

# TS4-R MODULE RETROFIT KIT

TS4-R-S / TS4-R-O



**SUPERIOR INTEGRATION  
WITH  
SUNNY BOY INVERTERS**



RETROFIT KIT COMPATIBLE WITH ALL MAJOR INVERTER BRANDS.

### Ultimate flexibility

- Works with any module, so installers can leverage their preferred panel suppliers
- Use the exact functionality needed—no more, no less

### Simple logistics

- Maximize warehouse space by stocking fewer module components
- Compatible with all standard modules

### Fast installation

- Save up to 90 minutes per install compared to other MLPE solutions
- Reduce roof-time by attaching MLPE on the ground or prior to the site visit

### Less risk

- Selective deployment means fewer components and fewer failures
- Technical support through SMA's #1 ranked service organization
- Simple, safe repair or replacement of proprietary snap-in cover—no cabling work

## TS4-R MODULE RETROFIT KIT

Optimization redefined.

Rethink what it means to optimize a PV system—and the technology needed to do it. The TS4 modular platform is a game changer. Its unique selective deployment capability—installing MLPEs only where needed—allows installers unparalleled flexibility in tackling the toughest problems while driving down system costs and maintenance risk. Nothing installs faster or easier while boosting performance. Whether it's for shading, shutdown or other challenges, the TS4 Retrofit Kit is the ultimate solution.

Technical data	TS4-R-S 476-00240-00	TS4-R-S 476-00252-00	TS4-R-O 471-00252-10
<b>Electrical ratings</b>			
Rated DC input power	375 W	475 W	475 W
Max. PV module open circuit voltage (Voc) @ STC	52 V	75 V	75 V
Max. PV module open circuit voltage (Voc) @ lowest temperature	66 V	90 V	90 V
Max current Isc		12 A	
<b>Output</b>			
Output power range	0 - 375 W	0 - 475 W	0 - 475 W
Output voltage range		0 - Voc	
Communication type	802.15.4 2.4 GHz	802.15.4 2.4 GHz	802.15.4 2.4 GHz
Rapid shutdown compliant (NEC 2017 690.12)	Yes <sup>1) 2)</sup>	Yes <sup>1) 2)</sup>	Yes <sup>1)</sup>
Impedance matching capability	No	No	Yes
Maximum system voltage	600 V	1000 V	1000 V
Max. series fuse rating		15 A	
<b>Mechanical</b>			
Operating temperature range	-40°C to +75°C (-40°F to +167°F)		
Storage temperature range	-40°C to +75°C (-40°F to +167°F)		
Cooling method	Natural convection		
Dimensions with cover	195.5 mm x 158 mm x 23 mm		
Weight (with cover)	670 g	670 g	720 g
Environmental rating	IP65 / IP67, NEMA 3R		
<b>Cabling</b>			
Cabling type / Output cable length	PV1-F, PV wire / 1.0 m		
Connector	MC4		
UV resistance	500 hr with UVB light between 300 and 400 nm at 65° C		
Outer cable diameter	6.25 mm ± 0.25 mm	7.15 mm ± 0.25 mm	7.15 mm ± 0.25 mm
Cable cross-section	4.0 mm <sup>2</sup> (12 AWG)		
<sup>1)</sup> Cloud Connect Advanced and Gateway are required for rapid shutdown compliance			
<sup>2)</sup> Reference certification documents for NEC compliance of specific inverter/TS4-R-S combinations			
Type designation	TS4-R-S 476-00240-00	TS4-R-S 476-00252-00	TS4-R-O 471-00252-10

## Communication Kits

The Rooftop Communication Kit is a convenient bundle enabling simple, fast integration with SMA Sunny Boys on site. Module-based data is transmitted wirelessly across the rooftop from the TS4-R units to the Gateway, which is connected via RS485 to the Cloud Connect Advanced (CCA). The Cloud Connect Advanced is installed in the connection area of SMA's newest Sunny Boys and eliminates the need for external enclosures. View performance data on Sunny Portal—the world's largest PV monitoring repository. The CCA Outdoor Kit (NEMA 4X) for systems using inverters other than the SBX.X-1SP-US-40 is also available.

### Rooftop Communication Kit\* (ROOFCOMMKIT-P1-US)



Cloud Connect Advanced



Gateway

- Kit also includes:**
- » DIN Rail & Mounting Hardware
  - » DIN Rail Power Supply
  - » Ethernet Cable
  - » WLAN Antenna

### CCA Outdoor Kit (348-00000-00)



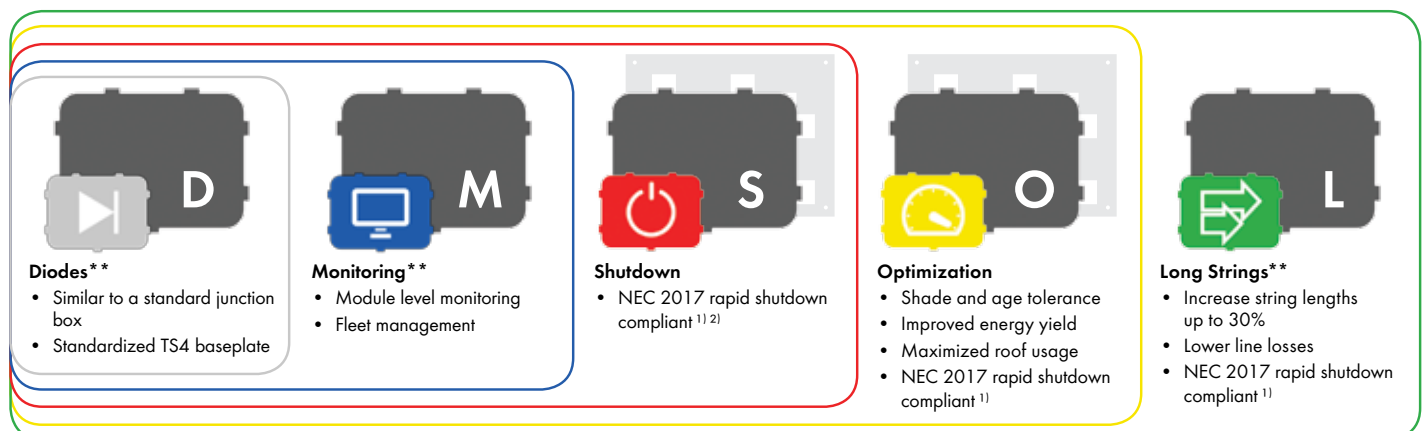
Enclosure

- Kit also includes:**
- » Gateway
  - » Cloud Connect Advanced
  - » WLAN Antenna
  - » DIN Rail Power Supply & DC Wires

\*Only for the SBX.X-1SP-US-40

## TS4 Progressive Functionality

The TS4 platform is available in multiple covers containing power electronics. Functionality increases from Diodes to Long Strings, with each unit including new benefits in addition to the functionality of the preceding unit. Retrofit covers are available in Shutdown and Optimization versions.



\*\*Diodes, Monitoring, and Long Strings covers available in module-integrated version.