APR222n Teldat railway access point

Railway access point for Wi-Fi service on trains

Introduction

The Teldat APR222n complies with the railway regulations and is designed to provide a Wi-Fi connection on board trains Simultaneous use of dual band enables connection of latest generation devices to the 5 GHz band, less collapsed, leaving the 2.4 GHz band for devices less frequently used. It is a flexible device that can operate as a Wireless Controller for 5 additional access points to minimise investment in HW required for small trains and it can be integrated in cloud and HotSpot management platforms.

Product Highlights

- ▶ Two 2.4/5 GHz radio modules
- ▶ Autonomous, controlled or bridge operating mode
- ▶ Two M-12 Gb Ethernet LAN ports
- ▶ WLAN controller 5+1 APs in Master-AP mode
- ▶ Multi-SSID support (up to 16 per radio) and 32 VLANs
- ▶ Automatic OFF if there is no internet access
- ▶ Railway environment certificate

Interfaces

Teldat APR222n

2 x Interfaces LAN 10/100/1000 Mbps	Autosensing, auto MDI/MDIX
2 x Radio modules MIMO 2x2	2 x Wi-Fi 802.11abgn modules
4 Type-N antenna connectors	Prepared for high vibrations

Competitive Advantage

|	
Railway environment access point	APR222n is an adjusted access point for the railway environment where professional connections are required to separate services and clients onto different bands.
Professional Wi-Fi technology	It supports airtime fairness, band steering, roaming (IAPP 802.11f), WMM 802.11e, connected user control and broadband control in each SSID
Simple and efficient administration	Web configuration (http/https), telnet, SSH, SNMP, CAPWAP support from WLC in Teldat router, Dime Manager configurator (up to 50 devices), Colibri NetManager
It includes a Wireless LAN Controller	In the operating mode, Master-AP can control and configure up to 5 additional access points.

Scenarios
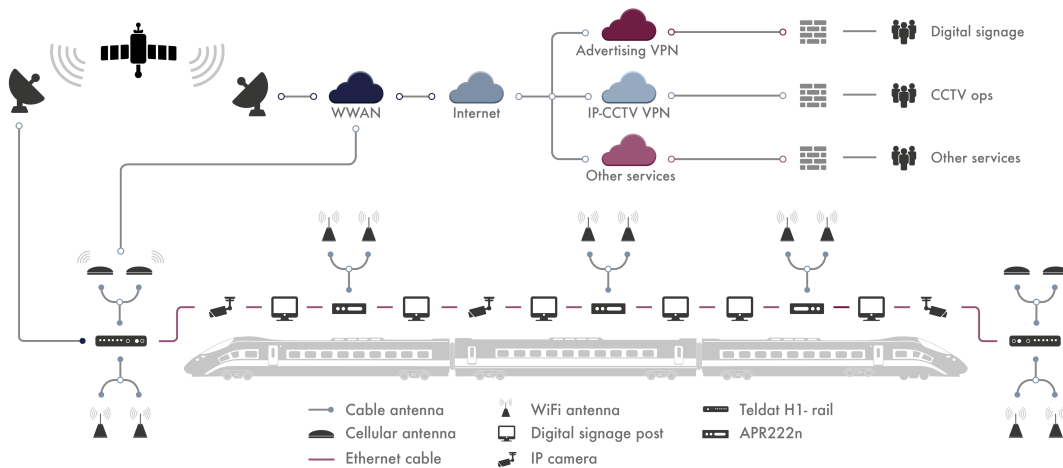
Figure: Linked train: New railway transport paradigm

Key Features

Wi-Fi 802.11abgn certification with two radio modules Two 802.11abgnh MIMO 2x2 radio modules at 2.4/5 GHz with up to 23 dBM transmission power enable the equipment to connect to terminals operating on both bands.

Control of client quantity and band steering It allows for aggregation of 20 + 20 MHz channels into one 40 MHz channel, which doubles the transfer rate and, along with an excellent configuration of Short Guard Interval, enables available bandwidth to be multiplied by four.

Security through ACLs/WIDS&WIPS Designed to support extreme vibration and temperature conditions (-25 to 70º C). It complies with railway regulations (EN 50155, EN 50121-3-2, EN 301 511, EN 301 908-1)

Use of 20/40MHz channels It permits up to 16 SSIDs for each radio module and up to 32 VLANs (802.1q). One VLAN can be associated with each SSID to segment traffic on the network.

Railway hardware design

It allows for separation of different traffic using SSI

It can establish bridge-links with other APs It can act as AP/Bridge-link Master and enable connection of other APs in Bridge-Link Client mode, extending the connectivity area amongst carriages if necessary.

Notification and emission of alarms or events Remittance of information on different levels of criticality using Syslog client, SNMP traps or e-mail alarms.

Monitoring of neighbouring networks and connected clien Detailed monitoring of the radio interface: SSIDs, connected clients, signal/noise, transfer rate, Rx/Tx packages

Configuration and deployment with minimum IT resources Self-configuration from a Teldat router (WLC) or from the management tool, Colibri NetManager, reducing the risk of errors in mass configurations using previously validated models

HARDWARE TECHNICAL FEATURES

Interfaces and connectors

LAN: 2x10/100/1000 Mbps, auto MDI/MDIX, M-12 connector (8-pole, D-coded)

Wi-Fi: Two 802.11abgn (2.4/5 GHz) MIMO 2x2:2 modules

M-12 D-encrypted 4 pole power connector and Type-N antenna connector

Antennas

Support for up to four 2.4/5 GHz external dual band antennas

Type-N antenna connectors

Power

110 VDC power supply

M-12 connector (4-pole, D-coded)

Max. Consumption: 8.2W

Dimensions and casing

Approx. 21 cm x 21 cm x 4 cm (Width x Length x Height)

Metal casing for securing on a wall or on a table

Weight: 2.2Kg.

Environmental specifications

Operating temperature range: -25 to 75ºC

Relative humidity: 5 to 95% (without condensation)

SOFTWARE TECHNICAL FEATURES

Wi-Fi interface

Beamforming, Short Guard Interval, DTIM ajustable, Maximum Ratio Combining

MultiSSID, up to 16 per radio with MAC address for each one

SSID broadcast permitted/blocked

Wi-Fi security and authentication

Open, WEP64/128, WPA Personal/Enterprise, WPA2 Personal/Enterprise

802.1x/EAP-MD5, 802.1x/EAP-TLS, 802.1x/EAP-TTLS, 802.1x/EAP-PEAP

Key Management, PSK/TKIP Encryption, AES Encryption

Management/Administration

HTTP/HTTPS, telnet, SSH, Dime Manager, Colibri NetManager

SNMP(v1, v2, v3), traps (v1, v2, v3), SNMP ACLs

Configuration backup/restoration

Supervision

Syslog Client with different message levels

Emission of alarms by e-mail

Programming interface, SSID, etc. reset/activation/deactivation

Managed by an external WLC or AP-Master

CAPWAP(DHCP option RFC1517)

As Master-AP, it manages up to 5 additional access points

Wi-Fi optimisation

Airtime fairness, client balancing and limitation, roaming IAPP(802.11f)

Bandwidth limitation per user in each SSID

WMM 802.11e QoS

Detection mechanisms

MAC filtering (Dynamic blacklist)

WIDS (Wireless Intrusion Detection System)

WIPS (Wireless Protection Detection System)

Operating modes

Isolated WLAN AP, controlled by a WLC or Colibri NetManager

WLAN Bridge point-to-point or point-multipoint

WLAN Client

VLANs

Compatible IEEE 802.1q

Up to 32 VLANs

ADDITIONAL TECHNICAL FEATURES

Operating mode functions: WLAN Client

DHCP Client, DHCP Server, DHPC Relay(Not in Master-AP mode)

VPN: IPSec, L2TP, PTP, GRE

WEP60/128, WPA/WPA2 personal security

CE and railways certificates

WPA2 personal security

CE: EN 60950; EN 300328; EN 301489-1; EN 301489-17; EN 301893; EN 62311

Operating mode functions: WLAN Bridge

Configurable roaming (deactivated, slow, normal, quick, personalised)

It can act as Master or Client

NTP Client/Server, DNS Client/Server, manual configuration

EN 50155; EN 50121-3-2; EN 60068-2-1; EN 60068-2-2; EN 60068-2-27;

EN 60068-2-30; EN 60068-2-47; EN 60068-2-64; EN 60068-3-1; EN 61373

FLEXIBLE
COMMUNICATIONS SOLUTIONS
THAT GROW WITH YOU.

APR222n Teldat railway access point

Railway access point for Wi-Fi service on trains

Teldat is a leading provider in Enterprise Communications equipment and Services for the top corporate to mid-sized and SME markets.

About TELDAT

ROUTERS | Wi-Fi | MANAGEMENT | TRANSPORT | SMART GRID | INDUSTRIAL | VoIP | CLOUD | SECURITY | NFV

Teldat Group is a leading technology holding that desings, manufactures and distributes advanced Internetworking platforms for corporate environments, providing new and cutting-edge communication solutions without ever losing sight of its customers real requirements. Teldat's solutions development is based on proprietary technology, which is in the Group's DNA. This allows Teldat to be a leading provider in Enterprise Communications equipment and Services for the top corporate to midsized markets, as well as the SME and SoHo markets.

From a geographical viewpoint, Teldat Group has a presence in all continents, with its corporate headquarters located in Spain, and operational affiliates in Europe (Germany, Austria, Portugal, Italy and France) and in LATAM (Mexico and Brazil), as well as two business development offices in USA and China.

SARTELCO® SISTEMI SRL
Via Torri Bianche, 1
20871 Vimercate (MB)
Tel. +39- 039- 62905.1 Fax. +39- 039- 62905.99
e-mail sistemi@sartelco.it Web www.sartelco.it

Germany
bintec elmeg GmbH Suedwestpark 94. 90449 Nuremberg (Germany) Phone: +49 911 9673 0 info@bintec-elmeg.com

USA
Silicon Valley Offices 718 University Ave, Suite 210 Los Gatos, CA 95032 (USA) Phone: +1 408 892 9363

Mexico
Diagonal 27. Colonia del Valle, Mexico D.F. 03100 (Mexico). Phone: +52(55)55232213

Brazil
Rua Mocaci 395 Office 123, Moema, CIEP 04083-000- São Paulo - SP, (Brazil) Phone: +55 11 9 9480 8522

Spain
Head Office: Teldat S.A. Parque Tecnológico de Madrid 28760 Tres Cantos, Madrid (Spain) Phone:+34 91 807 6565

France
6 Avenue Neil Armstrong Immeuble le Lindbergh 33692 MERIGNAC Cedex (France) Phone: +33(0) 57356300

Italy
Viale Edison 637. 20099 Sesto San Giovanni (MI) (Italy) Phone: +39(02)24416624

Portugal
Rua Açucar, 78 1950-009 Lisboa, (Portugal) Phone: +351 21 862 20 40

China
(A060), F10 SOHO Nexus Centre No19A, East 3rd Ring North Road, Chaoyang District, Beijing 100020 (China). Phone: +86 10 57351071

D'Anna Piferrer 1-3 08023 Barcelona (Spain) Phone: +34 93 253 0222 info@teldat.com
www.teldat.com