

KFS SIL2*: Signal Crossing Prevention System - (ATS - Automatic Train Stop)

Ongoing certification of the CERTIFER contract No. ECI1462

KFS Bloc or Rack

SIGNAL CROSSING PREVENTION

The KFS block is an onboard device for electrical and thermal railway systems (train/urban subways/RER/tramways).

Its main objective is to:

- Decode information from the magnetic onboard KFS sensor, which is generated by the RPS, KPVA or KFSI track antenna installed on the track between the train's rails,
- And transmit the information to the emergency braking system (VACMA).

The KFS block receives two types of electrical signals from the magnetic sensor:

- One is transmitted from a detection stage of the constant magnetic field and produces binary information (R) in accordance with the existence or absence of a magnetic field generated by the ground track antenna (R = 0 (OV) if the field is present, R = 1 (10V) if it is absent).
- The second is the image of the sum of low frequency signals (F1:15,36 KHz, F3 :15.36 KHz, F3: 25.6 KHz) from the ground track antenna and received by an antenna set to the useful frequency band inside the magnetic sensor.

The decoding circuit can interpret the combination of signals transmitted in order to lower the corresponding outgoing relay for 160 ms. The following commands are therefore issued depending on whether the block decodes a magnetic field or not and detects the electromagnetic frequencies (F1: 15.36 KHz, F3: 25.6 KHz):

- Detection of a constant magnetic field and two F1 and F3 frequencies: *train passage*
- Detection of a single magnetic field; *train stoppage* command
- Detection of a magnetic field and F3: *vigilance* command
- All other cases: *train passage*

The KFS block can be mounted onto a European standard box or rack.

Specifications:

- 24V or 72V DC EN 50155 standard power
- EN 50121 standard electromagnetic compatibility
- Safety relay: NF F 62-002 standard
- Operates between -20°C and +85°C
- Box in anti-corrosive plate with epoxy paint.

KFS blocks guarantee full compatibility with BL.RC.SI blocks on the current equipment of the Parisian subway and RER systems.

Reference

- Corse :
 - Number of copies: 70
 - Year Implemented: 2006



Front view of an KFS Block



Back View of an KFS block



KFS block in its box



KFS block in its rack