TDGAR-1083D+-D5GS-M12X-WV

ORing

5G

Digital I/O

24-110V

DC

EN50155

GPS

PoE/PD

ac/g/n

WiFi

Full

-25~70°C

Temperature

Industrial EN50155 802.11 ac/g/n 5G Cellular GPS Router with 3x10/100/1000Base-T(X), M12 Connector

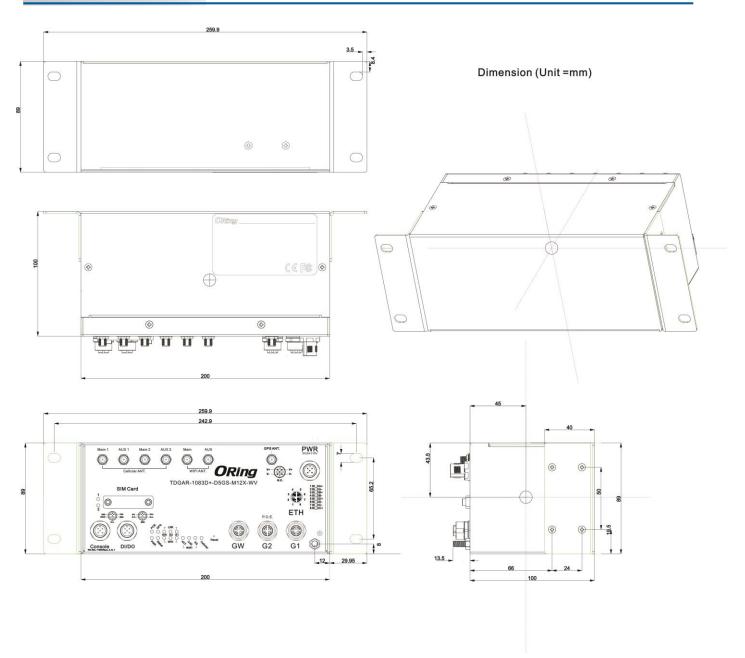
Features

- Leading EN50155-compliant wireless access point for rolling stock application
- Provide HNAT enhance LAN to WAN routing performance
- Provide SNAT/PAT/1:1 NAT
- Dual high Speed Air Connectivity: each WLAN interface support IEEE 802.11 ac/g/n up to 867Mbps link speed
- Highly Security Capability: WEP/WPA/WPA-PSK(TKIP,AES)/ WPA2/WPA2-PSK(TKIP,AES)/802.1X Authentication supported
- Support wireless AP/Client mode
- Provide 3x10/100/1000Base-T(X) Ethernet with M12 x-coding
- Supports 5G and LTE Modem dial up
- Support GPS connection
- 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)
- > 1KV isolation for PoE P.D. port
- Support NAT Setting (Virtual Server, Port Trigger)
- > Support DHCP forwarding through PPTP function
- > Wireless connecting status monitoring
- Wifi multiple SSID supported
- Event Warning by Syslog, Email, SNMP Trap
- 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. TDGAR-1083D+-D5GS-M12X-WV is reliable wifi5 router with 3 ports Gigabit Ethernet which is fully compliant with EN50155 certification. 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. TDGAR-1083D+-D5GS-M12X-WV 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. In addition, TDGAR-1083D+-D5GS-M12X-WV also provides P.D. feature which is fully compliant with IEEE802.3at PoE P.D. specification and TDGAR-1083D+-D5GS-M12X-WV supports GPS function. Therefore, TDGAR-1083D+-D5GS-M12X-WV is one of the most reliable choices for rolling stock applications on the wireless network.

Dimension



Pin Definition

1-2	PWR M12 port		45 10/100/1000Base-T(X) M12 po		1000Base-T(X) M12 port
3 4	Pin No.	Description	3 6	Pin No.	Description
5	#1	V+	2 7	#1	BI_DA+
A-coding	#2	V+	1 8	#2	BI_DA-
Male	#3	V-	X-coding	#3	BI_DB+
	#4	V-	Female	#4	BI_DB-
	#5	N.C.		#5	BI_DD+
	Console M12 port			#6	BI_DD-
	Pin No.	Description		#7	BI_DC-
	#1	RXD		#8	BI_DC+
5	#2	TXD			DI/DO M12 port
A-coding	#3	RSVD		Pin No.	Description
Female	#4	GND		#1	Digital Input
	#5	N.C.	5	#2	Digital Output
			A-coding	#3	N.C.
			Female	#4	N.C.
				#5	GND

ORing EN50155		
LTE Router Model	TDGAR-1083D+-D5GS-M12X-WV	
Physical Ports		
10/100/1000Base-T(X) Ports in M12 (8-pin X-coding female)	1(WAN) + 2(LAN)	
Sim Card Slot	2	
Console Port in M12 (5-pin A-coding		
female)	1	
DI/DO Port in M12 (5-pin A-coding female)	DI x 1, DO x 1 (DI :Logic level 1: 5V~30V, Logic level 0: 0V~2V DO :Maximum Voltage is 30V, Maximum Current is 20mA)	
Input Power Port in M12 (5-pin A-coding male)	1	
PoE P.D Port	Present at Ethernet (G2) Fully compliant with IEEE 802.3at Power Device specification Over load & short circuit protection Isolation Voltage: 1000 VDC min. Isolation Resistance : 10 ⁸ ohms min	
Antenna connector		
WIFI	2 x RP-SMA female	
Cellular	4 x SMA female	
GPS	1 x SMA female	
GPS Interface		
Receiver Type	50 Channels GPS L1 frequency, C/A Code	
Time-To-First-Fix	Cold Start: 29s Warm Start: 29s Hot Start: <1s	
Sensitivity	Tracking & Navigation: -160dBm Reacquisition: -160dBm Cold Start: -147dBm	
Cellular Interface		
Cellualr Standard	HSDPA / HSUPA / LTE/ LTE+/ 5G	
Band Option	5G NR : n1,n2,n3,n5,n7,n8,n12,n20,n28,n41,n66,n71,n77,n78,n79 LTE : FDD : B1/B2/B3/B4/B5/B7/B8/B12/B13/B14/B17/B18/B19/B20/B25/B26/B28/B29/B30/B32/B66/B71 TDD : B34/B38/B39/B40/B41/B42/B46/B48 WCDMA : B1/B2/B3/B4/B5/B6/B8/B9/B19	
WLAN interface		
Modulation	IEEE 802.11a: OFDM IEEE 802.11b: CCK, DQPSK, DBPSK IEEE 802.11g: OFDM IEEE 802.11n: BPSK, QPSK, 16-QAM, 64-QAM IEEE 802.11ac: BPSK, QPSK, 16-QAM, 64-QAM, 256-QAM	
America / FCC: 2.412~2.462 GHz 5.180~5.240 GHz & 5.745~5.825 GHz Europe CE / ETSI: 2.412~2.472 GHz 5.180~5.240 GHz		
Transmission Rate	IEEE 802.11b: 1/2/5.5/11 Mbps IEEE 802.11a/g: 6/9/12/18/24/36/48/54 Mbps IEEE 802.11n: UP to 300 Mbps IEEE 802.11ac: up to 867Mbps	

	IEEE 802.11b: 18dBm ± 2dBm@11Mbps		
	IEEE 802.11g: 15dBm ± 2dBm@54Mbps IEEE 802.11gn HT20: 14dBm ± 2dBm @MCS7		
	IEEE 802.11gn HT40: 14dBm ± 2dBm @MCS7		
	IEEE 802.11an HT20: 11dBm ± 2dBm @MCS7 IEEE 802.11an HT40: 10dBm ± 2dBm @MCS7		
	IEEE 802.11ac VHT80: 7dBm ± 2dBm @MCS9		
	IEEE 802.11a : -71dBm ± 2dBm@54Mbps		
	IEEE 802.11b : $-86dBm \pm 2dBm@11Mbps$ IEEE 802.11g : $-72dBm \pm 2dBm@54Mbps$		
	IEEE 802.11gn HT20:-68dBm ± 2dBm@MCS7		
Receiver Sensitivity	IEEE 802.11gn HT40:-66dBm ± 2dBm@MCS7		
	IEEE 802.11an HT20:-68dBm ± 2dBm@MCS7 IEEE 802.11an HT40:-67dBm ± 2dBm@MCS7		
	IEEE 802.11ac VHT80:-57dBm \pm 2dBm@MCS9		
	WEP: (64-bit ,128-bit key supported)		
Encountion Converts	WPA/WPA2 :802.11i(WEP and AES encryption)		
Encryption Security	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, HTTP, IP, ICMP, SNTP, TCP, UDP, RADIUS, SNMP, PPPoE, STP (IEEE 802.1D)		
LED Indicators			
PWR	1 x LED, Green for DC Power in		
POE	1 x LED, Green for POE Power in		
	6 x LEDs,		
Ethernet Port Indicator	LNK: Green for port Link/AcT. SPD: Green On for 1000/100Base-T(X) link; Green Off for 10Base link		
GPS LED	1 x LED, Green on for GPS on, slow blink for connection Act		
	3 x LEDs,		
WLAN(Wifi) LED	1 x LED, Green On: RF on, Blink: data transmitting		
	1 x LED, Green for WLAN work on 2.4GHz		
Cellular LED	1 x LED, Green for WLAN work on 5GHz 1 x LED, Green slow blink for work normal,		
SIM LED	2 x LED, Green in used		
Status Indicator	1 x LED, Green slow blink for normal, off for system halt		
Power	1 x LLD, Green slow blink for hormal, on for system hait		
	24 -: 110Vdc		
Input Power	24 ~ 110Vdc		
Isolation	DC 2KV/ AC 1.5KV		
Power Consumption (Typ.)	25 watts Max.		
Overload Current Protection	Present		
Reverse Polarity Protection	Present		
Physical Characteristic			
Enclosure	IP-30		
Dimension (W x D x H)	200(W) x 100(D) x 89(H) mm		
Weight (g)	<2Kg		
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, 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		
	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

Model Name		Description	
Available Model	TDGAR-1083D+-D5GS-M12X-WV EU	Industrial EN50155 802.11 ac/g/n 5G Cellular GPS Router with	
		3x10/100/1000Base-T(X), 1-port PoE P.D, M12 Connector, US band	
	TDGAR-1083D+-D5GS-M12X-WV US	Industrial EN50155 802.11 ac/g/n 5G Cellular GPS Router with	
		3x10/100/1000Base-T(X), 1-port PoE P.D, M12 Connector, EU band	

Packing List

- TDGAR-1083D+-D5GS-M12X-WV x 1 •
- CD QRcode x 1
- Quick Installation Guide x 1

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• Wall-Mount Kit x 2