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Electrics for Rolling Stock

IntelliDesk
The smart driver desk concept for rail vehicles
Catalogue F400.en
IntelliDesk – The future is here

Driver’s desks for rail vehicles

IntelliDesk is an innovative communications and wiring concept for system integration inside a driver’s desk. Here, every subsystem can be simply connected to a field bus box and at once begin communicating with the on-board train control and monitoring system (TCMS) via a central master interface.

A unique feature is the predictive and condition-based maintenance. Thus, IntelliDesk has turned out to be a landmark on the path to standardization and modularization as intended by UIC 612, while simultaneously offering maximum flexibility and adaptability to a wide range of rail vehicles.

Features

One-stop sourcing:
Easy configuration of driver’s desks, even completely assembled desks, including fully integrated electromechanical operating elements as well as all electronic subsystems. Fast and easy to plan; short implementation times.

Clearly defined interfaces:
Subsystems with integrated field bus and/or gateway for communication with the TCMS. Data communications via a central master interface.

Custom, modular, robust, maintenance-free:
The modular construction of our robust, shock and vibration-proof driver’s desks enables alternatives in the design and layout of display and control elements. Status-dependent service display.

Ergonomics for more safety:
Ease of use, pleasant feel and modern design characterize Schaltbau driver desks. Improve wellbeing. Increase health. Promote concentration.

Redundant Safety Architecture:
Special consideration has been given to hardware and software safety design, ready for the next generation SIL 2 level driver’s desk. Internal redundant CAN network compliant with EN 50159; Ethernet TCMS connection provided.

Standard-compliant requirements:
All devices and subsystems installed in IntelliDesk are UIC 612 compliant and fulfill the requirements of rail vehicle manufacturers and the relevant standards.

Ergonomics & Design :: Smart Human Machine Interface

Bespoke design
Natural mapping of commands
TOUCH buttons with HAPTIC & LIGHT feedback
Smart key with user recognition
Mobile device interfaces

User centered design
Electronic timetable display (ETD)
Mobile devices
USB charger

Customized HMI
Auto-test & data logging
Predictive & condition based maintenance
UIC 612 compliant
SIL 2 ready
**Customized solutions**

In cooperation with you, our experienced design engineers select appropriate solutions from the existing basic models and customize them to meet your needs.

Together, we find the optimum, state-of-the-art solution for every requirement. Our inhouse electronics development division enables us to respond quickly and flexibly to changing needs. Comprehensive type testing is performed in our laboratory according to customer specifications.

Generally, driver’s desks are customized product developments because of the need for adaptations.

Modern project management ensures adherence to the required deadlines and quality – even when requirements change.

Talk to us and set us a challenge.

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**The smart driver’s desk concept**

**Data communications via a central master interface**

The innovative architecture enables optimal integration of all components and subsystems within the control panel, e.g. all displays, panels, levers and indicators. These components and subsystems are connected to a CPU unit in the driver’s desk, which serves as the central master interface. This master interface is used for direct communication with the train control and monitoring system (TCMS).

**Predictive and condition-based maintenance**

The communication of all components and subsystems with the CPU unit also increases cost-effectiveness during operation. Wear and failure can be promptly detected and downtime avoided thanks to reactive and preventive maintenance.

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[Diagram of the smart driver's desk concept with labeled components: Displays, Panels & Indicators, Footrest, Master Controller, Ethernet lines to the cab.]
Connectors

- Connectors manufactured to industry standards
- Connectors to suit the special requirements of communications engineering (MIL connectors)
- Charging connectors for battery-powered machines and systems
- Connectors for railway engineering, including UIC connectors
- Special connectors to suit customer requirements

Snap-action switches

- Snap-action switches with positive opening operation
- Snap-action switches with self-cleaning contacts
- Enabling switches
- Special switches to suit customer requirements

Contactors

- Single and multi-pole DC contactors
- High-voltage AC/DC contactors
- Contactors for battery powered vehicles and power supplies
- Contactors for railway applications
- Terminal bolts and fuse holders
- DC emergency disconnect switches
- Special contactors to suit customer requirements

Electrics for rolling stock

- Equipment for driver’s cab
- Equipment for passenger use
- High-voltage switchgear
- High-voltage heaters
- High-voltage roof equipment
- Equipment for electric brakes
- Design and engineering of train electrics to customer requirements