Wireless Ethernet Train Backbone

SYSTEM OVERVIEW
"AUTOMATIC SETUP OF THE ETHERNET TRAIN BACKBONE"

The wireless train network connection (wireless Ethernet Backbone) is an automatically paired and unique connection that is established between opposing ends of different coaches; coupling of the two modules is realized using a proprietary protocol.

**Essential Characteristics:**
- Bridging algorithm for automatic setup of a wireless backbone in trains
- Unique paired connection
- Prevention of unwanted connections by the use of, for example, received signal strength indication (RSSI) or directional antennas for selecting the connection partner
- Free choice of channel: 2.4 GHz or 5 GHz
- Faster communication recovery after loss of power supply
- Compact installation
- Patented wireless train inauguration

**Security**
- Encryption, e.g., WPA2-PSK
- Firewall settings
- VLAN networks
- VPN

**Range of Application**
- Long- and short-distance trains, e.g., for passenger information system P.I.S.
- Construction machinery
- Freight trains

The wireless connections within the backbone can be used, for example, in existing applications, especially in places where it is technically or commercially difficult – or even impossible – to insert Ethernet cables. This is often the case in modernization projects.

**WIRELESS ETHERNET TRAIN BACKBONE MODULE**

- **POWER SUPPLY**: 24 – 110 V DC
- **LAN**: 2 x Gigabit-Ethernet
- **PORTS**: USB
- **TRANSFER RATE**: Up to 450 Mbps
- **ANTENNA**: 2 x 3 QLS (Quick Lock Standard)
- **POWER CONSUMPTION**: 8 W typ., max. 12 W
- **DIMENSIONS**: 105 x 54.12 x 205 mm
- **TEMPERATURE (OPERATION/STORAGE)**: –40 °C ... +70 °C / –40 °C ... +85 °C
- **OPERATING SYSTEM**: OpenWrt (Linux distribution)
- **CONFIGURATION**: Web interface

**SAVINGS IN MODERNIZATION AND IMPLEMENTATION**

The wireless Ethernet train network connection can be used to save costs in modernization and implementation projects. This is particularly feasible in existing applications where it is technically or commercially difficult to install Ethernet cables. This is, for example, the case in modernization projects.