



# Quick Installation Guide

# TAR-120/3120-M12

# EN50155 Industrial Wireless LAN Access Point Router

## Introduction

ORing's Transporter series cellular VPN router **TAR-120-M12** and **TAR-3120-M12** are designed for industrial and rolling stock wireless applications, such as vehicle, and railway application. **TAR-120-M12/TAR-3120-M12** is reliable IEEE802.11 wireless router with 2 ports LAN which is fully compliant with EN50155 certification. It supports 802.1X and MAC filter for security control. It could be configured to operate in 3 modes of routing function: Dynamic/Static IP route, PPPoE authentication, and Cellular modem dial up. In addition, **TAR-3120-M12** with dual Wi-Fi interface which compliant with IEEE802.11 a/b/g and IEEE802.11 b/g standard. Users can set up WLAN environment to fulfill demands of various applications rapidly by dialing up cellular modem. **TAR-120-M12/TAR-3120-M12** EN50155 cellular VPN router use M-series connectors to ensure tight, robust connections, and guarantee reliable operation against environmental disturbances, such as vibration and shock. **TAR-120-M12/TAR-3120-M12** provides dual Ethernet ports in switch mode, so that you can use Daisy Chain to reduce the usage of Ethernet switch ports. Therefore, **TAR-120-M12/TAR-3120-M12** is one of the most reliable choices for rolling stock applications on the wireless network.

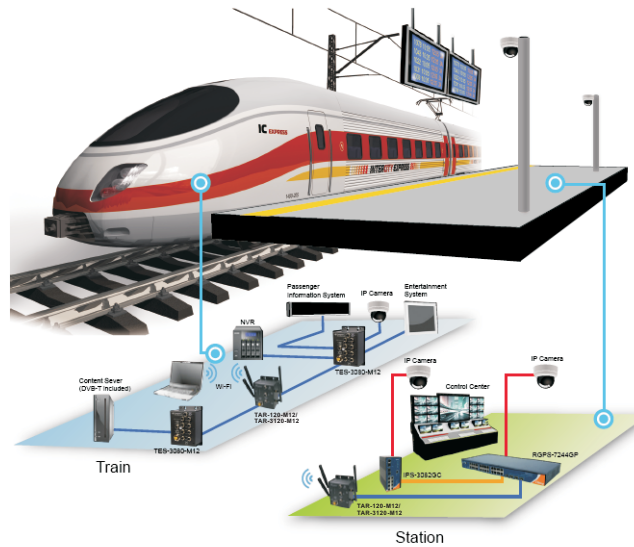
## Features

- Leading EN50155-compliant wireless access point for rolling stock application
- High Speed Air Connectivity: WLAN interface support up to 54Mbps link speed
- Dual RF interface with IEEE802.11 a/b/g and IEEE802.11 b/g supported (TAR-3120-M12)
- Highly Security Capability: WEP/WPA/WPA-PSK(TKIP,AES)/WPA2/WPA2-PSK(TKIP,AES)/802.1X Authentication supported
- Secured Management by HTTPS
- Various kind of WAN Connection Type supported: Dynamic/Static IP, PPPoE, Modem Dial Up
- IP table configurable to prevent access from unauthorized IP address
- Support VPN for secured network connection (Open VPN, PPTP VPN)
- Support NAT Setting (Virtual Server , Port Trigger , DMZ , UPnP)
- Support DHCP forwarding through PPTP function
- 3.5G HSDPA Modem dial up included
- Dual redundant Ethernet ports support Ethernet redundant mode (Recovery time <10ms) and switch mode in M12 connector (D-coding)
- Wireless connecting status monitoring
- Event Warning by Syslog, Email, SNMP Trap and Relay output
- Ultra rugged enclosure for toughest industrial usages
- Wall mounting enabled



## Applications

### Various kinds of operation modes



## Specifications

ORing EN50155 WLAN Access Point Router Model	TAR-120-M12	TAR-3120-M12
<b>Physical Ports</b>		
10/100Base-T(X) Ports in M12 (D-coding) Auto MDI/MDIX		2
SIM Card Slot		1
Relay Output in M12 (D-coding) connector		1
<b>WLAN interface</b>		
WAN Connection Type	Static/Dynamic IP, PPPoE, 3G Modem dial up	
Antenna and Connector	2 x 2 dBi (Wi-Fi) on Reverse SMA connector 1 x 2 dBi (Cellular modem) on Reverse SMA connector	4 x 2 dBi (Wi-Fi) on Reverse SMA connector 1 x 2 dBi (Cellular modem) on Reverse SMA connector
Radio Frequency Type	DSSS, OFDM	
Modulation	IEEE802.11b: CCK, DQPSK, DBPSK IEEE802.11g: OFDM with BPSK, QPSK, 16QAM, 64QAM	IEEE802.11b: CCK, DQPSK, DBPSK IEEE802.11g: OFDM with BPSK, QPSK, 16QAM, 64QAM IEEE802.11a: OFDM with BPSK, QPSK, 16QAM, 64QAM

Frequency Band	America / FCC: 2.412~2.462 GHz (11 channels) Europe CE / ETSI: 2.412~2.472 GHz (13 channels)	America / FCC: 2.412~2.462 GHz (11 channels) 5.15~5.825 GHz (13 channels) Europe CE / ETSI: 2.412~2.472 GHz (13 channels) 5.15~5.724GHz (19 channels)
Transmission Rate	IEEE802.11b: 1 / 2 / 5.5 / 11 Mbps IEEE802.11g: 6 / 9 / 12 / 18 / 24 / 36 / 48 / 54 Mbps	IEEE802.11b: 1 / 2 / 5.5 / 11 Mbps IEEE802.11a/g: 6 / 9 / 12 / 18 / 24 / 36 / 48 / 54 Mbps
Transmit Power	IEEE802.11b/g: 20dBm max	IEEE802.11a/b/g: 20dBm max
Receiver Sensitivity	-81dBm @ 11Mbps, PER<8%; -64dBm @ 54Mbps, PER<10%;	-86dBm @ 11Mbps, PER<8%; -77dBm @ 54Mbps, PER<10%;
Encryption Security	WEP: (64-bit, 128-bit key supported) WAP/WAP2: 802.11 (WEP and AES encryption) WAPPSK (256-bit key pre-shared key supported) 802.1X Authentication supported TKIP encryption	
Wireless Security	SSID broadcast disable	
<b>Cellular Interface</b>		
Cellular Standard	GSM / GPRS / EGPRS / EDGE / WCDMA / HSDPA / HSUPA	
Band Option	Dual-band: HSUPA 1900 / 2100 MHz Quad-band: GSM / GPRS / EDGE 850 / 900 / 1800 / 1900MHz WCDMA / HSDPA 850/900/1900/2100 MHz	
<b>Protocol Support</b>		
Protocol	ARP,BOOTP, DHCP, DNS, HTTPs, IP, ICMP, SNTp, TCP, UDP, RADIUS, SNMP, STP (IEEE 802.1D)	
<b>LED Indicators</b>		
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 LED	1 x LED, Green for WLAN Link/Act	1 x LED, Green for WLAN1 Link/Act. Red for WLAN2 Link/Act
WAN LED	1 x LED, Green for Cellular modem Link/ Act	
Fault Indicator	1 x LED, Red: Ethernet link down or power down	
<b>Fault Contact</b>		
Relay	Relay output to carry capacity of 3A at 24VDC	
<b>Power</b>		
Redundant Input power	Dual Power Inputs. 12~48 VDC on M23 connector (24 VDC Typ)	
Power consumption(Typ.)	5.8 Watts	9.6 Watts
Overload current protection	Present	
Reverse polarity protection	Present	
<b>Physical Characteristic</b>		
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)	950 g	1050 g
<b>Environmental</b>		
Storage Temperature	-40 to 85°C (-22 to 185°F)	
Operating Temperature	-20 to 70°C (-4 to 158°F)	
Operating Humidity	5% to 95% Non-condensing	
<b>Regulatory Approvals</b>		
EMI	FCC Part 15, CISPR (EN55022) class A	
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	
Railway Traffic	EN50155	
Cooling	EN60068-2-1	
Dry Heat	EN60068-2-2	
Safety	EN60950-1	
<b>Warranty</b>	3 years	



EN50155  
Wireless  
ACCESS POINT Router

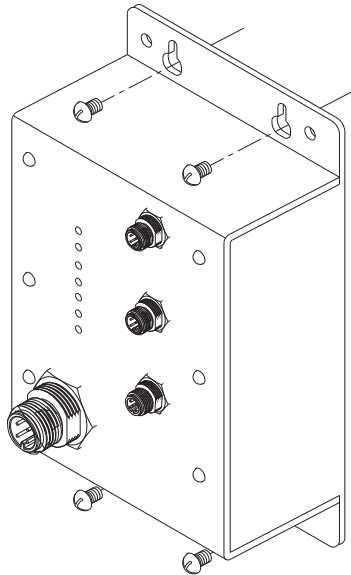
# Quick Installation Guide

## TAR-120/3120-M12

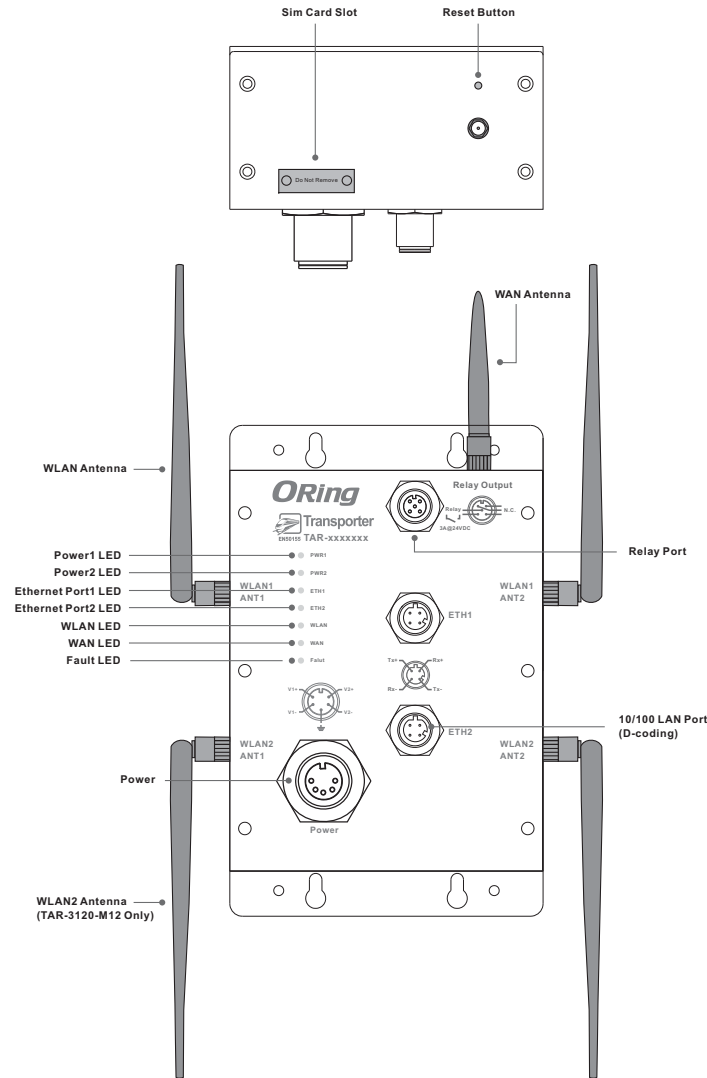
## EN50155 Industrial Wireless LAN Access Point Router

### Installation

#### Wall-mounted Install Step



### Front Panel

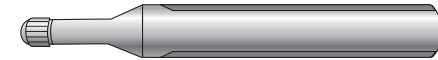


### Accessory

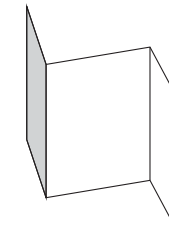
① Cellular Antenna



② WLAN Antenna



③ QIG



④ CD



### Packing list

Model name	Description	Accessory
TAR-120-M12_US	EN50155 IEEE 802.11 b/g cellular VPN router with 2x10/100Base-T(X), M12 connector, Cellular modem included, US band	① X 1, ② X 2, ③ X 1, ④ X 1
TAR-120-M12_EU	EN50155 IEEE 802.11 b/g cellular VPN router with 2x10/100Base-T(X), M12 connector, Cellular modem included, EU band	① X 1, ② X 2, ③ X 1, ④ X 1
TAR-3120-M12_US	EN50155 Dual RF IEEE 802.11 a/b/g and 802.11 b/g cellular VPN router with 2x10/100Base-T(X), M12 connector, Cellular modem included, US band	① X 1, ② X 4, ③ X 1, ④ X 1
TAR-3120-M12_EU	EN50155 Dual RF IEEE 802.11 a/b/g and 802.11 b/g cellular VPN router with 2x10/100Base-T(X), M12 connector, Cellular modem included, EU band	① X 1, ② X 4, ③ X 1, ④ X 1



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