Atop Technologies, Inc.

Industrial Serial Device Server
Industrial Modbus Gateway
Industrial Modbus Concentrator
Industrial Protocol Gateway

SE5904D/MB5904D/PG5904D Series

Hardware Installation Guide

Version 1.1
Updated in March 2016

Package Check List

Inside the package you will find the following items:

- Industrial Serial Device Server x 1 or
  Industrial Modbus Gateway x 1 or
  Industrial Modbus Concentrator x 1 or
  Industrial Protocol Gateway x 1
- 7-Pin 5.08mm Lockable Terminal Block (Already mounted to the device) x 1
- 5-Pin 3.81mm Lockable Terminal Block x 4 (For TB Models)
- DIN-Rail Kit (Already mounted to the device) x 1
- Protective caps for all SFP and PoE ports (Depend on purchased model)
- Installation Guide with Warranty Card x 1

⚠ Never install or work on electrical or cabling during periods of lighting activity. Never connect or disconnect power when hazardous gases are present.

⚠ Warning: Hot Surface Do Not Touch.

⚠ Caution: CLASS 1 LASER PRODUCT. Do not stare into the laser!

⚠ This equipment should be installed indoor and not connect directly with equipment installed outdoor and use in ordinary industrial location.

Product Layout

Front View

RJ45 DB9 Type   RJ45 TB5 Type   SFP DB9 Type   SFP TB5 Type
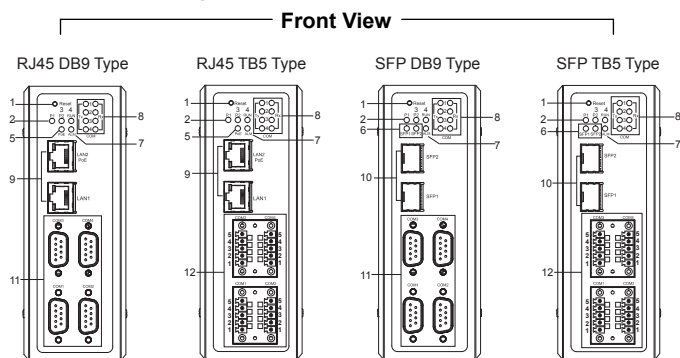
1. Reset Button
2. PWR1 LED
3. PWR2 LED
4. RUN LED
5. PoE LED
6. SFP Ports LED
7. Alarm LED
8. COM Ports LED
9. 10/100 BASE-T(X) Ports or 10/100/1000 BASE-T(X) Ports and/or 10/100/1000 BASE-T(X) PoE Port
10. 100/1000 BASE-X SFP Slots
11. 9-Pin Male D-Sub Connector for RS-232/422/485
12. 5-Pin 3.81mm Terminal Block for RS-232/422/485

Top View
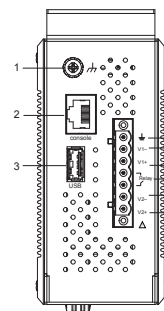
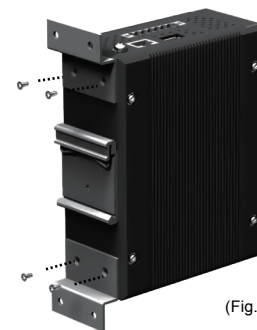1. Grounding Screw
2. Console
3. Type A USB for storage or Wifi
4. Frame Ground
5. Terminal for Power1
6. Relay Output with current carrying capacity of 1A@30 VDC (Normal Open)
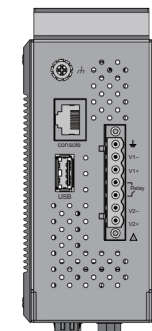7. Terminal for Power2

Installation Overview

The device's appearance is as in the figure below.

1. If you have purchased the wall mount kit, proceed to place the screws on the back of the device as shown in (Fig. 1)

2. Although internal grounding has been done inside, in order to ensure overall maximum performance and protect your device it is still strongly advised to ground the device properly; hazardous ESD can come into contact with it and damage your equipment. On the power terminal block, there is a terminal for Frame Ground, you can choose whether to connect it to the grounding or you may opt to connect to the grounding screw next to the terminal block (the one chosen should be connected at all times) (Fig. 2).

3. You can then choose whether to plug in the I/O ports at this point or do it later depending on the actual location of the device or level of comfort for performing such operation. **Remember to plug in the protective caps for the unused SFP and PoE ports.**


(Fig. 1)

(Fig. 2)
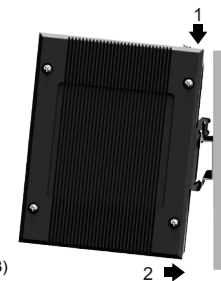
4. Once the plate has been firmly put in place, proceed to mount the whole device as shown in (Fig. 3) Proceed to (Fig. 4) if you want to remove the device from DIN-Rail.

5. Next we can then proceed to connect the device to the LAN (switch or PC, depending on the case), take care on using the RJ-45 connector; after this we can then proceed to the device's settings.

(Fig. 3)

(Fig. 4)

- The opening to the sides are for the device's heat dissipation please never obstruct or cover them with any objects or try to insert them through it.
- This factory IP by default is 10.0.50.100 you can access the device by its WebUI once it is connected to a physical network (or using Management Utility, for more information on Management Utility, please refer to its manual). Please be aware that the PC needed for this procedure needs to be in the same subnet, or you may refer yourself to the device User's Manual.
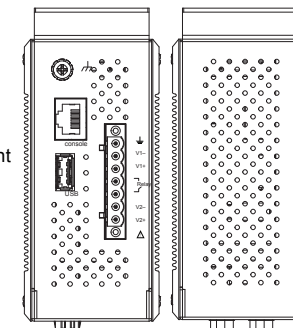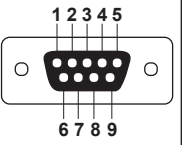

LED Indicators

Name	Color	Status	Message
P1	Green	On	Power is being supplied through this power input
P2	Green	Off	Power is not supplied through this power input
RUN	Green	Blinking	AP firmware is running normally
RUN	Green	On/Off	System is not ready or halt
ALM	Red	On	Alarm is triggered by user defined events
ALM	Red	Off	Alarm is not triggered by user defined events
PoE	Green	On	Power is being supplied to a Powered Device(PD)
PoE	Green	Off	Power is not supplied to a PD
SFP	Green	On	SFP port is connected
SFP	Green	Blinking	Data is transmitting on this port
SFP	Green	Off	SFP port is disconnected
LAN (10/100 Mbps models)	Amber	Blinking	Data is transmitting at 10Mbps
LAN (10/100 Mbps models)	Green	Blinking	Data is transmitting at 100Mbps
LAN (10/100 Mbps models)	Green	Off	Ethernet is disconnected
LAN (10/100/ 1000Mbps models)	Amber	On	Ethernet is connected at 10/100Mbps
LAN (10/100/ 1000Mbps models)	Amber	Blinking	Data is transmitting at 10/100Mbps
LAN (10/100/ 1000Mbps models)	Amber	Off	Ethernet is disconnected
LAN (10/100/ 1000Mbps models)	Green	On	Ethernet is connected at 1000Mbps
LAN (10/100/ 1000Mbps models)	Green	Blinking	Data is transmitting at 1000Mbps
LAN (10/100/ 1000Mbps models)	Green	Off	Ethernet is disconnected
COM	Green	Blinking	COM port is transmitting data
COM	Green	Off	COM port is not transmitting data

Pin Assignments and Connections
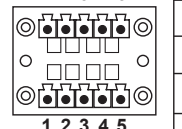
9-Pin Male D-sub Connector for RS-232/422/485

Pin	RS-232	RS-422	RS-485
1	DCD	-	-
2	RxD	TxD+	Data+
3	TxD	RxD+	Data+
4	DTR	-	-
5	SG	SG	SG
6	DSR	-	-
7	RTS	RxD-	-
8	CTS	TxD-	Data-
9	RI	-	-
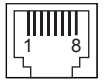
5-Pin Terminal Block for RS-232/422/485

Pin	RS-232	RS-422 / 4-W RS-485	2-W RS-485
1	RxD	TxD+	Data+
2	CTS	TxD-	Data-
3	TxD	RxD+	-
4	RTS	RxD-	-
5	SG	SG	SG

10/100/1000 BASE-T(X) Ethernet, PoE and RS-232

RJ-45

10/100BASE-T(X)							
Pin	1	2	3	4	5	6	7	8
Signal	Tx+	Tx -	Rx+			Rx -		

1000BASE-T							
Pin	1	2	3	4	5	6	7	8
Signal	BI_DA+	BI_DA-	BI_DB+	BI_DC+	BI_DC-	BI_DB-	BI_DD+	BI_DD-

PoE							
Pin	1	2	3	4	5	6	7	8
DC	V+	V+	V-	V+	V+	V-	V-	V-

RS-232 Console							
Pin	1	2	3	4	5	6	7	8
Signal			Tx	GND	GND	Rx		

100/1000 Base-X Fiber Optics SFP Slot

SFP Slot

SFP LC Connector Port Connection for Single-mode & Multi-mode modules

Cable Wiring

Tx ← → Rx

Rx ← → Tx
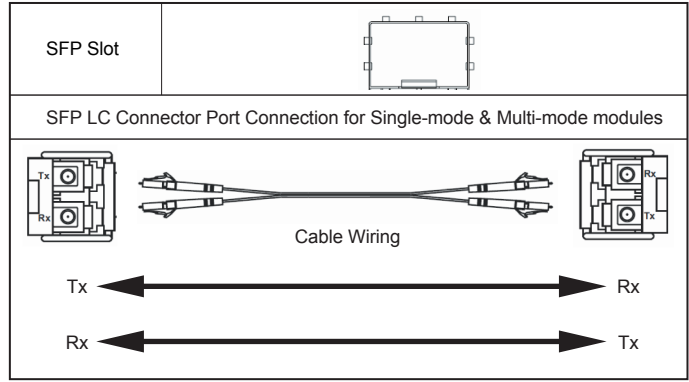
Caution
The SFP slot should be used in conjunction with a MSA compliant optical transceiver.

Power Requirements

- Power input: 12-48VDC, 0.65A max. (No PoE)
- Relay output: Relay Output with current carrying capacity of 1A@30 VDC, (Normal Open)
- PoE PD: 48VDC, 8W max.
  All circuit shall be connected to SELV circuit.

Field Maintenance and Service

If the device requires servicing of any kind, you may need to disconnect and remove it from its mounting. The initial installation should be done in a way that makes this as convenient as possible.

- Voltage/Power lines should be properly insulated as well as other cables. Be careful when handing the so as to not trip over
- Do not under any circumstance insert foreign objects of any kind into the heat dissipation holes located in the different faces of the device. This may not only harm the internal layout but might cause harm to you as well.
- Do not under any circumstance open the device for any reason. Please contact your dealer for any repair needed or follow the instructions on section of your User's Manual.
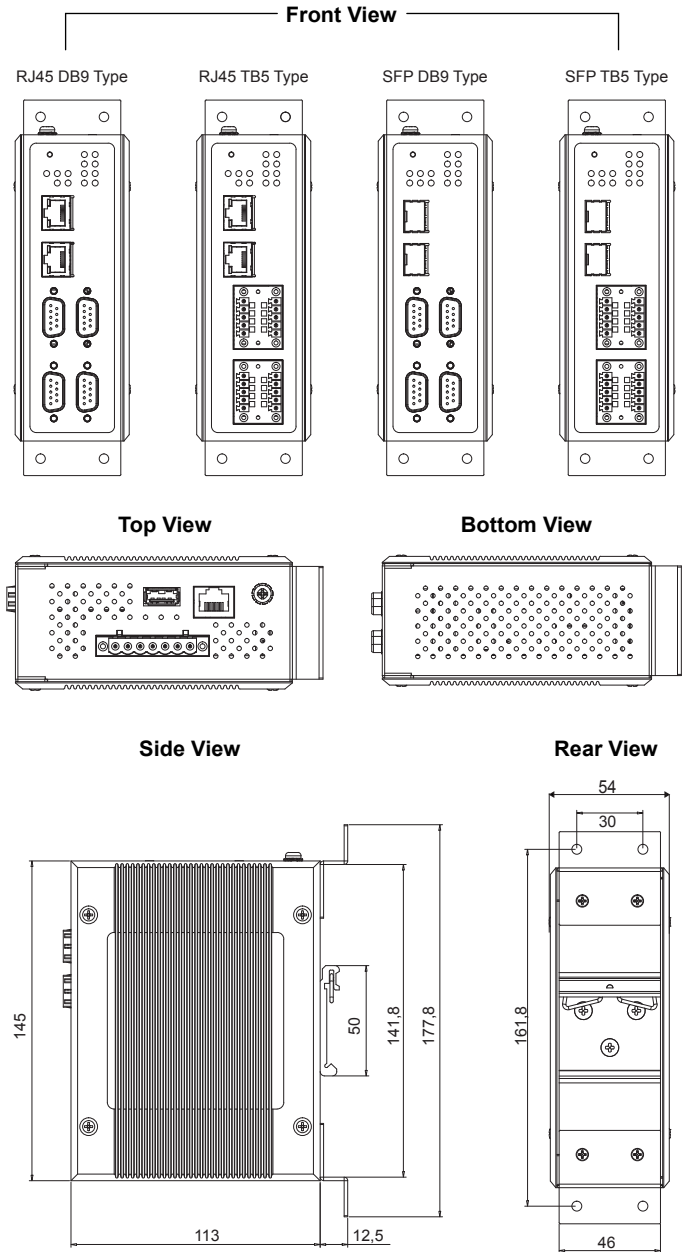
⚠ Attention

1. It is recommend to use at least 20 AWG cable and the cable needs to be resistant to at least 105°C on the power connector.
2. Torque applied to the Terminal block's screw should be 4.5 in. lb (0.51 Nm)
3. The device needs to be installed inside a Type 1 housing.
4. The device needs to be installed in an area of pollution degree 2 or less.
5. Clean the device with soft cloth with dry or water
6. If the equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may not be impaired.

Environmental Limits

- Operating Temperature: -40 to 85°C (-40 to 185°F)
- Storage Temperature: -40 to 85°C (-40 to 185°F)
- Ambient Relative Humidity: 5 to 95%, 55°C (non-condensing)
- Altitude: up to 2,000 m

Mechanical Dimensions (Unit=mm)

Front View

RJ45 DB9 Type   RJ45 TB5 Type   SFP DB9 Type   SFP TB5 Type

Top View   **Bottom View**

Side View   **Rear View**

54
30
145   50   141.8   177.8   161.8
113   12,5   46

Warranty Policy