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.
**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**

**CCA Outdoor Kit**

**TS4-R-S**

- Rated DC input power: 375 W
- Max. PV module open circuit voltage (Voc) @ STC: 52 V
- Max. PV module open circuit voltage (Voc) @ lowest temperature: 66 V
- Max current Isc: 12 A
- Output power range: 0 - 375 W
- Output voltage range: 0 - Voc
- Communication type: 802.15.4 2.4 GHz
- Rapid shutdown compliant (NEC 2017 690.12): Yes¹)²)
- Impedance matching capability: No
- Maximum system voltage: 600 V
- Max. series fuse rating: 15 A
- 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
- Environmental rating: IP65 / IP67, NEMA 3R
- Cabling: 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
- 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

**TS4-R-O**

- Rated DC input power: 475 W
- Max. PV module open circuit voltage (Voc) @ STC: 75 V
- Max. PV module open circuit voltage (Voc) @ lowest temperature: 90 V
- Max current Isc: 15 A
- Output power range: 0 - 475 W
- Output voltage range: 0 - Voc
- Communication type: 802.15.4 2.4 GHz
- Rapid shutdown compliant (NEC 2017 690.12): Yes¹)²)
- Impedance matching capability: No
- Maximum system voltage: 1000 V
- Max. series fuse rating: 15 A
- 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): 720 g
- Environmental rating: IP65 / IP67, NEMA 3R
- Cabling: 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: 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**

- Rooftop Communication Kit: [ROOFCOMMKT1-US]
- CCA Outdoor Kit: [348-00000-000]

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**Diodes**

- Similar to a standard junction box
- Standardized TS4 baseplate

**Monitoring**

- Module level monitoring
- Fleet management

**Shutdown**

- NEC 2017 rapid shutdown compliant¹)

**Optimization**

- Shade and age tolerance
- Improved energy yield
- Maximized roof usage
- NEC 2017 rapid shutdown compliant¹)

**Long Strings**

- Increase string lengths up to 30%
- Lower line losses
- NEC 2017 rapid shutdown compliant¹)

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**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.

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

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