



# Quick Installation Guide

## Introduction

ORing's Transporter™ series access point is designed for industrial and rolling stock wireless applications, such as vehicle, and railway applications. TDGAP-830D+-M12X-WV is a reliable WIFI5 WLAN Access Point with 3 Ethernet 10/100/1000 ports. It can be configured to operate in AP/Client Mode. TDGAP-830D+-M12X-WV provide 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 TDGAP-830D+-M12X-WV by WEB interface via LAN port or WLAN interface. TDGAP-830D+-M12X-WV can be easily adopted in almost all kinds of applications and provides the most rugged solutions for managing your network in outdoor. In addition, TDGAP-830D+-M12X-WV also provides P.D. feature on ETH2 which is fully compliant with IEEE802.3at PoE P.D. specification. Therefore, TDGAP-830D+-M12X-WV is one of the best communication solutions for wireless applications.

## Package Contents

The device is 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
TDGAP-830D+-M12X-WV		X 1
Flat Screw (M3 X5)		X 8
Mounting kit (L&R)		X 1
Quick Installation Guide		X 1
CD QRcode		X 1

## Preparation

Before installation, 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

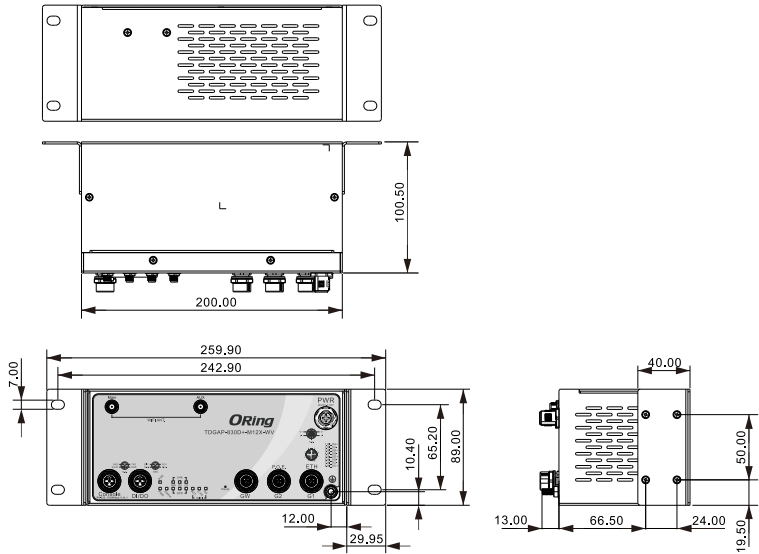
- Elevated Operating Ambient:** If installed in a closed environment, make sure the operating ambient temperature is compatible with the maximum ambient temperature (Tma) specified by the manufacturer.
- Reduced Air Flow:** Make sure the amount of air flow required for safe operation of the equipment 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.

# TDGAP-830D+-M12X-WV

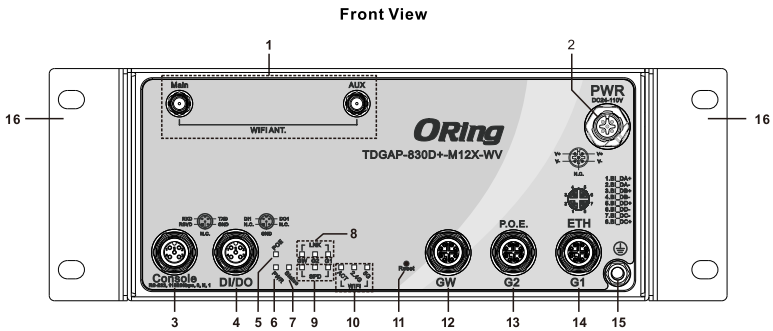
- Warning:** When installing the device, make sure to keep the radiating at a minimum distance of 20 cm (7.9 inches) from all persons to minimize the potential for human contact during normal operation.
- Warning:** Do not operate the device near unshielded blasting caps or in an otherwise explosive environment unless the device has been modified for such use by qualified personnel.

### Dimension

Unit:mm (Tolerance ±0.5mm)



### Panel Layouts



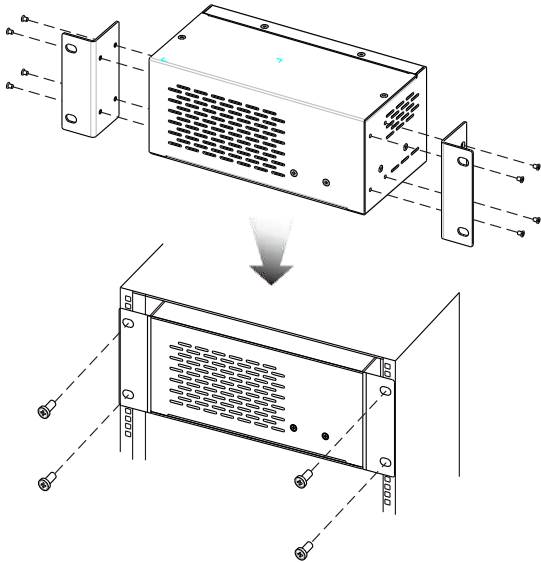
- 1. Wi-Fi antenna connector
- 2. Power connector
- 3. Console connector
- 4. DI/DO connector
- 5. POE power LED
- 6. Power LED
- 7. Status LED
- 8. LNK/ACT indicator for Gigabit Ethernet port
- 9. Speed indicator for Gigabit Ethernet port
- 10. Wi-Fi status LED
- 11. Reset button
- 12. Gigabit Ethernet port for WAN
- 13. Gigabit POE Ethernet port for LAN
- 14. Gigabit Ethernet port for LAN
- 15. Ground wire
- 16. Rack-mount kit

# Industrial Wireless Access Point

## Installation

### Rack-mount

With the brackets orientated in front of the rack, fasten the brackets to the rack using two more screws.



### Wiring

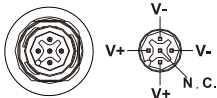
For pin assignments of power and console, please refer to the following tables.

#### 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 one set of power supplies and uses the 5-pin M12 male A-coding connector on the front panel for the power input.  
**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.



#### Console port pinouts



### Network Connection

The device has 10/100/1000Base-T(X) Ethernet port of M12 connector. Depending on the link type, the switch uses CAT 3, 4, 5, 5e UTP cables to connect to network devices (PCs, servers, switches, routers, or hubs). Please refer to the following table for cable specifications.

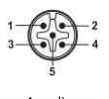
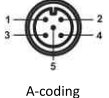

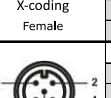
Cable	Type	Max. Length	Connector
10BASE-T	Cat. 3, 4, 5 100-ohm	UTP 100 m (328 ft)	8-pin female M12 X-coding connector
100BASE-TX	Cat. 5 100-ohm UTP	UTP 100 m (328 ft)	8-pin female M12 X-coding connector
1000BASE-T	Cat. 5/Cat. 5e 100-ohm UTP	UTP 100 m (328 ft)	8-pin female M12 X-coding connector

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## TDGAP-830D+-M12X-WV

## Industrial Wireless Access Point

### Pin Definition

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

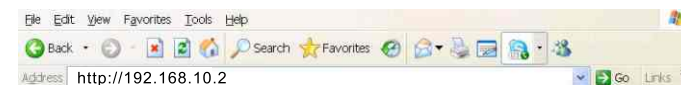
### Configurations

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

LED Indicators	
PWR	1 x LED, Green for DC Power in
POE	1 x LED, Green for POE Power in
Ethernet Port Indicator	6 x LEDs, LNK: Green for port Link/ACT SPD: Green ON : for 1000/100Base-T(X); Green OFF : for 10Base link
WLAN(Wifi) LED	3 x LEDs, 1 x LED, Green ON: RF ON; Blink: data transmitting 1 x LED, Green for WLAN work on 2.4GHz 1 x LED, Green for WLAN work on 5GHz
Status Indicator	1 x LED, Green slow blink for normal, OFF for system halt

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 **192.168.10.2**



2. Log in with default user name and password (both are admin). After logging in, you should see the following screen. For more information on configurations, please refer to the user manual.



### 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 EN50155 Access Point Model	TDGAP-830D+-M12X-WV
Physical Ports	
10/100/1000Base-T(X) Ports in M12 (8-pin X-coding female)	3 (LAN)
Console Ports 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
Antenna connector	
WiFi(for example)	2 x RP-SMA female
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
Frequency Band	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
Transmit Power	IEEE 802.11a: 12dBm ± 2dBm@54Mbps 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
Receiver Sensitivity	IEEE 802.11a : -71dBm ± 2dBm@54Mbps IEEE 802.11b : -86dBm ± 2dBm@11Mbps IEEE 802.11g : -72dBm ± 2dBm@54Mbps IEEE 802.11gn HT20:-68dBm ± 2dBm@MCS7 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 ± 2dBm@MCS9
Encryption Security	WEP: (64-bit ,128-bit key supported) WPA/WPA2 :802.11i(WEP and AES encryption) WPA-PSK (256-bit key pre-shared key supported) 802.1X Authentication supported TKIP encryption
Wireless Security	SSID boardcast disable
Protocol Support	
Protocol	ARP,BOOTP, DHCP, DNS, HTTP, IP, ICMP, SNMP, TCP, UDP, RADIUS, SNMP, STP, RSTP
Power	
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 100.5(D) x 89(H) mm
Weight	<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
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

Contact for maintenance and repair service:

# ORing

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