Tigo TS4-A-F Rapid Shutdown Device User Guide

TS4-A-F Quick Start Guide

Contents

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 and Operations Manual.
2. Damage caused by failure to follow the contents of the TS4-A-F/-2F Installation and Operations manual is not

covered by the warranty.

3. Install all TS4-F, 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-F, TS4A-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 for 30 seconds after rapid shutdown activation before disconnecting DC cables or turning off DC disconnect.

1.1 Package Contents

Item	Quantity
TS4-A-F	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.

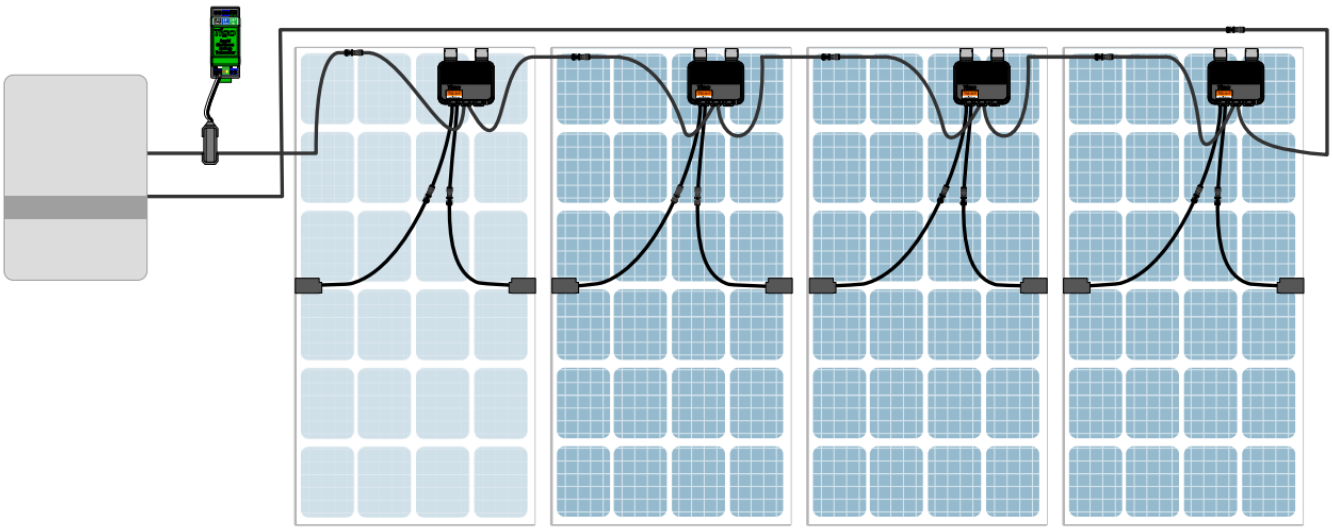
https://qrco.de/bcLMsY

1.2 Rapid Shutdown (RSD) System Wiring Diagram

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

1. PV inverter
2. Tigo PV RSS Transmitter
3. Tigo TS4-A-Fs (qty. will vary)
4. PV modules (qty. = TS4)

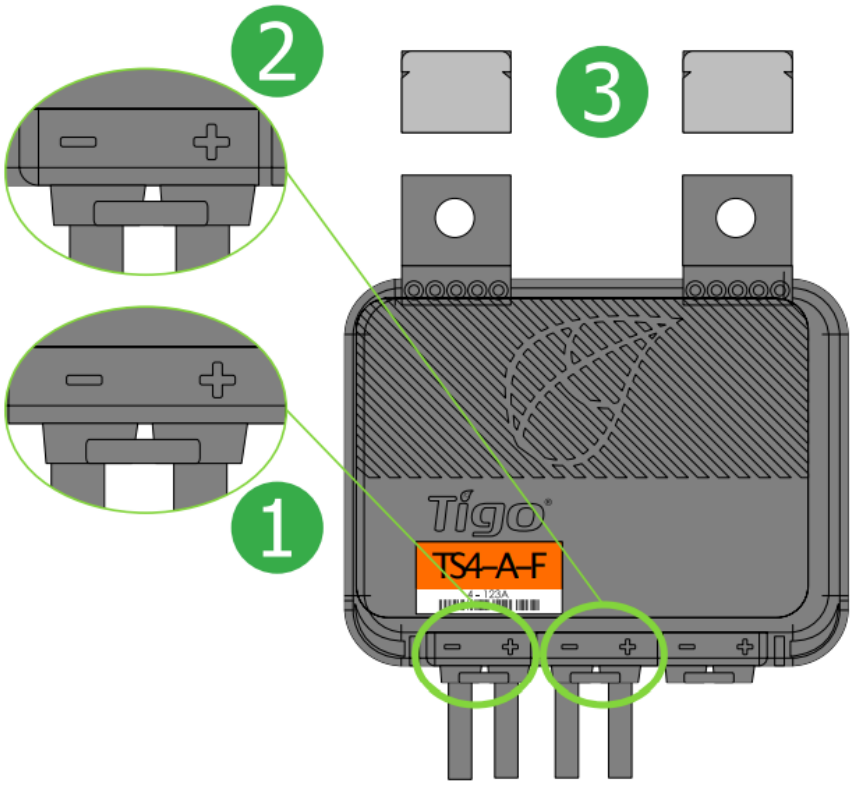
   A PLC-based RSD system consists of a transmitter and receivers.



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

1.3 TS4-A-F Overview

1. PV module Input
   - Negative (-) LEFT
   - Positive (+) RIGHT
2. Output to String
   - Negative (-) LEFT
   - Positive (+) RIGHT
3. Module clips
   - Removed
   - Mounting holes (M8)



Max voltage: 80VDC
Max current Imp/Isc: 20/25ADC
Max power: 700W
Max string voltage: 1000/1500VDC (connector dependent)

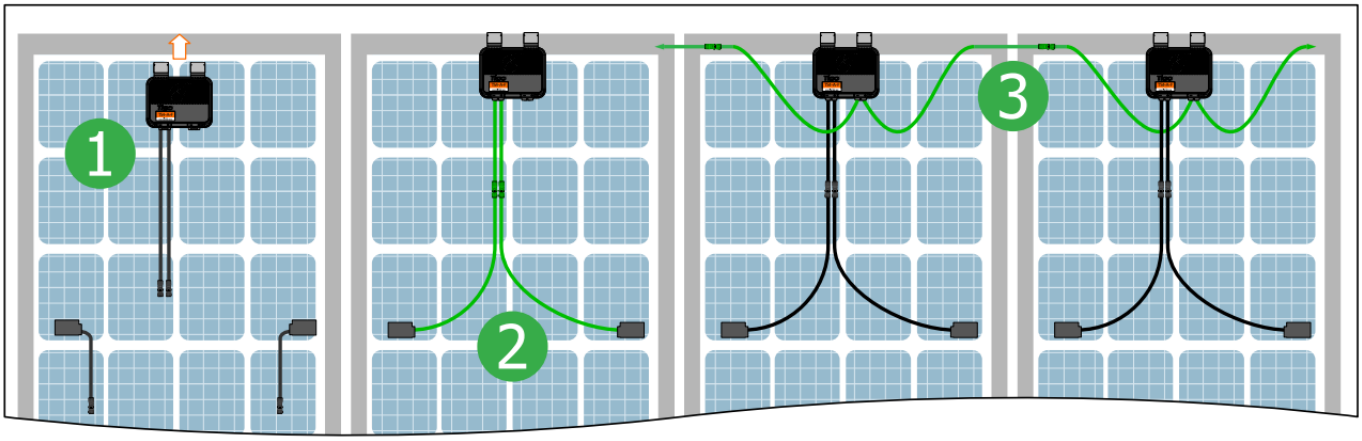
Wear and USE appropriate PPE for the application. Suggestions: gloves, sunscreen,….

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-F, 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. Then connect the TS4s together



Mount the TS4 to the module and dress the PV input conductors with appropriate wire management means BEFORE taking the PV module to the roof.

Commissioning

3.1 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-F/TS4-A-F/TS4-A-2F.**
	Tigo RSS Transmitter	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.
	Connections	All connectors are securely mated and of the same type.
	Voltage check	The TS4-A-F passes 0.6VDC when the keep-alive signal is not present. String voltage = 0.6V x # of modules in the string
	Wire Management	All conductors are properly secured throughout the array. ANSI/NFPA 70 wiring methods were used. Multi-transmitter systems either: •have followed the PV Conductor Installation Required Practices in the full Manual,
		•or have installed the Tigo RSS Transmitter 2.0 and have linked all transmitters in the system together.
	Workmanship	Wire management and general best practices were used.

3.2 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 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	Check that all PV module connectors are securely connected. Note — with no keep-alive signal the string voltage will equal: # PV modules x 0.6VDC Check that the RSS transmitter is powered on.
Inconsistent voltage reading when no signal is present	1. Apply power to the RSS Transmitter 2.Use an RSS Signal Detector to determine if the individual TS4s are receiving the keep-alive signal.

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Tigo RSS	
https://qrco.de/bcLMsY	https://qrco.de/bcLMhf
Community	
https://qrco.de/bcCFuP	https://qrco.de/bc8vmm

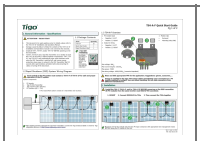
www.tuv.com ID:2000000000 TÜVRheinland

• Type Approved

Class II double insulation

DANGER **High Voltage**

Documents / Resources

	Tigo TS4-A-F Rapid Shutdown Device [pdf] User Guide TS4-A-F, Rapid Shutdown Device, TS4-A-F Rapid Shutdown Device

References

- UL PVRSS certified inverters with Tigo TS4 | Tigo Energy