ORing

EN50155 WIRELESS ACCESS POINT

Quick Installation Guide

TGAP-620-/6620-M12 Series

EN50155 Industrial Wireless LAN Access Point

Introduction

The **TGAP-620-/6620-M12** are reliable WLAN access points with one (**TGAP-620-M12**) or dual (**TGAP-6620-M12**) 802.11 a/b/g/n wireless modules alongside two Gigabit LAN ports in M12 connectors. The two Ethernet ports allow you to form Daisy Chain structure to reduce the use of the ports. With EN50155 compliance and M12 connectors to ensure tight and robust connections, the devices guarantee reliable operation against environmental disturbances, such as vibration and shock, and are ideal for rolling stock applications. The APs can be configured to operate in AP/Client/Bridge/AP-Client modes and support MAC filters for security control. The devices can be configured and managed via a Window utility or Web interface on LAN or WLAN networks.

Package Contents

The **TGAP-620/6620-M12** are shipped with the following items. If any of these items is missing or damaged, please contact your customer service representative for assistance.

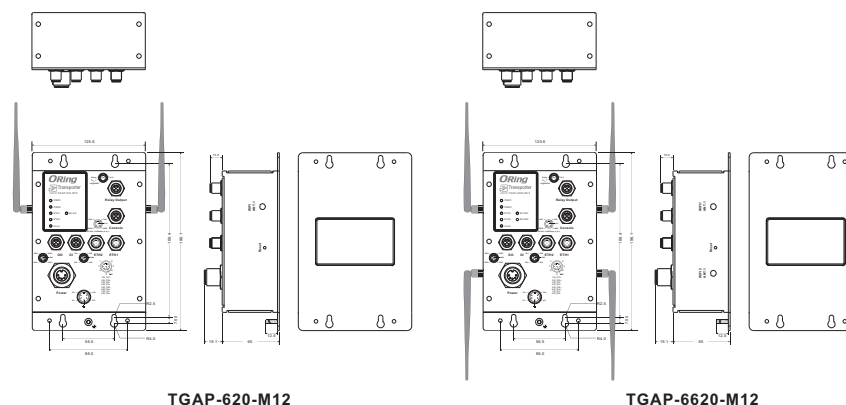| Contents	Pictures	Number
TGAP-620-M12		1
TGAP-6620-M12		1
CD		1
2.4GHz/5GHz Antenna		2 (TGAP-620-M12) or 4 (TGAP-6620-M12)
QIG		1

Preparation

Before you begin installing the device, make sure you have all of the package contents available and a PC with Microsoft Internet Explorer 6.0 or later, for using web-based system management tools.
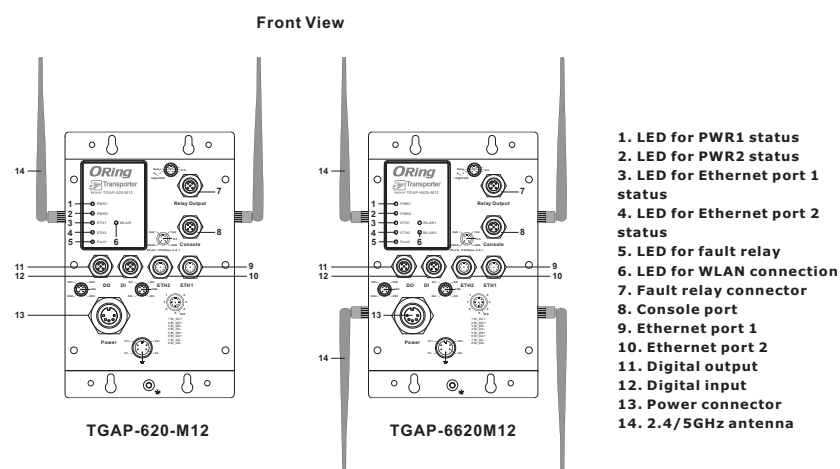
Safety & Warnings

⚠️ **Elevated Operating Ambient:** If installed in a closed environment, make sure the operating ambient temperature is compatible with the maximum ambient temperature (Tma) specified by the manufacturer.

⚠️ **Reduced Air Flow:** Make sure the amount of air flow required for safe operation of the equipment is not compromised during installation.

⚠️ **Mechanical Loading:** Make sure the mounting of the equipment is not in a hazardous condition due to uneven mechanical loading.

⚠️ **Circuit Overloading:** Consideration should be given to the connection of the equipment to the supply circuit and the effect that overloading of the circuits might have on overcurrent protection and supply wiring. Appropriate consideration of equipment nameplate ratings should be used when addressing this concern.
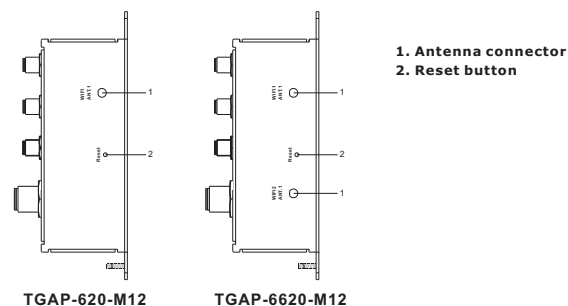
Dimension

TGAP-620-M12

TGAP-6620-M12

Panel Layouts

Front View

TGAP-620-M12

TGAP-6620M12

1. LED for PWR1 status
2. LED for PWR2 status
3. LED for Ethernet port 1 status
4. LED for Ethernet port 2 status
5. LED for fault relay
6. LED for WLAN connection
7. Fault relay connector
8. Console port
9. Ethernet port 1
10. Ethernet port 2
11. Digital output
12. Digital input
13. Power connector
14. 2.4/5GHz antenna

Side View

TGAP-620-M12   TGAP-6620-M12

1. Antenna connector
2. Reset button

Installation

Wall-mount

The device can be fixed to the wall. Follow the steps below to install the device on the wall.
Step 1: Hold the device upright against the wall
Step 2: Insert four screws through the large opening of the keyhole-shaped apertures at the top and bottom of the unit and fasten the screw to the wall with a screwdriver.
Step 3: Slide the device downwards and tighten the four screws for added stability.
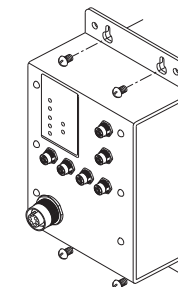
Wiring

For pin assignments of power, console and relay output ports, please refer to the following tables.

Grounding

Grounding and wire routing help limit the effects of noise due to electromagnetic interference (EMI). Run the ground connection from the grounding pin on the power connector to the grounding surface prior to connecting devices.

POWER PORT PINOUTS

The device supports two sets of power supplies and uses the M23 5-pin female connector on the front panel for the dual power inputs.
Step 1: Insert a power cable to the power connector on the device.
Step 2: Rotate the outer ring of the cable connector until a snug fit is achieved. Make sure the connection is tight.

RELAY OUTPUT PORT PINOUTS

Relay   N.C.
1A@24VDC

DI/DO Port Pinouts

DI		DO	
DI1	DI2	DO1	DO2
	COM		GND
DI4	DI3	DO4	DO3

Network Connection

The AP has two 10/100/1000 Base-T(X) Ethernet ports. According to the link type, the AP uses CAT 3, 4, 5, 5e, UTP cables to connect to any other network device (PCs, servers, devicees, routers, or hubs). Please refer to the following table for cable specifications.

Cable	Type	Max. Length	Connector
10Base-T	Cat. 3, 4, 5 100-ohm	UTP 100 m (328 ft)	M12
100Base-T(X)	Cat. 5 100-ohm UTP	UTP 100 m (328 ft)	M12
1000Base-T	Cat. 5/Cat. 5e 100-ohm UTP	UTP 100 m (328 ft)	M12

M12/8P Pin Definition
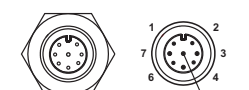
PIN	Definition
1	BI_DC+
2	BI_DD+
3	BI_DD-
4	BI_DA-
5	BI_DB+
6	BI_DA+
7	BI_DC-
8	BI_DB-

Console Port Pin Definition

RxD   TxD
N.C.
RSVD   GND
RS-232, 115200bps, 8, N, 1

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Configurations

After installing the router and connecting cables, start the device by turning on power. The green power LED should turn on. Please refer to the following tablet for LED indication.

| LED	Color	Status	Description
PWR1	Green	Green On	DC power 1 activated
PWR2	Green	Green On	DC power 2 activated
ETH1	Green	On	Port is linked link
		Blinking	Transmitting data
ETH2	Green	On	Port is linked link
		Blinking	Transmitting data
WLAN (1/2)	Green	On	WLAN activated
		Blinking	Transmitting WLAN data
Fault	Red	On	Fault relay. Power failure or Port down/fail.

Follow the steps below to log in and access the system:

1. Launch the Internet Explorer and type in IP address of the device. The default static IP address is **192.168.10.1**
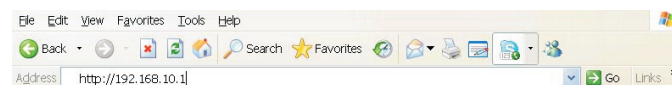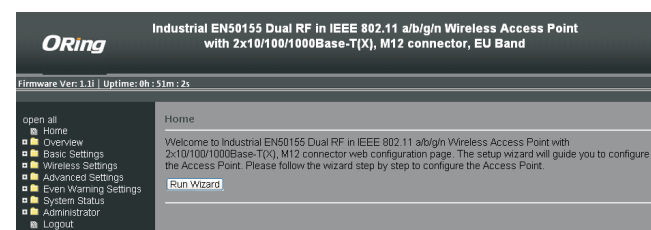
2. Log in with default user name and password (both are **admin**).

Please enter your user ID and password

ID
Password

Apply   Cancel

3. After logging in, you should see the following screen. For more information on configurations, please refer to the user manual. For information on operating the device using ORing's Open-Vision management utility, please go to ORing website.

Industrial EN50155 Dual RF in IEEE 802.11 a/b/g/n Wireless Access Point with 2x10/100/1000Base-T(X), M12 connector, EU Band

Firmware Ver: 1.1i | Uptime: 0h : 51m : 2s

open all
- Home
- Overview
- Basic Settings
- Wireless Settings
- Advanced Settings
- Even Warning Settings
- System Status
- Administrator
- Logout

Home
Welcome to Industrial EN50155 Dual RF in IEEE 802.11 a/b/g/n Wireless Access Point with 2x10/100/1000Base-T(X), M12 connector web configuration page. The setup wizard will guide you to configure the Access Point. Please follow the wizard step by step to configure the Access Point.

Run Wizard

Resetting

To restore the device configurations back to the factory defaults, press the **Reset** button for a few seconds. Once the power indicator starts to flash, release the button. The device will then reboot and return to factory defaults.

Specifications

ORing WLAN Access Point Model	TGAP-6620-M12	TGAP-620-M12
Physical Ports		
10/100/1000Base-T(X) Ports in M12 Auto MDI/MDIX (8-pin A-coding)	2	
DI/DO port in M12 (5-pin A-coding)	2(DI x 4 and DO x 4)	
RS-232 Console port in M12 (5-pin A-coding)	115200, 8 ,N ,1	
Relay port in M12 (5-pin A-coding)	1A@24VDC	
WLAN Interface		
Operating Mode	Dual AP/Dual Client /Bridge /AP-Client Mode	AP Client/Bridge/AP-Client
Antenna and Connector	4 x External reverse SMA type antenna connector	2 x External reverse SMA type antenna connector
Radio Frequency Type	DSSS, OFDM	
Modulation	IEEE802.11b: CCK, DQPSK, DBPSK IEEE802.11g: OFDM with BPSK, QPSK, 16QAM, 64QAM IEEE802.11a: OFDM with BPSK, QPSK, 16QAM, 64QAM IEEE802.11n: OFDM with BPSK, QPSK, 16QAM, 64QAM	
Frequency Band	America / FCC : 2.412~2.462 GHz (11 channels) 5.180~5.240 GHz & 5.745~5.825 GHz (9 channels) Europe CE / ETSI : 2.412~2.472 Ghz (13 channels) 5.180~5.240 Ghz (4 channels)	
Transmission Rate	IEEE801.11b: 1/ 2/ 5.5/ 11 Mbps IEEE801.11a/g: 6/ 9/ 12/ 18/ 24/ 36/ 48/ 54 Mbps IEEE802.11n: up to 300Mbps	
Transmit Power	802.11a: 12dBm ±1.5 dBm 802.11b: 18dBm ±1.5 dBm 802.11g: 15dBm ±1.5 dBm 802.11gn HT20: 13dBm ±1.5 dBm@150Mbps 802.11gn HT40: 12dBm ±1.5 dBm@300Mbps 802.11an HT20: 12dBm ±1.5 dBm@150Mbps 802.11an HT40: 12dBm ±1.5 dBm@300Mbps	
Receiver Senstivity	802.11a: -68dBm±2.0dB @ 54 Mbps 802.11b: -82dBm±2.0dB @ 11Mbps 802.11g: -68dBm±2.0dB @ 54Mbps 802.11gn HT20: -64dBm±2.0dB @150Mbps 802.11gn HT40: -60dBm±2.0dB @300Mbps 802.11an HT20: -64dBm±2.0dB @150Mbps 802.11an HT40: -60dBm±2.0dB @300Mbps	
Encryption Security	WEP: (64-bit, 128-bit key supported) WPA/WPA2: (WEP and AES encryption) 802.11i WPA-PSK (256-bit key pre-shared key supported) 802.1X Authentication supported TKIP encryption	
Wireless Security	SSID broadcast disable	
Protocol Support		
Protocol	ARP,BOOTP, DHCP, DNS, HTTPs, IP, ICMP, SNTP, TCP, UDP, RADIUS, SNMP, STP, RSTP	
LED Indicators		
Power Indicator	2 x LEDs, Green for Power indicator	
10/100Base-T(X) port Indicator	2 x LEDs, Green for port Link/Act	
WLAN LED	2 x LED, Green for WLAN Link/Ack	1 x LED, Green for WLAN Link/Ack
Fault Indicator	1 x LED, Red for Ethernet link down or power down indicator	
Power		
Power Consumption(Typ.)	11 Watts	8 Watts
Physical Characteristic		
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)	965 g	955 g
Environmental		
Storage Temperature	-40 to 85℃ (-40 to 185°F)	
Operating Temperature	-25 to 70℃ (-13 to 158°F)	
Operating Humidity	5% to 95% Non-condensing	

Regulatory Approvals	
EMI	FCC Part 15, CISPR (EN55022) class A, EN50155 (EN50121-3-2, EN55011, EN50121-4)
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
Safety	EN60950-1
Warranty	5 years

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