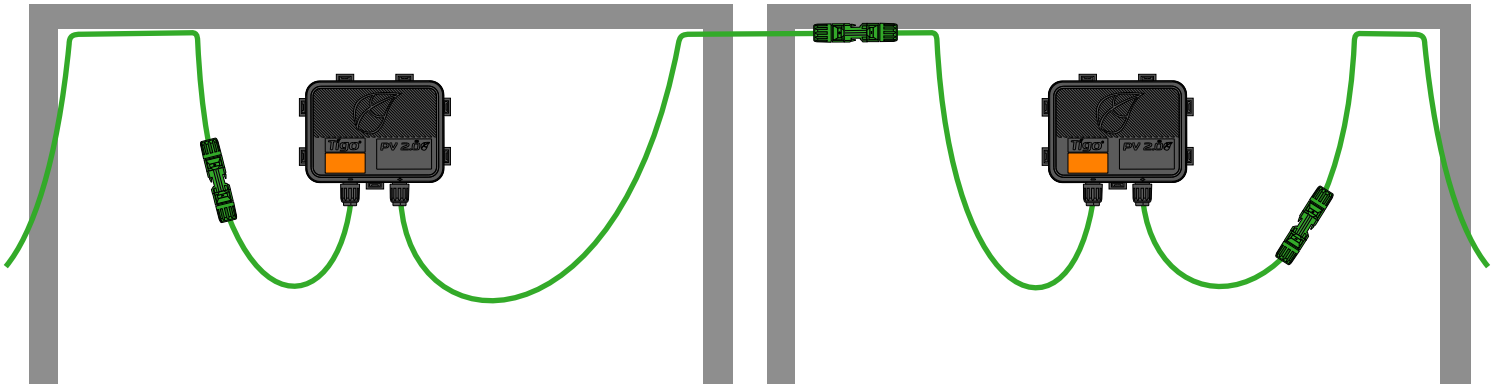
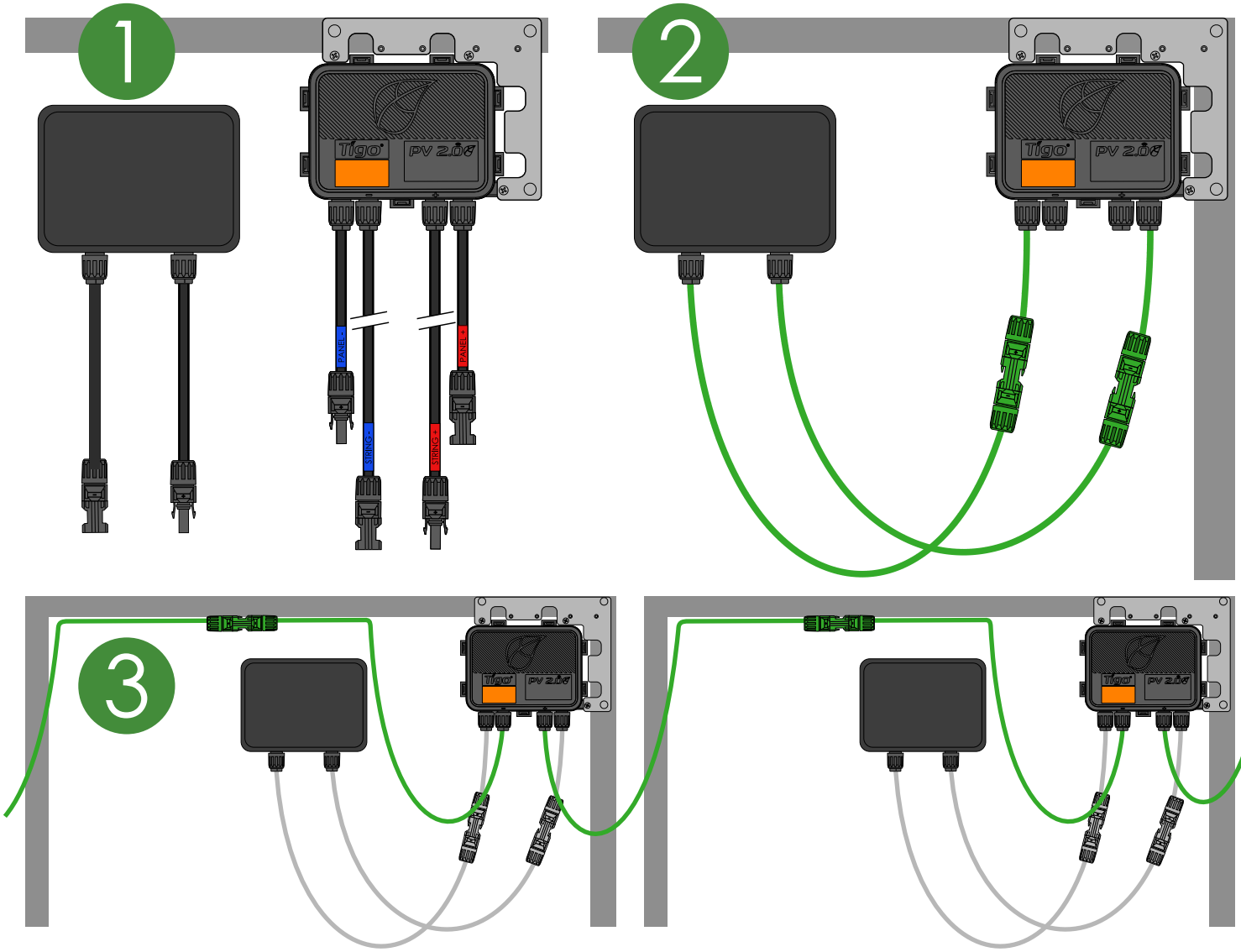
TS4-F Installation Quick Start Guide

TS4-F (Integrated)

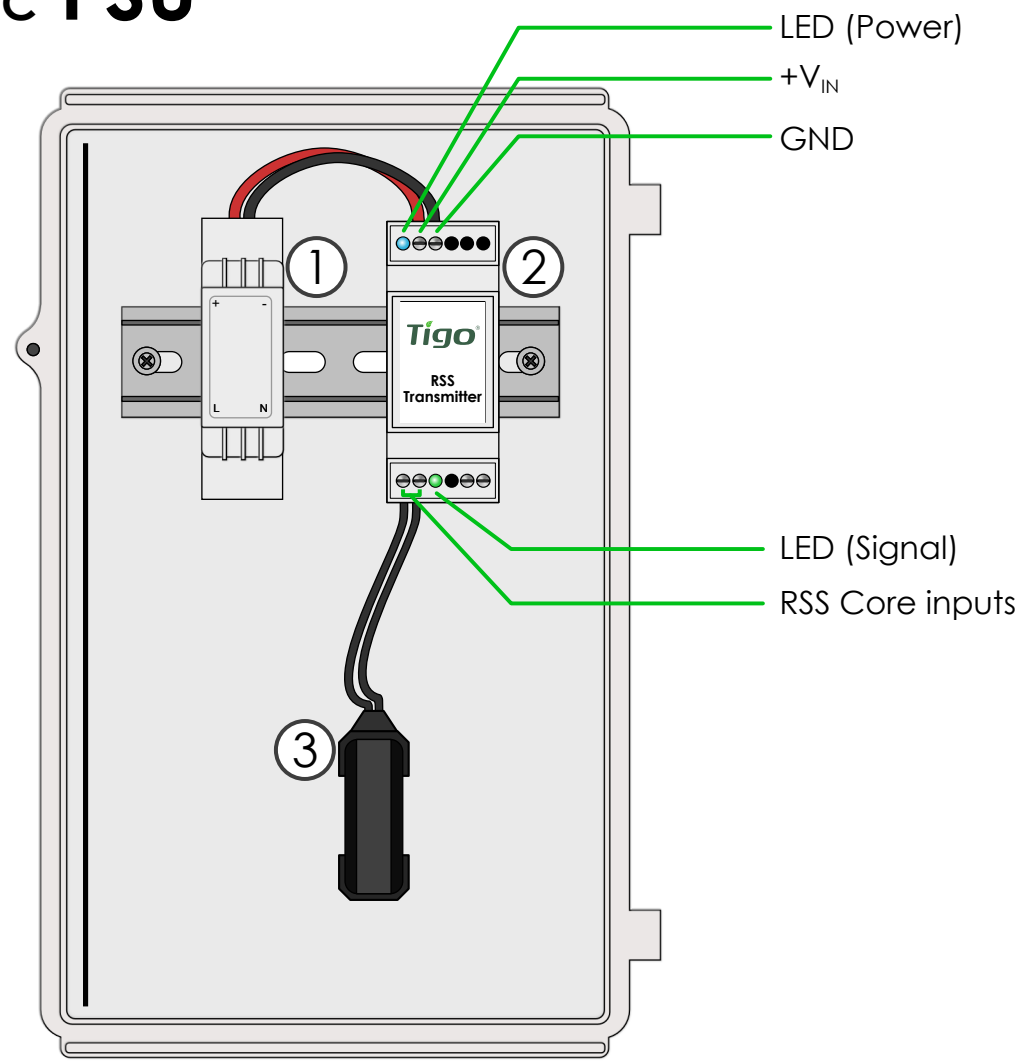


TS4-R-F (Add-on/Retrofit)



- Note: When installing TS4-R-F, connect the input cables to the PV module before connecting the TS4-R-F output cables in series.
- If disconnecting TS4-R-F, disconnect the TS4-R-F output cables from the string before disconnecting the input cables from the PV module.
- **RSS transmitter must be powered off during TS4-F or TS4-R-F installation.**

85-264V$_{AC}$ PSU



① DIN Rail PSU

② RSS Transmitter

③ RSS Core (CT)

Transmitter power supply must be on same AC branch circuit as inverter to meet rapid shutdown requirements.

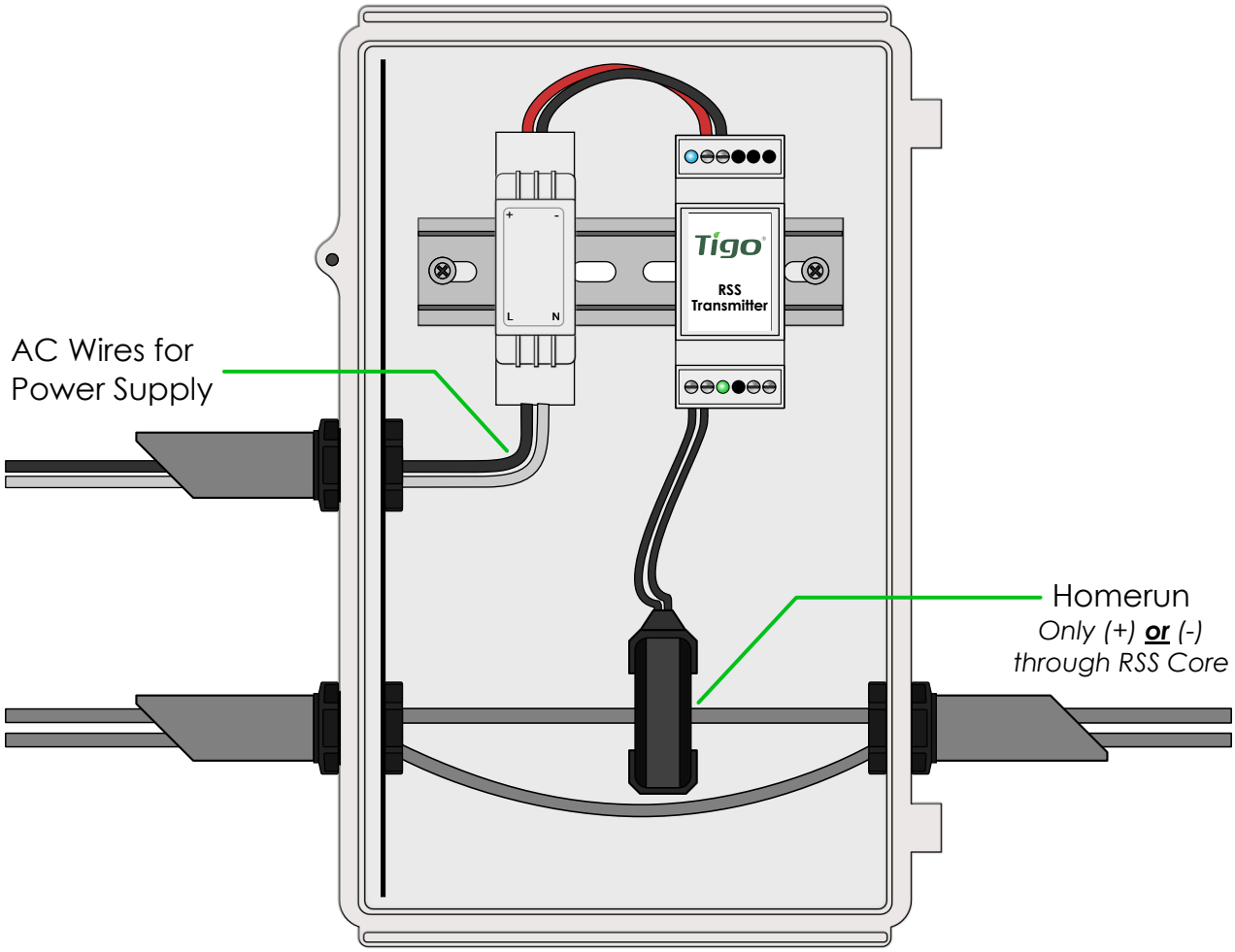
Note: Install TS4-F before powering on RSS Transmitter

- Drill holes in enclosure for conduit (see drilling guide for placement)
- Mount RSS Transmitter and power supply on DIN rail
- Connect DC leads from power supply ① to transmitter ②
- Connect RSS Core ③ to transmitter

Place rapid shutdown system label no more than 1m (3ft) from RSS Transmitter or AC disconnect if not at same location.

RSS Transmitter Wiring

85-264V$_{AC}$ PSU



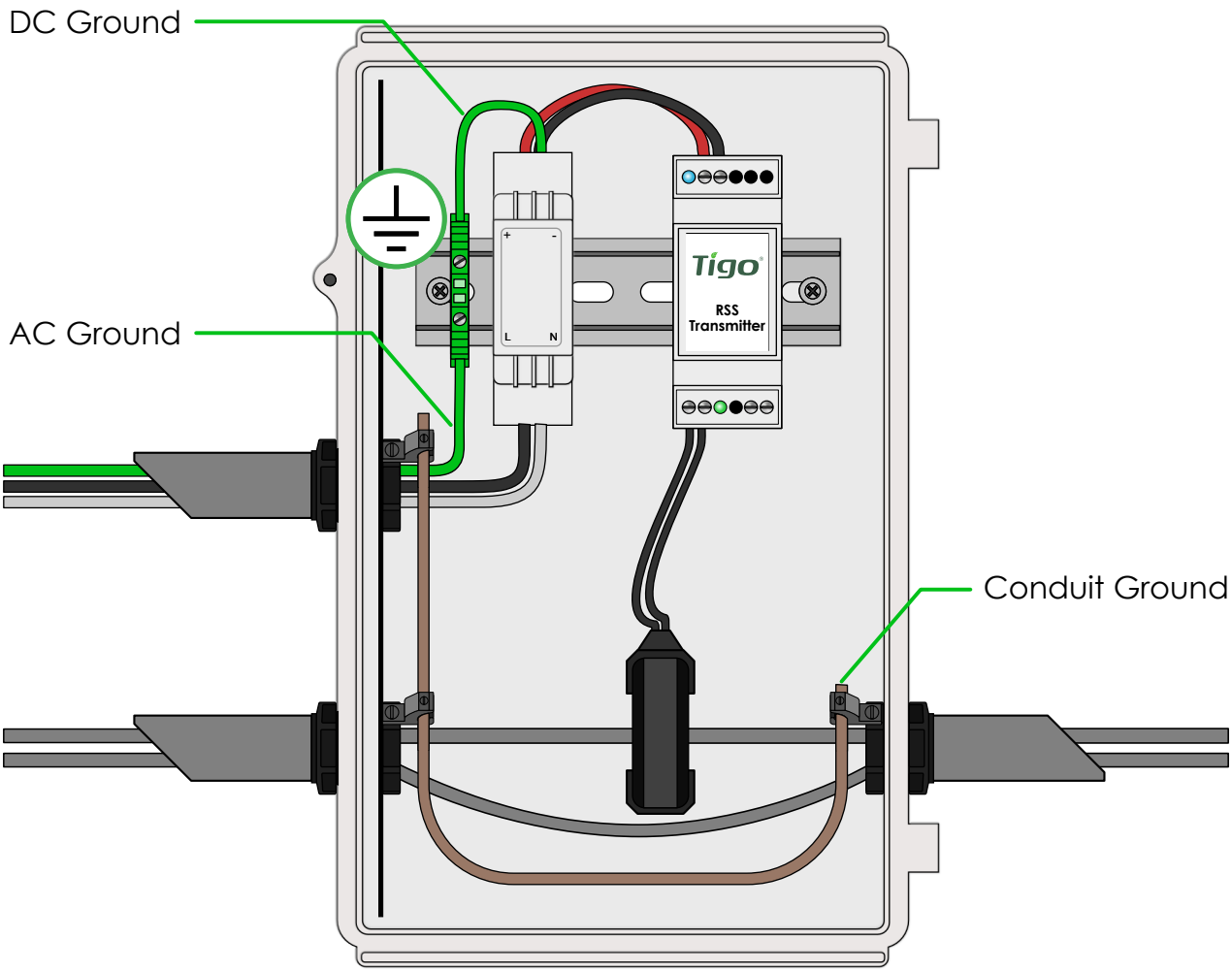
Note: Install TS4-F before powering on RSS Transmitter

- Pass either positive **or** negative homerun through RSS Core
- Connect wires to AC side of power supply

Max number of strings per RSS Core: **10**
Max string length: **30 modules**
Max current per RSS Core: **100A**
Max cable length from inverter (+) to inverter (-): **1000ft (300m)**

RSS Transmitter Grounding

85-264V$_{AC}$ PSU



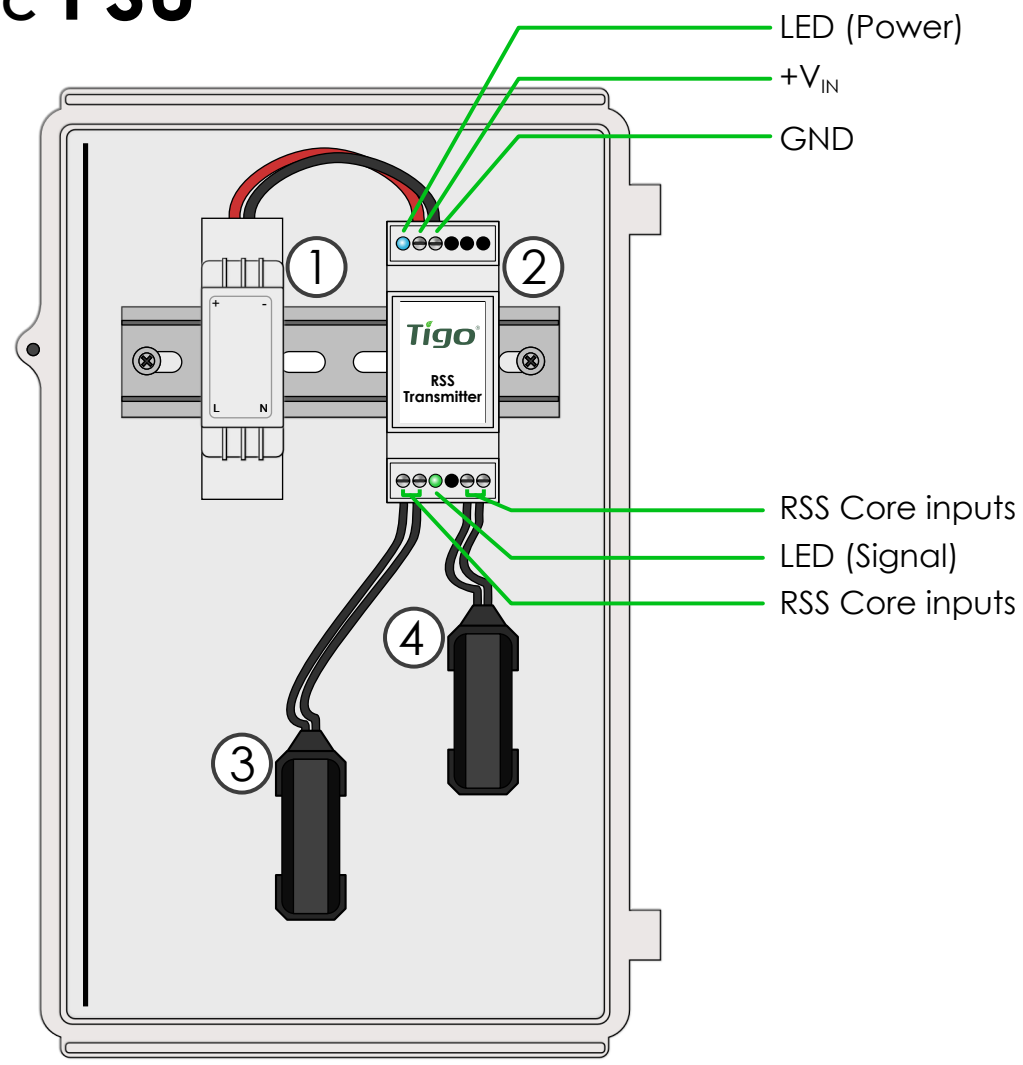
Note: Install TS4-F before powering on RSS Transmitter

- Connect AC and DC ground wires to DIN rail
- Ground all conduit connections
- Turn on AC power to Transmitter power supply to activate keep-alive signal and energize PV array

Warning: nonmetallic enclosure does not provide bonding between conduit connections. Use grounding type bushings and jumper wires.

RSS Transmitter Dual Core Installation

85-264V$_{AC}$ PSU



① DIN Rail PSU

② RSS Transmitter

③ RSS Core (CT)

④ RSS Core (CT)

Transmitter power supply must be on same AC branch circuit as inverter to meet rapid shutdown requirements

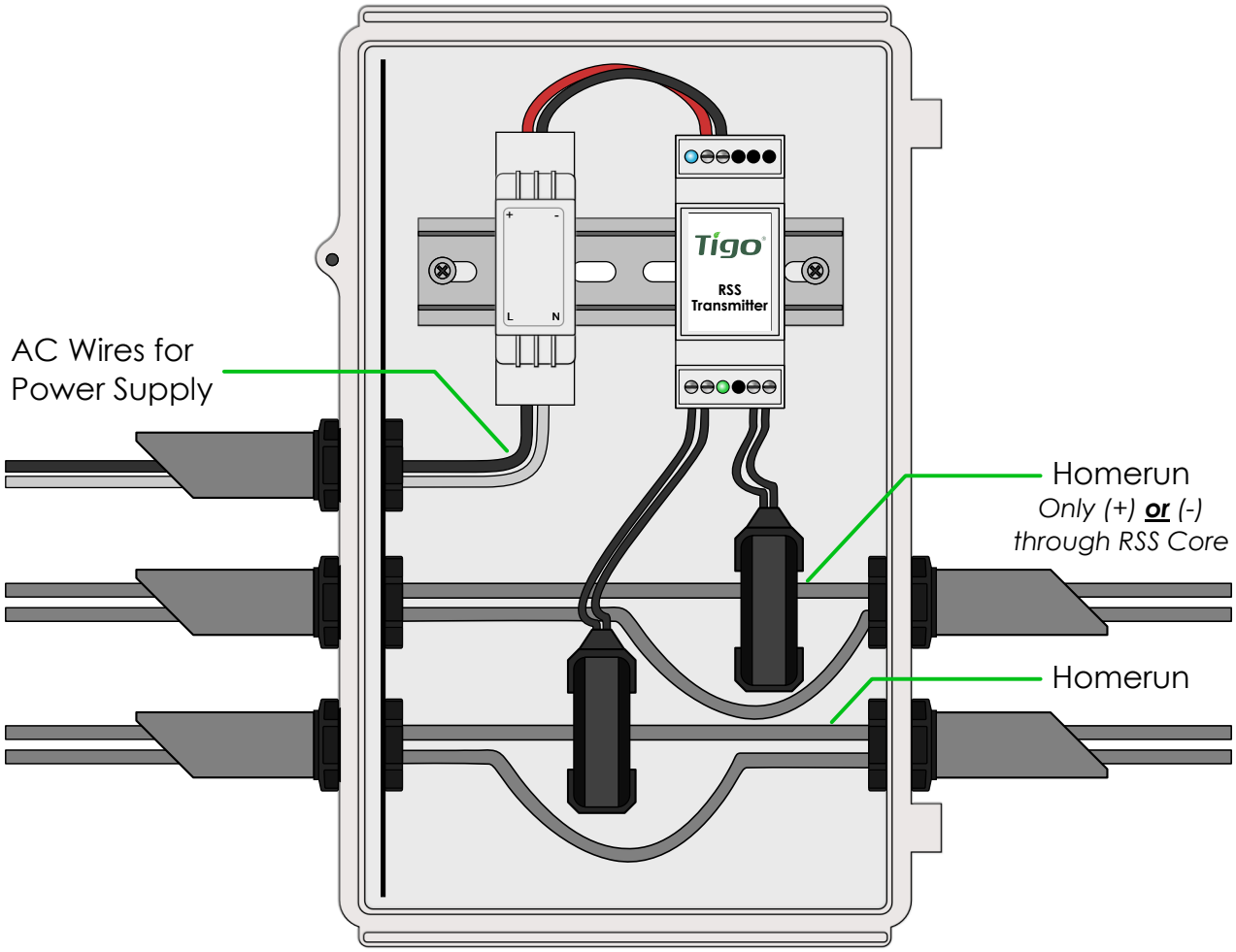
Note: Install TS4-F <u>before</u> powering on RSS Transmitter

- Drill holes in enclosure for conduit (see drilling guide for placement)
- Mount RSS Transmitter and power supply on DIN rail
- Connect DC leads from power supply ① to transmitter ②
- Connect RSS Core ③ and ④ to transmitter

Place rapid shutdown system label no more than 1m (3ft) from RSS Transmitter or AC disconnect if not at same location.

RSS Transmitter Dual Core Wiring

85-264V$_{AC}$ PSU



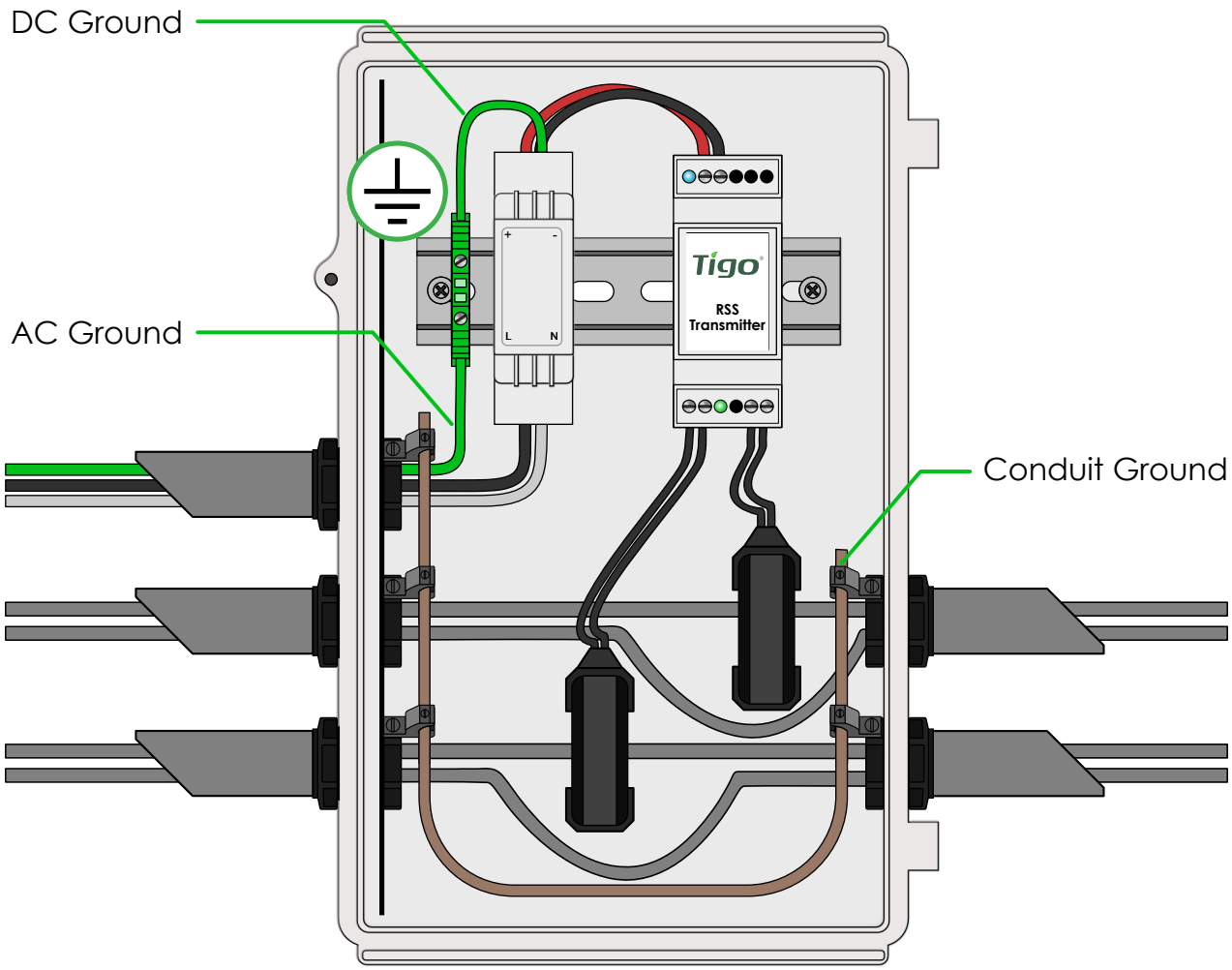
Note: Install TS4-F before powering on RSS Transmitter

- Pass either positive **or** negative homerun through RSS Cores
- Connect wires to AC side of power supply

Max number of strings per RSS Core: **10**
Max string length: **30 modules**
Max current per RSS Core: **100A**
Max cable length from inverter (+) to inverter (-): **1000ft (300m)**

RSS Transmitter Dual Core Grounding

85-264V$_{AC}$ PSU



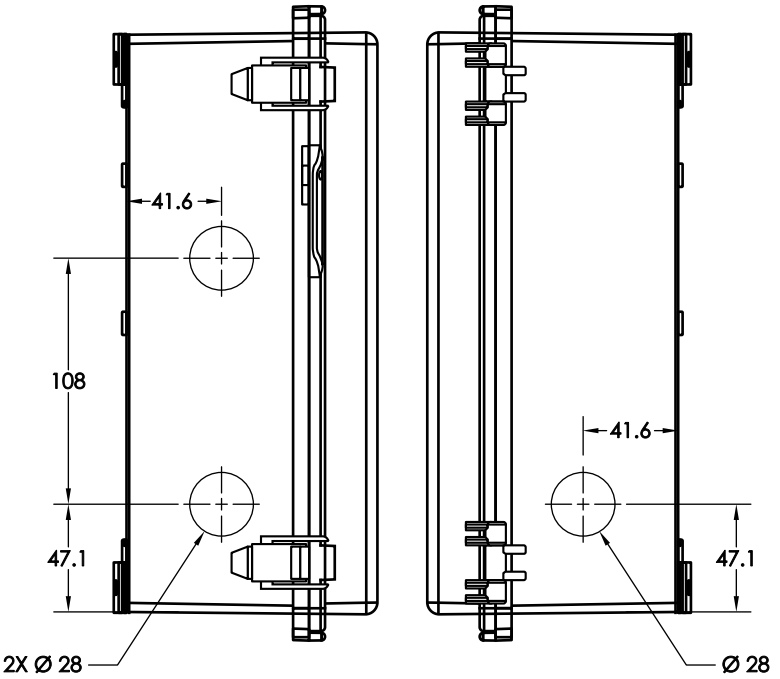
Note: Install TS4-F before powering on RSS Transmitter

- Connect AC and DC ground wires to DIN rail
- Ground all conduit connections
- Turn on AC power to Transmitter power supply to activate keep-alive signal

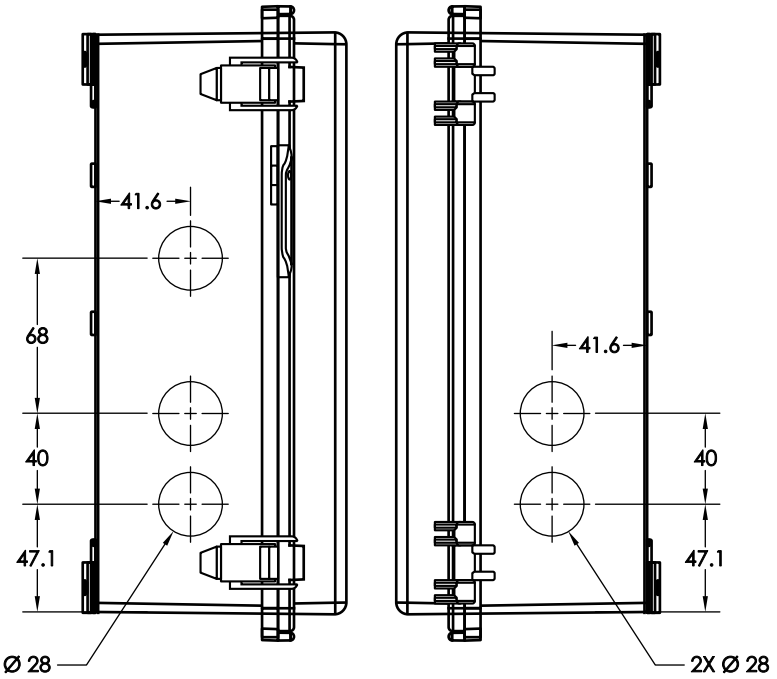
Warning: nonmetallic enclosure does not provide bonding between conduit connections. Use grounding type bushings and jumper wires.

Enclosure Drilling Guide for .75" Conduit

Single Core

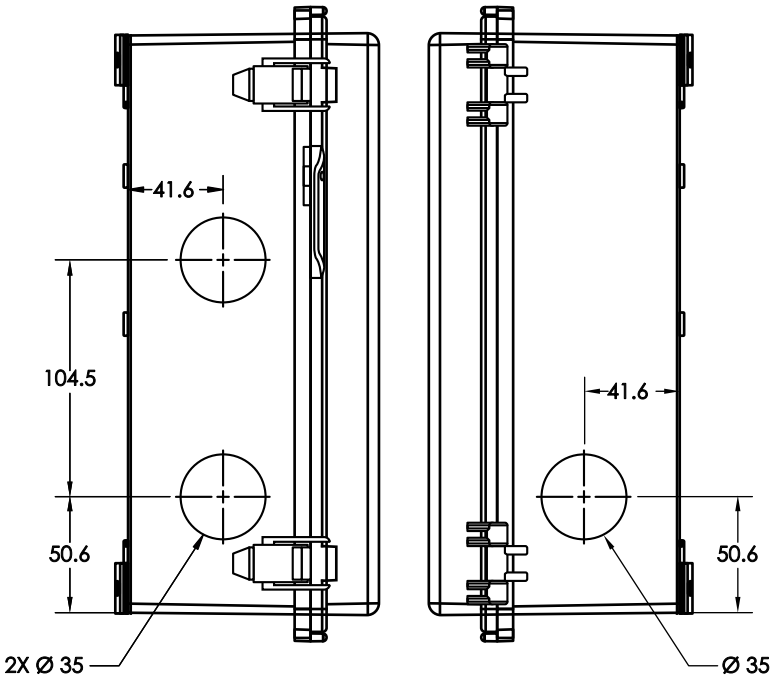


Dual Core

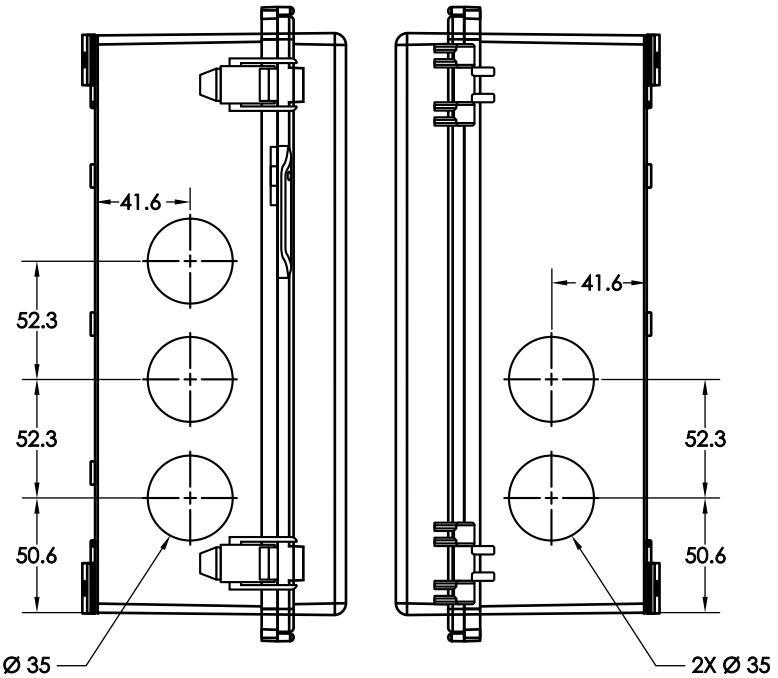


Enclosure Drilling Guide for 1" Conduit

Single Core



Dual Core



*all dimensions in mm

Troubleshooting TS4-F and RSS Transmitter

TS4-F/TS4-R-F:

- Output voltage without active transmitter signal is **0.6V**
- Output voltage with active transmitter signal will be normal module V_{MP} or V_{OC}
- If output is 0V contact Tigo support

Check that the system conforms to the design rules for TS4-F:

- Up to 10 strings per RSS Core (CT)
- Up to 30 modules per string
- String length up to 1000ft (**total** cable length from **+** to **-**)
- Homeruns through RSS Core must be the same polarity (all positive **or** all negative)

RSS Transmitter:

- Power LED should be lit and Signal LED should be blinking during operation
- Verify that RSS Core wiring is correct
- Power cycle RSS Transmitter if Signal LED is unlit
- While RSS Transmitter is powered off, string voltage should be (0.6V * number of modules)
- While RSS Transmitter is powered on, full string voltage should be present

Test individual strings with active RSS Transmitter one at a time in case of unexpected voltage.