TGAP-620-M12 Series

Industrial EN50155 IEEE 802.11 a/b/g/n wireless access point with 2x10/100/1000Base-T(X), M12 connector

Features

- Leading EN50155-compliant wireless access point for rolling stock application
- High Speed Air Connectivity: WLAN interface support up to 300 Mbps link speed
- Highly Security Capability: WEP/WPA/WPA-PSK(TKIP,AES)/ WPA2/WPA2-PSK(TKIP,AES)/802.1X Authentication supported
- **Support X-Roaming < 60ms**
- Support external SMA antenna installation
- Support AP/Client /Bridge /AP-Client Mode
- **Support Multiple-SSID to 4 SSID**
- Support MAC Filter
- Dual Gigabit Ethernet ports support Ethernet redundant mode (Recovery time < 10ms) and switch mode in M12 connector (A-coding)
- Wireless connecting status monitoring
- 1KV isolation for PoE P.D. port for TGAP-620+-M12
- Secured Management by HTTPS
- Event Warning by Syslog, Email, SNMP Trap, and Relay output
- Rigid IP-40 housing design
- Wall-mount enabled

Introduction

ORing's Transporter™ series access point is designed for industrial and rolling stock wireless applications, such as vehicle, and railway applications. TGAP-620-M12 is a reliable 802.11 a/b/g/n WLAN Access Point with 2 Ethernet 10/100/1000 ports. It can be configured to operate in AP/Client /Bridge /AP-Client Mode. TGAP-620-M12 provides dual Ethernet ports in switch mode, so that you can use Daisy Chain to reduce the usage of Ethernet switch ports. TGAP-620-M12 provides a dust-tight connection and reverses SMA-type connectors that can install any reverse SMA-type antennas to extend communication distance. It is specifically designed for the toughest industrial environments. You are able to configure TGAP-620-M12 by WEB interface via LAN port or WLAN interface. TGAP-620-M12 can be easily adopted in almost all kinds of applications and provides the most rugged solutions for managing your network in outdoor. In addition, TGAP-620+-M12 also provides P.D.

feature on ETH2 which is fully compliant with IEEE802.3af PoE P.D. specification. Therefore, TGAP-620-M12 is one of the best communication solutions for wireless applications.

Application

In practical operation of wireless access point, Windows utility (Open-Vision) 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 AP/Client /Bridge /AP-Client Mode. You can build up the wireless network easily.

Pin Definition

Relay Output

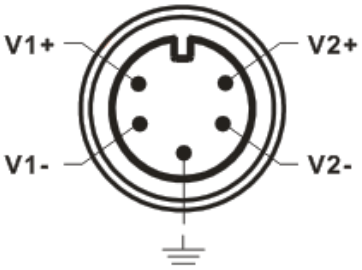
Console

RS-232, 115200bps, 8, N, 1

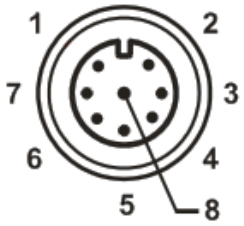
DI

DO

Power

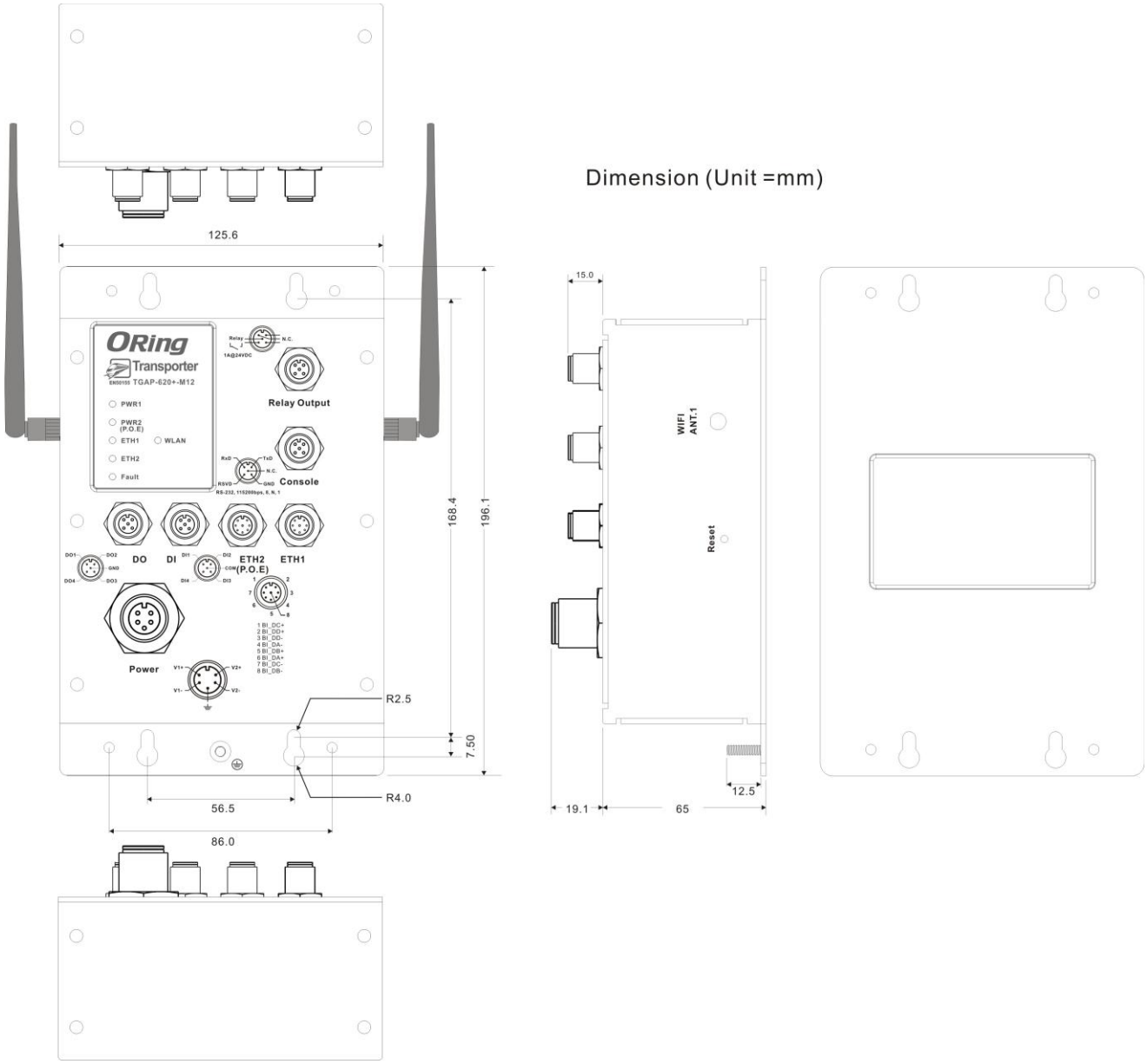


Ethernet



1 BI_DC+
2 BI_DD+
3 BI_DD-
4 BI_DA-
5 BI_DB+
6 BI_DA+
7 BI_DC-
8 BI_DB-

Dimension


Dimension (Unit =mm)
125.6
168.4
196.1
R2.5
7.50
R4.0
56.5
86.0
15.0
19.1
65
12.5
WIFI
ANT.1
Reset
ORing
Transporter
TGAP-620+-M12
PWR1
PWR2
(P.O.E)
ETH1
WLAN
ETH2
Fault
Relay Output
Console
DO
DI
ETH2
(P.O.E)
ETH1
Power

Specifications

ORing WLAN Access Point Model	TGAP-620-M12	TGAP-620+-M12
Physical Ports		
10/100/1000Base-T(X) Ports in M12 Auto MDI/MDIX (8-pin A-coding)	**2**	**2(**Present at ETH2 Fully compliant with IEEE 802.3af PoE P.D)
DIDO port in M12 (5-pin A-coding)	**2(DI x 4** and **DO x 4) :** Dry Contact: On: short to GND, Off: open Wet Contact (DI to COM/GND): On: 0 to 3VDC, Off: 10 to 30VDC	
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	AP/Bridge/Client/AP-Client	
Antenna Connector	2 x External reverse SMA-type antenna connector	
Radio Frequency Type	OFDM, DSSS	
Modulation	IEEE802.11b: CCK/DQPSK/DBPSK IEEE802.11a/g: OFDM IEEE802.11n: BPSK, QPSK, 16-QAM, 64-QAM	
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	802.11b: 11, 5.5, 2, 1 Mbps; 802.11g: 54, 48, 36, 24, 18, 12, 9, 6 Mbps 802.11n: up to 300Mbps	
Transmit Power	802.11a: 12dBm ± 1.5dBm@54Mbps 802.11b: 17dBm ± 1.5dBm@11Mbps 802.11g: 16dBm ± 1.5dBm@54Mbps 802.11gn HT20: 15dBm ± 1.5dBm @MCS7 802.11gn HT40: 14dBm ± 1.5dBm @MCS7 802.11an HT20: 12dBm ± 1.5dBm @MCS7 802.11an HT40: 11dBm ± 1.5dBm @MCS7	
Receiver Sensitivity	802.11a : -76dBm ± 2dBm@54Mbps 802.11b : -85dBm ± 2dBm@11Mbps 802.11g : -76dBm ± 2dBm@54Mbps 802.11gn HT20:-75dBm ± 2dBm@MCS7 802.11gn HT40:-72dBm ± 2dBm@MCS7 802.11an HT20:-74dBm ± 2dBm@MCS7 802.11an HT40:-71dBm ± 2dBm@MCS7	
Encryption Security	WEP: (64-bit ,128-bit key) WPA/WPA2 PSK :TKIP and AES encryption (802.11i) 802.1X/RADIUS Authentication supported	
Wireless Security	SSID broadcast disable and enable	
Protocol Support		
Protocol	ARP,BOOTP, DHCP, DNS, HTTP, IP, ICMP, SNTP, TCP, UDP, RADIUS, SNMP, STP, RSTP,	
LED Indicators		
Power Indicator	2 x LEDs, PW1:Green for DC Power on PW2:Green for DC Power on or power by PoE	
10/100/1000Base-T(X) Indicator	2 x LEDs, Green for port Link/Act	
WLAN LED	1 x LED, Green for WLAN Link/Act	
Fault	1 x LED, Red for Ethernet link down or power down indicator	
Fault Contact		
Relay	Relay output to carry capacity of 1A at 24VDC(5-pin M12 A-coding)	
Power		

Redundant Input Power	Dual Power Inputs. 12~48 VDC on 5-pin M23 connector (24 VDC Typ.)	
Power Consumption (Typ.)	8W	8.5W
Overload Current Protection	Present	
Reverse Polarity Protection	Present	
Physical Characteristic		
Enclosure	IP-40	
Dimension (W x D x H)	125.6(W) x 65(D) x 196.1(H) mm (4.94 x 2.55 x 7.72 inch.)	
Weight (g)	955g	960g
Environmental		
Storage Temperature	-40 to 85°C (-40 to 185°F)	
Operating Temperature	-25 to 70°C (-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)	
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	IEC60068-2-31	
Vibration	IEC60068-2-6, EN61373	
Rail Traffic	EN50155	
Cooling	EN60068-2-1	
Dry Heat	En60068-2-2	
Safety	EN60950-1	
Warranty	5 years	

Ordering Information

TGAP-AB0C–M12

Code Definition	Wireless Mode	10/100/1000 Base-T(X) Port Number	PoE Identification
Option	**- 1:** 802.11 b/g **- 2:** 802.11 a **- 3:** 802.11 a/b/g **- 4:** 802.11 b/g/n **- 5:** 802.11 a/n **- 6:** 802.11 a/b/g/n	**-"2": 2** ports	**-"+":** PoE P.D. present at ETH2

	Model Name	Description
Available Model	TGAP-620-M12_US	Industrial EN50155 IEEE 802.11 a/b/g/n wireless access point with 2x10/100/1000 Base-T(X), US band
	TGAP-620-M12_EU	Industrial EN50155 IEEE 802.11 a/b/g/n wireless access point with 2x10/100/1000 Base-T(X), EU band
	TGAP-620+-M12_US	Industrial EN50155 IEEE 802.11 a/b/g/n wireless access point with 2x10/100/1000 Base-T(X), 1-port PoE P.D, US band
	TGAP-620+-M12_EU	Industrial EN50155 IEEE 802.11 a/b/g/n wireless access point with 2x10/100/1000 Base-T(X), 1-port PoE P.D, EU band

Packing List

- **TGAP-620-M12 x 1**
- **CD x 1**
- **Quick Installation Guide x 1**
- **2.4GHz/5GHz Antenna x 2**

Optional Accessories

- **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**