ATOP Technologies, Inc.

**Industrial IEC 61850-3 compliant
Serial Server
Modbus Gateway
Modbus Concentrator
Protocol Gateway**

SE5916A/MB5916A/PG5916A Series
SE5908A/MB5908A/PG5908A Series
PG5900A

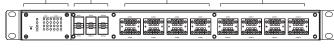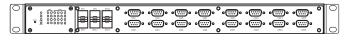## Hardware Installation Guide

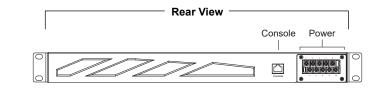Version 1.4
Updated in January 2024

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
- 5-Pin 3.81mm Lockable Terminal Block x 8 or 16 (For TB Models)
- Rack Mount Kit x 4
- Protective caps for all SFP (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.

♺ Throw the device must follow RoHS procedure to recycle

Product Layout

Front View

Rear View

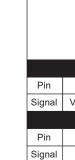*User could choose the model with LED and Power switch.

Installation Overview

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

1. 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 connect it to the grounding and the grounding screw next to the terminal block should be connected at grounding all times; the grounding conductor shall be minimum size 18 AWG green-and-yellow

2. If you opt to place the device on a rack, your will need to secure the rack mounts kit on to the device before placing it on the rack. If you opt to place the device on a surface, you can put on the foot rubbers to prevent the device from sliding.

3. You can then choose whether to plug in the I/O ports at this point or do it later. Next you can then proceed to connect the device to the LAN (switch or PC), take care on using the RJ-45 connector; after this we can then proceed to the device's settings.

- The openings to the sides are for the devices heat dissipation. Please never obstruct or cover them with any objects.
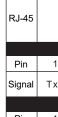
- You can access the device by its WebUI once it is connected to a physical network or use Serial Manager, for more information on Serial Manger, please refer to its manual. Please be aware that the PC needed for this procedure needs to be in the same subnet, or you may refer yourself to the device's manual on Web UI configuration.

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+	-
4	DTR	-	-
5	SG	SG	SG
6	DSR	-	-
7	RTS	RxD-	-
8	CTS	TxD-	Data-
9	RI	-	-

10-Pin Terminal Block for Power
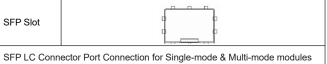
	DC Input									
Pin	1	2	3	4	5	6	7	8	9	10
Signal	V1+	V1-	N/A	F.G	Relay output	F.G	N/A	V2+	V2-	

	AC Input									
Pin	1	2	3	4	5	6	7	8	9	10
Signal	L	N	P.E	F.G	Relay output	F.G	P.E	L	N	
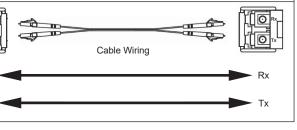
10/100 BASE-T(X) Ethernet, PoE and RS-232

RJ-45

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

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

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

100 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.

LED Indicators

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

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.

Power Requirements

- Power input: 24-48V ⎓, 0.73A max.
  100-240VAC, 50-60Hz, 0.35A max.
  100-370V ⎓, 0.2A max.
- Relay output: Relay Output with current carrying capacity of 1A@30 V ⎓, All circuit shall be connected to SELV circuit.
- RTC Battery: 3V ⎓, 225mAh, CR2032

Environmental Limits

- Operating Temperature: -40 to 80°C (-40 to 176°F)
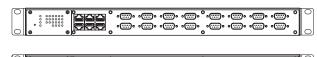- Storage Temperature: -40 to 75°C (-40 to 185°F)
- Ambient Relative Humidity: 5 to 95%, 55°C (non-condensing)
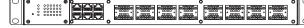- Altitude: up to 2,000 m

⚠ Attention

1. It is recommend to use at least 20 AWG cable and the cable needs to be resistant to at least 85°C on the power connector.
2. Torque applied to the Terminal block's screw should be 4.5 in. lb (0.51 Nm)
3. Circuit-breaker must be included in the installation and rating 16A. The beaker should be setting close to device to facilitate the removal of the power, and this breaker as a switch of disconnecting the power and marking O, I.
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.
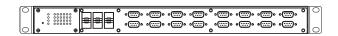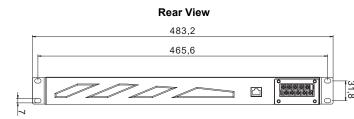
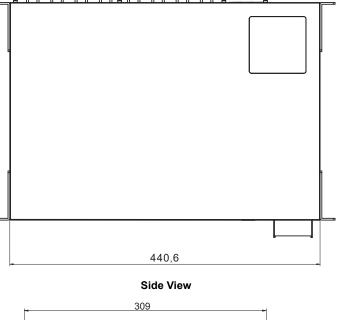## Mechanical Dimensions (Unit=mm)

Front View

Rear View

483,2
465,6
31,8
7

Top View

440,6

Side View

309
44

Warranty Policy

Warranty Conditions

Products supplied by ATOP Technologies are covered in this warranty for sub-standard performance or defective workmanship. The warranty is not, however, extended to goods damaged in the following circumstances:
(a) Excessive forces or impacts
(b) War or an Act of God: wind storm, fire, flood, electric shock,earthquake
(c) Use of unqualified power supply, connectors, or unauthorized parts/kits
(d) Replacement with unauthorized parts

RMA and Shipping Costs Reimbursement

Customers shall always obtain an authorized "RMA" number from ATOP before shipping the goods to be repaired to ATOP. When in normal use, a sold product shall be replaced with a new one within 3 months after purchase. The shipping cost from the customer to ATOP will be reimbursed by ATOP.

After 3 months and still within the warranty period, it is up to ATOP whether to replace the unit with a new one; normally, as long as a product is under warranty, all parts and labor are free of charge to the customers.

After the warranty period, the customer shall cover the cost for parts and labor.Three months after purchase, the shipping cost from the customer to ATOP will not be reimbursed, but the shipping cost from ATOP to the customer will be paid by ATOP.
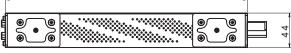
Limited Liability

ATOP shall not be held responsible for any consequential losses from using ATOP's product.

Warranty Period

Product Categories	Warranty	Product Categories	Warranty
Ethernet Switches	5 Years	DIN-Rail Power Supplies	3 Years
Wireless			
Serial Device Servers		Power Adaptors	1 Year
Protocol Gateways		Antennas	
Media Converters			
Embedded Device Servers		Other Accessories	

The warranty certification will not be effective until an authorized stamp issued by ATOP's overseas agents.

Purchase Date: ____ / ____ / ____ (yyyy/mm/dd)

Serial Number

ATOP Customer Services and Support

1. Contact your local dealers or ATOP Technical Support Center at the following number: +886-3-550-8137
2. Report any problems via ATOP's website or email
   ⊕ www.atoponline.com ✉ service@atop.com.tw