Endress+Hauser
People for Process Automation

Installation Instructions

Floating Ground Kit

EA01421C/66/EN/01.22

These instructions provide steps for installing the Floating Ground Kit (P/N 1100002291) for the SS500XP and SS2000XP TDLAS Gas Analyzers. This enables the analyzer to have a battery-backed uninterrupted power supply (UPS) system at gas measurement facilities.

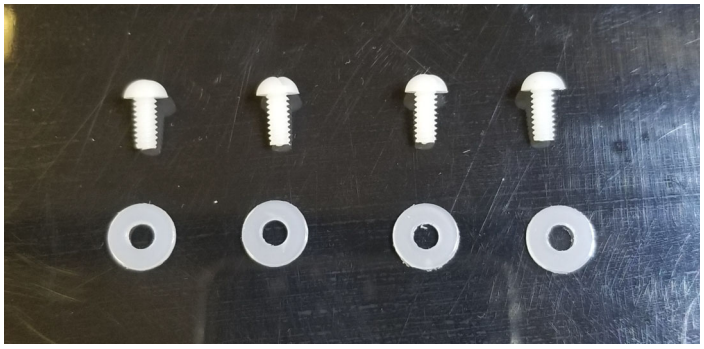
Kit Assembly Conditions

When the SS500XP/SS2000XP TDLAS gas analyzer is assembled with the floating ground kit, the following conditions apply:

- A safety extra low voltage (SELV) power supply must be utilized for all 24 volt ungrounded units, and
- When a UPS is utilized as a power source, it must be a certified UPS unit.

The contents of the shipping box include:

- Screw—Nylon Round Slotted #4-40 X 0.250—Quantity: 4
- Washer—Nylon Flat #4 X 0.032 in.—Quantity: 4



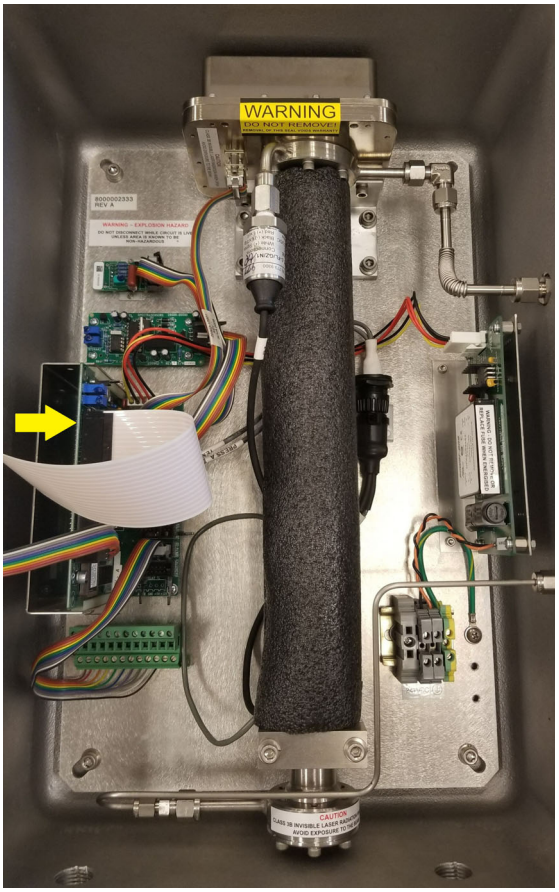
Tools needed:

- 3/4 inch hex screwdriver
- 3/32 inch hex screwdriver
- PH1 Phillips screwdriver
- 5/32 inch slotted screwdriver
- Flat spade tweezer
- Small flathead screwdriver
- Digital Multimeter (DMM)
- Electrostatic discharge (ESD) safe strap and mat or barrier

Shutting Down the SS500XP/SS2000XP TDLAS Gas Analyzer

Technicians are expected to follow all safety protocols established by the customer that are necessary for servicing the analyzer. These may include, but are not limited to, lockout/tagout procedures, toxic gas monitoring protocols, personnel protection equipment (PPE) requirements, hot work permits and other precautions that address safety concerns related to performing service on process equipment located in hazardous areas.

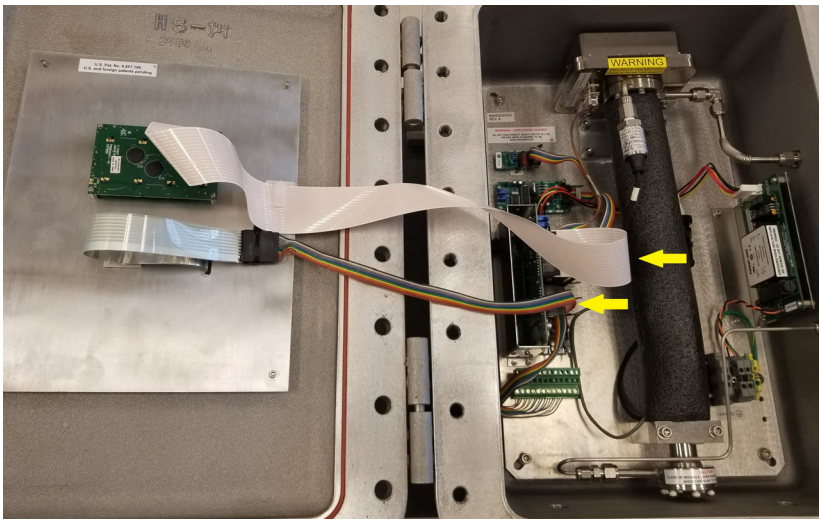
1. Switch off the power to the analyzer using the switch or circuit breaker designated as the disconnection device for the equipment.
2. Stop gas flow to the analyzer.
3. Using a 3/4 inch hex driver, remove the bolts from the enclosure door and safely set aside. Open the enclosure door.
4. Apply ground strap to operator and analyzer chassis.
5. Identify the laser driver PCB on the left side of the electronics panel as shown by the yellow arrow below.



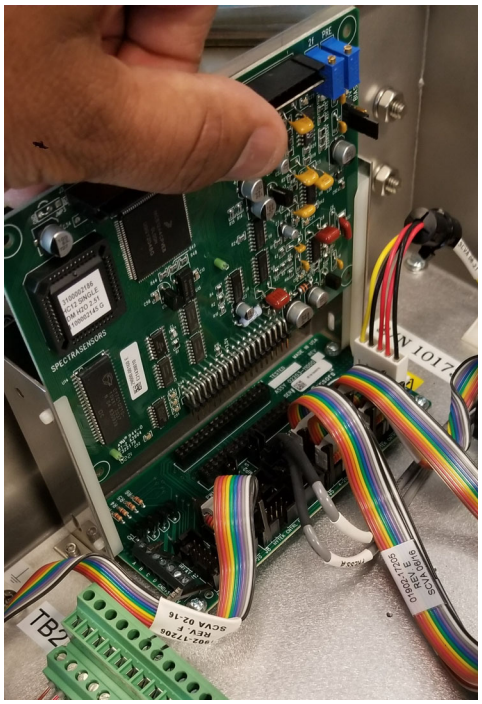
Removing the Laser Driver Circuit Board and PCB Bracket

1. Remove the display flex cable and keyboard ribbon/flex cable attached to the laser driver board by gently pulling them out of their sockets.

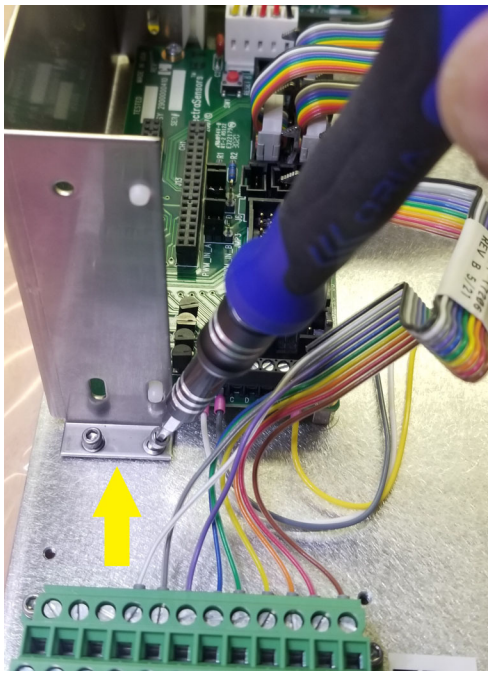
If there is a clip on either cable connector, press down on it and then pull out the connector.



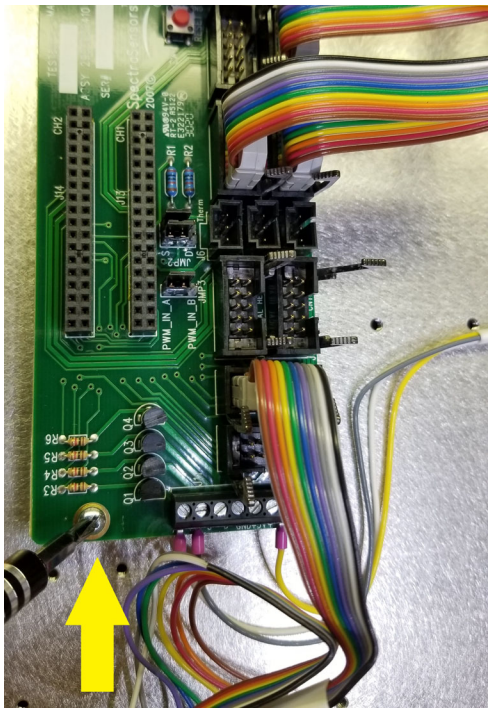
2. Remove the laser driver board from the backplane PCB by gently sliding it out of its support stand as shown below.



3. Place the laser driver board away from the working area on an insulated ESD-protected surface.
4. Using a 3/32 inch hex screwdriver, remove the four socket screws and adjoining washers from the PCB Bracket.



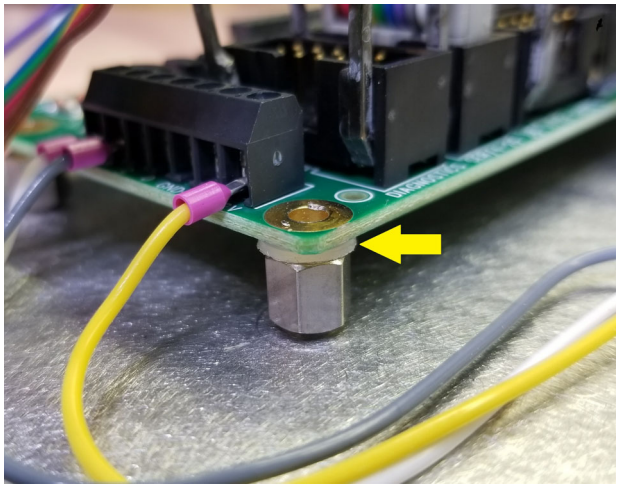
5. Store the bracket, screws, and washers to be used later for re-installation.
6. Using a PH1 Phillips screwdriver, remove one of the four screws that attach the backplane PCB to standoffs on the back panel. Leave the standoff in place as shown below.



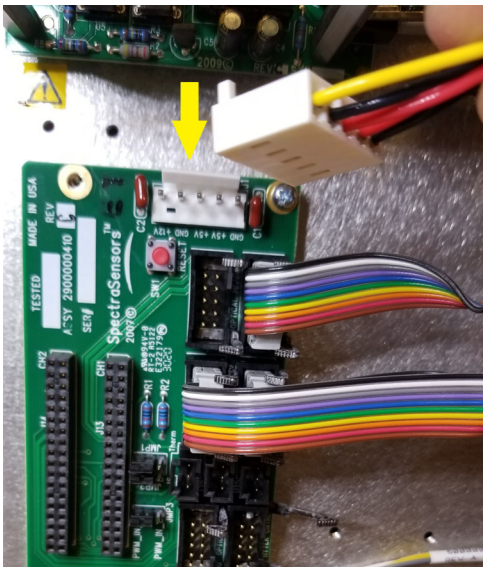
Installing the Floating Ground Kit

1. Insert one nylon washer from the kit between the standoff and the bottom of the PCB.
2. Align the washer with the PCB hole as shown below.

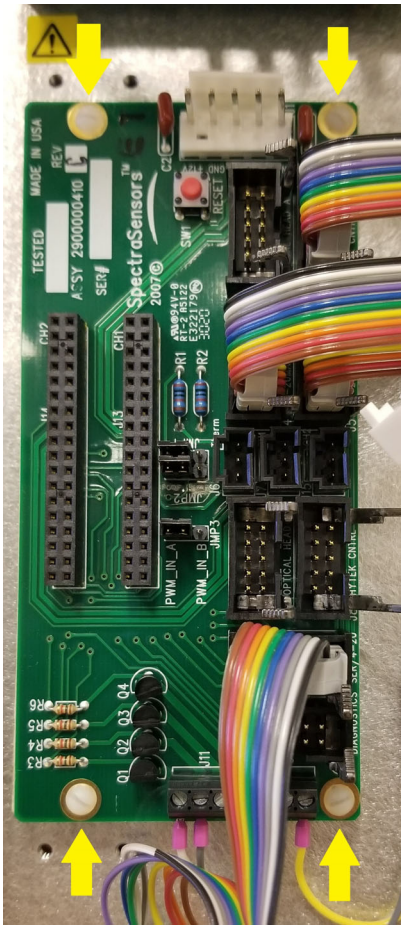
Use a tweezer to help insert the nylon washer. Placing your finger under the washer to keep it in place may be necessary.



3. Insert a nylon screw from the kit and adjust it to fit through the hole until it sits in the standoff.
4. Tighten the screw with a 5/32 slotted screwdriver.
5. Repeat steps 1-4 for the remaining bottom screw.
6. For the two top screws of the backplane PCB, remove the power supply output cable from the J1 socket for better access in inserting the washers and screws as shown below.



7. Repeat steps 1-4 for the two top screws.
All four nylon screws and washers should be in place now as shown below.

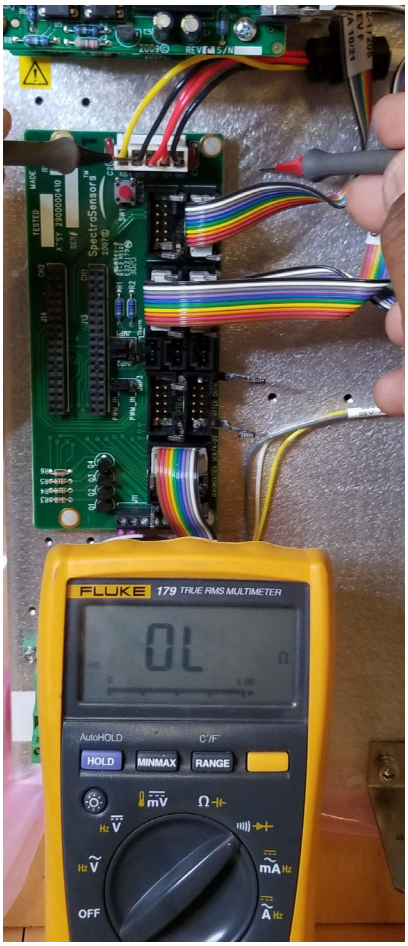


PCB Ground Isolation Check

Perform a PCB Ground Isolation check to confirm that the PCB and chassis grounds are isolated from each other. Use a Digital Multimeter (DMM) set to Continuity Test Mode.

1. Insert one probe into the PCB ground pin located on the power supply output cable (black wire), making sure the probe is touching the metal on the wire and the other probe is connected to the chassis. The meter should

read an Open Line (OL) as shown below.



If the meter reads a low resistance or beeps, contact Service for further assistance. This indicates that the two grounds are electronically connected.

2. Reinstall the PCB bracket.
3. Reinsert the laser driver PCB by sliding it into the bracket guides and into socket J13 on the PCB backplane.
4. Close the enclosure door and install the bolts using the 3/4 inch hex driver to seal it shut.
5. Using the switch or designated circuit breaker, apply power to the analyzer.
6. Restart the gas flow.

Service

For Service, refer to our website (www.endress.com) for the list of local sales channels in your area.

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