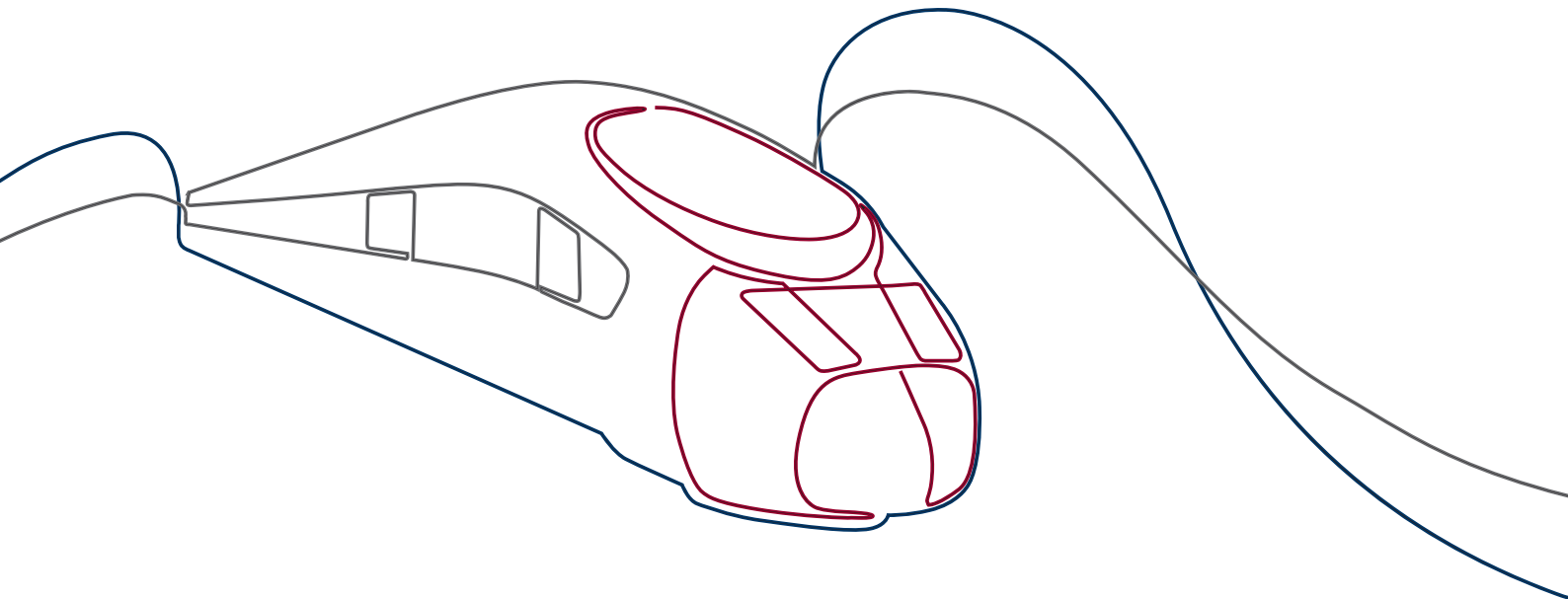


ETHERNET UPGRADE SOLUTIONS



Commitment to quality: We supply this product in accordance with our tested and certified quality standard



DIN EN ISO 9001:2015
Certified
Quality Management System



DIN EN 15085-2 CL1
International welding
certification for railway
vehicles



**IRIS Certification® based on
ISO/TS 22163:2017**
Quality management standard
for the railway industry

SERIES SOLUTION FOR ELECTRICAL COUPLERS

The *era-transceiver*® is directly installed in automatic couplers for initial equipping. The *era-transceiver*® has already undergone field testing for series use.

The optical interface is the position where contacts are usually installed, although they are not required here. The *era-transceiver*® unit is easy to install.

era-contact always manufactures products to meet customer-specific requirements.



Series solution for electrical couplers includes:

Option 1 – era-contact electrical railway coupler with integrated *era-transceiver*®

Option 2 – *era-transceiver*® as an attachment option, i.e. the existing electrical coupler is extended. The contact carrier itself does not have to be modified. For additional options for extending the coupler, refer to: **Plug & Play ETHERNET, ETHERNET-UPGRADE-SOLUTION.**

The advantages for you:

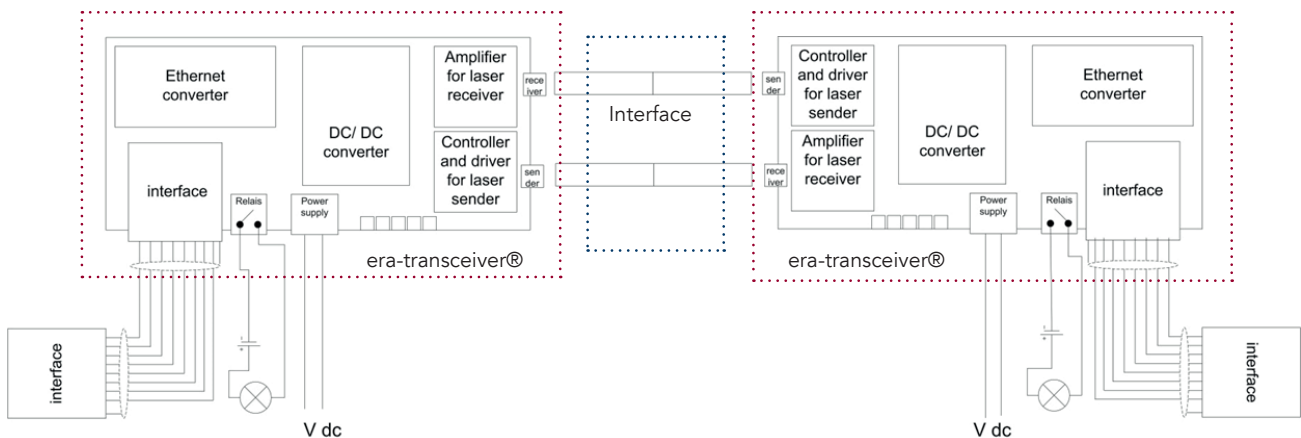
- No additional installation space is required because the *era-transceiver*® is integrated in the contact carrier
- State of the art – no further upgrades are necessary
- Field-tested
- After-sales service

Please note: The Ethernet solution for initial equipping can only be ordered from Voith Turbo GmbH – ask specifically for the *era-transceiver*®.

era-transceiver® – DATA PULSES WITH NO WEAR

The *era-transceiver®* is a unique contactless system for high-speed data transmission with full galvanic isolation, which means that no mechanical wear is caused on the contact itself. As a result, you benefit from a longer service life and cost savings throughout the entire product life cycle.

The *era-transceiver®* provides an ideal data transmission solution for both the initial equipping of a new vehicle and for the upgrading (Plug & Play ETHERNET, ETHERNET-UPGRADE-SOLUTION) of existing fleets and older models of railway vehicles.



Transmission principle of the *era-transceiver®*

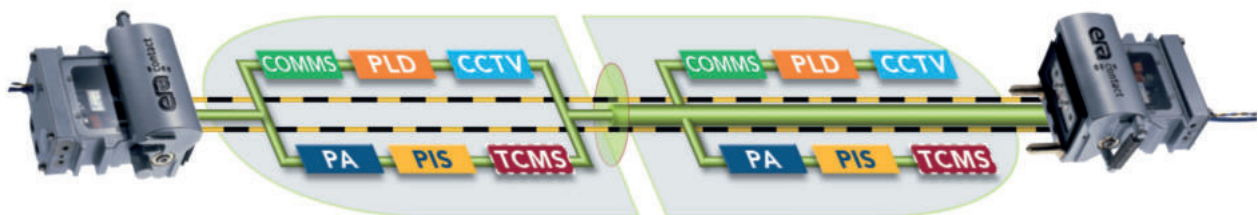
The incoming electrical Ethernet signal is converted into an optical signal. The optical signal is received on the opposite side and is converted back into an electrical signal. This involves correcting the level and timing (data clock recovery). Galvanic isolation is achieved using the interface.

Optical signals are free from EMC influence and potential shifts and are resistant to relative movements. The transmission unit operates in full-duplex mode, i.e. data is sent and received simultaneously.

era-transceiver® – PRODUCT RANGE

era-contact manufactures the 100 Mbit/s and 1000 Mbit/s versions in series production – versions up to 10 Gbit/s are available upon customer request.

Data rate	100 MBit/s	1000 MBit/s
Data interface	RJ45 (24V DL) M12 D-coded (24... 48 V DC)	M12, X-coded SC multimode
Cable requirement	min. CAT 5	min. CAT 7
Power supply	24 V DC	24 ... 48 V DC, 110 DC
General power consumption	< 5 W	< 5 W
Operating temperature range	RJ45: -25 ... +85 °C M12: -40... +35 °C	-40 ... +85 °C
Bit error rate	< 10 ⁻¹²	< 10 ⁻¹²



PA	Public Address
PIS	Passenger Information System
CCTV	Closed Circuit Television
COMM	Communications Systems
PLD	Passenger Load Determination
TCMS	Train Control Management System



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- International presence
- On-site engineering service – from prototyping to after-sales
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- A team just for you



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