

# NETWORK COMPONENTS



## NETWORK SWITCH

The fast Gigabit Ethernet Layer 2 switch with PoE ports is specifically designed for network applications in rolling-stock environments.

- 14 ports, 4 pcs 1 Gbps ports, 7 pcs PoE
- 24 Vdc power supply
- VLAN; QoS; IGMP 1, 2 and 3; RSTP; LACP; LLDP; DHCP port based server
- IP54
- MTBF >300 000 h
- EN50155:2017, EN45545-2:2015
- Dimensions 207 x 184 x 73 mm
- Operating temperature -40 to +70 °C, storage: -40 to +85 °C



## TRAIN LINK MODEM



The Ethernet broadband bridge for high bandwidth Ethernet traffic over 2-wire cables even with oxidized connectors.

- IP67 anti-condensation
- 1x2-wire interface up to 70 Mbps
- Operating voltage 16.8 to 143 Vdc
- Operating Temperature - 40 to +70 °C
- Automatic pairing
- 100 Mbps Ethernet
- Typical link up time in train coupling < 10 seconds
- MTBF >1 500 000 h
- EN50155, IEEE1901, EN 45545-2
- Dimensions 174 x 100 x 65 mm

## RS485 CONVERTER

- Connects 2 x RS-485 buses to 100 Mbps Ethernet among 12 digital inputs and 12 digital outputs
- Operating temperature -40 to + 70 °C
- Isolation 2500 Vdc
- Power input 10 – 30 Vdc
- Equipped with a range of I/O for comprehensive data acquisition functionality
- Dimensions 70 x 102 x 38 mm
- MTBF > 60 000 h
- EN50155, EN45545-2







ID 24181

# Onboard PIS Equipment and Integrated Solution

### Cabin Equipment

**User Interface**

- HMI (touch panel)
- CCTV monitor
- Integrated vehicle computer (PIS/PA server)

Mirror display

Microphone and cabin speaker

Driver phone

### Saloon Equipment




**LCD displays**




Intercom

Audio announcement




360° / 120° cameras



Passenger WiFi

### Outdoor and Indoor LED Displays



Flat LED displays




Curved LED displays




Ultra slim LED displays


### Network Components and Other Equipment




Train Link Modem




Passenger Counting



CCTV recorder



Wireless Data Transmission Link



Fire Detection

Train coupling

2-wire Ethernet, 70 Mbps

Wireless 1 Gbps

UIC WTB / MVB gateway

Connectivity

Mobile router

Wireless 1 Gbps

Redundant Network

DA-Group designs and manufactures smart, high performance and reliable products for public transportation. Our solutions provide vehicle manufacturers and operators with computer control systems in an open IP network.

With our PIS system all devices can be managed in an open IP network, including the displays, driver control panels, CCTV cameras and Public Announcement systems. The control system interfaces with outer networks.

Excellent choice for new installations or retrofit and modernization projects. Contact us at [sales@da-group.fi](mailto:sales@da-group.fi)!