

RAPID SHUTDOWN

FACT SHEET



SUNSPEC RAPID SHUTDOWN CERTIFICATION PROGRAM

MEETING A MARKET MANDATE FOR SOLAR SAFETY

PV module-level power control and safety ("rapid shutdown") is required in 24 states starting in January 2019



Requirement established by National Electrical Code (NEC) 2017.

Goal to protect firefighters and consumers who need to interact with a PV system.

NEC 2017 is an "inclusive" standard, meaning it applies to all manufacturers and equipment types covered by the standard.

The mandate affects millions of PV panels and all solar inverters.

SunSpec Alliance global leaders have developed an open standard rapid shutdown communication solution

SunSpec Communication Signal for Rapid Shutdown Functional Specification

SunSpec has launched a Rapid Shutdown Certification Program



29 companies worked together to create the solution, each of which contributed unique ideas and intellectual property.

The solution benefits all consumers by increasing safety of PV systems and vendors by establishing a Plug-and-Play standard for any solar panel and inverter combination.

Products complying to the standard are now available from world-class vendors.

Certification program communicates that system components work well with each other and have been tested to NEC 2017 requirements.

SunSpec Alliance offers Communication Signal for Rapid Shutdown certification for third party Independent Testing Laboratories, including Nationally Recognized Testing Laboratories.

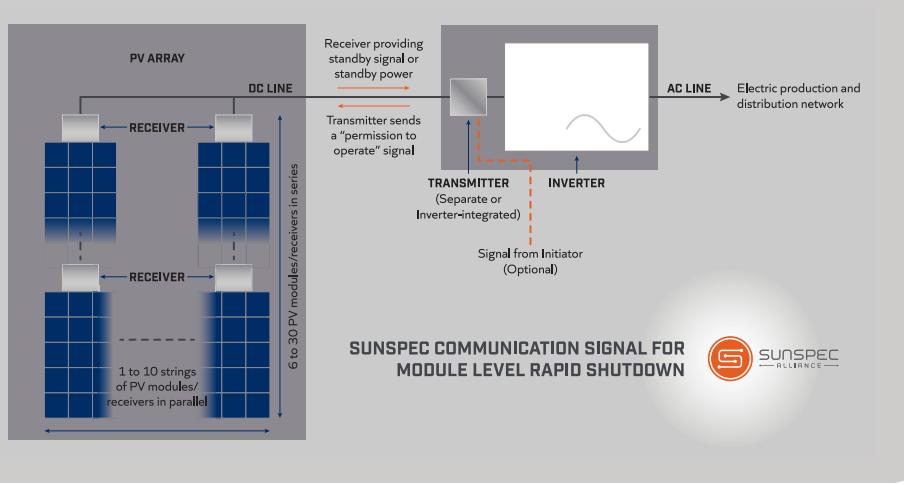
The first SunSpec Certified Test Labs were announced in October 2018. Find the full list at www.SunSpec.org/sunspec-certified-authorized-test-laboratories/.

Common term: Rapid Shutdown
NEC code term: PV Hazard Control

SunSpec Communication Signal for Module Level Rapid Shutdown

A multi-vendor, multi-device communication solution to enable NEC 2017

LOWERS COST, SAVES TIME, ENHANCES SYSTEM HEALTH



Market Benefits of the Rapid Shutdown Specification and Certification Program

First Responder Safety

Provides simple, robust, and reliable solution to shut down the voltage at module level to 1V per module (NEC2017 requires < 80V).

Industry Benefits and Growth

Lowest cost solution to what is a fundamental market requirement.
Reduces installation and interconnection cost with Plug-and-Play system components.
Encourages job growth by supporting DER installation market.
Reports system health every time the sun comes up or the system is re-activated.

Consumer Benefits and Protection

Open standard protects consumers with competitive pricing, multi-vendor choices, differentiated options and value availability.
Ensures system service and upgrades with choice of vendors and interoperable components.

SunSpec RSD Specification Contributing Companies Early Adopters

ABB
Adesto Technologies
Canadian Solar
Celestica Inc.
Chint Power Systems – North America
Delta Products Corp.
Enphase Energy
ET Solar
Fronius International
Ginlong-Solis
Hansol Technics Co., Ltd
HiQ Solar
Itek Energy
ingeteam
JA Solar
LERRI Solar Technology Co.,Ltd
Maxim Integrated
Mersen Electrical Power
Midnite Solar
Neo Solar Power
Omron Global
OutBack Power
Phoenix Contact
SMA
Samil Power
Seraphim Solar USA Manufacturing Inc.
Semitech Semiconductor
Silfab Solar
Solartec
ST Micro
Sungrow
SunPower
Sunrun
Supreme
Suntech Power
Talesun
Tesla
Texas Instruments
Tigo Energy
UL LLC
Yaskawa Solectria Solar
Yingli Solar