

Installation Guide – Three Phase Inverter AC Fuse Support Kit

Introduction

This installation guide provides instructions for installing fuses (PN: FLD-3PH-SU-AC-FUSE-XXXX) in the units of the Three Phase Inverter with Synergy Technology.

Version 1.3 June 2023

Required Tools and Equipment

Kit Components

- Fuses and cable assembly* (Photo 1)
- Dedicated grip tool for the AC connector* (Photo 2)
- M3x8 screws - 3 units* (Photo 6)
- Spacers – 3 units* (Photo 6)
- Cable Ties – 4off* (Photo 6)

Tools

- Adjustable Pliers (Photo 3)
- Philips screwdriver (Photo 4)
- Standard flat-head screwdriver set (Photo 4)
- 5mm Allen (hex) Wrench (Photo 5)
- Torque Screwdriver (Photo 7)

■ Throughout this document * indicates items included in this kit.

■ See photos 1-7.

Synergy Unit AC Fuse – Installation Guide Photos

Photo 1 - Fuse and Cable Assembly

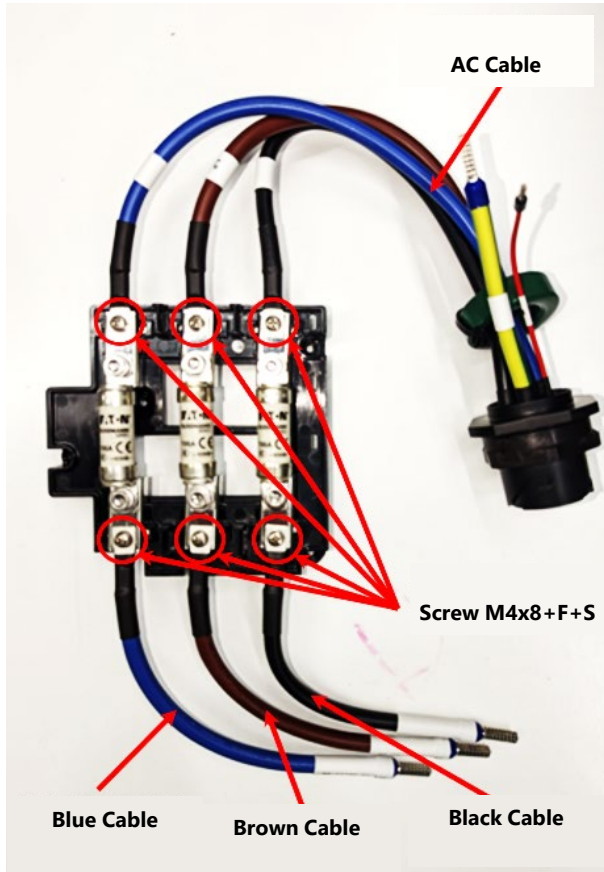


Photo 2 – Gripping Tool



Photo 3 – Adjustable Pliers



Photo 4 - Screwdrivers



Photo 5 - Allen Wrench



Photo 6 – Additional Kit



Photo 7 -Torque 0-8N·m



Safety

1. Turn off the inverter. Set the ON/OFF/P switch to "0" (Photo 8).
2. Wait at least 5 minutes.
3. Turn off the DCD switch (Photo 9).
4. Turn off AC grid connection. (Photo 10).
5. Release the M5 Allen screws on the inverter cover and remove the cover.
6. Using a multimeter, verify that there is no AC or DC power (Photos 11 & 12).
7. Disconnect the AC cable from each of the inverters (Photo 13).

Photo 8

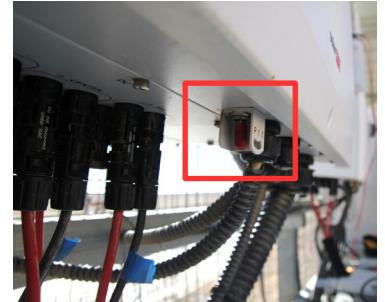


Photo 9



Photo 10



Photo 11

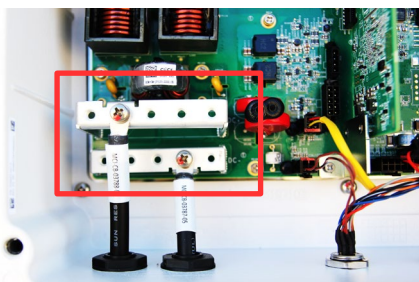


Photo 12

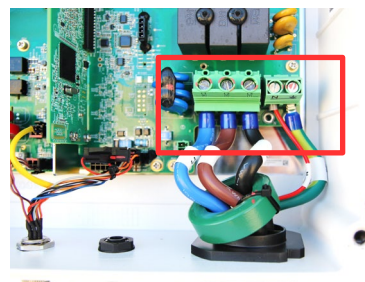


Photo 13



AC Connector Removal

1. Using a **flat screwdriver**, release the screws in the green AC terminal block and disconnect the wires (Photo 14).
2. Attach the dedicated **gripping tool*** to the collar of the AC connector on the inside of the inverter (Photo 15).
3. Using the **adjustable pliers**, loosen the AC connector lock nut from the outer side of the inverter (Photo 16).
4. Remove the locking nut (Photo 17).
5. Remove the AC connector (Photo 18).
6. Retain the **o-ring** for the new AC connector (Photo 19).

Photo 14

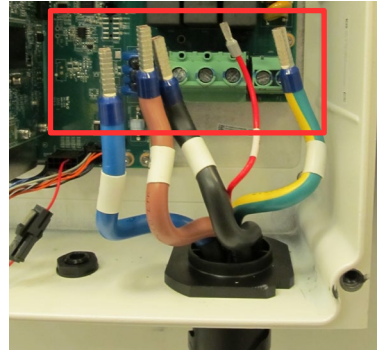


Photo 15

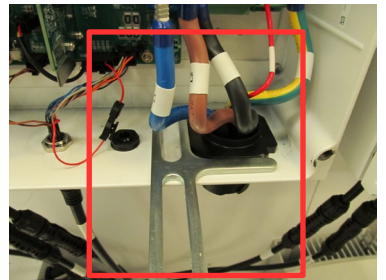


Photo 16



Photo 17



Photo 18

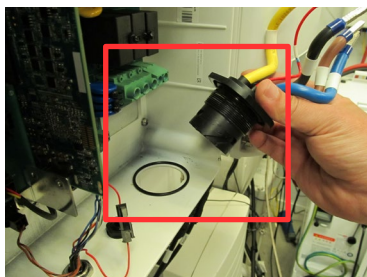


Photo 19



AC Fuse Kit Installation (1 of 4)

1. Using a Philips screwdriver, remove the screws at locations **PE9**, **PE105**, and **PE301** (Photo 20).
2. Using a **torque screwdriver**, secure **metal spacers*** to a torque of 1.1N·m in locations **PE9**, **PE105**, and **PE301** (Photo 21).
3. Using 3 Philips screws*, install the fuse kit onto the spacers (Photo 22), and tighten the screws to a torque of 1.1N·m.
4. Using a flat screwdriver, attach the bottom 3 wires in the order shown: **blue (L1)**, **brown (L2)**, and **black (L3)** (Photo 23).
5. Tighten the screws to a torque of 2.2N·m.

Photo 20

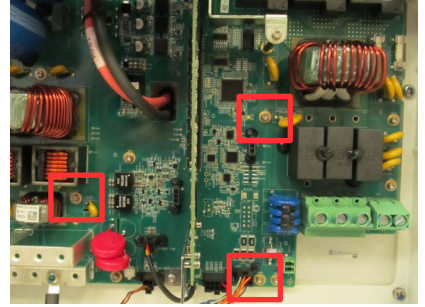


Photo 21

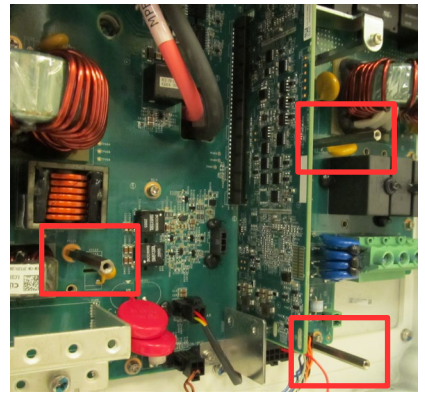


Photo 22

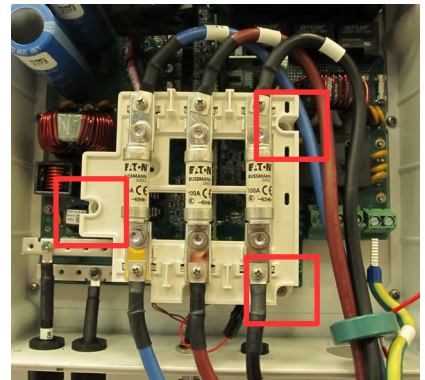
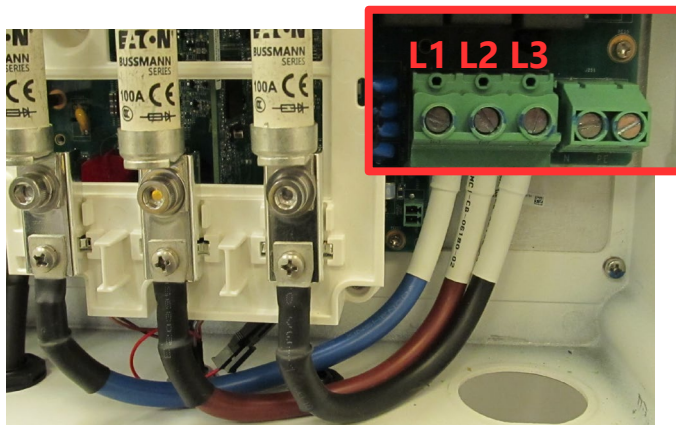


Photo 23



AC Fuse Kit Installation (2 of 4)

6. Remove the pre-installed lock ring.
7. Install the existing **o-ring** onto the AC plug (Photo 24).
8. Install the AC plug in place. The **2 white arrows** must be visible facing outward (Photo 25).
9. Tighten the lock nut fully by hand, with its collar **facing down** (Photo 26).
10. Using the **gripping tool*** and the **adjustable pliers**, secure the AC connector (Photo 27). Do **NOT** over-tighten the lock nut.
11. Using a flat screwdriver, on the green terminal block, connect the **red wire** to **N** and the **green-yellow wire** to **GND** (Photo 28).
12. Secure the screws to a **torque of 2.2N·m**.

Photo 24

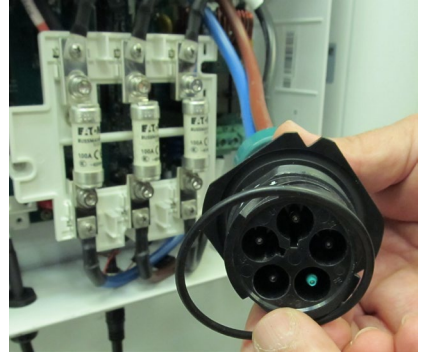


Photo 25

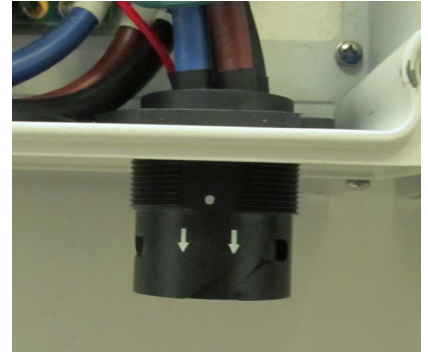


Photo 26

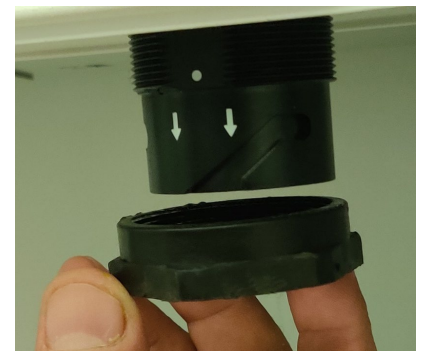
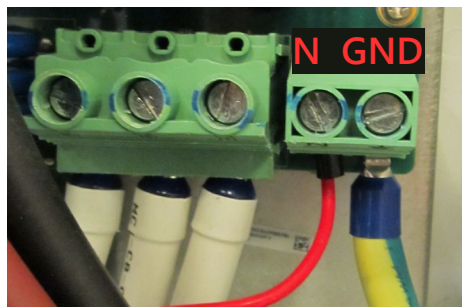


Photo 27



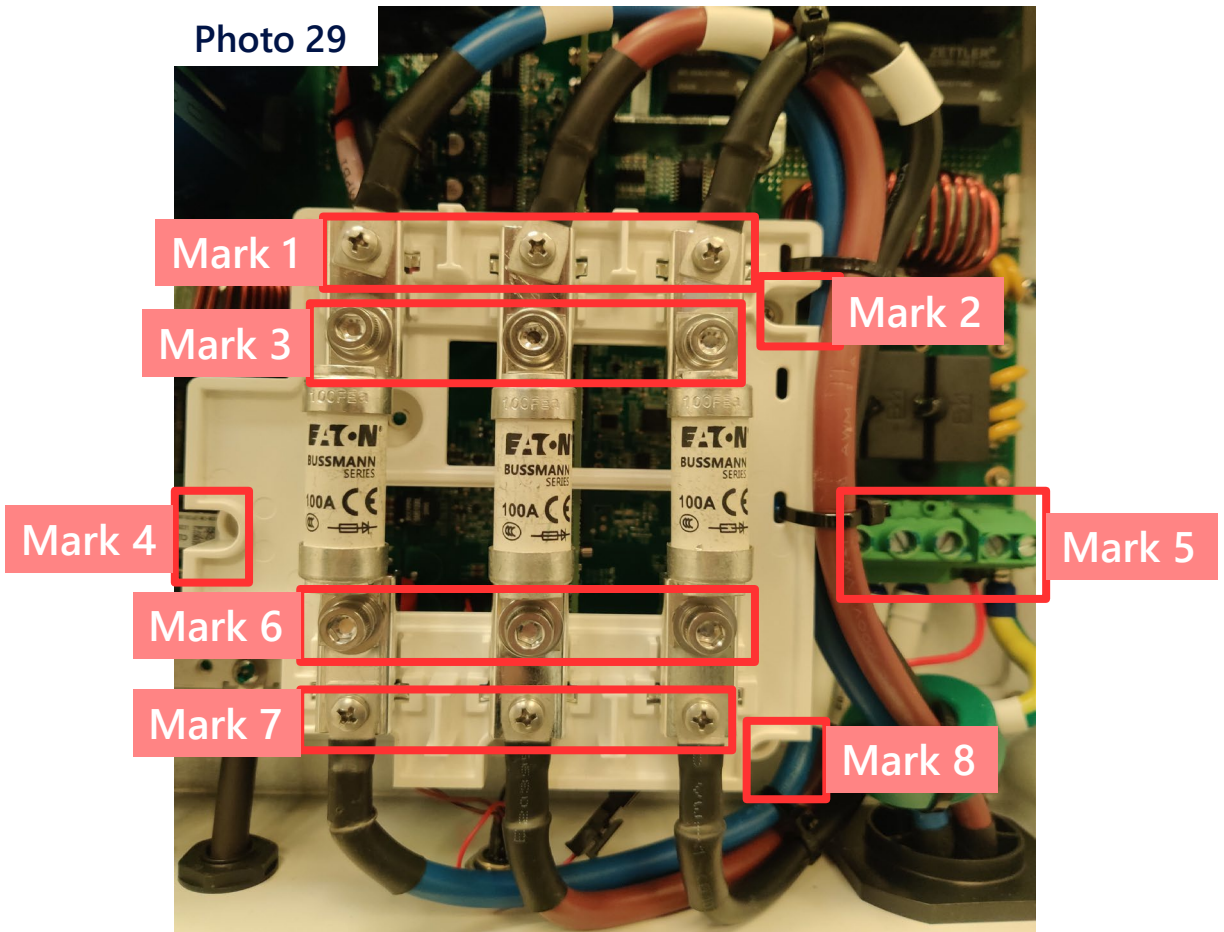
Photo 28



AC Fuse Kit Installation (3 of 4)

12. Using a torque screwdriver, for the Mark Numbers shown in Photo 29, verify the torque values given in the table below.

Photo 29



Mark Numbers	Part Description	Total No. of Screws	Torque
1, 7	Philips screws connecting 6 AC cables to Fuse terminals	6	3.0N·m
3, 6	M6x16 Hexagon Screws that hold the 3 Fuses to the Fuse terminals	6	7.0N·m
5	Terminal block wire connection screws	5	2.2N·m
2, 4, 8	Fuse Plastic Holder screws	3	1.1N·m

AC Fuse Kit Installation (4 of 4)

13. Ensure that the L1 (blue) wire does **not** touch the fan (Photo 30).
14. Ensure that the wire bend **radius** is not **too small** (Photo 30).
15. Install **4 Cable ties*** (Photo 31).
16. Install the **protective plastic cover** with two locking clips on the top and one on the bottom of the cover (Photo 32).
17. Attach the inverter cover and secure the screws to a torque of 4N·m.
18. Connect the AC cable.

Photo 30

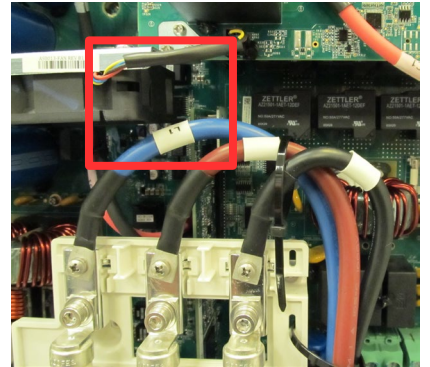


Photo 31

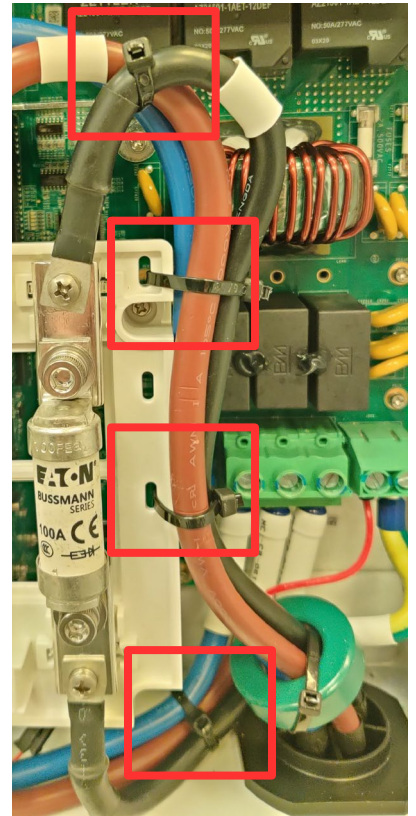


Photo 32

