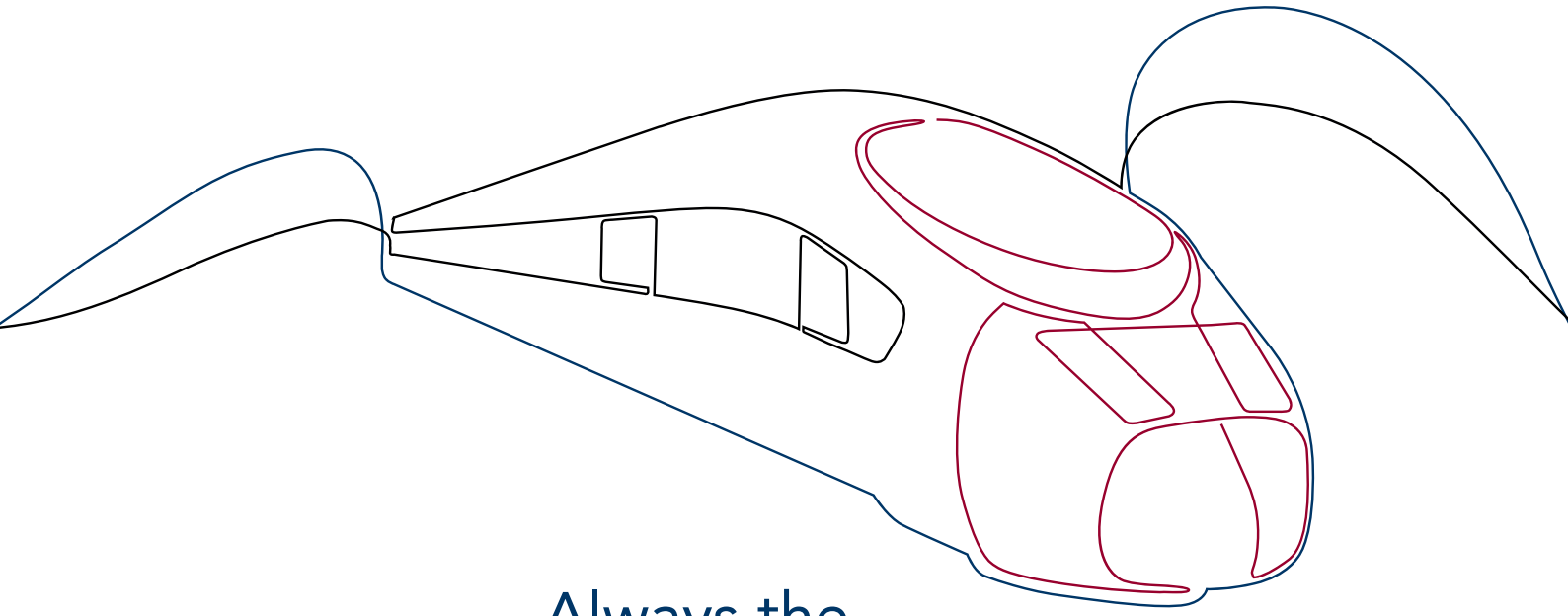
ETHERNET UPGRADE SOLUTIONS



Always the
right connection

Quality Standard: All products are subject to an extensive quality test in the final inspection phase. Of course, we are certified according to current industry-specific standards.

DIN EN ISO 9001:2015
Certified
Quality Management System

DIN EN 15085-2 CL1
International Welding
Registry for Rail Vehicles

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

ETHERNET UPGRADE SOLUTIONS
era-transceiver®
FIBRE-EXTENSION

Product info

The *era-transceiver®* fibre-extension is the solution for space problems in the electrical coupler. The fibre-extension allows flexible positioning within the contact block.

For retrofitting, the *era-transceiver®* fibre-extension offers the advantage that existing contact holes can be used. The solution is based on *era-transceiver®*-technologie.

era-transceiver® fibre-extension includes:

- *era-transceiver®*
- Fiber optic cable

Requirements for the *era-transceiver®* fibre-extension:

- This solution requires only two fiber contacts in the contact block, which take up as much space as a regular male contact.
- The total number of optical contacts is open and depends on customer requirements and the possible number of optional contact points in the respective couplers
- For retrofitting: existing drilled holes in the contact block
- Increased security against access and manipulation from the outside due to signals that cannot be manipulated (EMC non-critical)

Your advantage

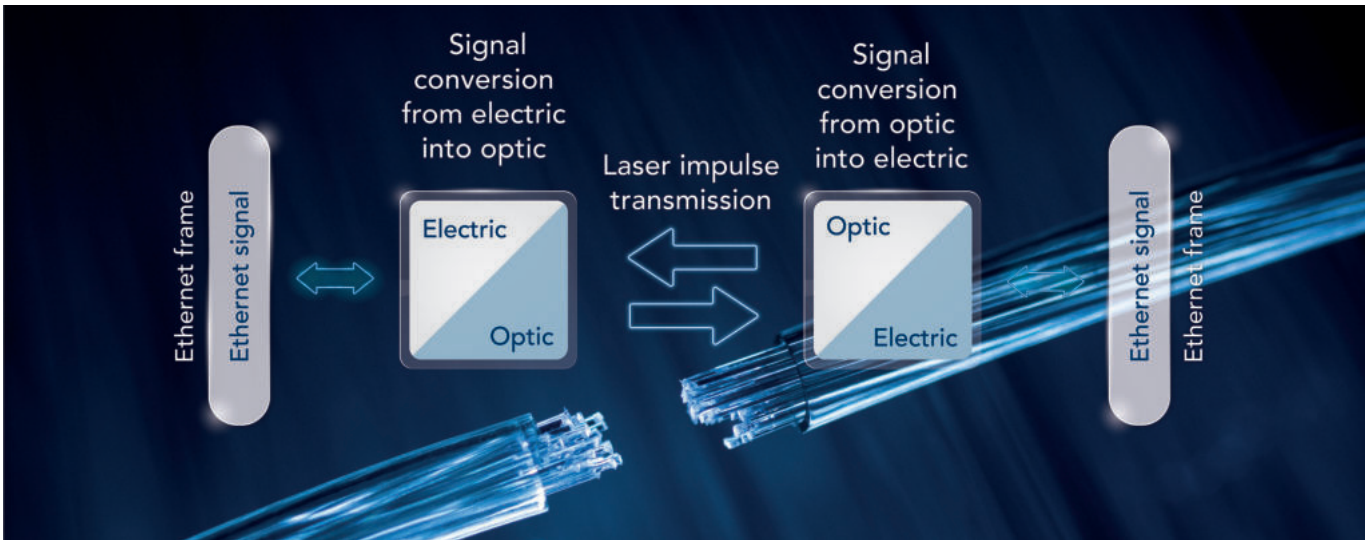
- Contactless data transmission of Ethernet signals
- Finds place everywhere – suitable for all electrical couplers
- Two contacts operate in full duplex mode and send and receive data simultaneously
- The incoming electrical Ethernet signal is converted into an optical signal and back again
  → insensitive to relative movements and EMC
- Easy to clean, no mechanical wear
  → thus longer service life and reduced life cycle costs
- Data transfer rates of 100 Mbit/s or 1 Gbit/s
- Fast and especially contemporary upgrade of older models of rail vehicles

ETHERNET UPGRADE SOLUTIONS
era-transceiver®
DATA PULSES WITHOUT WEAR

Product info

The *era-transceiver®* is a unique contactless system for high-speed data transmission with 100% galvanic separation, which means there is no mechanical wear on the contact itself. Therefore, you benefit from a longer operating life and cost savings over the entire product life cycle.

The *era-transceiver®* is an optimal data transmission solution for both the initial equipment of new vehicles and for retrofitting (Plug & Play ETHERNET, ETHERNET-UPGRADE-SOLUTION) of existing fleets and older rail vehicle models.



Transmission principle *era-transceiver®*

The incoming electrical Ethernet signal is converted into an optical signal. The optical signal is received on the opposite side and converted back into an electrical signal. The level and timing are corrected in the process (data clock recovery). Galvanic separation is achieved via the interface.

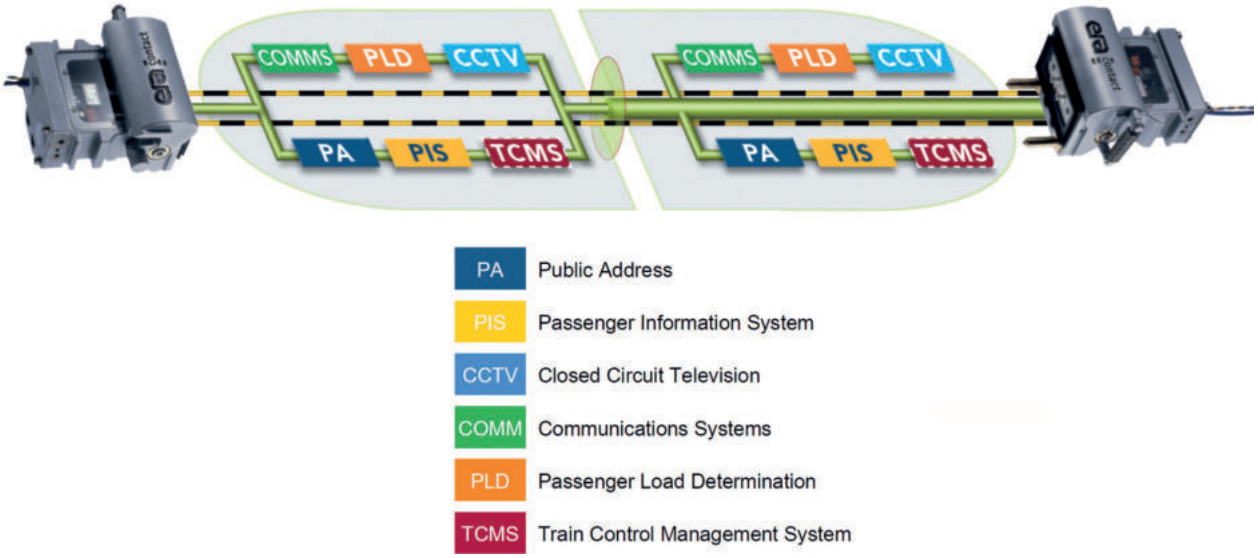
Optical signals are free of EMC interference, potential shifts and insensitive to relative movements. The transmission link operates in full duplex mode, i.e. simultaneous sending and reception of data is guaranteed.

Subject to technical changes

ETHERNET UPGRADE SOLUTIONS
era-transceiver®
PRODUCT FAMILY

era-contact produces the 100 MBit/s and 1000 MBit/s variants in series.

Data rate	100 MBit/s	1000 MBit/s
Data interface	RJ45 M12 D-coded	M12, X-coded, SC Multimode
Cable requirement	min. CAT 5	min. CAT 7
Power supply	24... 48 V DC	24 … 48 V DC, 110 DC
Power consumption in general	< 5 W	< 5 W
Operating temerature range	RJ45: -25 … +85 °C M12: -40.... +85 °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

MORE BENEFITS FOR YOU:

- Punctuality
- Consistently high quality all over the world
- Comprehensive service wherever you are in the world
- Years of expertise for your product
- International presence
- On-site engineering service – from prototyping to after-sales
- Original manufacturer
- A team just for you

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