TGAR-1062-4G-M12

Industrial EN50155 IEEE 802.11 a/b/g/n 4G LTE Cellular Router
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 300Mbps link speed
- 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
- 4G LTE Modem dial up included
- Dual redundant Ethernet ports support Ethernet redundant mode (Recovery time < 10ms) and switch mode in M12 connector (A-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

Introduction

ORing's Transporter™ series cellular router is designed for industrial and rolling stock wireless applications, such as vehicle, and railway applications. TGAR-1062-4G-M12 is reliable IEEE802.11 a/b/g/n 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. Users can set up WLAN environment to fulfill demands of various applications rapidly by dialing up cellular modem. TGAR-1062-4G-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. TGAR-1062-4G-M12 provides dual Ethernet ports in switch mode, so that you can use Daisy Chain to reduce the usage of Ethernet switch ports. Therefore, TGAR-1062-4G-M12 is one of the most reliable choices for rolling stock applications on the wireless network.

Application

In TGAR-1062-4G-M12 , there are 3 modes of routing functions supported: Dynamic/Static IP route, PPPoE dial up, and Modem dial up. TGAR-1062-4G-M12 also support NAT, VPN and Back up functions. You can build up the wireless network and connect to the Internet easily.

Pin Definition

Relay Output

1A@24VDC

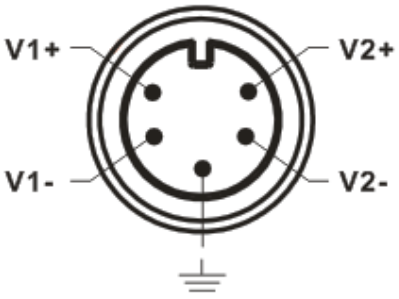
Console

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

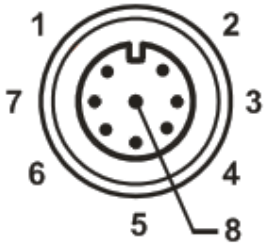
DI

DO

Power

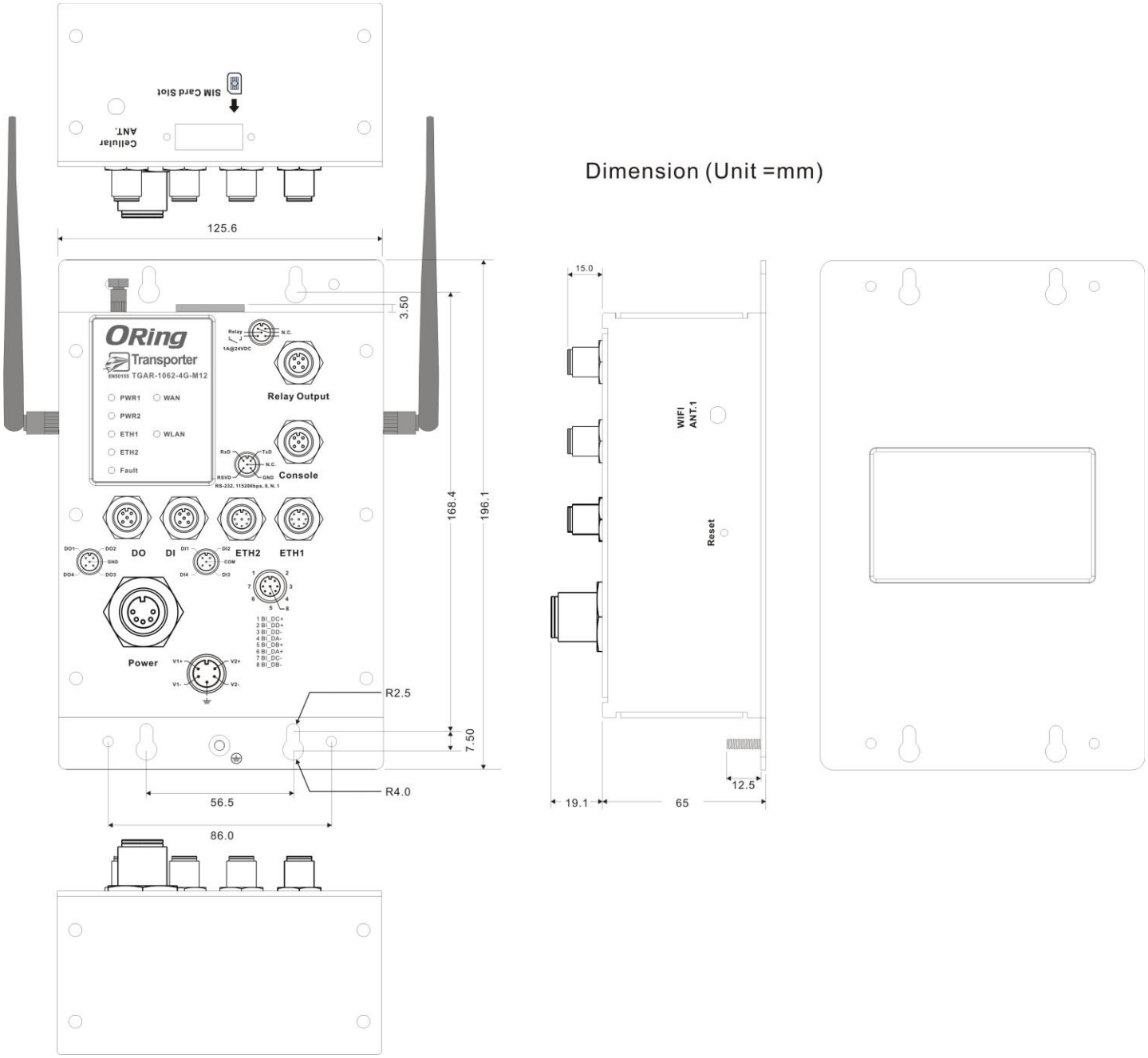


Ethernet



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)
SIM Card Slot
Cellular ANT.
125.6
3.50
168.4
196.1
ORing
Transporter
TGAR-1062-4G-M12
PWR1
PWR2
ETH1
ETH2
Fault
WAN
WLAN
Relay Output
Console
DO
DI
ETH2
ETH1
Power
R2.5
7.50
R4.0
56.5
86.0
15.0
WIFI ANT.1
Reset
12.5
19.1
65

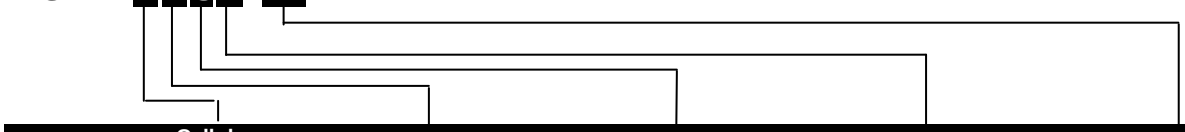
Specifications

ORing EN50155 WLAN Access Point Router Model	TGAR-1062-4G-M12
Physical Ports	
10/100/1000Base-T(X) Ports in M12 Auto MDI/MDIX (8-pin A-coding)	**2**
DIDO 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**
SIM Card Slot	**1**
WLAN Interface	
Antenna Connector	2 x Reverse SMA Female
Radio Frequency Type	DSSS, OFDM
Modulation	IEEE802.11a : OFDM with BPSK, QPSK, QAM, 64QAM IEEE802.11b: CCK, DQPSK, DBPSK IEEE802.11g: OFDM with BPSK, QPSK, 16QAM, 64QAM 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	IEEE802.11b: 1 / 2 / 5.5 / 11 Mbps IEEE802.11a/g: 6 / 9 / 12 / 18 / 24 / 36 / 48 / 54 Mbps IEEE801.11n: up to 300Mbps
Transmit Power	802.11a: 12dBm ± 1.5dBm 802.11b: 18dBm ± 1.5dBm 802.11g: 15dBm ± 1.5dBm 802.11gn HT20: 13dBm ± 1.5dBm@150Mbps 802.11gn HT40: 12dBm ± 1.5dBm@300Mbps 802.11an HT20: 12dBm ± 1.5dBm@150Mbps 802.11an HT40: 12dBm ± 1.5dBm@300Mbps
Receiver Sensitivity	802.11a: -68dBm ±2dBm@54Mbps 802.11b: -85dBm ±2dBm@11Mbps 802.11g: -68dBm ±2dBm@54Mbps 802.11gn HT20: -68dBm ±2dBm@150Mbps 802.11gn HT40: -68dBm ±2dBm@300Mbps 802.11an HT20: -68dBm ±2dBm@150Mbps 802.11an HT40: -68dBm ±2dBm@300Mbps
Encryption Security	WEP: (64-bit ,128-bit key supported) WPA/WPA2 :802.11i(WEP and AES encryption) WPAPSK (256-bit key pre-shared key supported) 802.1X Authentication supported TKIP encryption
Wireless Security	SSID broadcast disable
Cellular Interface	
Cellular Standard	GSM / GPRS/ EGPRS/ EDGE / WCDMA / HSDPA / HSUPA /HSPA+ /LTE
Antenna Connector	1 x SMA Female
Band Option	**America(US)** LTE: 700/1700/2100/ MHz UMTS/HSDPA/HSUPA/HSPA+/DC-HSPA+: 800/850/1900/2100 MHz GSM/GPRS/EDGE: 850/900/1800/1900 MHz **Europe(EU)** LTE: 800/900/1800/2100/2600 MHz UMTS/HSDPA/HSUPA/HSPA+/DC-HSPA+:

	900/2100 MHz GSM/GPRS/EDGE: 900/1800/1900 MHz
Protocol Support	
Protocol	ARP,BOOTP, DHCP, DNS, HTTP, IP, ICMP, SNTP, TCP, UDP, RADIUS, SNMP, PPPoE
LED Indicators	
Power Indicator	2 x LEDs, Green for Power on
10/100/1000Base-T(X) port Indicator	2 x LEDs, Green for port Link/Act
WLAN LED	1 x LED, Green for WLAN Link/Act
WAN LED	1 x LEDs, Green for functioning normal
Fault Indicator	1 x LED, Red for Ethernet link down or power down indicator
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.)	9.5W
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)	968g
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	IEC60068-2-32
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

TGAR-ABCD-EE-M12



Code Definition	Cellular Module Number	2nd Wireless Mode	1st Wireless Mode	Giga Ethernet Port Number	Cellular Generation
Option	**1:** One SIM **2:** Dual SIM	**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	**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	**4G :**LTE

	Model Name	Description
Available Model	**TGAR-1062-4G-M12_US**	Industrial EN50155 IEEE 802.11 a/b/g/n 4G LTE cellular router with 2x10/100/1000Base-T(X), M12 connector, US band
	TGAR-1062-4G-M12_EU	Industrial EN50155 IEEE 802.11 a/b/g/n 4G LTE cellular router with 2x10/100/1000Base-T(X), M12 connector, EU band

Packing List

- **TGAR-1062-4G-M12 x 1**
- **CD x 1**
- **Quick Installation Guide x 1**
- **2.4GHz/5GHz Antenna x 2**
- **Cellular LTE Antenna x 1**

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**