

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 |
|---|---|-------------------------|-------------------------|
| Electrical ratings | | | |
| 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 | | |
| Output | | | |
| 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 ^{1) 2)} | Yes ^{1) 2)} | Yes ¹⁾ |
| Impedance matching capability | No | No | Yes |
| Maximum system voltage | 600 V | 1000 V | 1000 V |
| Max. series fuse rating | 15 A | | |
| Mechanical | | | |
| 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 | | |
| Cabling | | | |
| 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 mm² (12 AWG) | | |
| ¹) Cloud Connect Advanced and Gateway are required for rapid shutdown compliance | | | |
| ²) 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

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

CCA Outdoor Kit (348-00000-00)

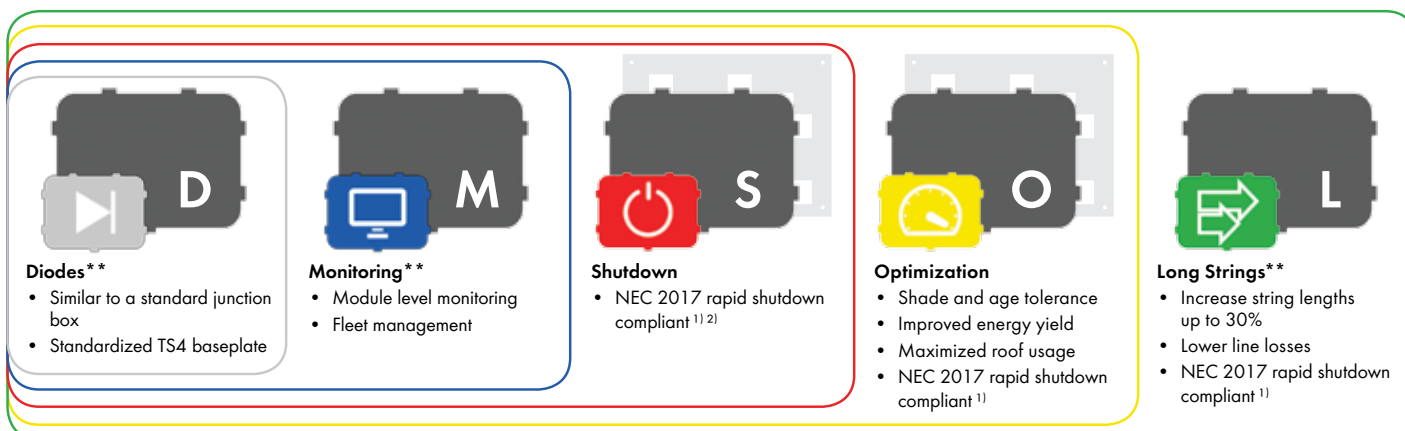
 Enclosure

Kit also includes:

- » Gateway
- » Cloud Connect Advanced
- » WLAN Antenna
- » DIN Rail Power Supply & DC Wires

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.