



intelligence on wheels

Train Collision Avoidance

Although rail transport is extremely safe, collisions of railway vehicles happen occasionally. Our innovative safety overlay system adopts a concept very successful in aircraft for avoiding the collision of trains. It combines three core technologies: a direct train-to-train communication system, an accurate localization system and a cooperative situation analysis and decision support system. As opposed to “traditional” technical train safety systems, our system does not require any technology in the infrastructure, i.e. along the railway track, but entirely relies on onboard technology.



Available languages:



Essential HMI

Interacting with the train collision avoidance system is easy and simple through this all-in-one train driver interface. While the system takes care of all the complex situation analysis, the driver is assisted with essential information just in cases of imminent danger. It makes the interaction with the system as simple as no interaction required at all. The six keys on the front of the intelligent display with IP65 protection class are assigned logical meanings depending on the current state („soft keys“). Two integrated buzzers are used to acoustically signal an alarm or a detected malfunction to the driver.



WINNER 2013



PROF. MANFRED FUCHS
INNOVATION AWARD
2015



Typical installations include one HMI on locomotives or two HMI on railcars, one in each driver cabin, connected via network to the onboard unit (OBU).

- 6,5" intelligent railway display compliant with EN 50155.
- ARM Cortex A9 quad core processor, 800 MHz, 1GB DDR3-RAM, 4 GB Flash on board, Ethernet, USB, 2x integrated piezo-buzzers up to 110 dBA for noisy environments, auto-brightness-adjust.
- Wide temperature range of -30°C..+85°C with internal monitoring.
- Twisted Nematic liquid chrystal display in VGA resolution.
- 6 front keys sensitive enough to be used also with gloves under hot-and-dirty conditions.
- Coded M12 connectors for power, USB and network.
- Input voltage 24-110V DC (+/-40%), mean power consumption <10W.
- IP65 casing, VESA mounting.



The graphical elements are designed for the specific use of the application in a train driver's cabin, closeley following a state model and being minimalistic by design. Symbols or shapes in a certain color that do already have a certain meaning to the train driver are avoided.



About Intelligence on Wheels

Intelligence on Wheels, founded in 2012, is a spin-off of the German Aerospace Center (DLR) committed to the commercialization of an innovative train collision avoidance system. It is our vision that every train will be equipped with our technology as additional means of technical train protection. In doing so, the safety level will be lifted from whatever safety technology is installed along the track or in the train to a higher level.

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