

# RailBridger

Compact wireless inter-carriage link



- Point-to-point interconnection solution operating in license-free 60 GHz frequency bands Basé sur le standard 802.11ad
- 1.2 Gbps connectivity
- Very Compact size with integrated beamforming antenna
- Rugged device designed for railway: shocks & vibrations proof, wide temperature range -40°C to +70°C, EN50155 and EN 45545-2
- Plug & play installation
- Powered by standard PoE switch (802.3af)
- Support of dynamic carriage composition



802.11ad



## Introduction

The RailBridger ACKSYS is a product designed specifically for inter-car and inter-train wireless connection.

It is the ideal solution for train refurbishment or modernization projects, where there is no IP backbone or where the on-board network is limited (100 Mbps). Using wireless couplers is much easier and more cost-effective than using cables.

- High throughput: use of the 60GHz band avoids interference with 2.4GHz and 5 GHz WiFi, and enables very high data rates of the order of 1.2Gbps.
- Extremely compact dimensions
- Plug&Play: easy mechanical installation (4 screws), PoE power supply and virtually no configuration required
- Intelligent inter-car coupling: the wireless IP backbone automatically reconfigures itself to adapt to any changes in car composition.
- Redundancy: two RailBridger couplers can be used on either side for redundancy or link aggregation.
- Highly robust: IP-69K

## Technical characteristics overview

<b>Physical interfaces</b>	Outdoor Unit with integrated antenna PoE interface: outdoor CAT-5e or CAT-6 via M12 X-coded connector; Maximum cable length: 75m for 2500BaseT Mounting by 4 screws with flanges or external mounting plate	
<b>Radio data rate</b>	Max Capacity: Up to 1.5Gbps Channel Bandwidth: 2.16GHz Modulation: BPSK, QPSK, QAM (MCS 1-8); Single Carrier	
<b>Output power</b>	Up to 32dBm EIRP	
<b>Performance</b>	Link Acquisition time 5 seconds	
<b>Ethernet routing</b>	Layer 2 Bridge Mode	
<b>Security</b>	Management VLAN, SNMP v3, Encryption AES 128	
<b>Administration</b>	SNMP v3; HTTPS using web browser	
<b>Operating frequencies</b>	EN 302 567 V2.1.1 - Operation within the band 57-66 GHz	
<b>Dimensions and weight</b>	12x12x2.25 cm / 300g and 440g with mounting plate	
<b>Power supply</b>	802.3af standard PoE	
<b>Consumption</b>	Up to 12W	
<b>Environment</b>	Operating Temperatures -40° to +70°C Storage Temperatures -40° to +85°C IP-69K, NEMA-type 4	
<b>Standard and certifications</b>	<b>US/CAN (cTUVus)</b>	UL 62368-1, UL 60950-22, CAN/CSA C22.2 62368-1, CAN/CSA C22.2 60950-22
	<b>CE/IEC</b>	EN/IEC 62368-1, EN/IEC 60950-22
	<b>FCC</b>	47 CFR Part15, Subpart B, Class B
	<b>CE</b>	EN 301 489-1, EN 301 489-17
	<b>CAN/CSA-CEI/IEC</b>	ICES-003: 2017 Issue 6, Class B
	<b>AS/NZS</b>	CISPR 32-2015 Class B
	<b>EMC</b>	EN 50121-3-2, EN 50121-4 Class B, EN 50155
	<b>Electronic</b>	EN 50155, IEC 60571
	<b>Shock &amp; Vibration</b>	EN 61373, EN 50155, IEC 60571
<b>Fire/smoke</b>	EN 45545-2	
<b>Warranty</b>	Default 2 years, and can be extended to 5 years	
<b>Reliability</b>	MTBF >131,400 Hours for outdoor and rail environment	

## Ordering references

RailBridger	Wireless inter-carriage link 802.11ad, with an integrated antenna, supporting 60 GHz ETSI frequency band
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