RailTrack series

Rugged 802.11ac WiFi access point & backbone repeater for trackside networks

- Triple radio 802.11a/b/g/n/ac (MIMO 3T3R), up to 3 x 1.3 Gbps (radio bit rate), up to 29 dBm output power
- MESH, WMM QoS, multiple SSID and centralized RADIUS security supported
- Auto-sensing dual Gigabit 10/100/1000 Base TX auto MDI/MDIX network interface
- 2 SFP slots: 1000 base X fiber optic or 10/100/1000 copper
- 100 VAC to 240 VAC
- Rugged aluminum enclosure, IP66 seal rating

C-KEY READY

Top «C-KEY» for quick configuration, save & restore

Introduction

RailTrack is a ruggedized WiFi access point specially designed for railway and certified for trackside and tunnel infrastructures.
It can be connected to the ground network through either Gbps fiber optic or copper connections.

Thanks to an oversized CPU architecture (Quad-Core 64-bit) and three independent 802.11ac high-speed radio cards (3 streams) delivering more than 900 Mbps (UDP) each, RailTrack access point allows the construction of high performance architectures such as «wireless backbone» to overcome Ethernet cables along tracksides and tunnels : 2 radios can be used to build the wireless infrastructure on the trackside while the 3rd radio is used as local AP to provide communication between the trackside and the train.

Featuring an IP66 housing and rugged M12 connectors, RailTrack is ideal for wall mounting in a tunnel or mast mounting outdoor. Its all-in-one compact footprint integrates 3 radios, a 4-port Ethernet switch (2 x 10/100/1000 on M12 connectors & 2 x Gigabit optic fiber on SFP slots) with optional Ethernet bypass (daisy chain topologies) and an AC power supply. A removable key (C-KEY) allows the device configuration backup. It can thus be instantaneously restored on site in less than 2 minutes in case of maintenance or replacement of a RailTrack.

RailTrack (trackside AP unit) combined to RailBox (on-board WiFi unit) is the comprehensive connected architecture for «train-to-trackside communication in motion» by ACKSYS. This ACKSYS solution allows reliable and very high-speed broadband train-to-trackside communications, particularly suited to Internet on board applications, real-time video surveillance and CBTC.

02/2017

ACKSYS COMMUNICATIONS & SYSTEMS
Z.A. Val Joyeux - 10, rue des Entrepreneurs - 78450 Villepreux (FRANCE) - T : +33 (0) 1 30 56 46 46 - F : +33 (0) 1 30 56 12 95
www.acksys.fr - sales@acksys.fr

Technical characteristics overview

Ethernet network	› 2-port Gigabit Ethernet 10/100/1000 auto-sensing, waterproof 8-point M12 X-coded connectors (CAT-6A), auto MDI/MDIX cross-over, optional Ethernet bypass that redirects the network traffic in case of device or power supply failure (for daisy chain topologies), 1-port PoE+ PSE optional (IEEE 802.3at Type 2 Class 4) › 2 SFP slots IP67 OSIS by Radiall™ : 1000 base X fiber optic or 10/100/1000 copper
WiFi network	3 radios IEEE 802.11a/b/g/n or IEEE 802.11a/b/g/n/ac, MIMO 3T3R, 2.4 / 5 GHz
WiFi radio data rate	802.11a: 6, 9, 12, 18, 24, 36, 48 and 54 Mbps 802.11b/g: 1, 2, 5.5, 6, 9, 11, 12, 18, 24, 36, 48 and 54 Mbps 802.11n: MCS0-7, 3 streams (6.5 to 450 Mbps) 802.11ac: MCS0-9, 3 streams (6.5 Mbps to 1.3 Gbps)
Operating frequencies	ISM : 2.4-2.483 GHz (up to 14 channels) UNII : 5.15-5.25 GHz (up 4 channels) UNII-2 : 5.25-5.35 GHz (up to 4 channels) UNII-2 ext : 5.470-5.725 GHz (up to 11 channels) UNII-3 : 5.725-5.825 GHz (up to 4 channels) Supports DFS and TPC
Output power	Up to 29 dBm (aggregate), depending on radio card model
Radio connectors	9 N-type connectors (no antenna provided)
Security	IEEE 802.1x (centralized RADIUS authenticator & supplicant), WPA2-PSK, WPA-PSK, legacy WEP supported
WiFi Modes	Access point, repeater, MESH point (IEEE 802.11s), client router, WMM QoS, multicast, VPN, dynamic routing and firewall modes fully supported
Administration	Built-in WEB interface, the setup of the device is achieved using any web browser, SNMP agent, administration software for Windows/Linux (ACKSYS NDM), save / restore configuration key (C-Key)
LEDs Signaling	Radio : activity and status | Ethernet (copper) : link 10/100/1000 and activity | Ethernet (fiber) : link and activity | PoE+ PSE : on-off | Power : on-off | Diagnostic | C-Key
Alarms & Inputs	One solid state relay output warning (with configurable action), 1 Form A, 60VDC 0.1A max & one input for external device control 24VDC max (3-pin Waterproof M8 connector)
Power supply	100 VAC to 240 VAC (M12 3 poles S-coding connector), 50/60Hz, M6 ground screw
Consumption	30 W max (PoE powered device consumption excluded)
Dimensions & weight	Rugged aluminum enclosure, L: 305 x l: 200 x h: 75 mm with fixing points, 3.5 Kg
Standards	Safety : EN60950-1 Radio : EN300-328 1.8.1 (2.4 GHz), EN301-893 1.7.1 (5 GHz, DFS) EMC : EN50121-4, EN301-489-1, EN301-489-17
Environment	IP66 seal rating Operating temperature: -40°C to +70°C (HR 0-99%), storage: -40°C to +85°C GORE ® protective vent (dehumidifying membrane)

Ordering references

RailTrack/RRRXB	Triple WiFi access point, backbone repeater & MESH point (IEEE 802.11a/b/g/n/ac) for trackside networks, 100 VAC to 240 VAC

RailTrack/RRRXB

Radios coding	Power supply coding	Option coding
111 = 3 x WiFi 802.11n, -40°C to +70°C	**A** = 100 VAC to 240 VAC	**0** = no option
222 = 3 x WiFi 802.11ac, -40°C to +70°C		**Y** = Bypass
333 = 3 x WiFi 802.11ac, high power 29 dBm, -40°C to +70°C		**P** = POE+ PSE (802.11at Type 2 Class 4)
555 = 3 x WiFi 802.11n, high power 29 dBm, -40°C to +70°C		*The Ethernet bypass redirects the network traffic in case of device or power supply failure (useful for daisy chain network topologies)*

02/2017

ACKSYS COMMUNICATIONS & SYSTEMS
Z.A. Val Joyeux - 10, rue des Entrepreneurs - 78450 Villepreux (FRANCE) - T : +33 (0) 1 30 56 46 46 - F : +33 (0) 1 30 56 12 95
www.acksys.fr - sales@acksys.fr