



ORIO-G30218

Wireless Remote IO

Features

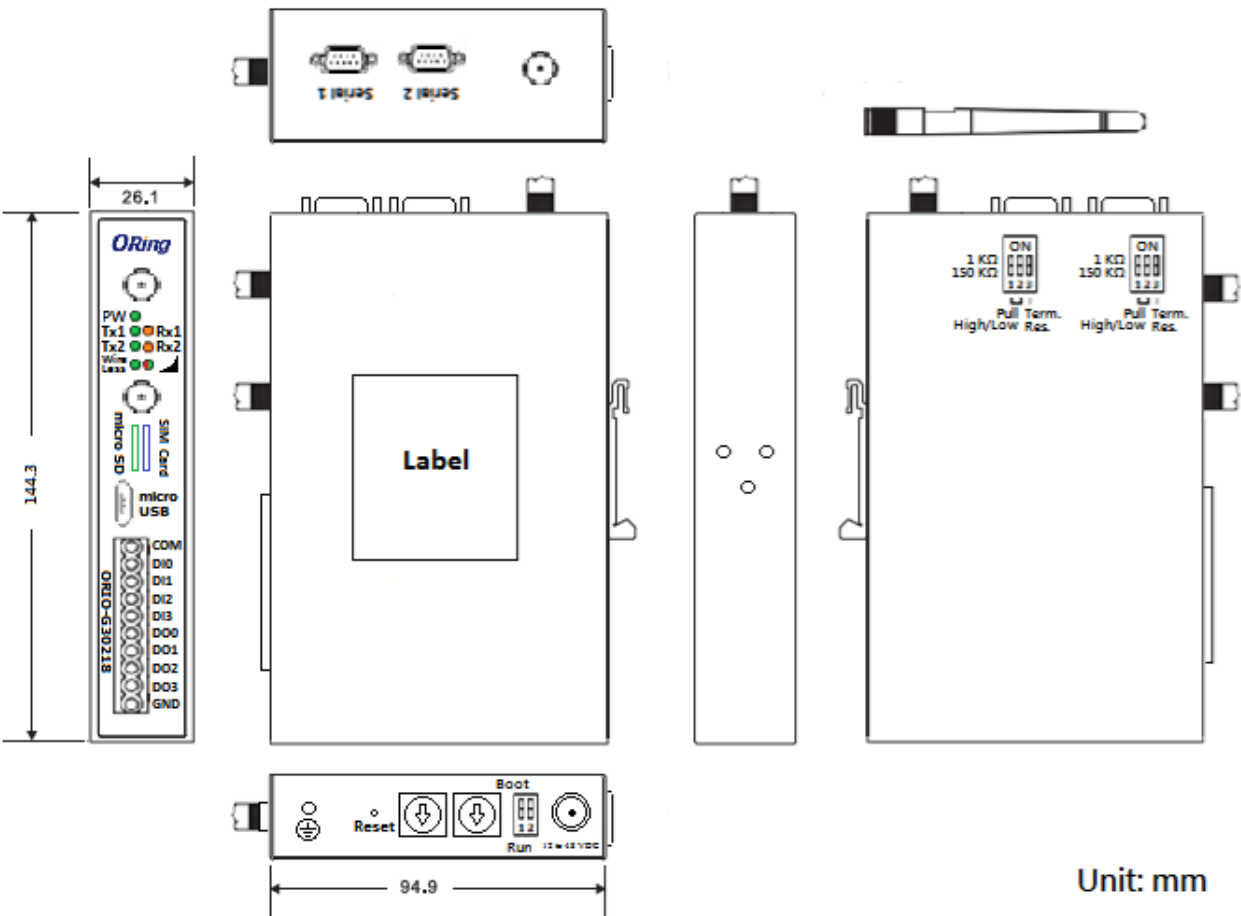
- Support 2 Serial Ports for RS232/RS422/4W-RS485/2W-RS485
- Support NB-IOT/CAT M1/CAT 1/ZigBee/LoRa (by model)
- Support 4 Digital inputs (Dry/Wet) / 4 Digital outputs (Sink)
- Support Data Log
- Support Modbus protocol
- Support MQTT/COAP protocol
- Support configuration via USB virtual com port
-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



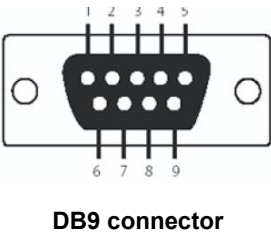
Introduction

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

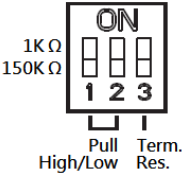


Pin Definition



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



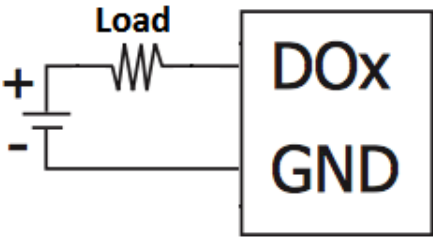
SW No.	Description
# 1	150K / 1K Ohm Pull High/Low Resistor
# 2	
# 3	Enable / Disable Terminal Resistor



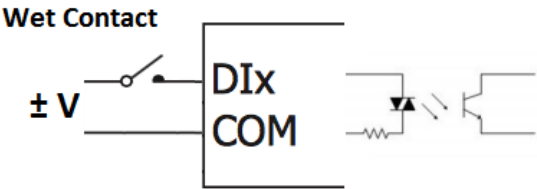
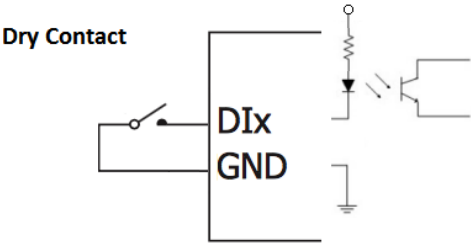
SW No.	Description
# 1	Boot: Boot mode / Run: Normal mode
# 2	Reserved

Wiring

Digital Output



Digital Input



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	<ul style="list-style-type: none"> On: short to GND Off: open
Wet Contact (DI to COM)	<ul style="list-style-type: none"> 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 $\geq 75\%$ 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: 12V/1.44W; 24V/1.68W; 48V/2.16W
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 67 - F G H I J - X X X X

Code Definition	Gateway	Serial/Ethernet Type	LAN port	Serial port	IO Type	IO Port Number	IP code	Function rule	Serial Number
Option	G: Gateway NA: only remote IO	1: RS-232 2: RS-422/485 3: RS-232/422/485 4: Ethernet 10/100M 5: 2W-RS485	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	67: IP67 NA: IP30	WF: WiFi NB: NB-IOT NLW: NB-IOT+LoRa WAN C1: CAT 1 CM: CAT M1 ZB: Zigbee LRW: LoRaWAN LRM: LoRa Master LRS: LoRa Slave BL: BT/BLE Others for combo	0000~ZZZZ

	Model Name	Description
Available Model	ORIO-G30218-NB	NB-IoT Remote IO, 4 Digital inputs / 4 Digital outputs
	ORIO-G30218-NLW	LoRa WAN & NB-IoT Remote IO, 4 Digital inputs / 4 Digital outputs
	ORIO-G30218-C1	LTE CAT1 Remote IO, 4 Digital inputs / 4 Digital outputs
	ORIO-G30218-ZB	ZigBee Remote IO, 4 Digital inputs / 4 Digital outputs

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-)

