# ORIO-G30218

Wireless Remote IO

Features

- ➢ Support 2 Serial Ports for RS232/RS422/4W-RS485/2W-RS485
- ➢ Support NB-IOT/CAT M1/CAT 1/ZigBee/LoRa (by model)
- ➢ Support 4 Digital inputs (Dry/Wet) / 4 Digital outputs (Sink)
- ➢ Support Data Log
- ➢ Support Modbus protocol
- ➢ Support MQTT/COAP protocol
- ➢ Support configuration via USB virtual com port
- ➢ -40 to 75°C wide operating temperature

Introduction

The ORIO-G30218 is an IO device with 4 DIs/4 DOs and wireless module. The serial port is up to 921.6K baudrate and supports Modbus protocol. ORIO-G30218 has multi-common protocols that help user send data to cloud easily. There are many wireless types could be chosen. It could be a MQTT/Modbus gateway. User can setup the configuration by using USB virtual com port, and update firmware via USB.
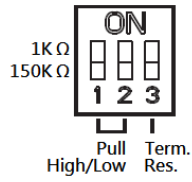
Dimension
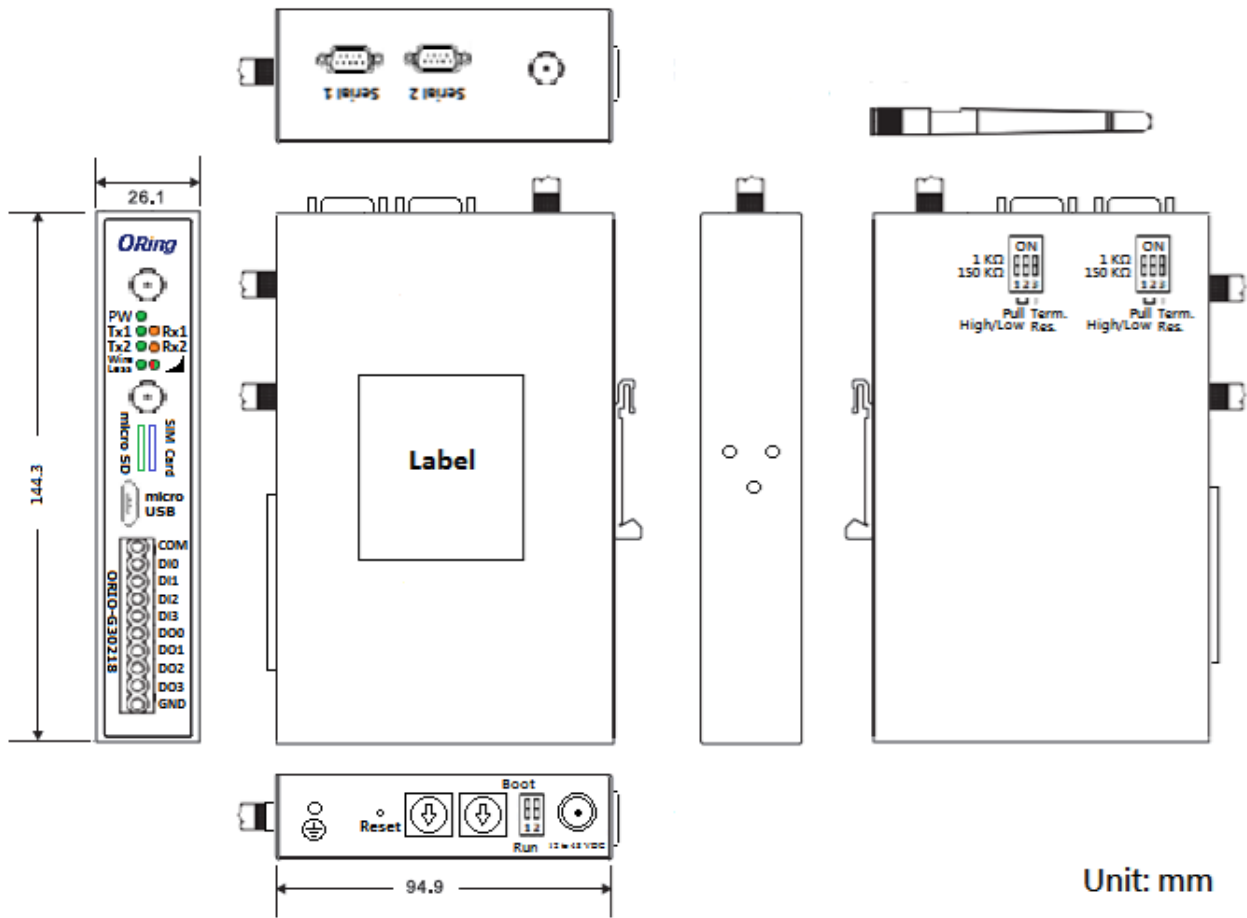
Unit: mm

Pin Definition
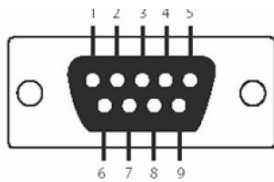
DB9 connector

Pin #	RS-232	RS-422	RS-485 (4 wire)	RS-485 (2 wire)
1	DCD	TX-	TX-	
2	RXD	TX+	TX+	
3	TXD	RX+	RX+	DATA+
4	DTR	RX-	RX-	DATA-
5	GND	GND	GND	GND
6	DSR			
7	RTS			
8	CTS			

DIP Switch

SW No.	Description
#1	150K / 1K Ohm Pull High/Low Resistor
#2	
#3	Enable / Disable Terminal Resistor

1KΩ
150KΩ
Pull High/Low   Term. Res.

Boot

Run

SW No.	Description
#1	Boot: Boot mode / Run: Normal mode
#2	Reserved

Wiring

Digital Output

Digital Input

Dry Contact
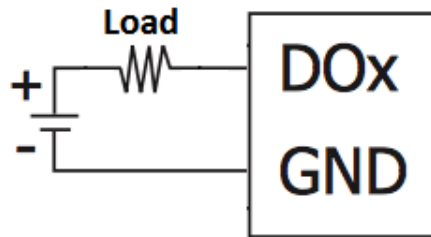
Wet Contact
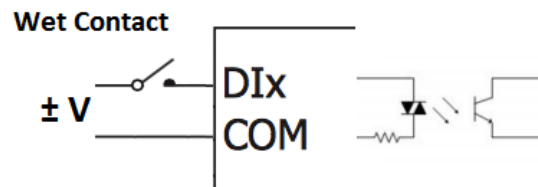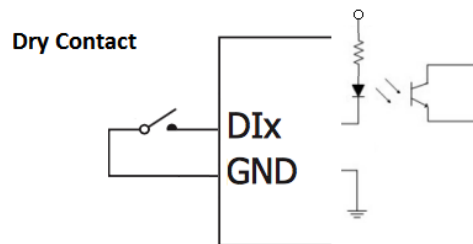
Specifications

ORing Model	ORIO-G30218-XX
Serial Port	
Connector	DB9
Ports	2
Operation Mode	RS232, RS422, 4W-RS485, 2W-RS485
Serial Baud Rate	Up to 921.6Kbps
Data Bits	5, 6, 7, 8,
Parity	None, Even, Odd
Stop Bits	1, 1.5, 2
RS-232	TxD, RxD, DCD, DTR, DSR, RTC, CTS, GND
RS-422	Tx-, Tx+, Rx+, Rx-, GND
RS-485	4 wire: Tx-, Tx+, Rx+, Rx-, GND 2 wire: Data-, Data+, GND
Wireless	
NB-IOT	**Frequency Band:** B1/B2/B3/B4/B5/B8/B12/B13/B20/B28 **Output Power:** 23dBm **Sensitivity:** -129dBm **AT Command:** 3GPP Rel-13 and enhanced AT commands
CAT M1	**Frequency Band:** B1/B2/B3/B4/B5/B8/B12/B13/B20/B28 **Output Power:** TBD **Sensitivity:** TBD **AT Command:** 3GPP TS27.007, 27.005 and other enhanced AT Commands
CAT 1	**Frequency Band:** B1/B3/B8/B20/B28 **Output Power:** TBD **Sensitivity:** TBD **AT Command:** Hayes, TS 27.007 and 27.005 and other enhanced AT Commands
ZigBee	**Frequency :** 2400 MHz **Output Power:** 7dBm, Max: 21dBm **Sensitivity:** Up to -99dBm **Security:** 128-bit AES encryption algorithms
LoRa	**Frequency :** 868MHz / 916MHz **Output Power:** 7dBm, Max: 21dBm **Sensitivity:** Up to -132dBm **Security:** 128-bit AES encryption algorithms
USB	
Connector	Micro USB, Female B type
Ports	1
Function	Update firmware, Configuration

Digital Input	
Sensor Type	Wet Contact (NPN or PNP), Dry Contact
I/O Mode	DI or Event Counter
Port	4
Dry Contact	• On: short to GND • Off: open
Wet Contact (DI to COM)	• On: 10 to 30 VDC • Off: 0 to 3 VDC
Counter Frequency	20 Hz
Digital Filtering Time Interval	Software Configurable
Isolation	3K VDC or 2K Vrms
Digital Output	
Type	Sink
Port	4
I/O Mode	DO or Pulse Output
Over-Voltage Protection	60 VDC
Over-Current Protection	2.6 A
Over-Temperature Shutdown	175°C (typical), 150°C (min.)
Current Rating	200 mA per channel
Isolation	3K VDC or 2K Vrms
LED Indicator	
PW (Power LED)	Green: Power is ready OFF: Power fail
Tx1, Tx2 (Serial TX LED)	Green: Serial port is transmitting data (TX) OFF: Serial port doesn't transmit data (TX)
Rx1, Rx2, (Serial RX LED)	Amber: Serial port is receiving data (RX) OFF: Serial port doesn't receive data (RX)
WireLess (Wireless Signal LED)	Green: Wireless is transmitting/receiving data OFF: Wireless doesn't transmit/receive data
Wireless Strength LED	Green: Wireless Strength >= 75% Amber: Wireless Strength 50 to 75 % Amber with blink: Wireless Strength 25 to 50 % OFF: Wireless Strength < 25%
Power Consumption	
ORIO-30218	Input Voltage: 12 to 48 VDC Input Current: TBD
Certification	
EMC	EN 55032/24
EMI	CISPR 22, FCC Part 15B Class B

EMS	IEC 61000-4-2 ESD: Contact: 4 kV; Air: 8 kV
	IEC 61000-4-3 RS: 80 MHz to 1 GHz: 3 V/m
	IEC 61000-4-4 EFT: Power 1 kV; Signal 0.5 kV
	IEC 61000-4-5 Surge Power: 1 kV;
	IEC 61000-4-6 CS: 150 kHz to 80 MHz: 3 V/m; Signal: 3 V/m
Environmental	
Storage Temperature	-40 to 85°C (-40 to 185°F)
Operating Temperature	-40 to 75°C (-40 to 167°F)
Operating Humidity	5% to 95% Non-condensing
Warranty	5 years

Ordering Information

ORIO- G A B C D E – FG -XXXX
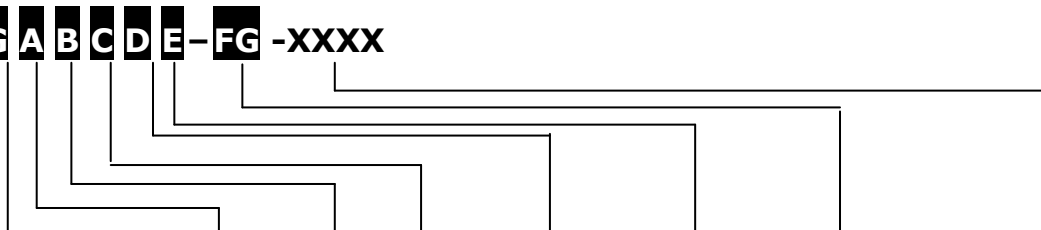
Code Definition	Gateway	Serial/Ethernet Type	LAN port	Serial port	IO Type	IO Port Number	Function rule	Serial Number
Option	G: Gateway NA: only remote IO	1: RS232 2: RS422/485 3 :RS232/422/485 4 :Ethernet 10/100M	0: NA 1: 1port 2: 2ports	0: NA 1: 1port 2: 2ports	1X : DIO Series 2X : AIO Series 3X : Relay Series 4X : Others	1~9: 1~9 ports A~Z: 10~35 ports	NB : NB-IOT C1 : CAT 1 CM : CAT M1 ZB : ZigBee LR : LoRa NA: None	0000~ZZZZ

	Model Name	Description
Available Model	**ORIO-G30218-XX**	Industrial Wireless IO Device

Packing List

- **ORIO-G30218 x1**
- **Quick Guide Installation x1**
- **USB to Micro USB cable x1**
- **User Guide x1**

Accessory order information (optional)

Accessory Type	ORING P/N	Description
Power Adaptor	OR-1215-18W-PLUG-EU	EU plug,AC100~240V,50~60HZ,12V,105A,without screw
Power Adaptor	OR-1215-18W-PLUG-EU-SCREW	EU plug,AC100~240V,50~60HZ,12V,105A,with screw
Power Adaptor	OR-1215-18W-PLUG-US	US plug,AC100~240V,50~60HZ,12V,105A,without screw
Power Adaptor	OR-1215-18W-PLUG-US-SCREW	US plug,AC100~240V,50~60HZ,12V,105A,with screw
DB9 to Terminal block	DB9-TB5-01	DB9 to 5-Pin Terminal Block Connector (Pin3: D+, Pin4: D-)