# TAP-3120-M12

## *Industrial EN50155 Dual-RF IEEE 802.11 a/b/g and IEEE 802.11 b/g wireless access point with 2x10/100Base-T(X), M12 connector*

### Features

- Leading EN50155-compliant wireless access point for rolling stock applications
- Dual high Speed Air Connectivity: each WLAN interface supports up to 54Mbps link speed
- Highly Security Capability: WEP/WPA/WPA-PSK(TKIP,AES)/ WPA2/WPA2-PSK(TKIP,AES)/802.1X Authentication supported
- Supports **X-Roaming < 100 ms**
- Supports **wireless load balance**
- Supports **Dual AP/Dual Client/Bridge/AP-Client Mode**
- Supports **Multi-SSID**
- Provides dual RF which support IEEE 802.11 a/b/g and IEEE 802.11 b/g dual band for wireless communication
- Dual redundant Ethernet ports support Ethernet redundant mode (Recovery time < 10ms) and switch mode in M12 connector (D-coding)
- Wireless connecting status monitoring
- Secured Management by HTTPS
- Event Warning by Syslog, Email, SNMP Trap and Relay output
- Ultra-rugged enclosure for toughest industrial usages
- Wall Mounting enabled

Preliminary



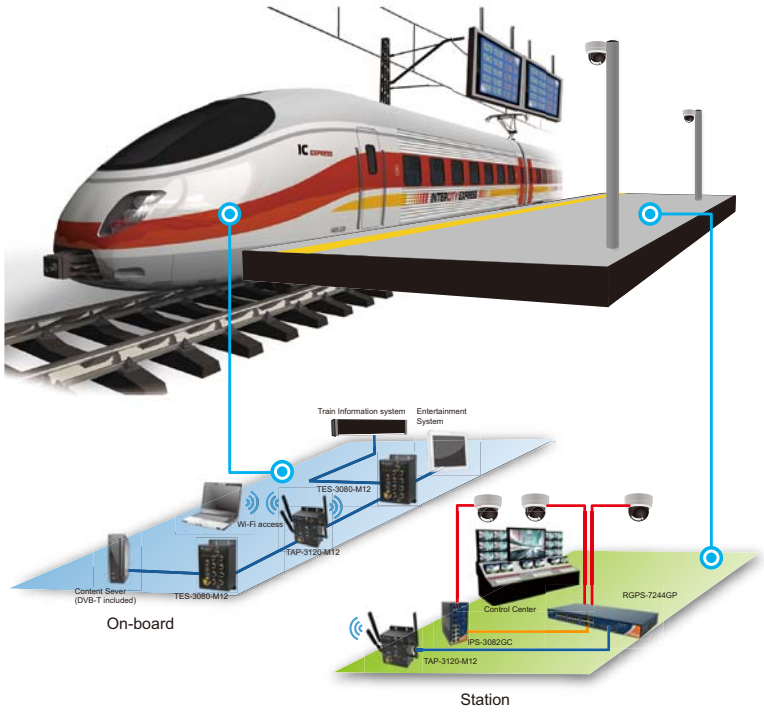
### Introduction

ORing's Transporter series access point is designed for industrial and rolling stock wireless applications, such as vehicle, and railway applications. TAP-3120-M12 is a reliable Dual-RF IEEE802.11 a/b/g and IEEE 802.11b/g WLAN Access Point with 2 ports LAN which is fully compliant with EN50155 certification. TAP-3120-M12 access point use M-series connectors to ensure tight, robust connections, and guarantee reliable operation against environmental disturbances, such as vibration and shock. TAP-3120-M12 provides dual RF wireless interfaces, which can provide IEEE 802.11 a/b/g and IEEE 802.11b/g dual band wireless communication and can be applied to fulfill any demands of wireless applications. TAP-3120-M12 can be configured to operate in Dual AP/Dual Client/Bridge/AP-Client mode. TAP-3120-M12 provides dual Ethernet ports in switch mode, so that you can use Daisy Chain to reduce the usage of Ethernet switch ports. You are able to configure TAP-3120-M12 by WEB interface via LAN port or WLAN interface. Therefore, TAP-3120-M12 is one of the most reliable choices for rolling stock applications on the wireless network.

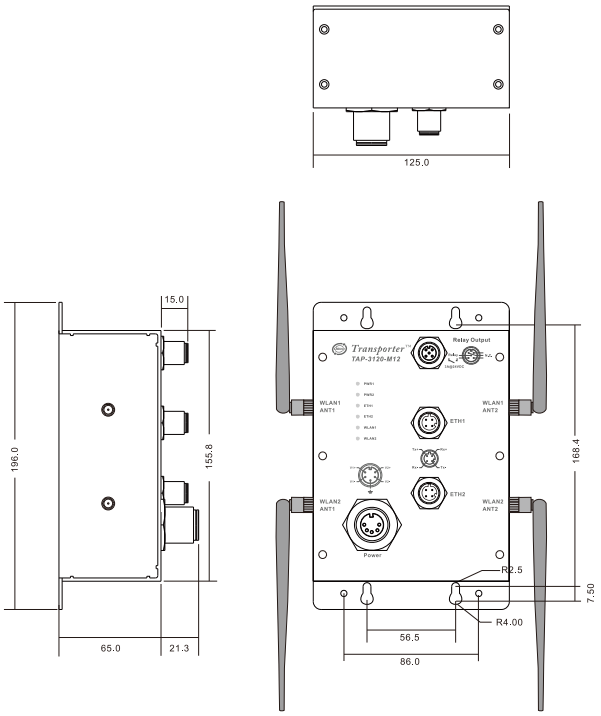
## Application

In practical operation of wireless access point, Windows utility (AP-Tool) is supported. This utility is very helpful for you to search and configure IP of access point on the industrial network.

In addition, the wireless access point support various kinds of operation modes include Dual AP/Dual Client/Bridge/AP-Client mode. You can build up the wireless network easily.




## Dimensions



## Specifications

| ORing EN50155 WLAN Access Point Model | TAP-3120-M12 |
|---|---|
| **Physical Ports** | |
| 10/100Base-T(X) Ports in RJ45 Auto MDI/MDIX | 2 (M12 connector – D coding) |
| **WLAN Interface** | |
| Operating Mode | Dual AP/Dual Client/Bridge/AP-Client |
| Antenna and Connector | 2 x 2 dBi (b/g mode) / 3dBi (a mode) on Reverse SMA connector |
| Radio Frequency Type | DSSS, OFDM |
| Modulation | IEEE802.11a: OFDM with BPSK, QPSK, 16QAM, 64QAM<br>IEEE802.11b: CCK, DQPSK, DBPSK<br>IEEE802.11g: OFDM with BPSK, QPSK, 16QAM, 64QAM |
| Frequency Band | America / FCC: 2.412~2.462 GHz (11 channels)<br>5.15 to 5.825 GHz (13 channels)<br>Europe CE / ETSI: 2.412~2.472 Ghz (13 channels)<br>5.15 to 5.724 GHz (19 channels) |
| Transmission Rate | IEEE 802.11b: 1 / 2 / 5.5 / 11 Mbps<br>IEEE 802.11a/g: 6 / 9 / 12 / 18 / 24 / 36 / 48 / 54 Mbps |
| Transmit Power | IEEE 802.11a/b/g: 20dBm max. |
| Receiver Sensitivity | IEEE 802.11a: -77dBm±2.0dB @ 54Mbps, PER< 10%<br>IEEE 802.11b: -86dBm±1.5dB @ 11Mbps, PER< 8%;<br>IEEE 802.11g: -78dBm±1.5dB @ 54Mbps, PER< 10% |
| Encryption Security | WEP: (64-bit ,128-bit key supported)<br>WPA/WPA2 :802.11i(WEP and AES encryption)<br>WPA-PSK (256-bit key pre-shared key supported)<br>802.1X Authentication supported<br>TKIP encryption |
| Wireless Security | SSID broadcast disable and enable |
| **Protocol Support** | |
| Protocol | ARP,BOOTP, DHCP, DNS, HTTP, IP, ICMP, SNTP, TCP, UDP, RADIUS, SNMP, PPPoE, STP (IEEE 802.1D) |
| **LED Indicators** | |
| Power Indicator | 2 x LEDs, Green for Power indicator |
| 10/100Base-T(X) RJ45 Port Indicator | 2 x LEDs, Green for port Link/Act at 100Mbps. Amber for port Link/Act at 10Mbps. |
| WLAN LEDs | 2 x LEDs, Green for WLAN Link /Act |
| **Fault Contact** | |
| Relay | Relay output to carry capacity of 3A at 24VDC |
| **Power** | |
| Redundant Input Power | Dual Power Inputs. 12~48 VDC on M23 connector (24 VDC Typ.) |
| Power Consumption (Typ., USB Modem not included) | 8.3 W |
| Overload Current Protection | Present |
| Reverse Polarity Protection | Present |
| **Physical Characteristics** | |
| Enclosure | IP-40 |
| Dimension (W x D x H) | 125(W) x 65(D) x 196(H) mm (4.92 x 2.56 x 7.72 inch.) |
| Weight (g) | 1015 g |
| **Environmental** | |
| Storage Temperature | -40 to 85°C (-40 to 185°F) |
| Operating Temperature | -20 to 70°C (-4 to 158°F) |
| Operating Humidity | 5% to 95% Non-condensing |

| Regulatory Approvals | |
|---|---|
| EMI | FCC Part 15, CISPR (EN55022) class A, EN50155 (EN50121-3-2) |
| EMS | EN61000-4-2 (ESD), EN61000-4-3 (RS), EN61000-4-4 (EFT), EN61000-4-5 (Surge), EN61000-4-6 (CS), EN61000-4-8, EN61000-4-11 |
| Shock | IEC60068-2-27, EN61373 |
| Free Fall | IEC60068-2-32 |
| Vibration | IEC60068-2-6, EN61373 |
| Cooling | EN60068-2-1 |
| Dry Heat | EN60068-2-2 |
| Safety | EN60950-1 |
| Warranty | 3 years |

## Ordering Information

**TAP-ABC0-M12**

| Code Definition | Wireless-1 Mode | Wireless-2 Mode | 10/100Base-T(X) Port Number |
|---|---|---|---|
| **Option** | - **1:** IEEE 802.11 b/g<br>- **2:** IEEE 802.11 a<br>- **3:** IEEE 802.11 a/b/g<br>- **4:** IEEE 802.11 b/g/n<br>- **5:** IEEE 802.11 a/n<br>- **6:** IEEE 802.11 a/b/g/n | - **1:** IEEE 802.11 b/g<br>- **2:** IEEE 802.11 a<br>- **3:** IEEE 802.11 a/b/g<br>- **4:** IEEE 802.11 b/g/n<br>- **5:** IEEE 802.11 a/n<br>- **6:** IEEE 802.11 a/b/g/n | -**"2":** 2 ports |

| | Model Name | Description |
|---|---|---|
| Available Model | TAP-3120-M12_US | Industrial EN50155 Dual-RF IEEE 802.11 a/b/g and IEEE 802.11 b/g wireless access point with 2x10/100Base-T(X), M12 connector, US band |
| | TAP-3120-M12_EU | Industrial EN50155 Dual-RF IEEE 802.11 a/b/g and IEEE 802.11 b/g wireless access point with 2x10/100Base-T(X), M12 connector, EU band |

**Packing List**

- TAP-3120-M12
- Antenna
- ORing Tool CD
- Quick Installation Guide

**Optional Accessories (Can be purchased separately)**

- DR-45 series : 45 Watts power supply
- DR-75 series : 75 Watts power supply
- DR-120 series : 120 Watts power supply
- WLAN RF Antenna series
- RF Antenna Base series
- RF Cable series