

## Rexnord Smart Condition Monitoring System

Astec, Inc.

### How to Use the Instructions

These instructions describe how to connect the Rexnord Edge to electrical power and ethernet communications for all Astec Planetgear™ Smart Condition Monitoring System models. This work is intended for a licensed electrician as proper safety precautions should be taken when working with high voltage.

Figure 1 – Smart Condition Monitoring System installed on a Rexnord Planetgear gear drive.



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## Safety Requirements

The gear drive and power to Edge Device needs to be locked out during installation and troubleshooting.

# Electrical Connection

## CONNECTING AC INPUT POWER TO SCMS AC POWER SUPPLY UNIT

The Smart Condition Monitoring System Edge device power supply unit must be connected to AC power to operate. The input power specifications include:

- Nominal voltage: 100V to 240V ac nominal 50-60Hz
- Maximum power: 120 Watts

Figure 2 – Drawing of third generation Smart Condition Monitoring System Serial Edge Device showing variant with optional cellular antenna.

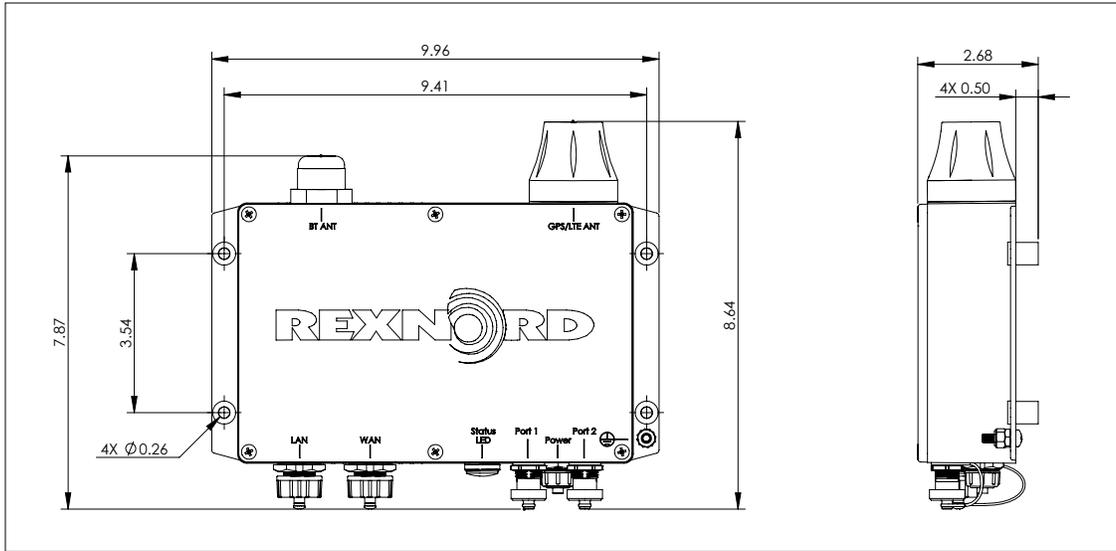
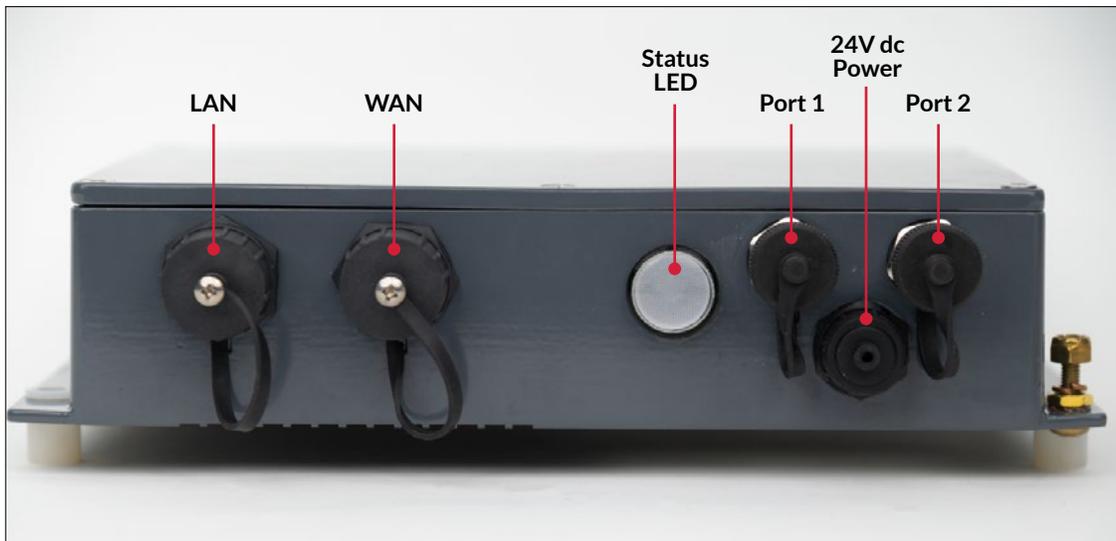


Figure 3 – Serial Edge Device showing all available user connections.



# Electrical Connection

## ATTACHING THE AC INPUT POWER CONNECTOR TO POWER SUPPLY UNIT (PSU)

1. Mount the PSU to the backside of the EDGE mounting plate. Use 2 each of M4 hardware consisting of pan head screws, flat washers and nylon locknuts. Make sure the PSU is mounted vertically with the 24V dc outlet wire on the bottom.
2. Each PSU includes the mating connector for the ac cord in the box. Open the bag and carefully remove the contents. Choose the correct cable sealing compression grommet for the size of cable being provided. This is indicated on the side of the bag. See **Figure 4**.
3. Assemble the compression clamp, the correct size cable compression grommet and the connector back shell onto the cable in the order and orientation shown in **Figure 5**.
4. Strip back the outer cable sheath 1 inch (25 mm) and strip each core wire 1/4 inch (6 mm) – see **Figure 5**.
5. Twist the wire elements and insert each wire into its correct location in the connector front after slackening the core wire clamp screws. Typically the wires will be black to “L”, white to “N” and green to ground symbol on connector front. See **Figure 6**.
6. Hold the front of the connector very firmly with dry fingers and screw on the connector backshell. Do not use tools or you will overtighten and break the connector. Firmly hand tight will achieve a good IP65 seal. See **Figure 7**.
7. Push the cable sealing compression grommet into the connector backshell fingers. See **Figure 8**.
8. Hold the connector backshell firmly with fingers and screw the compression clamp onto the connector backshell. A firm hand tightening will achieve a good seal to IP65. Do not use tools as you are likely to damage or overtighten the connector. See **Figure 9**.
9. Attach this female connector onto the mating male connector on the end of the ac lead cable on the PSU by turning it slowly until it fits on and turning the locking bayonette ring through half a turn. See **Figure 10**.
10. Apply ac power to the incoming ac power cable and test the 24V dc output by plugging a Gen III Serial Edge Device onto the dc cable from the PSU.

Figure 4



Figure 5



Figure 6



Figure 7



Figure 8



Figure 9



Figure 10



# Electrical Connection

Figure 11 – Reference schematic of power supply unit

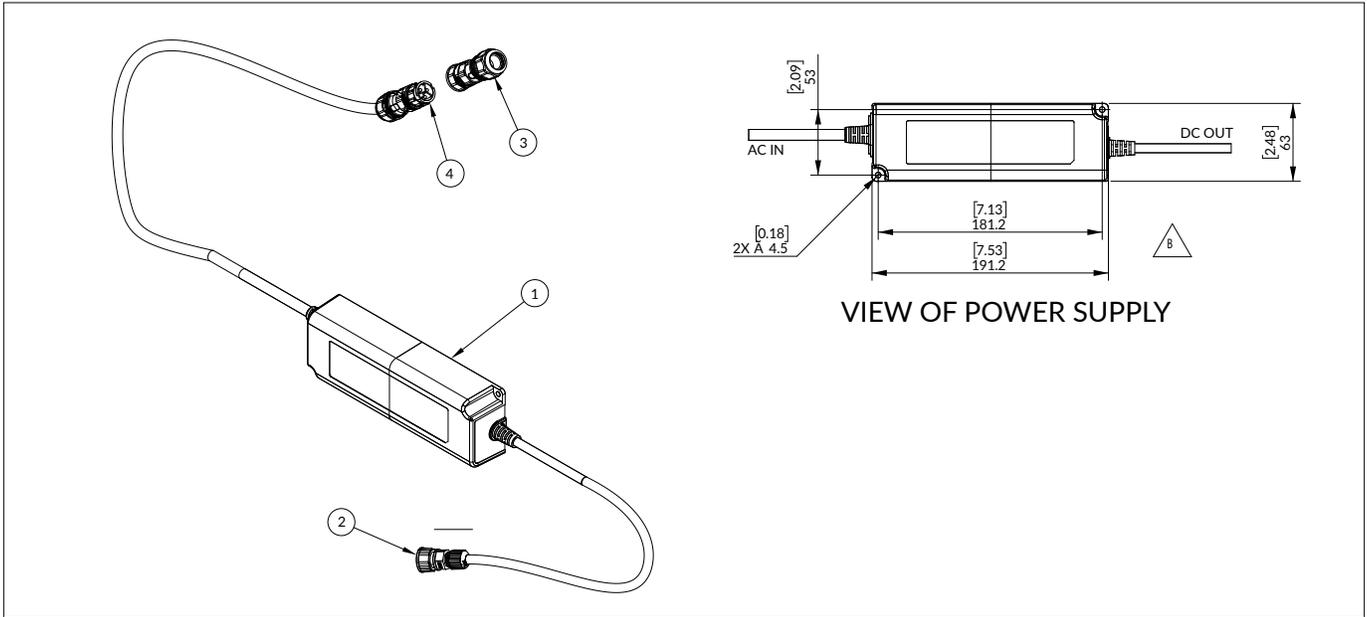
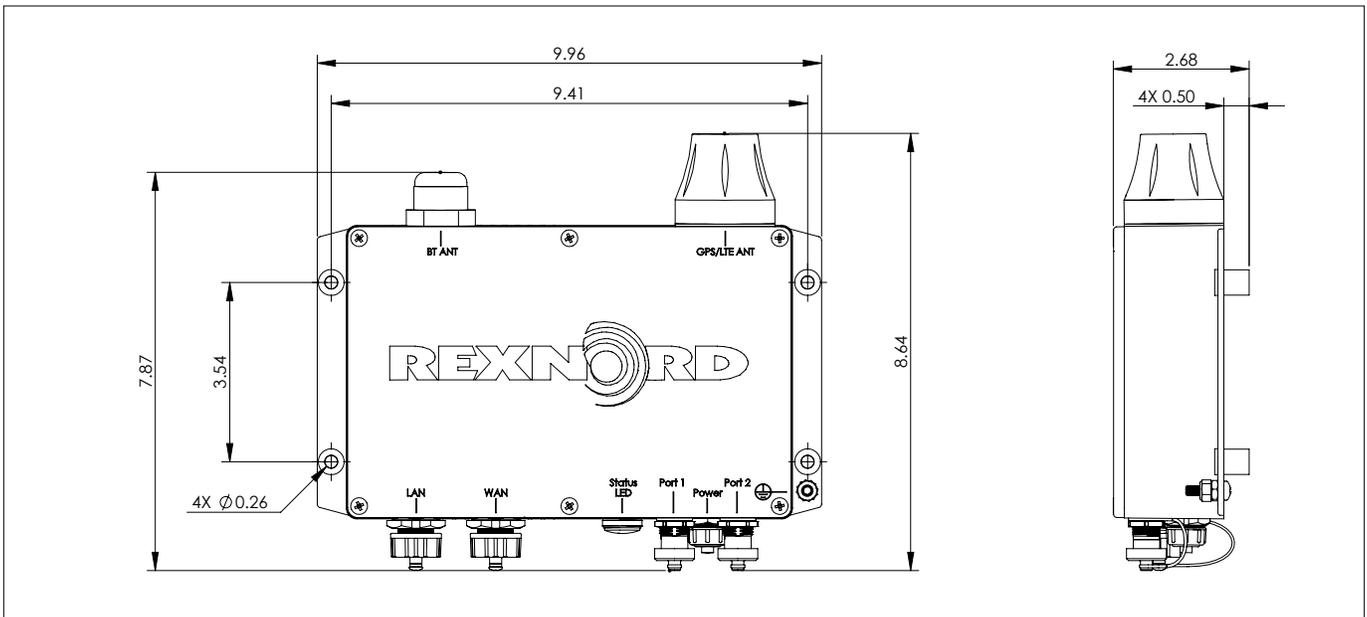


Table 1 – Power supply unit parts

Item number	Description
1	Gen III Serial Edge Device 24V dc power supply
2	24V dc connector for connecting to Gen III Serial Edge Device
3	100-240V ac power plug included with power supply. Attach to customer supplied ac power lead – see instructions above
4	Mating ac power plug on power supply that connects to newly terminated connector from #3 above.

Figure 12 – Overall dimensions for Edge Device



# Data Cable Connection

## ATTACHING THE SUPPLIED ETHERNET CONNECTOR TO CAT 5 CABLE

1. Place sealing "O" ring over connector body and slide coupling ring onto body (**Steps A, B then C**).
2. Slide sealing nut, cable grip grommet and assembly just created onto cable. Push the grommet into the connector body then loosely tighten the sealing nut (**Steps D, E then F**).
3. Strip the outer sheath of the cable back 14mm, untwist and straighten the 8 core wires and arrange the colors as required for EIA/TIA 568B (Orange/White, Orange, Green/White, Blue, Blue/White, Green, Brown/White, Brown - pins 1 to 8) then trim to a neat straight line (**Steps G, H then I to give J**).
4. Push the wires into the clear RJ45 connector. Pin 1 is to the left when the cable is facing you and the tang is under the connector as shown in **Step K**.
5. Crimp the wire cores into the RJ45 connector using suitable crimping pliers (**Step L**).
6. Gently pull the RJ45 plug back into the connector shell, slip the snap ring onto the connector body and push firmly until it snaps into place locking the plug into the connector body (**Steps M, N then O**).
7. Test the completed cable end to end with a suitable LAN cable tester.

Step A



Step B



Step C



Step D



Step E



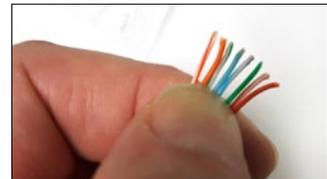
Step F



Step G



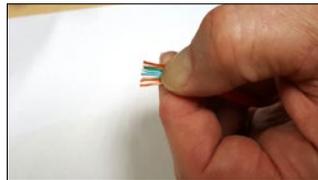
Step H



Step I



Step J



Step K



Step L



Step M



Step N



Step O



Step P



## Appendix A: Troubleshooting

### 1. The LED indicator lamp on the underside of the Serial Edge Device does not illuminate.

- a. Check incoming ac power to Serial Edge Device Power Supply Unit is connected and live.
- b. Check dc cable from Power Supply is plugged into Serial Edge Device.
- c. If problem persists, consult 1-866-REXNORD.

### 2. The remote mounted Andon light does not illuminate.

- a. Verify that the cable connections to the Andon Light are secure and that the cables show no sign of damage.
- b. Check that the Green LED light located on the underside of the Serial Edge Device is illuminated. If not, verify that incoming ac power is properly connected.
- c. Check ac power to the Serial Edge Device Power Supply.
- d. Check dc cable from Power Supply is plugged into Serial Edge Device.
- e. If the problem persists, consult 1-866-REXNORD.

## Appendix B: Enclosure Details

Figure 13 – Standard Serial Edge Device without cell data



Figure 14 – Serial Edge Device with optional cell data



# Appendix C: FCC Statements

## Modification statement

Rexnord has not approved any changes or modifications to this device by the user outside of those listed in this document. Any additional changes or modifications could void the user's warranty.

## Interference statement

This device complies with Part 15 of the FCC Rules

and Industry Canada license exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

## Wireless notice

This equipment complies with FCC and IC radiation exposure limits set forth for an uncontrolled environment. The antenna should be installed and operated with minimum distance of 20 cm between the radiator and your body.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

## FCC Class A digital device notice

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

## Contact Information

Phone: 1-866-REXNORD (739-6673)

[rexnord.com](http://rexnord.com)



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