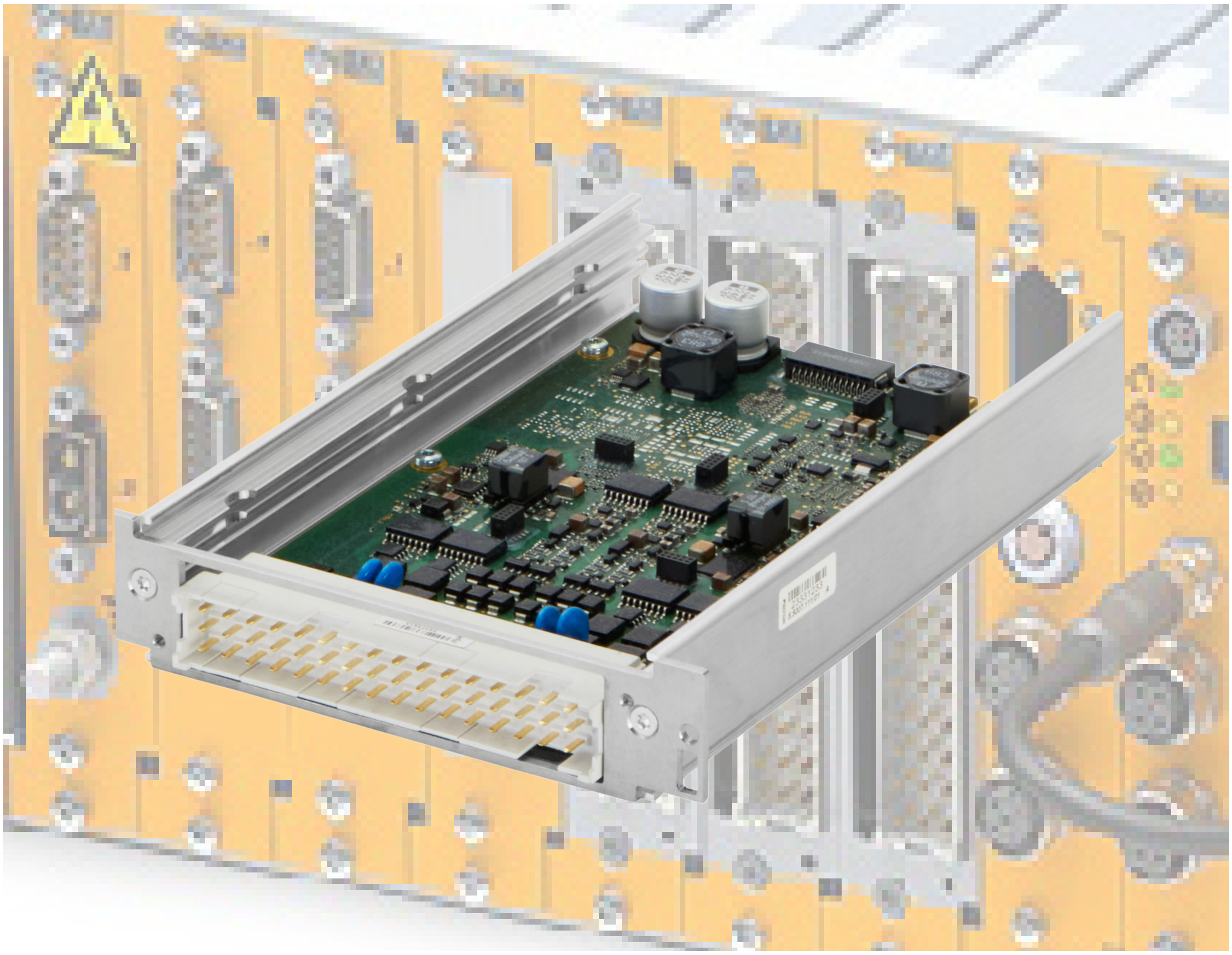
ON-
BOARD
ELECTRONICS

HASLERRail

Product snapshot

SABOx

Data Acquisition and Recording - *Safety Solutions*



HaslerRail's range of on-board electronics can be interconnected to equip your rail vehicles with a fully networked system for data recording, speed sensing, data and energy management and visualisation

SABOx

Modular safety functions for TELOC data / event recorders

SABOx (**SA**fety **BO**ard) are optional modules for the TELOC 3000 and TELOC 4000 data / event recorders. They are designed to receive, transmit and manage signals concerned with rail vehicle safety and offer a performance level up to SIL2.

The safety functions are relevant in all railway applications including passenger and freight locomotives, high speed trains, regional D/E/BMUs, metro cars and light rail vehicles.

SABOx is the market's most economical solution for incorporating safety functions on your vehicle. SABOx are FPGA-based and can be integrated in new and existing TELOC devices as a functional extension.

SABOx support the following approved safety functions:

- Zero Speed Threshold
- Passenger Brake Bypass
- Emergency Brake Supervision
- Speed and Distance Acquisition
- Driver Safety device
  (Highly configurable to satisfy any national regulatory requirements)
- Safe Speed Transmission
- Safe Speed Protocol
- Automatic Vigilance Device
- Speed Threshold Supervision
- Roll and Rollback Protection

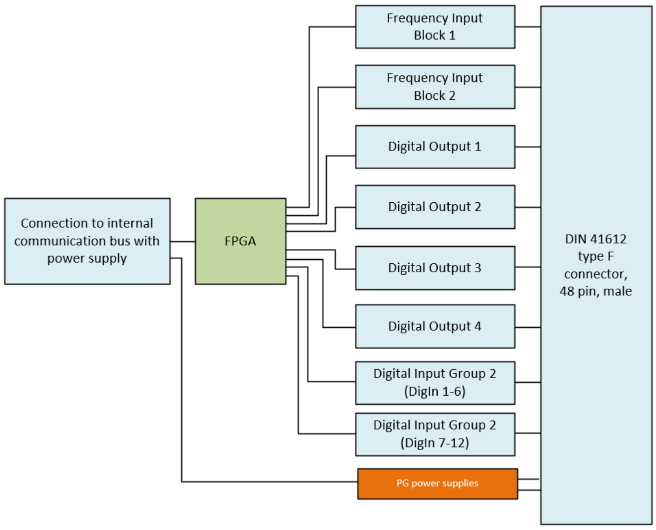
SABOx provide for digital I/O, frequency inputs and two power supplies for peripheral speed sensors such as pulse generators (PGs).

SABOx supports speed transmission over the SDTv2 safety layer. In many applications Speed transmission over SDTv2 from SABOx is the preferred solution for a fall-back SIL2 speed.

Interlocking for a safety critical device: Mechanical interlocks prevent the female Type-F connector from being inserted into the incorrect TELOC module The connector receptacles are physically coded using a key and spacer system. Wire links are fitted within the female Type-F connector to provide electrical verification that it is fully inserted into the SABOx module.

TELOC 3000 requires the SABOB module and TELOC 4000 requires SABOC. The SIL performance level for the safety functions may vary depending on the module.

Key Features and benefits
Custom parameter sets can be developed for all applications
Two SABOx modules can be installed in TELOC devices to expand the range of safety functions, I/O and frequency inputs
Unintentional parameter changes are prevented by electrical interlocks
Expanding range of variants to accommodate all safety function needs
From the renowned HaslerRail range of high quality on-board electronics



Simplified SABOC architecture

Observed standards	
EN 50155:2021	EN 61373:2010 +AC:2017-09
EN 50463:2017	EN 45545-2:2020
EN 50121-3-2:2016 + A1:201	IEC 62443-4-1/2
EN 50128	EN 50159

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