

TIGO TS4-R

Module-level power electronics for sophisticated system layouts and partial shadings.



SMA Tigo Optimizator



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Highest energy yields - Lowest costs

Each PV system is unique. Different roof structures, system alignments and various types of shading influence the PV system's energy yield. With the innovative Tigo TS4

energy yield. With the innovative Tigo TS4 platform, for the first time, every single PV module can now be flexibly equipped with an additional function. For partially shaded systems, only the affected modules are equipped with the optimization function as, in most cases, no more than 20% of the modules are shaded. With Tigo TS4, customers pay just for the function that they actually require.

SMA and Tigo solution

- Only **affected modules** (e.g., in case of partial shading) have to be equipped with an optimizer
- **Lower investment costs**
- **Lower installation costs**

Optimization as required

The Tigo TS4 platform provides functions as required. These can be easily and quickly integrated into the PV module by means of changeable covers:

- Module monitoring
- Safety/disconnection at the module level
- Optimization for complex roof structure and partial shading
- Longer strings (available only as module-integrated)

The right solution for new systems and existing PV systems:

Installers can choose between a **pre-installed solution** in smart modules from different manufacturers or the **SMA add-on/retrofit version for all standard modules**. With no additional tools, the Tigo TS4 solution can be quickly and easily mounted to the module already in the warehouse or directly on the construction site. This makes logistics easier and reduces installation time.

PERFECTLY MATCHED SOLUTION

The TIGO solution consists of three components

- **TS4 optimizers** are attached to the required modules
- **Cloud Connect** is the management unit from Tigo
- **Gateway** ensures communication between the optimizers and Cloud Connect

The modular concept from Tigo Energy is a perfect match for SMA. Because with the Multi-MPP tracking function as well as the wide input voltage range, SMA inverters are perfectly suited to complex system layouts and partial shadings.

Working together, SMA and Tigo Energy offer users high-quality solutions that can be used flexibly to generate maximum system efficiency.

Your benefits at a glance

Low costs

- Cut costs by up to 80%
- Save up to 1.5 hours per installation
- Reduced operation and maintenance costs thanks to less components

Higher yields

- Higher total yield both in kilowatt-hours and in euros
- Increase in system availability

- Long component service life thanks to demand-specific operation (bypass operation)

More flexibility

- Simple and flexible design — even on challenging roofs
- Fast customization

SPECIFICATIONS

	Monitoring	Optimization
Electrical rating		
Rated DC input voltage	375 W	375 W
Max. PV module open circuit voltage (Voc)	52 V	52 V
Max. current	12 A	12 A
PV module V _{mf} range	16 to 48 V	16 to 48 V
Output		
Rated DC input power	0 to 375 W	0 to 375 W
Output voltage range	0 to Voc	0 to Voc
Communications	902.14.4, 2,4 GHz	902.14.4, 2,4 GHz
Rapid shutdown verified (NEC 2014 690.12)	No	Yes
Impedance matching capability	No	Yes
Output voltage limit	No	No
Maximum system voltage	1000 V	1000 V
Max. series fuse rating	15 A	15 A
Mechanical		
Operating temperature range	-40 to 75 °C	
Storage temperature range	-40 to 75 °C	
Cooling concept	Natural Convection	
Dimensions	195,5 x 158 x 23 mm	
Weight (without cover)	470 g	
Degree of protection	IP65 / IP67, NEMA 3R	
Cabling		
Cabling type	PV1-F	

Output cable length	1,0; other lengths upon request
Connector	MC4
UV resistance	500 h with UVb light between 300 to 400 nm at 65°C
Max. string voltage	600 V UL / 1000 V IEC ó 1000 v UL / IEC
Outer cable diameter	6,25 mm ± 0,25 mm (600 v uL) / 7,15 mm ± 0,25 mm (1000 v uL)
Conductor cross-section	4,0 mm ²
Warranty	25 years

DOWNLOADS



Sunny Boy 1.5 - 2.5
(460.64 KiB)



Sunny Boy 3.0 - 5.0
(566.14 KiB)



Sunny Boy Storage
SB25 (452.79 KiB)



Sunny Boy Smart
Energy (353.33 KiB)



SMA Tigo TS4 EN
(412.73 KiB)



SMA Sunny Boy TL
EN (552.85 KiB)



SMA Sunny Tripower
5-12000 TL EN
(499.02 KiB)