SUNNY TRIPOWER

Can do everything that we can

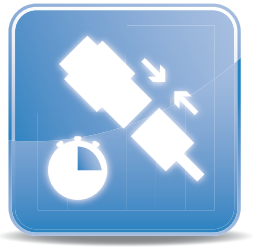
5 NEW FEATURES

Optiflex
Flexible Plant Design

Optiprotect –
Electronic String Fuse

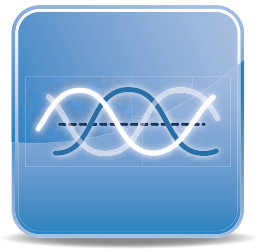
Optiprotect – Integrable
Type II Overvoltage Protection

Optiprotect – Intelligent
String Failure Detection



SUNCLIX
DC Connection System

3 PHASES



Three-phase Feed-in

1 PRODUCT

If you want to do big things, you also need to have an eye on the little ones.

The Sunny Tripower

Many companies make three-phase inverters. But we are the only ones who produce the Sunny Tripower. What makes it so unique? It is the result of 30 years of experience, and the expertise of 600 developers and our countless and innovative ideas for the future.

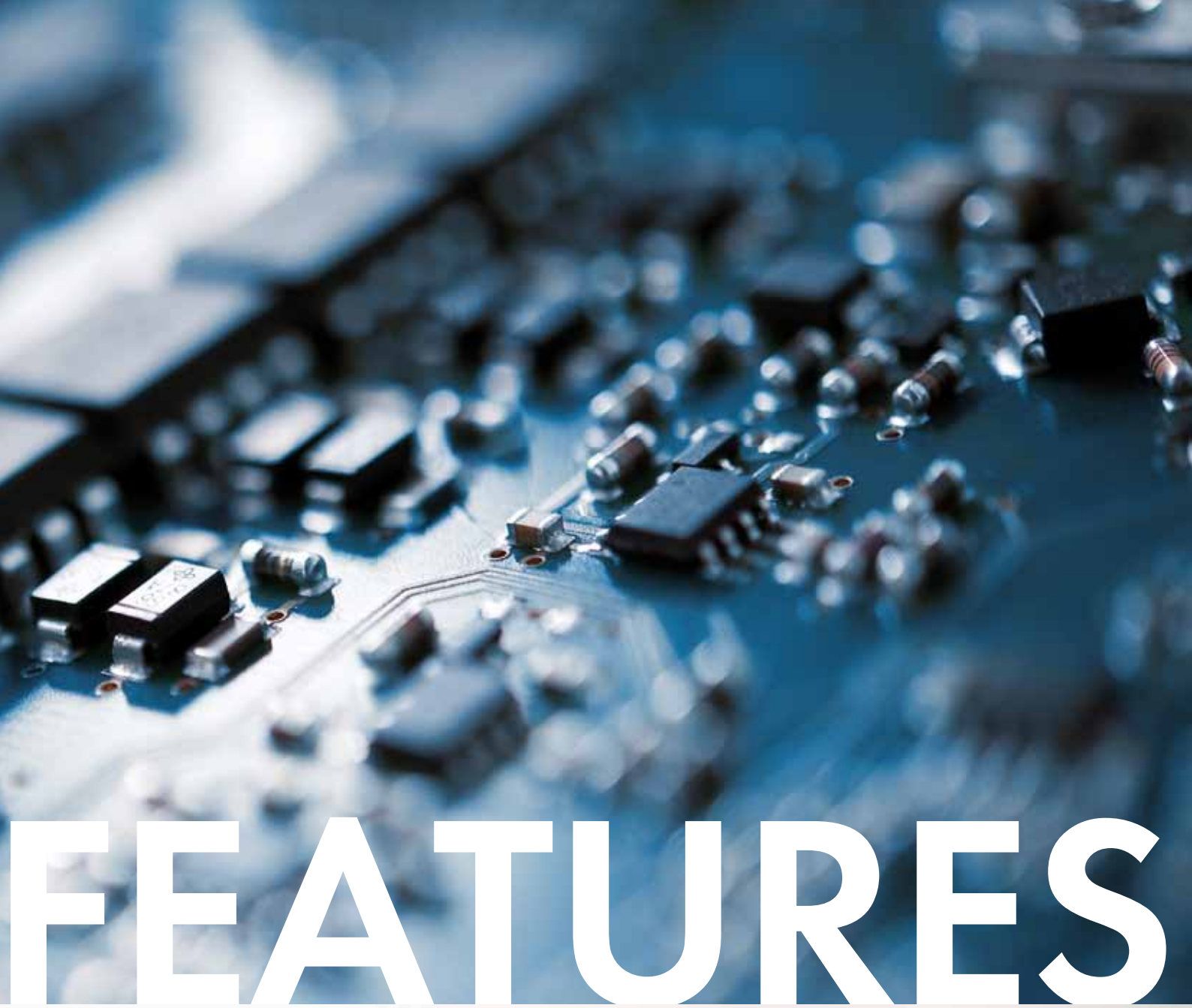
We know what the market wants. Driven by innovation and in answer to your practical needs, we have come up with the perfect product. This means simple installation, flexible configuration and reduced system costs. The Sunny Tripower difference lies in its attention to detail. The details that guarantee maximum efficiency while at the same time make the device incredibly easy to use.

5 NEW

The Sunny Tripower's five new features are more than just an expression of our innovative talent. Let us start with Optiflex and Optiprotect with an electronic string fuse, integrable Type II overvoltage protection and intelligent string failure detection system. Add the SUNCLIX DC connection system and our three-phase feed-in to the mix and you have a device that has what it takes. In short, the Sunny Tripower has well and truly raised the bar.

Optiflex
Flexible Plant Design

Optiprotect –
Electronic String Fuse



FEATURES

Optiprotect – Integrable
Type II Overvoltage Protection

Optiprotect – Intelligent
String Failure Detection

SUNCLIX DC Connection System

Optiflex

Maximum Design Flexibility

NEW FEATURE 1

The Asymmetrical Multi-string Concept

Optiflex is the first of our new features. Its outstanding flexibility opens up endless possibilities. How? Through an asymmetrically dimensioned multi-string input combined with a broad input voltage range and a maximum DC voltage of 1,000 V, as well as an extremely large MPP voltage range of 150 to 800 V. With just one inverter you get a high degree of module compatibility and seamless construction that exactly meets the required number of modules.

Optiprotect

Electronic String Fuse

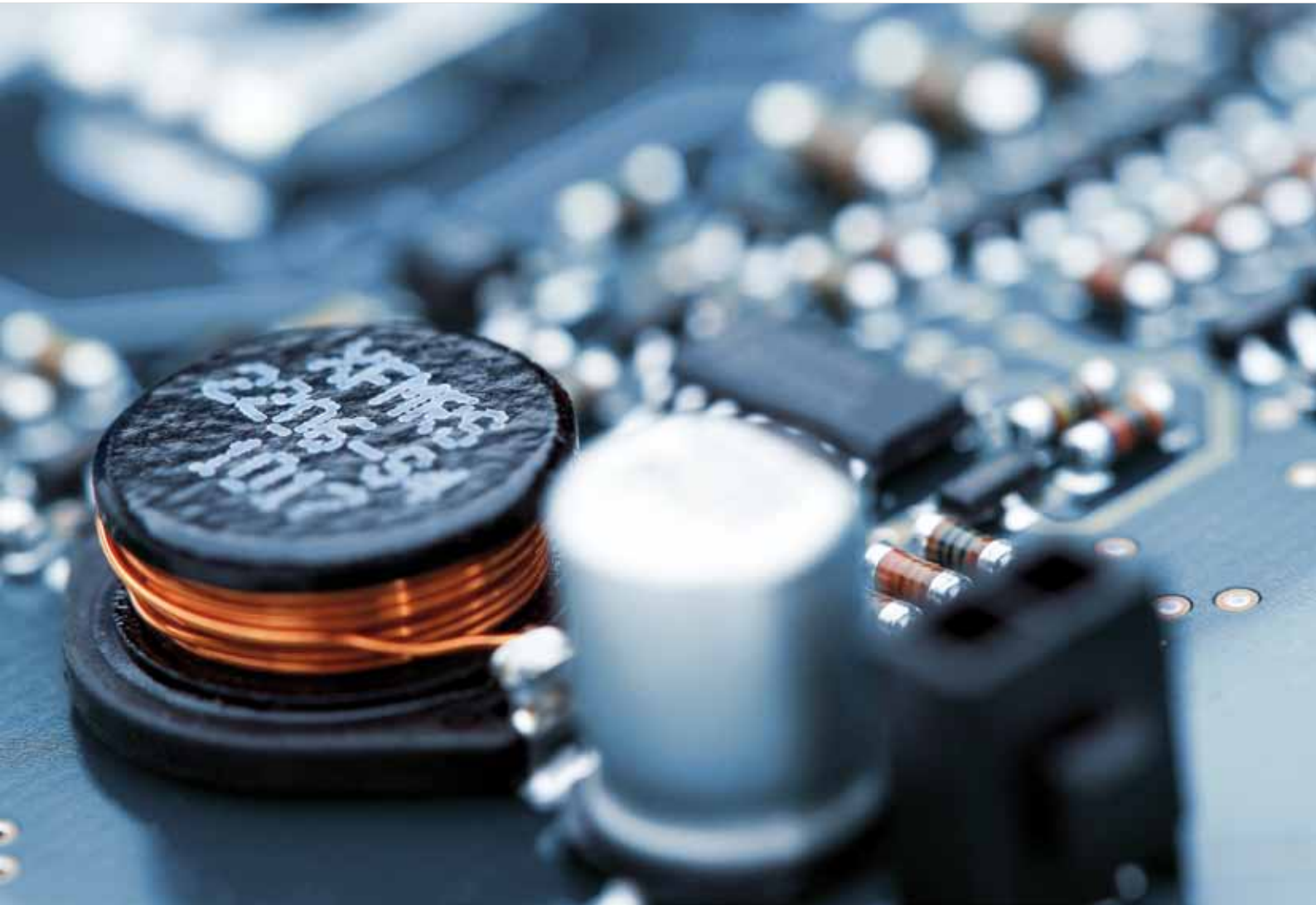
NEW FEATURE 2

Pioneering Protection

Optiprotect provides comprehensive protection from loss during operation and a virtually endless service life. The Sunny Tripower multi-safety feature, integrated for the first time, delivers threefold protection for every plant.

The Optiprotect electronic string fuse uses an entirely new approach and is our second latest feature. Its integrated electricity sensors reliably detect and eliminate reverse currents.

In comparison to conventional safety fuses, this innovative technology features an array of additional benefits including no loss of energy and no extra costs. Plus you don't have to worry about things like ageing effects or fuse dimensions ever again.



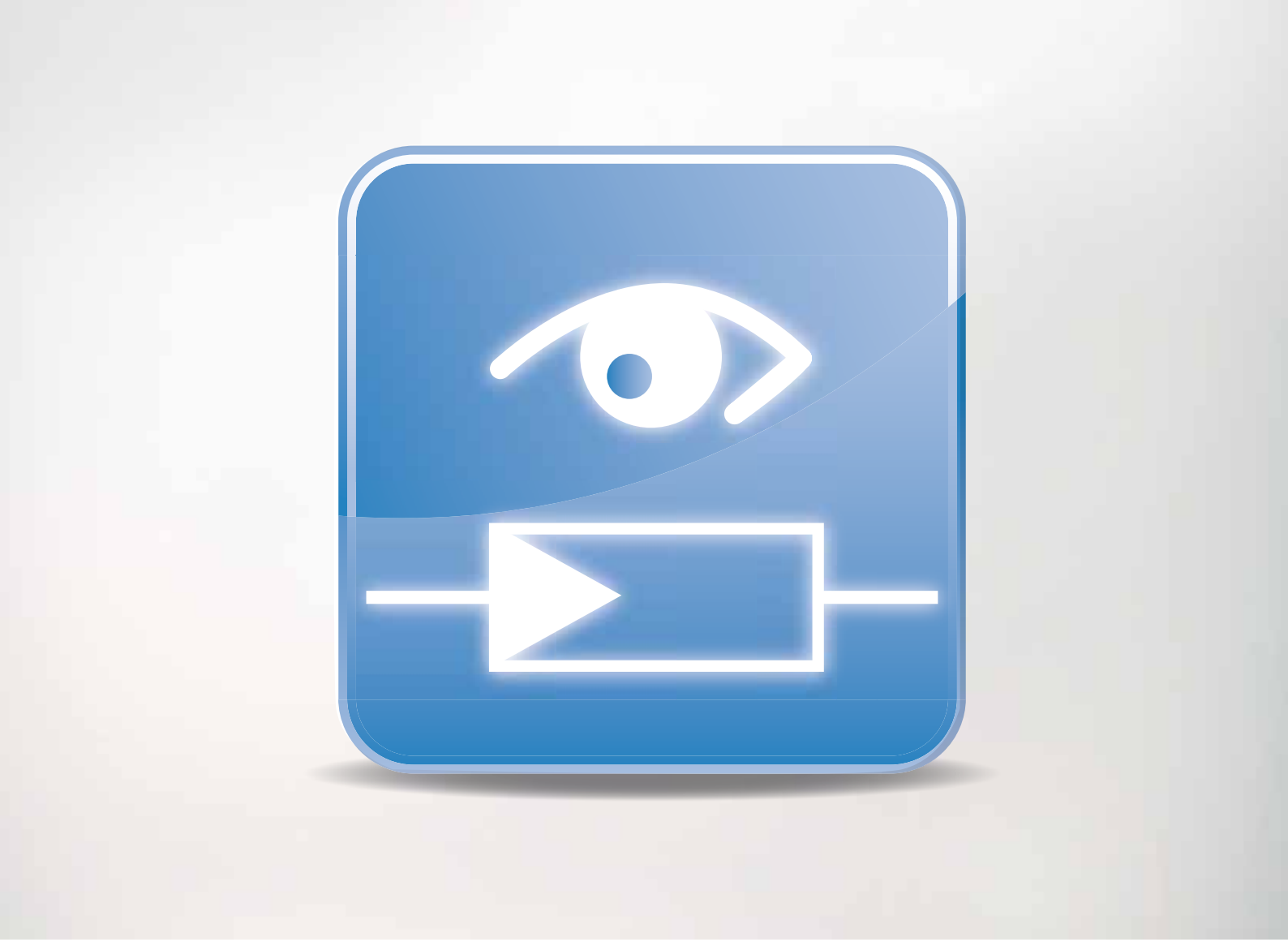
Optiprotect

Integrable Type II Overvoltage Protection

NEW FEATURE 3

Advanced Protection at High Voltage

Thanks to the integrable Type II overvoltage protection, our third new feature, you benefit from intelligent protection against unexpected electrical surges. It enables the Sunny Tripower to easily integrate into lightning protection concepts, such as those mandatory for public buildings or those often required by insurance companies. All without any additional effort during installation. Enjoy the advantages of seamless monitoring for your inverter. It is affordable, easy to install and perfect for lowering the total costs of ownership.



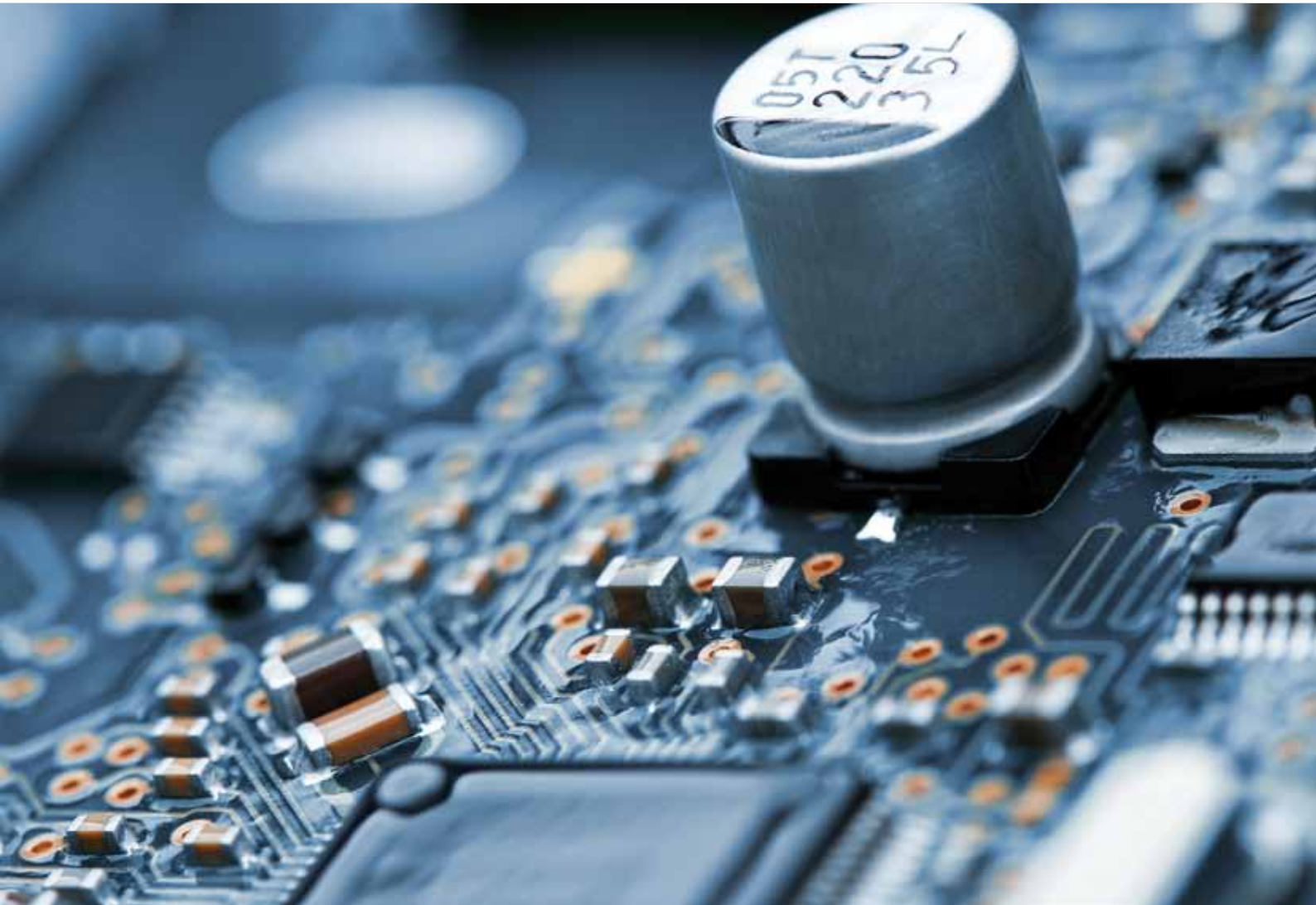
Optiprotect

Intelligent String Failure Detection

NEW FEATURE 4

Smart Monitoring

The fourth of our new features is the intelligent string failure detection. It teaches itself what it has to know. Not only sophisticated and efficient it is also clever and resourceful – it actually tells itself what it needs to know. By independently recognizing and registering the failure of individual strings it makes undetected string failures absolutely obsolete. This integrated monitoring solution is a smooth operator that helps to deliver a maximum solar energy yield – without any additional effort or extra costs during installation.



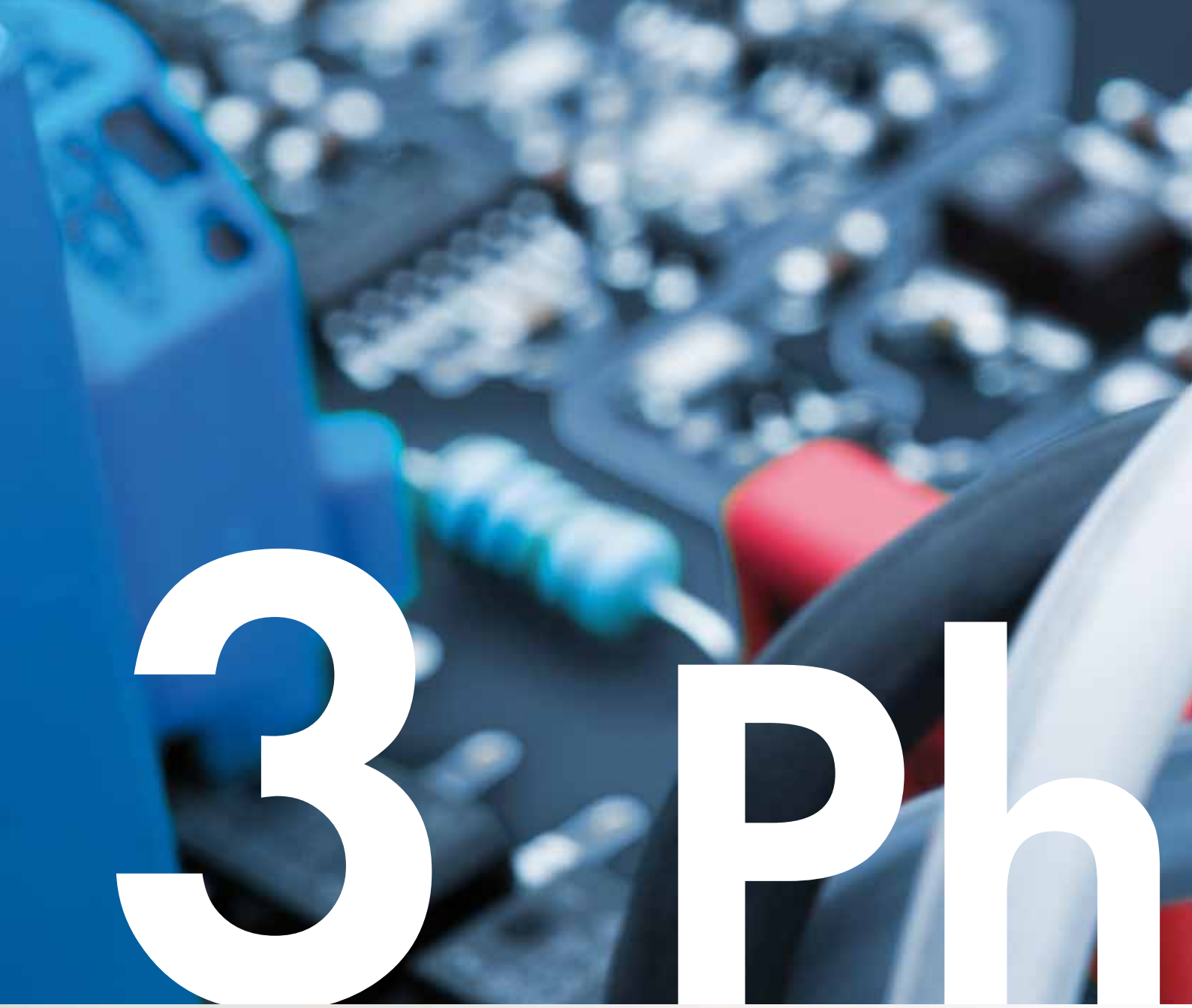
SUNCLIX
DC Connection System

The Quick and Easy Way to Get Connected

NEW FEATURE 5

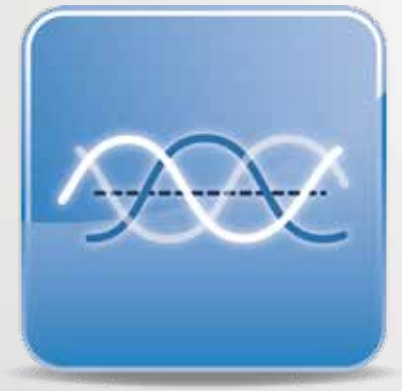
The Perfect Connection

SUNCLIX is the first ever built-in DC connection system and our fifth new feature. Regardless of which module you are using you have everything connected and completely under control. It is fast, simple and standardized. There is no need for an adapter or a selection of plugs, or even a tool – and each cable should only take you a maximum of 15 seconds to install. It is easily the best connection for a simple plug-in.



3 Ph

Three-phase technology is often a necessity. Because it is necessary to meet the utility company's local requirements for feeding renewable energy into the grid. In addition, the Sunny Tripower participates in providing reliable grid management.



ases

Three Phases

Three-phase technology does not always function like three-phase technology. Why? One-phase devices can also be installed in "three-phase packages" however these systems are typically very difficult to plan. Unlike other inverters, the Sunny Tripower now enables the three-phase feed-in of solar energy. The advantage: Three-phase feed-in makes it easier to design the inverter and plant with incredible precision giving it an advantage over one-phase feed-in.

The Simple Solution for Modern Grid Management

There are many requirements that must be met when feeding in renewable energy such as solar power. To satisfy the conditions stipulated by the utility company, the new Sunny Tripower plays an important role in grid management. It is the first device in its performance class to comply with the German Association of Energy and Water Industries (BDEW) regulations that became effective in mid-2010. It helps maintain frequency and voltage stability using reactive power and also assists in relation to grid faults. This allows for the construction of plant concepts with designated reactive power. In practice, this means the solar power plant is able to maximize the existing distribution network capacity.

1 Pro

Only those who think outside the box get ahead. The Sunny Tripower is more than just a new inverter. It is packed with cutting-edge technology and offers limitless possibilities. Its numerous features represent an unparalleled technological package. A package that sets new benchmarks and is shaping the future of the three-phase feed-in of solar power.

duct

SUNNY TRIPOWER

The Optiflex, Optiprotect and SUNCLIX are all impressive new features, however the Sunny Tripower has much more to offer. Take for example its peak efficiency rate of more than 98 percent, which is a further boost to productivity and helps to lower system costs. It also means a better rate of return for plant operator's providing an additional incentive to continue investing in solar energy and the future.

A Winning Combination

The Sunny Tripower combines our company's strengths. It is the expertise of 600 developers and the culmination of 30 years experience in system technology that are incorporated into the five new features. Together with the three-phase feed-in and asymmetrical multi-string concept, it is already providing solutions for the challenges of tomorrow. It is more than just a great idea, it is a series of pioneering innovations. Can do everything that we can.

The Future Starts Today

When is the right time to start thinking about tomorrow? It has always been our goal to use new technologies to promote the use of photovoltaics worldwide while at the same time making it as economical as possible. With new ideas and sophisticated concepts and in projects both big and small. As a business partner, we provide solar energy plants that meet the highest technical standards, are low-maintenance and generate the greatest returns. All this accomplished using green technology and a responsible approach to the environment, the economy and the future.

Technical Data

	Sunny Tripower 8000TL	Sunny Tripower 10000TL	Sunny Tripower 12000TL	Sunny Tripower 15000TL	Sunny Tripower 17000TL
Input (DC)					
Max. DC power (@ cos φ = 1)	8200 W	10200 W	12250 W	15340 W	17410 W
Max. input voltage	1000 V	1000 V	1000 V	1000 V	1000 V
MPP voltage range / rated input voltage	320 V – 800 V / 600 V	320 V – 800 V / 600 V	380 V – 800 V / 600 V	360 V – 800 V / 600 V	400 V – 800 V / 600 V
Min. input voltage / start input voltage	150 V / 188 V	150 V / 188 V	150 V / 188 V	150 V / 188 V	150 V / 188 V
Max. input current input A / input B	22 A / 11 A	22 A / 11 A	22 A / 11 A	33 A / 11 A	33 A / 11 A
Max. input current per string input A** / input B**	33 A / 12.5 A	33 A / 12.5 A	33 A / 12.5 A	33 A / 12.5 A	33 A / 12.5 A
Number of independent MPP inputs / strings per MPP input	2 / A: 4, B: 1	2 / A: 4, B: 1	2 / A: 4, B: 1	2 / A: 5, B: 1	2 / A: 5, B: 1
Output (AC)					
Rated output power (@ 230 V, 50 Hz)	8000 W	10000 W	12000 W	15000 W	17000 W
Max. apparent AC power	8000 VA	10000 VA	12000 VA	15000 VA	17000 VA
Nominal AC voltage	3 / N / PE, 220 / 380 V 3 / N / PE, 230 / 400 V 3 / N / PE, 240 / 415 V	3 / N / PE, 220 / 380 V 3 / N / PE, 230 / 400 V 3 / N / PE, 240 / 415 V	3 / N / PE, 220 / 380 V 3 / N / PE, 230 / 400 V 3 / N / PE, 240 / 415 V	3 / N / PE, 220 / 380 V 3 / N / PE, 230 / 400 V 3 / N / PE, 240 / 415 V	3 / N / PE, 220 / 380 V 3 / N / PE, 230 / 400 V 3 / N / PE, 240 / 415 V
Nominal AC voltage range	160 V – 280 V	160 V – 280 V	160 V – 280 V	160 V – 280 V	160 V – 280 V
AC power frequency / range	50 Hz, 60 Hz / -6 Hz ... +5 Hz				
Rated power frequency / rated power voltage	50 Hz / 230 V	50 Hz / 230 V	50 Hz / 230 V	50 Hz / 230 V	50 Hz / 230 V
Max. output current	16 A	16 A	19.2 A	24 A	24.6 A
Power factor at rated output power	1	1	1	1	1
Displacement power factor, configurable	0.8 leading ... 0.8 lagging				
Phase conductors / connection phases	3 / 3	3 / 3	3 / 3	3 / 3	3 / 3
Efficiency					
Max. efficiency / European efficiency	98.1 % / 97.5 %	98.1 % / 97.7 %	98.1 % / 97.7 %	98.2 % / 97.8 %	98.2 % / 97.8 %
Protection devices					
Input-side disconnection device	●	●	●	●	●
Ground fault monitoring / grid monitoring	●/●	●/●	●/●	●/●	●/●
DC surge arrester Type II, can be integrated	o	o	o	o	o
DC reverse pole protection / AC short-circuit current protection / galvanically isolated	●/●/–	●/●/–	●/●/–	●/●/–	●/●/–
All-pole-sensitive residual current monitoring unit	●	●	●	●	●
Protection class (as per IEC 62103) / over-voltage category (as per IEC 60664-1)	I / III	I / III	I / III	I / III	I / III
General data					
Dimensions (W / H / D)	665 / 690 / 265 mm (26.2 / 27.2 / 10.4 in)				
Weight	64 kg / 141.1 lb				
Operation temperature range	-25 °C ... +60 °C / 13 °F ... 140 °F				
Noise emission, typical	51 dB(A)	51 dB(A)	51 dB(A)	51 dB(A)	51 dB(A)
Self-consumption (at night)	1 W	1 W	1 W	1 W	1 W
Topology / cooling concept	transformerless / OptiCool				
Degree of protection / connection area degree of protection (as per IEC 60529)	IP65 / IP64	IP65 / IP54	IP65 / IP54	IP65 / IP54	IP65 / IP54
Climatic category (as per IEC 60721-3-4)	4K4H	4K4H	4K4H	4K4H	4K4H
Maximum permissible value for relative humidity, non-condensing	100 %	100 %	100 %	100 %	100 %
Features					
DC connection	SUNCLIX	SUNCLIX	SUNCLIX	SUNCLIX	SUNCLIX
AC connection	spring terminal	spring terminal	spring terminal	spring terminal	spring terminal
Display	graphic	graphic	graphic	graphic	graphic
Interfaces: RS485 / *Bluetooth*®	o/●	o/●	o/●	o/●	o/●
Warranty: 5 / 10 / 15 / 20 / 25 years	●/o/o/o/o	●/o/o/o/o	●/o/o/o/o	●/o/o/o/o	●/o/o/o/o
Multi-function relay	●	●	●	●	●
Certificates and permits (more available on request)	CE, VDE 0126-1-1, G83/1-1, RD 1663/2000, PPC, AS4777, EN 50438*, C10/11, PPDS, RD 661/2007, G59/2, IEC 61727, ENEL-Guida, UTE C15-712-1				
Type designation	STP 8000TL-10	STP 10000TL-10	STP 12000TL-10	STP 15000TL-10	STP 17000TL-10

* Does not apply to all national deviations of EN 50438 ** To be observed in case of a short circuit in the electronic string fuse

● Standard features o Optional features – Not available Data at nominal conditions, last updated: May 2011

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