



Tigo TS4-A-2F Rapid Shutdown User Guide

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Tigo TS4-A-2F Rapid Shutdown



General Information – Specifications

ATTENTION – READ FIRST

1. This document is for quick guidance only. For details, please refer to the TS4-A-F/-2F Installation Manual.
2. Damage caused by failure to follow the contents of the TS4-A-F/-2F Installation manual is not covered by the warranty.
3. Install all TS4-A-F, and/or TS4-A-2F BEFORE powering on the RSS transmitter.
4. TS4-A-F, TS4-A-2F, and a Tigo RSS Transmitter are a solution to meet NEC 2017 & 2020 690.12 Rapid Shutdown requirements. TS4-A-F and TS4-A-2F units automatically enter rapid shutdown mode when the RSS Transmitter is switched off, and resume energy production when power is restored to the RSS Transmitter. Wait 30 seconds after rapid shutdown activation before disconnecting DC cables or turning off the DC disconnect.

Package Contents

Item	Quantity
TS4-A-2F	20
Quick Start Guide	1
Rapid Shutdown label	1

- A Tigo RSS Transmitter is required for the proper operation of this rapid shutdown system. For more information, scan the QR code here.



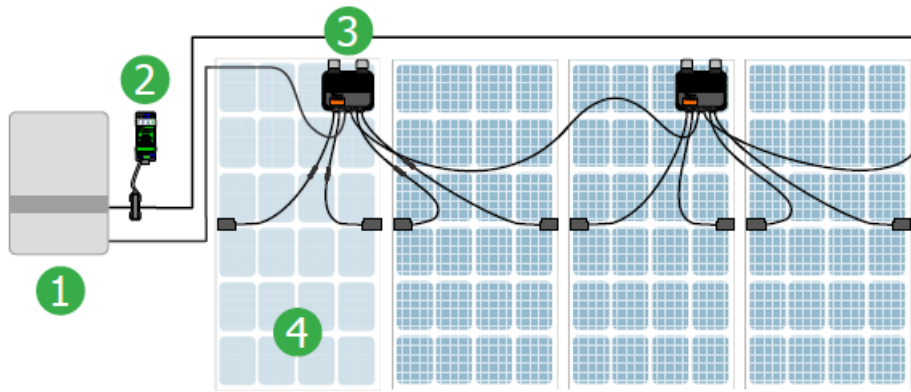
Rapid Shutdown (RSD) System Wiring Diagram

Each module in the PV system must contain a TS4-A-F or TS4-A-2F for the safe and proper operation of the PV system.

System components:

1. PV inverter
2. Tigo RSS Transmitter
3. Tigo TS4-A-2Fs (qty. will vary)
4. PV modules (qty. $\leq \frac{1}{2}$ TS4)

A PLC-based RSD system consists of a transmitter and receivers.



Many leading inverters integrate the Tigo RSS Transmitter. Look for the Tigo Enhanced label or check for Tigo integration partners at <https://www.tigoenergy.com/ul-pvrss>

TS4-A-2F Overview

1. PV module Input 1

Negative (-) LEFT

Positive (+) RIGHT

2. Output to String

Negative (-) LEFT

Positive (+) RIGHT

1. **Max voltage:** 80VDC

2. **Max current Imp/Isc:** 20/25ADC

3. **Max power:** 700W (per input – 2) = 1400W

4. **Max string voltage:** 1000/1500VDC (connector dependent)Max voltage: 80VDC

5. **Max current Imp/Isc:** 20/25ADC

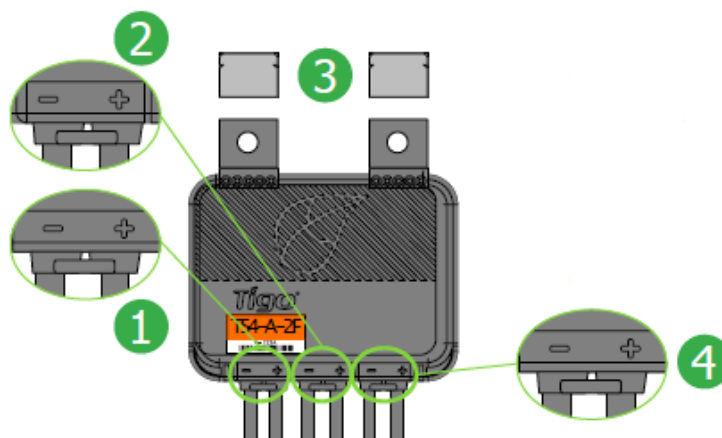
6. **Max power:** 700W (per input – 2) = 1400W

7. **Max string voltage:** 1000/1500VDC (connector dependent)

3. Module clips

With clips on, mount it to the PV module

Remove clips to reveal M8 mounting holes



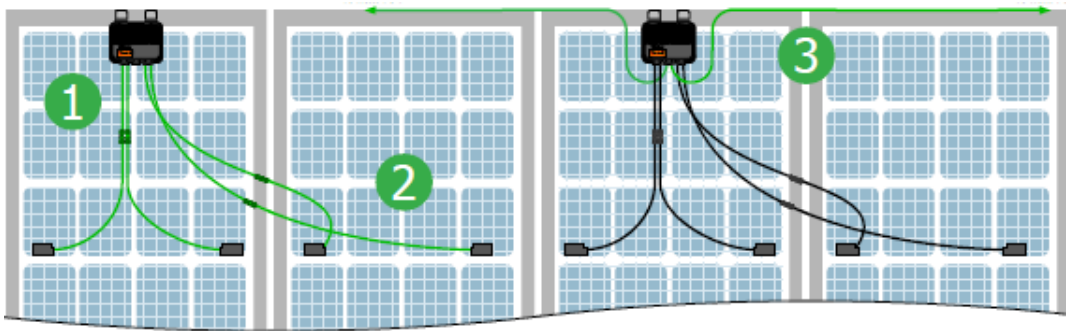
Wear and USE appropriate PPE for the application.

Energy is supplied to the Tigo TS4 output cables immediately upon connection to a PV module exposed to sunlight. Use care when handling. Do not mate connectors from different manufacturers.

Installation

Install the TS4-A-F, and/or TS4-A-2F BEFORE powering on the RSS transmitter. All PV modules from the same inverter must have a TS4 connected.

- 1. MOUNT
- 2. Connect MODULES to TS4s
- 3. Connect the TS4s



Mounting the TS4 to the PV module frame and dressing the input conductors BEFORE taking the module to the roof helps save time.

Commissioning

Pre-commissioning checklist

Wear and USE appropriate PPE for the application. Suggestions: gloves, sunscreen.

	Check Item	Acceptance Criteria
	TS4 installation	All PV modules are connected to a TS4-A-F/TS4-A-2F.

	Tigo RSS Transmitter/PST	The Tigo RSS Transmitter is installed per the RSS Transmitter Installation Manual. If the inverter is integrated, follow the inverter manufacturer's instructions for signal/power.
	Voltage check	<p>The TS4-A-2F passes 0.6VDC at the output to the string. String voltage = 0.6VDC x # TS4s in the system.</p> <p>If TS4-A-F are also used in the same string, add 0.6V for each additional TS4-A-F.</p>
	Connections	All connectors are securely mated and of the same type.
	Wire Management	All conductors are properly secured throughout the array. ANSI/NFPA 70 wiring methods were used. Multi-transmitter systems have PST transmitters installed and properly wired. Refer to the RSS Transmitter Installation manual for details.
	Workmanship	Wire management and general best practices were used.

Commissioning notes

1. Each PV string will produce less than 30VDC until the RSS Transmitter is activated/powered.
2. When power is provided to the RSS Transmitter the PV strings will produce full voltage under the environmental

conditions.

3. Commission the PV system as per best practice.

Troubleshooting

Wear and USE appropriate PPE for the application. Live voltages may be present.

Issue	Check
No string voltage	Check that all string connectors are securely connected.
Lower voltage than expected	<p>Check that all PV module connectors are securely connected.</p> <p>Note – with no keep-alive signal the string voltage will be less than 30VDC.</p> <p>Check that the RSS transmitter is powered on. If multiple transmitters are used, check that all are of the Pure Signal Technology (PST) series and are properly wired.</p>
Inconsistent voltage reading when no signal is present	<ol style="list-style-type: none">1. Apply power to the RSS Transmitter2. Use an RSS Signal Detector to determine if the individual TS4s are receiving the keep-alive signal. If so, check the string is less than 300m.

Your Customer Service Contact

- **United States (HQ):** Tigo Energy, Inc. 655 Campbell Technology Pkwy Campbell, CA 95008

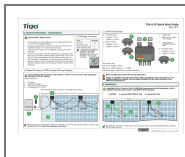


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- **Americas:** +1 408 402 0802
- **International:** 00800 2255 8446
- <https://support.tigoenergy.com/>
- **Class II double insulation**
- **High Voltage**
- **PN: 002-00095-00 | Rev. 1.1 | Oct. 26, 2022**

Documents / Resources



[Tigo TS4-A-2F Rapid Shutdown](#) [pdf] User Guide
TS4-A-2F Rapid Shutdown, TS4-A-2F, Rapid Shutdown, Shutdown

References

-  [UL PVRSS certified inverters with Tigo TS4 | Tigo Energy](#)