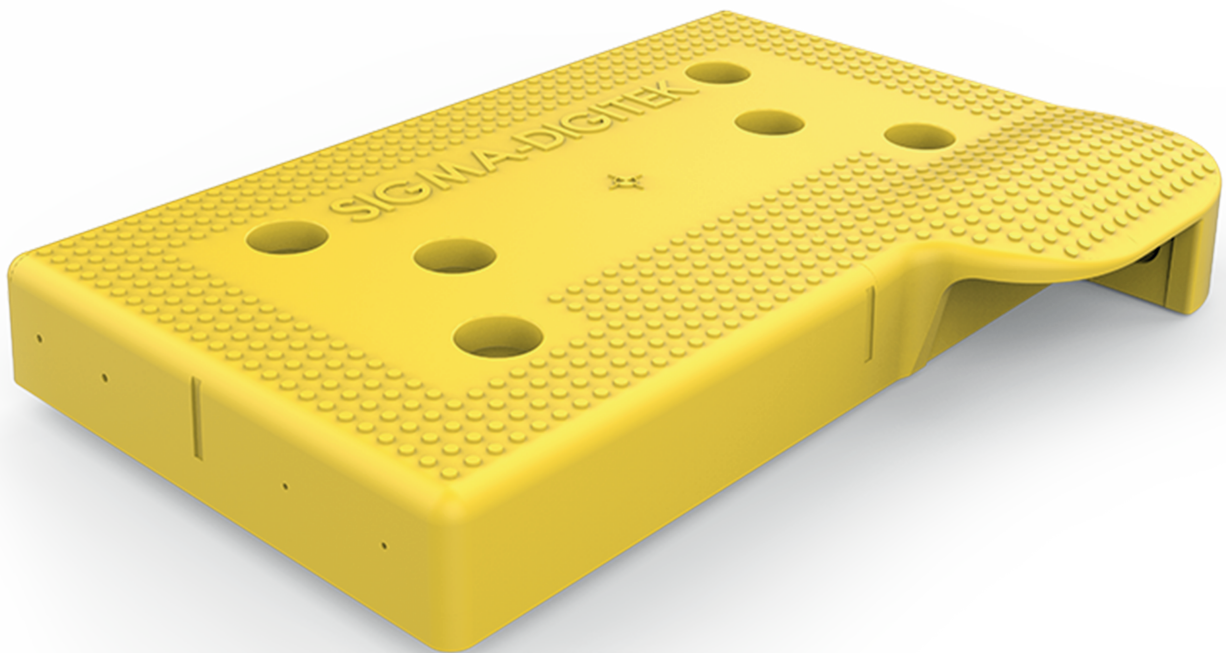




The synthesis of the excellence  
of SIGMA products based on  
Radio Frequency technology



# BALISE

The evolution of Railway Signaling awaits you



RELIABLE



SECURE



SMART

## EUROPEAN RAILWAY TRAFFIC MANAGEMENT SYSTEM

ERTMS is the European railway system for the automatic train control with high reliable and safety targets used on the new high speed lines and on traditional lines.

ERTMS was adopted by several countries, in Italy ERTMS is known as SCMT ( Train Running Control System ) which includes all ERTMS specifications with additional requirements. In Italy almost 10.000 km of high speed and traditional lines are equipped with SCMT and ERTMS. The Eurobalise equipment is used in ERTMS as a lineside passive transponder for transmitting data from track to train. The train on-board equipment provides the tele-powering flux activating the Eurobalise equipment via magnetic coupling principle and exchanges data with it. The Sigma-Digitek Balise is fully compliant with ERTMS specifications and interoperable. The telegram data transmitted to the on-board equipment are fixed and stored in the Balise.

## SPECIFICATIONS

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### Main features

- ✓ Size: Reduced size according to Subset-036
- ✓ Dimensions: 450 x 320 x 55 mm (65mm max)
- ✓ Weight: 5,2 Kg
- ✓ Debris Class: Class A according to Subset-036
- ✓ Temperature Range: -40°C / +70°C operative
- ✓ Protection Degree: IP67
- ✓ Telegram configuration: via air-gap with Sigma Configuration Tool
- ✓ Balise silencing: via dedicated metallic shield
- ✓ Cable connection: metal connector, bayonet coupling MIL-C-5015
- ✓ Max allowed cable length: certified up to 500 mt; tested till 5.000 mt. with standard LEU

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### Electrical characteristics

- ✓ A4-Interface: Downlink / Center Freq. 27,095MHz / Modulations: CW / Toggling / Non-Toggling
- ✓ A1-Interface: UpLink / Centre Freq. 4,234MHz, 2-FSK Data rate 564,48 kbit/s
- ✓ Programming Interface: Downlink 9MHz OOK / 27,095MHz ASK, Data Rate 31,38 kbit/s, UpLink 4,234MHz FSK Data rate 564,48kbit/s
- ✓ C-Interface: Carrier Freq.8,82kHz CW, Data rate 564,48kbit/s / Coding: DBPL, Freezing signal duration: 150+350Qs, Switching to default telegram based on signal integrity checks on Carrier Amplitude, Data amplitude, Time Jitter, Mean Data Rate

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### Certifications

- ✓ Directive (EU) 2016/797 on the interoperability of the rail system within the Community
- ✓ Directive 2014/53/EU Radio Equipment Device
- ✓ SUBSET-036 Eurobalise product specifications
- ✓ SUBSET-085 Eurobalise test specifications

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► C-BOX is Sigma - Digitek tool for Eurobalise Equipment that allows the in field management and missions execution like telegram configuration, manufacturing data checking, interface A/C diagnosis and automatic mission report generation.

- C-BOX consists of two components:
- one briefcase fitting in with the Balise
  - one portable wireless PC-display proving an easy graphic user interface

