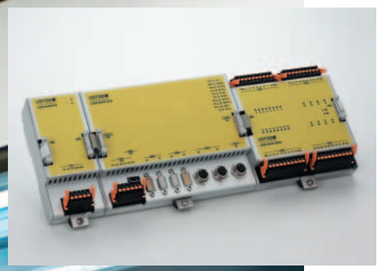
Transportation Solutions

Product Overview

LÜTZE TRANSPORTATION
powered by Amphenol

Welcome to LÜTZE

Control Technology Page 6



Interface Page 10

Indication Page 15

LÜTZE TRANSPORTATION - We are on Track!

Rail vehicles place the highest demands on electronic components and systems. Vibrations, shock loads, temperature fluctuations, and electromagnetic interference are part of everyday operation – over many years. Since 1987, LÜTZE TRANSPORTATION has therefore been developing reliable and long-lasting solutions specifically for the demanding conditions of rail applications.

A Portfolio Covering the Entire Signal and Control Chain

The portfolio covers the complete signal, control, and power supply chain from sensor to actuator: from signal conditioning and decentralized I/O systems to vehicle control, network technology, and interface components, as well as protective functions, visual and acoustic signal transducers, logic modules, and charging solutions. Safety-related control functions up to SIL 2 are also an integral part of the portfolio.

Fewer Variants, Greater Customer-Specific Flexibility

Flexibly configurable standard products and modular platforms reduce the number of variants and simplify engineering, wiring, installation, and maintenance. Customer-specific developments make it possible to create solutions precisely tailored to the vehicle and its application.

Digitalization, functional safety, and intelligent diagnostic concepts help reduce complexity while increasing safety, availability, and cost-effectiveness throughout the entire vehicle lifecycle.

German Engineering and Global Presence

With its own in-house development expertise, ISO 22163-certified processes (IRIS), and comprehensive lifecycle support, LÜTZE TRANSPORTATION supports its customers from the initial concept through system integration and series production to the modernization of existing vehicle fleets.

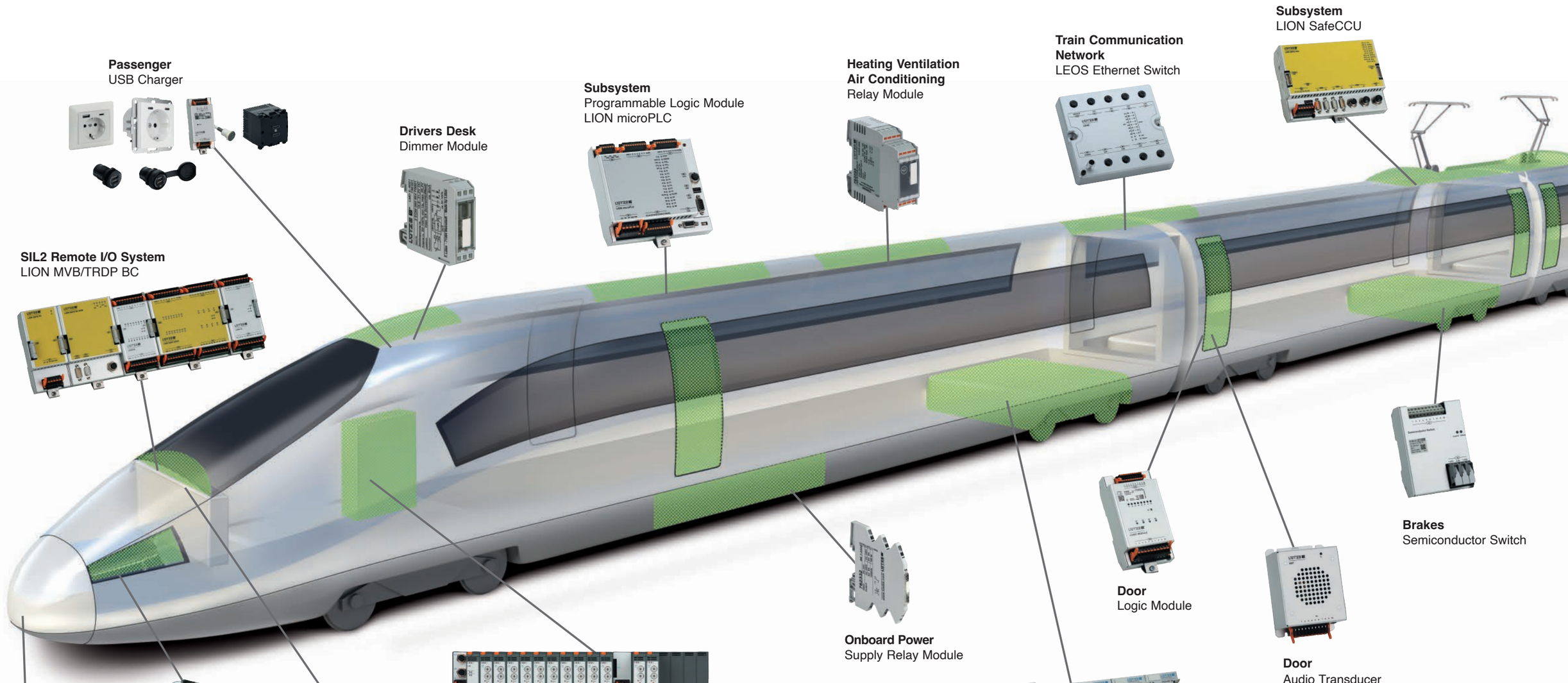
As part of the Amphenol Group, LÜTZE TRANSPORTATION combines decades of railway experience with the technological strength and global presence of an international technology group.

We are on Track!

IRIS Certification

LÜTZE TRANSPORTATION powered by Amphenol

Products and Solutions for Rail Vehicles



Passenger
USB Charger

SIL2 Remote I/O System
LION MVB/TRDP BC

Drivers Desk
Dimmer Module

Subsystem
Programmable Logic Module
LION microPLC

Heating Ventilation Air Conditioning
Relay Module

Train Communication Network
LEOS Ethernet Switch

Subsystem
LION SafeCCU

Brakes
Semiconductor Switch

Door
Logic Module

Door
Audio Transducer

Onboard Power
Supply Relay Module

Scalable Compatibility Control Unit
DIOLINE PLC

Diagnosis
Current Monitoring of Actuators

Coupling
Ethernet via Couplers

Lamp Control Unit
Controlling the outer light

Driver's Panel
USB Charger

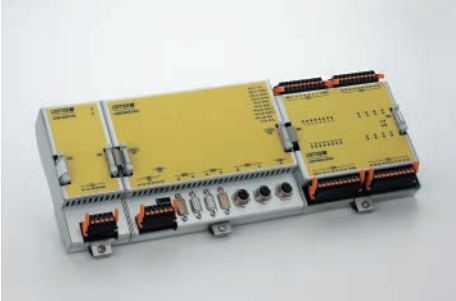
Control Technology

Control and diagnostic systems play a key role in modern rail vehicles. Customisable platform concepts are required to ensure that vehicles are designed and manufactured efficiently in the face of control technology's ever increasing requirements.

Control technology components from LÜTZE TRANSPORTATION are flexible to use and consistently accommodate this trend. So intelligent, special purpose solutions such as LÜTZE lamp control units are available as well as whole control technology systems to EN 50155, EN 50126, EN 50657 and EN 50129, with perfectly coordinated individual components.

An example of this is the LION system, which comprises not just the vehicle control system but also the I/O level for all the usual signal voltages found in the railway sector.

Vehicle Control Unit



LION SAFE CCU

- Safety PLC for applications up to performance level SIL2
- Safe- and non-safe functions in one system.The program code can be edited and configured reactionless within the control.
- Communication via MVB (Slave), CANopen, CAN, Ethernet or TRDP (Dual Homing)
- Safe communication via MVB and TRDP with the SDTv2 safety protocol
- EN 50126, EN 50716, EN 50129 and EN 50155 certified

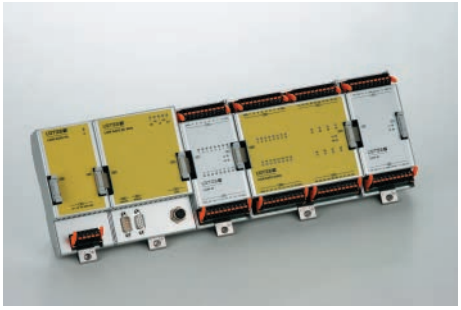
DIOLINE PLC

- Flexible compact control unit for use in rail vehicles
- Works as subsystem controller or as a powerful gateway linking various vehicle-specific bus signals.
- Up to 4 bus interfaces, flexibly configurable as Ethernet, MVB (Slave), CANopen or CANJ1939 interfaces. Supports the Ethernet protocols TCP/UDP and TRDP
- Optional RS485 extension
- L-Bus interface for local connection of I/O modules of the DIOLINE family
- IEC 61131-3 development environment for applications according to EN 50657

LION MicroPLC

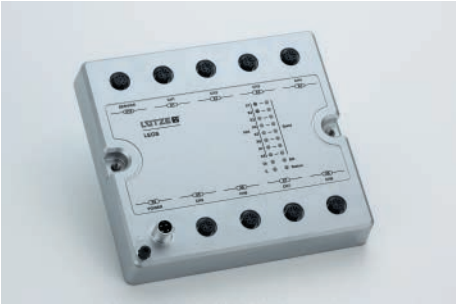
- Compact, cost effective logic module for use on rail vehicles
- For simple decentralized automation tasks in subsystems
- Easy programming with free PLC project planning tool
- Ethernet, USB, RS485/422/232, CAN (can be switched)
- 16 digital inputs, 2 analogue inputs, 8 digital outputs, 1 analogue output
- I/O configuration can be customised

Remote I/O Modules



LION I/O System

- Scalable safety thanks to the combination of safe and non-safe I/O channels
- Secure field buses: Ethernet TRDP or MVB with SDTV2 Safety Layer
- Wide range of I/O digital and analogue I/O interfaces
- Potential groups with small granularity
- High-performance rear wall bus for high data rates and detailed diagnosis data from the field
- For applications up to performance category SIL2
- EN 50126, EN 50716, EN 50129 and EN 50155 certified



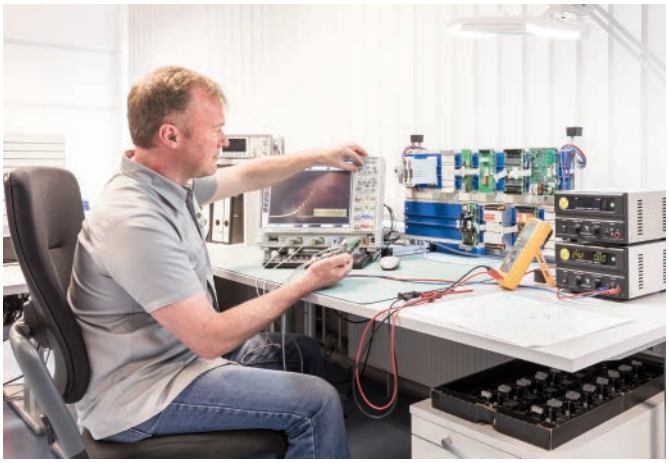
LEOS Unmanaged Ethernet Switch

- 8 Port Switch with 10/100 Mbit/s
- Wide input range of DC 24 V ... 110 V
- Cost-effective for basic applications
- Space-saving design
- Sturdy thanks to completely closed diecasted zinc housing

Train Line Modem

- Gigabit Ethernet via existing cable and coupling
- Data rate up to 1 GBit/s (UDP)
- Advanced Encryption Standard (AES)
- Existing cabling being used for data transmission
- Wide voltage input of DC 24 V to 110 V or as PoE
- TLM configuration tool for settings and diagnostics

Railway Technology Competence



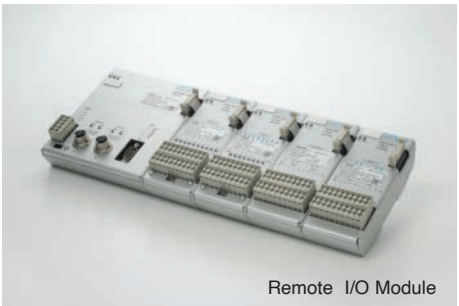
LÜTZE has been developing and manufacturing electrical components for rail vehicles for over 40 years. Our extensive product range of standard components carries out many automation tasks in the most diverse vehicle applications.

Are you still looking for the appropriate product adapted to suit your specific application?

Get in touch with us. Our developers help you to find the best solution for your product, including the specification and design for the application on the vehicle, regardless of whether you need components for your control technology, interface components or optical and acoustic signals.

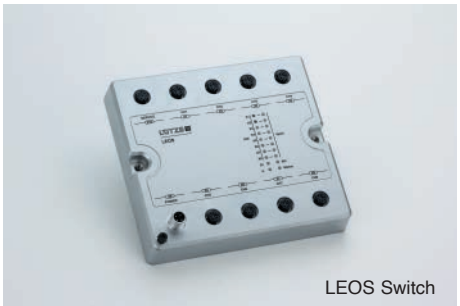
© Denis Fiedler 2018

The Vectron series by the locomotive manufacturer Siemens is a flexible locomotive platform that can be adapted to various customer requirements. The modular and configurable components from LÜTZE TRANSPORTATION help to minimise the design effort for various configurations. Depending on the variant, different products from the LÜTZE TRANSPORTATION portfolio ensure efficient adjustment of the platform to the customers' needs.



Remote I/O Module

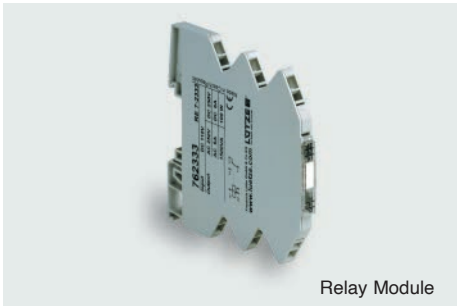
Compact Control Unit



LEOS Switch

LSG3

Audio Transducer for fixed frequencies



Relay Module

Interface

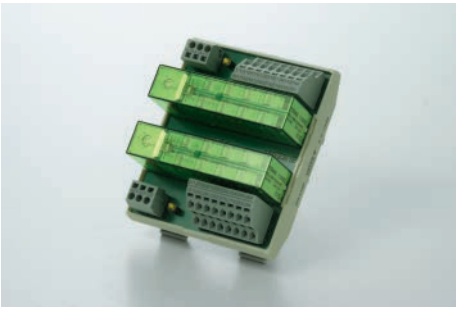
Streamlining of vehicle design and wiring as well as optimal use of installation space: these are the tasks of LÜTZE TRANSPORTATION interface products.

The large number of different electrical components on rail vehicles means that amplification, adjustment and suppression are often required between the control technology and actuators.
Innovative, devices developed specifically for vehicle technology combine functions that previously required a whole series of individual devices. Thus the space requirement is minimised and the design and wiring are simplified. A wide range of standard products covers numerous application areas and they are perfectly complemented by customised products, which we develop to your specifications.

Relays

Relay Modules

- Available with different contact materials for switching currents of 10 µA to 10 A
- Spring-loaded terminal connection, optionally with front wiring and a bridging option
- Different models for optimum use of the installation space
- Available for all other onboard voltages or with wide-range voltage input



Relay Modules with Positive-Action Contacts

- The relays meet the requirements of the IEC 61810-3 application type A
- Available with 2 to 8 contact sets
- Spring-loaded terminal connection
- Different models for optimum use of the installation space
- Optionally, also available with gas-filled relays for absolute contact reliability
- Available for all other onboard voltages

Safety Relay Modules

- Suitable to be used in safety applications up to SIL2
- For contact extension and increase of switching capacity in safety control systems
- 2 NC / 4 NO positive-action contacts acc to. IEC 61810-3 application type A
- Available for all common onboard voltages

Function Relays

Programmable Timing Relay

- More than 30 time functions can be configured using free software
- Available with a relay output, optionally with positively driven contacts, and semi-conductor outputs for DC 24 V and DC 110 V
- A wide range voltage supply and wide range voltage control permit operation on all standard on-board voltages between 24 V and 110 V DC

Semi-Conductor Switches

Semi-Conductor Switch

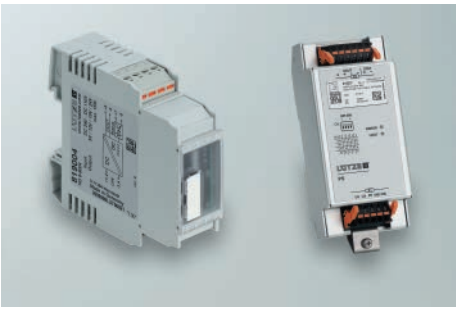
- For switching currents up to DC 60 A and switching voltages up to DC 110 V
- Long service life thanks to wear-free switching elements
- Optional diagnostic output for short-circuit, overload and wire break simplify troubleshooting and increase availability
- Different models for optimum use of the installation space

Transducers

LCON Rail Infinity

- Analog input up to AC/DC 300 V and AC/DC 10 A
- Temperature input for PT100, PT1000, 2-, 3-, 4-conductor, potentiometer and thermo couples
- 1 analog output
- 2 semiconductor threshold switches DC 110 V / 1.5 A potential-free
- Parameterizable by means of free software
- Wide input range of DC 24 V – 110 V

Power Supplies



DC/DC Converter 15 W / 36 W

- Wide input range of DC 24 V – 110 V
- Adjustable output voltage DC 5 V / DC 12 V / DC 15 V / DC 24 V
- High output capacity > 5 mF
- Short-circuit and overload protection
- Reinforced insulation
- DIN rail mounting

USB Charging Solutions

- 230 V sockets (Type E or F) with integrated charging ports USB-A and/or USB-C as well as USB-C 40 W PD
- DC 24 V charging ports with 2 x USB-A
- DC 24 – 110 V wide range charging system with suitable passive charging cables

Logic Modules

Logic Modules with GreenPAK™ Technology

- Realisation of customized logic operations within a GreenPAK™ configurable mixed-Signal device using its programmable digital logic resources.
- 8 digital, potential-free wide-range inputs with individual selectable threshold (9 V / 33 V) for nominal voltage DC 24-110 V
- 4 digital, potential-free wide-range outputs with short-circuit protection for nominal voltage up to DC 110 V. Maximum output current: 2 A
- Wide range supply voltage DC 24-110 V
- Status-LED for each input and output

Load Monitoring

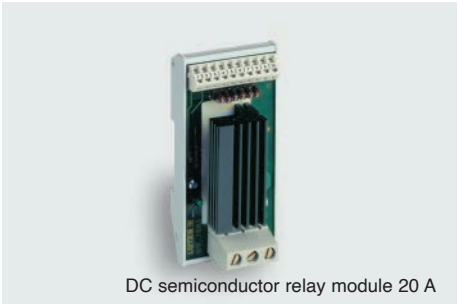
LOCC-Box Rail

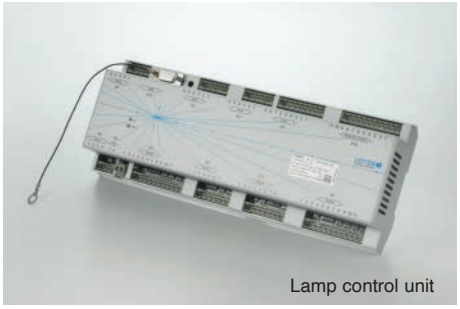
- Intelligent load monitoring system for DC 24 V onboard networks
- Adjustable current range: DC 1A – 10A
- Adjustable characteristic (fast-acting - super slow)
- Digital set / reset input
- Does not need to be installed in easily accessible place
- Status output

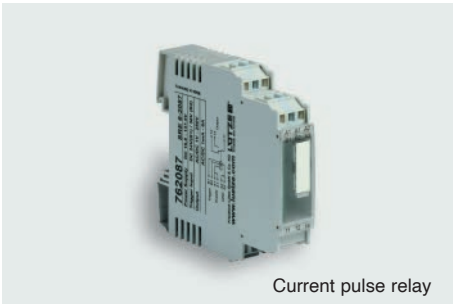
LUNA

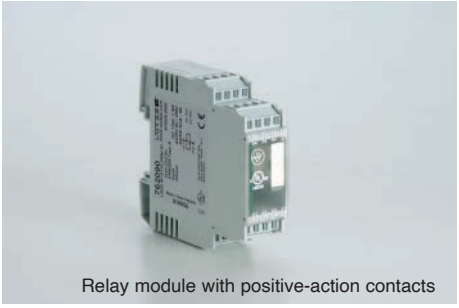
- Intelligent control system for 2-pole switching and load monitoring of 24 V actuators
- Adjustable current ranges up to 10 A
- Adjustable characteristic (fast-acting – super slow)
- 2 channels per module
- Connection to the vehicle control unit via Ethernet TRDP
- Permanent transmission of diagnostic data
- Compact module with 6 or 11 slots

By the year 2020, the Leipzig Traffic Authority will have bought 41 new, modern and highly accessible vehicles of the type Solaris Tramino from the company Solaris Bus & Coach. LÜTZE TRANSPORTATION will also be equipping these vehicles with various components for movement and comfort. For instance, there are various semiconductor modules with load currents up to 20 A and also a number of different mechanical relays and multifunctional relays installed.

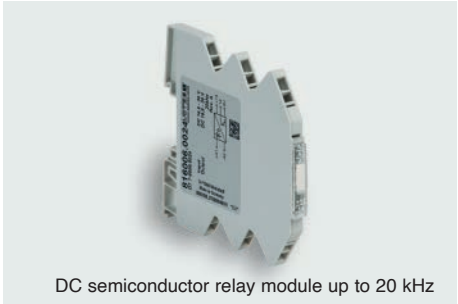

DC semiconductor relay module 20 A


Lamp control unit


Current pulse relay


Relay module with positive-action contacts

Timing relay with positive-action contacts


DC semiconductor relay module up to 20 kHz

Indication

Acoustic warning:

We have various solutions available to you for a range of applications, so you can hit the right note in any situation.

We provide maintenance-free & durable solutions, both for indoors and outdoors.

Customer-specific solutions are available on request.

Acoustic Transducer for Indoors

Audio Signal Transducer

- Beside simple signal tones it is often necessary to playback acoustical warnings in a form of speech and melodies. This Audio Signal Transducer is able to play such audio files in a total length of up to 15 minutes
- The tones are selected using 6 digital wide range inputs. The prioritization of the single audio files is possible
- The volume can be adjusted using the integrated potentiometer
- The following audio file formats are supported: *.WAV, *.mp3
- An additional version for wall mounting as well as a version with external speaker is available too
- Programmable with a free software

Audio Signal Transducer with TRDP

- Configuration (IP + audio) via web server
- Audio playback is controlled via TRDP message data telegrams or digital inputs
- Up to 256 audio files possible, limited to ca. 15MB
- Copy and paste of configurations possible via webserver
- Volume control
- Predefined presets
- default (100%), configured volume or TRDP sent volume possible

Universal Buzzer

- This Universal Buzzer module is suitable for acoustic signalling in the most diverse applications. Different tones can be parameterized via the programming interface. This can be implemented by LÜTZE or independently via a free software.
- The Buzzer Module can be operated with a voltage between DC 24 V and 110 V.
- There are different operating modes available: continuous operation, interval operation or change-over mode.
- The Buzzer Module is available in 3 different versions: one for wall mounting and one for back wall mounting as well as for DIN rail mounting.

Acoustic Transducer for Outdoors

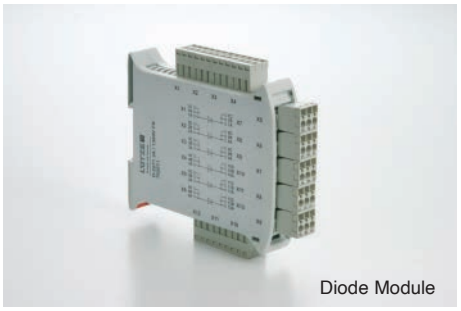
External Audio Signal Transducer

- Powerful electronic sound generator for outer warning
- Sound pressure up to 122 dB(A) @ 1m distance – depending on used sound and settings
- Controlled via 4 digital inputs (binary codable) with a maximum of 14 tones
- Various connection options: round plug, plug housing, 90° C angle plug - further connection options on request
- Day & night control input for reducing the sound pressure level at night
- Simple programming via configuration tool with various setting options

Stadler supplies Flirt series railcar trains for the private operator MTR Express in Sweden. The vehicles are used on the first Swedish Intercity line between Stockholm and Göteborg. Like all other vehicles in the Flirt series, this highly modern vehicle also contains LÜTZE TRANSPORTATION interface and indication technology.

Universal Buzzer

LEOS Switch


Diode Module

Lighting Element

Transducer

Diode Module

Customer Specific Products

MTB-Module

- Control of two magnetic track brakes
- Supply voltage DC 24 V
- Switching current 2 x 45 A
- Current monitoring with galvanically isolated status feedback

Digital / Analog Converter

- Control of a cellular wheel metering system for sanding applications
- 4-bit input
- Output DC 2.53 – 10 V
- Supply voltage DC 24 – 110 V
- Status output

TRDP SIL 2 Bus Coupler

- Safe Ethernet TRDP bus coupler (SIL 2) with L-Bus² expansion for up to 32 modules, designed for use in rail vehicles.
- Certified in accordance with EN 50126, EN 50716, EN 50129, and EN 50155.
- The standard product has been enhanced with an additional protocol implementation, expanding its application range and flexibility for railway applications.

Certificate

LÜTZE is ISO 22163:2023 / IRIS Rev.04 certified

In 2007, LÜTZE was among the first 25 companies worldwide to obtain the new Railway Industry Standard IRIS certification. In 2024, the IRIS Rev.04 standard was successfully met.
With the transition to the ISO 22163:2023 Standard IRIS goes significantly further than the requirements of the ISO 9001 standard and incorporates additional railway-specific requirements.

IRIS Certification

dqs

C E R T I F I C A T E

awarded to

Friedrich Lütze GmbH
Bruckwiesenstrasse 17-19
71384, Weinstadt
Germany

DQS GmbH

confirms, as an IRIS Certification® approved certification body, that the Management System of the above organization has been assessed and found to be in accordance with the

IRIS Certification ®

Certification activities:
Design and Development of products and services & Production and service provision & Control of externally provided processes, products and services & Project management & Requirements for products and services

Business category:
Rolling Stock

Product scope:
Systems
Electrical and electronic components and solutions for the automation technology

Certificate valid from: 08/05/2025

Certificate valid until: 20/05/2027*

Current date: 15/05/2025
Certificate-Register-No: 1737
Version: 01

* Providing that the subsequent surveillance audits are successful before the validity date of the previous audit.Certification body address: August-Schanz-Straße 21, 60433 Frankfurt am Main, Germany

©2025 UNIFE. All rights reserved.
1/2

IRIS Certification

dqs

Enclosure 1 of Certificate No.: 1737

awarded to

Friedrich Lütze GmbH
Bruckwiesenstrasse 17-19
71384, Weinstadt
Germany

The location is supported by the following supporting functions:

Address	Scope/Process
Lütze Transportation GmbH Grunbacher Straße 65 71384 Weinstadt, Germany	5.22 (Vehicle Control System)
Friedrich Lütze GmbH Heinkelstrasse 18 71384 Weinstadt, Germany	5.22 (Vehicle Control System)

Current date: 15/05/2025
Certificate-Register-No: 1737
Version: 01

* Providing that the subsequent surveillance audits are successful before the validity date of the previous audit.Certification body address: August-Schanz-Straße 21, 60433 Frankfurt am Main, Germany

©2025 UNIFE. All rights reserved.
2/2

As a specialist for electronic components in rail vehicles, LÜTZE is aware of the high standards that your applications require from our products. Based on this quality awareness and our claim of supporting you with the latest technologies and designing your products reliably and cost-effectively, we have developed into the leading supplier in this market. In addition to the certification according to DIN EN ISO 9001:2015 LÜTZE also documents its leading position by means of a certified management system in accordance with the International Railway Industry Standard, IRIS.

IRIS is a standardized method used worldwide for assessing the management systems of suppliers, which takes specific standards for the rail vehicle industry into account. With the IRIS certification, we have made another important step in the continual improvement of collaboration with you, our customers from the rail industry and we are looking forward to supporting you even better in your next projects.

Germany
Lütze Transportation GmbH
Bruckwiesenstraße 17-19
D-71384 Weinstadt
Tel.: +49 71 51 6053-545
sales.transportation@luetze.de

USA
Lutze Inc.
Tel.: +1 704 504-0222
info@lutze.com

United Kingdom
Lutze Ltd.
Tel.: +44 1827 31333-0
sales.gb@lutze.co.uk

Spain
Lutze S.L.
Tel.: +34 93 2857480
info@lutze.es

China
Luetze Trading (Shanghai) Co. Ltd.
Tel.: +86 21 32580670
info@luetze.cn

www.luetze-transportation.com

LÜTZE TRANSPORTATION
powered by Amphenol

08.2026.EN.600 • © by Lütze Transportation GmbH, Weinstadt, Germany • Subject to technical modification.