



## Data sheet

### blueplanet

5.0 TL3 | 6.5 TL3

7.5 TL3 | 8.6 TL3 **NEW**

9.0 TL3 | 10.0 TL3 **NEW**

# Your quickest way to the highest yields.

The transformerless, three-phase inverters blueplanet 5.0 TL3 to 10.0 TL3.

All of the advantages of the larger 3-phase inverters can now be found in one power class which is just perfect for private roof systems as well as small commercial applications.

The blueplanet 5.0 TL3 to 10.0 TL3 come, without exception, with 2 MPP trackers which can get to grips with all imaginable design configurations of a modular PV generator. As such, each MPP tracker can process the whole AC output. If you also consider the extremely wide input voltage range from 200 V to 950 V, multiple string configurations become possible. So, with these characteristics, the blueplanet TL3 present themselves as the most flexible three-phase inverters in their power class on the market.

The DC and AC periphery of the blueplanet TL3 ensures the quickest cabling thanks to plug-in connectors and the

menu selection is performed conveniently using the graphic display. So that the appliances can stand up to the harshest conditions out in the open, their compact housing is built to IP65 protection class. Nevertheless, weighing just 30 kg they can still be carried easily.

The standard incorporation of RS485, Ethernet and USB ensures elegant communication and convenient monitoring – even more interfaces are optionally available. The data logger and the web server are already integrated as standard! As a result, these inverters offer complete monitoring and strong communication in any environment.

An extension module with 4 digital inputs allows performance targets sent by the grid operator via ripple control receiver to be put into action by the inverters themselves; this does away with an in-

termediate data logger. Please find more information about the extension module on our website.

If you want to use your self-generated solar power in your own home, the blueplanet 5.0 TL3 to 10.0 TL3 also come with our Privatt function for managing self-consumption.

Your declaration of solar independence becomes complete when you use an intelligent energy storage system; it allows you to use your own clean energy whenever you want to. Fitted with these blueplanet TL3, your private solar power plant can be upgraded with a storage system at any time. And, our blueplanet gridsave eco 5.0 TR1 battery inverter will take care of the energy management of your PV storage system too.

# Technical data

blueplanet 5.0 TL3 | 6.5 TL3 | 7.5 TL3 | 8.6 TL3 | 9.0 TL3 | 10.0 TL3

Electrical data	5.0 TL3	6.5 TL3	7.5 TL3
<b>DC input</b>			
MPP range@Phom	240 V ... 800 V	310 V ... 800 V	350 V ... 800 V
Operating range	200 V - 950 V	200 V - 950 V	200 V - 950 V
Min. DC voltage/starting voltage	200 V / 250 V	200 V / 250 V	200 V / 250 V
No-load voltage	1000 V	1000 V	1000 V
Max. input current	2x11.0 A	2x11.0 A	2x11.0 A
Number of MPP trackers	2	2	2
Max. power/tracker	5.2 kW	6.7 kW	7.7 kW
Number of strings	2	2	2
<b>AC output</b>			
Rated output	5000 VA	6500 VA	7500 VA
Supply voltage	acc. to local requirements	acc. to local requirements	acc. to local requirements
Rated current	3x7.25 A	3x9.5 A	3x10.9 A
Rated frequency	50 Hz / 60 Hz	50 Hz / 60 Hz	50 Hz / 60 Hz
cos phi	0.30 inductive ... 0.30 capacitive	0.30 inductive ... 0.30 capacitive	0.30 inductive ... 0.30 capacitive
Number of grid phases	3	3	3
<b>General electrical data</b>			
Max. efficiency	98.3 %	98.3 %	98.3 %
Europ. efficiency	97.4 %	97.6 %	97.7 %
Night consumption	1.5 W	1.5 W	1.5 W
Circuitry topology	transformerless	transformerless	transformerless
<b>Mechanical data</b>			
Display	graphical display + LEDs	graphical display + LEDs	graphical display + LEDs
Control units	4-way navigation + 2 buttons	4-way navigation + 2 buttons	4-way navigation + 2 buttons
Interfaces	standard: 2xEthernet, USB, RS485, Error relay optional: 4-DI	standard: 2xEthernet, USB, RS485, Error relay optional: 4-DI	standard: 2xEthernet, USB, RS485, Error relay optional: 4-DI
Fault signalling relay	potential-free NOC max. 30 V / 1 A	potential-free NOC max. 30 V / 1 A	potential-free NOC max. 30 V / 1 A
Connections	DC: SUNCLIX AC: plug	DC: SUNCLIX AC: plug	DC: SUNCLIX AC: plug
Ambient temperature	-25 °C ... +60 °C <sup>1)</sup>	-25 °C ... +60 °C <sup>1)</sup>	-25 °C ... +60 °C <sup>1)</sup>
Cooling	temperature-dependent fan	temperature-dependent fan	temperature-dependent fan
Protection class	IP65	IP65	IP65
Noise emission	< 45 dB(A)	< 45 dB(A)	< 45 dB(A)
DC switch	integrated	integrated	integrated
Casing	aluminium casting/ innovative ASA/PC	aluminium casting/ innovative ASA/PC	aluminium casting/ innovative ASA/PC
H x W x D	522 x 363 x 246 mm	522 x 363 x 246 mm	522 x 363 x 246 mm
Weight	30 kg	30 kg	30 kg
<b>Certifications</b>			
Safety	EN 61000-6-1/-2/-3, IEC 62109-1/-2		
Grid compliance	VDE-AR-N 4105, VDE0126-1-1, ÖVE/ÖNORM E 8001, UTE C 15-712-1, G83/2, G59/3, CEI-021, EN 50438, C10/11, ... for more see homepage/download area		

Conforms to the country-specific standards and regulations according to the country version that has been set.  
<sup>1)</sup> Power derating at high ambient temperatures.

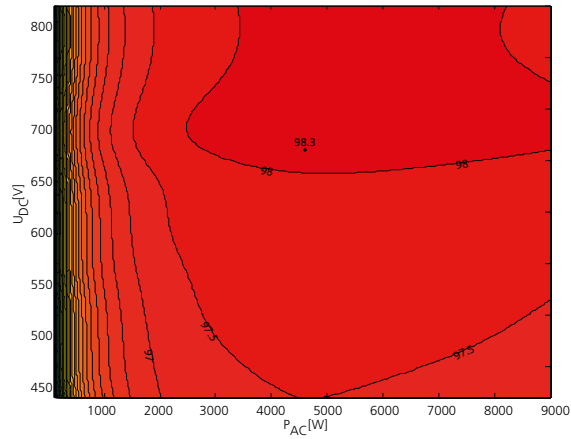
8.6 TL3 <b>NEW</b>	9.0 TL3	10.0 TL3 <b>NEW</b>
<b>DC input</b>		
403 V ... 800 V	420 V ... 800 V	470 V ... 800 V
200 V - 950 V	200 V - 950 V	200 V - 950 V
200 V / 250 V	200 V / 250 V	200 V / 250 V
1000 V	1000 V	1000 V
2 x 11,0 A	2 x 11.0 A	2 x 11.0 A
2	2	2
8,8 kW	8.8 kW	8.8 kW
2	2	2
<b>AC output</b>		
8600 VA	9000 VA	10000 VA
400 V / 230 V (3/N/PE)	acc. to local requirements	acc. to local requirements
3 x 12,5 A	3 x 13.0 A	3 x 14.5 A
50 Hz	50 Hz / 60 Hz	50 Hz / 60 Hz
0.30 inductive ... 0.30 capacitive	0.30 inductive ... 0.30 capacitive	0.30 inductive ... 0.30 capacitive
3	3	3
<b>General electrical data</b>		
98,3 %	98.3 %	98.3 %
97,9 %	97.9 %	97.9 %
1,5 W	1.5 W	1.5 W
transformerless	transformerless	transformerless
<b>Mechanical data</b>		
graphical display + LEDs	graphical display + LEDs	graphical display + LEDs
4-way navigation + 2 buttons	4-way navigation + 2 buttons	4-way navigation + 2 buttons
standard: 2xEthernet, USB, RS485, Error relay optional: 4-DI	standard: 2xEthernet, USB, RS485, Error relay optional: 4-DI	standard: 2xEthernet, USB, RS485, Error relay optional: 4-DI
potential-free NOC max. 30 V / 1 A	potential-free NOC max. 30 V / 1 A	potential-free NOC max. 30 V / 1 A
DC: SUNCLIX AC: plug	DC: SUNCLIX AC: plug	DC: SUNCLIX AC: plug
-25 °C ... +60 °C <sup>1)</sup>	-25 °C ... +60 °C <sup>1)</sup>	-25 °C ... +60 °C <sup>1)</sup>
temperature-dependent fan	temperature-dependent fan	temperature-dependent fan
IP65	IP65	IP65
< 45 dB(A)	< 45 dB(A)	< 45 dB(A)
integrated	integrated	integrated
aluminium casting/ innovative ASA/PC	aluminium casting/ innovative ASA/PC	aluminium casting/ innovative ASA/PC
522 x 363 x 246 mm	522 x 363 x 246 mm	522 x 363 x 246 mm
30 kg	30 kg	30 kg
<b>Certifications</b>		
EN 61000-6-1/-2/-3, IEC 62109-1/-2		
VDE-AR-N 4105, VDE0126-1-1, ÖVE/ÖNORM E 8001, UTE C 15-712-1, G83/2, G59/3, CEI-021, EN 50438, C10/11, ... for more see homepage/download area		

Conforms to the country-specific standards and regulations according to the country version that has been set.  
<sup>1)</sup> Power derating at high ambient temperatures.



## Graphical Display of efficiency

3D efficiency diagram for blueplanet 9.0 TL3



### blueplanet

5.0 TL3 | 6.5 TL3 | 7.5 TL3  
8.6 TL3 | 9.0 TL3 | 10.0 TL3

Up to 98.3 % efficiency

Two MPP trackers, symmetrical  
and asymmetrical loading possible

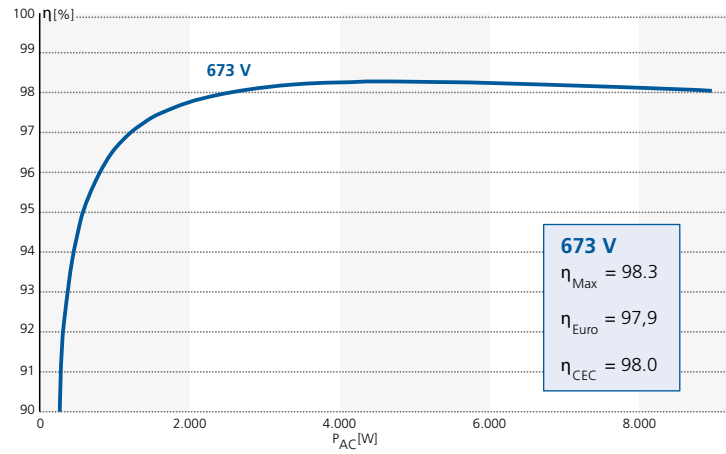
Multilingual menu

Graphical display

Data logger with web server

Privatt function for the self-  
consumption of solar power,  
ready for storage

Efficiency characteristic curve for blueplanet 9.0 TL3



Your retailer

Data sheet

blueplanet  
15.0 TL3 INT  
20.0 TL3 INT

**NEW**



# Versatile on the roof, powerful in the park.

The transformerless, three-phase inverter blueplanet 15.0 TL3 INT and 20.0 TL3 INT.

The blueplanet 15.0 TL3 INT and 20.0 TL3 INT offer you plenty of scope for your photovoltaic projects in the medium power range – from small, commercial solar roofs to large-scale, open space solar parks.

Both inverters operate using two separate MPP trackers that can handle both symmetrical and asymmetrical loads. You will be able to deal with east/west facing roofs (symmetrical load), factory roofs which are shaded or inconsistently designed and open spaces (asymmetrical load). Two strings can be connected per

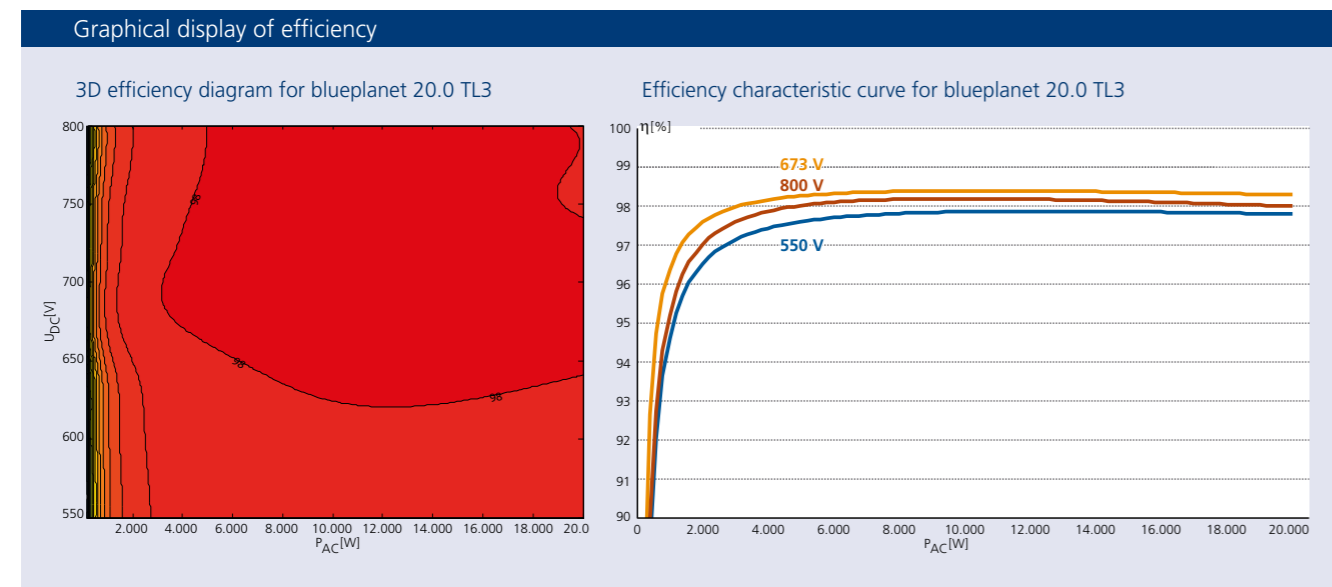
MPP tracker, but a parallel tracker connection is also possible.

The wide input voltage range underscores the high performance of the units: The inverters start at 250 V, and, when in operation, continue to feed in at 200 V. They work right up to 950 V. First, these features give you a high degree of flexibility in system planning, and later, their long working hours will result in extremely high profitability.

The inverters comply with the BDEW medium voltage directive and a broad

range of international grid regulations. Moreover, the combination of inverter and Powador-protect allows you to meet the requirements of grid and system protection as well as power management simply and inexpensively.

Pre-installed sockets into which the surge protection device of type SPD 1+2 can be fitted emphasise the safety aspect.



## Technical data

blueplanet 15.0 TL3 INT | 20.0 TL3 INT

Electrical data	15.0 TL3 INT	NEW	20.0 TL3 INT
<b>Input variables</b>			
Maximum PV generator power	18 000 W		24 000 W
MPP range@P <sub>nom</sub>	420 V ... 800 V		515 V ... 800 V
Operating range	200 V - 950 V		200 V - 950 V
Min. DC voltage / starting voltage	200 V / 250 V		200 V / 250 V
No-load voltage	1 000 V		1 000 V
Max. input current	2 x 18,6 A		2 x 20 A
Number of MPP trackers	2		2
Max. power/tracker	14,9 kW		15.0 kW
Number of strings	2 x 2		2 x 2
<b>Output variables</b>			
Rated output (@ 230 V)	15 000 VA@230 V		20 000 VA@230 V
Line voltage	400 V / 230 V (3 / N / PE)		400 V / 230 V (3 / N / PE)
Rated current	3 x 21,8 A		3 x 29 A
Rated frequency	50 Hz / 60 Hz		50 Hz / 60 Hz
cos phi	1 inductive ... 0.3 capacitive		1 inductive ... 0.3 capacitive
Number of grid phases	3		3
<b>General electrical data</b>			
Max. efficiency	98,0 %		98.4 %
Europ. efficiency	97,7 %		98.1 %
Night consumption	1,5 W		1.5 W
Switching plan	trafolos		transformerless
Grid monitoring	länderspezifisch		acc. to local requirements
<b>Mechanical data</b>			
Display	graphical display + LEDs		graphical display + LEDs
Control units	4-way navigation + 2 buttons		4-way navigation + 2 buttons
Interfaces	standard: 2xEthernet, USB, RS485, Error relay optional: 4-DI		standard: 2xEthernet, USB, RS485, Error relay optional: 4-DI
Fault signalling relay	potential-free NOC max. 30 V / 1 A		potential-free NOC max. 30 V / 1 A
Connections	DC: solar connector, AC: cable connection M40 and terminal (max. cross-section: 16 mm <sup>2</sup> flexible, 10 mm <sup>2</sup> rigid)		DC: solar connector, AC: cable connection M40 and terminal (max. cross-section: 16 mm <sup>2</sup> flexible, 10 mm <sup>2</sup> rigid)
Ambient temperature	-25°C ... +60°C <sup>1)</sup>		-25°C ... +60°C <sup>1)</sup>
Cooling	forced convection		forced convection
Protection class	IP65		IP65
Noise emission	< 53 dB (A)		< 53 dB (A)
DC switch	integrated		integrated
Casing	aluminium casting		aluminium casting
H x W x D	690 x 420 x 200 mm		690 x 420 x 200 mm
Weight	46.6 kg		46.6 kg

<sup>1)</sup> Power derating at high ambient temperatures.



blueplanet  
15.0 TL3 INT  
20.0 TL3 INT

Up to 98.4 % efficiency

2 MPP trackers, symmetrical and asymmetrical loading possible

Wide input voltage range  
200 V – 950 V

Protection class IP65 for outdoor use

Graphical display, multilingual menu, pre-configured country settings

Data logger with web server

Prepared for surge protection

Your retailer

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Hoja de datos  
blueplanet  
50.0 TL3

# La rentabilidad aumenta, los costes disminuyen

## Inversor trifásico sin transformador blueplanet 50.0 TL3

Ahorre en costes, no en calidad: el blueplanet 50.0 TL3, optimizado para conseguir la más alta eficiencia, contiene el circuito avanzado del equipo Powador 60.0 TL3, de eficacia probada durante muchos años, en un formato compacto que se puede colgar de la pared y con un peso de tan solo 73 kg.

El aparato muestra sus puntos fuertes especialmente en plantas solares de diseño homogéneo; por ejemplo, en superficies libres y plantas industriales que estén orientadas a la máxima rentabilidad y presenten un dimensionamiento sencillo.

El blueplanet 50.0 TL3 es fácil de trans-

portar, ahorra costes de almacenamiento y se cuelga y descuelga cómodamente. La alta tensión del sistema de 1100 V posibilita

- strings más largos
- mayor flexibilidad en el diseño de CC
- mayor seguridad cuando se utiliza en zonas climáticas más frías

En el lado de la CA, una conexión permite grandes secciones de cable de hasta 95 mm<sup>2</sup> para una menor pérdida de potencia sin necesidad de una subdistribución de CA.

Como es costumbre en KACO new energy, también existe la opción de incluir un colector de ramales integrado con pro-

tección contra sobretensión para minimizar los trabajos de cableado.

Todo llega embalado dentro de una carcasa apta para exteriores. Además, un sistema de refrigeración efectivo con ventilación forzada vertical protege los componentes internos de forma fiable contra altas temperaturas y evita la contaminación en el canal de refrigeración.

Disponible el primer trimestre de 2016.



## blueplanet 50.0 TL3

Carcasa para exteriores

Colgado mediante placa de montaje

Tensión de sistema 1100 V

Configuraciones de entrada de CC económicas disponibles

Grandes secciones de cable en el lado de CA para una menor pérdida de potencia y unos costes de instalación más bajos

Datos eléctricos		50.0 TL3
<b>Entrada CC</b>		
Rango MPP @Pnom		570 V ... 900 V
Rango de trabajo		570 V - 1050 V
Tensión CC mín. / tensión inicial		570 V/670 V
Tensión en vacío		1100 V
Corriente de entrada máx.		90 A
Número de seguidores MPP		1
Número de strings		1/10 (colector de ramal integrado)
<b>Salida CA</b>		
Potencia nominal (@230 V/220 V)		50000 VA
Tensión de la red		400 V/230 V (3/N/PE o 3/PEN)
Corriente nominal		3 x 72,4 A @ 230 V
Corriente máx.		3 x 75,8 A
Frecuencia nominal		50 Hz/60 Hz
Cos phi		0,30 inductivo ... 0,30 capacitivo
Número de fases de alimentación		3
<b>Datos eléctricos generales</b>		
Grado de rendimiento máx.		98,3 % (provisional)
Grado de rendimiento europ.		98,0 % (provisional)
Consumo propio: Standby		1,5 W
Concepto de circuito		sin transformador
Protección contra la sobretensión		CC: tipo 1/2 opcional CA: tipo 1/2 opcional
<b>Datos mecánicos</b>		
Pantalla		pantalla gráfica + LEDs
Elementos de manejo		Cruz de 4 posiciones + 2 teclas
Interfaces		2 x Ethernet, USB, RS485, relé de error, 4 x entradas / salidas digitales (opcionales)
Relé de aviso de fallos		contacto de cierre libre de potencial máx. 230 V / 1 A
Conexiones		CA: sectores ALU de 95 mm <sup>2</sup> conexión de CC 1 string: zapata 150 mm <sup>2</sup> máx. conexión de CC 10 strings: Conector CC (SUNCLIX)
Temperatura ambiente		-20 °C ... +60 °C <sup>1)</sup>
Refrigeración		Refrigeración forzada / ventilador con regulación de revoluciones
Tipo de protección		IP65
Interruptor de CC		integrado
Al x An x Pro		760 x 500 x 425 mm
Peso		73 kg
<b>Certificaciones</b>		
Seguridad		IEC 62109-1/-2, EN 61000-6-1/-2/-3, EN 61000-3-11/-12
Permiso para el uso en distintos países		Vista general: visite nuestra página web / área de descarga

En función de la versión de país ajustada, se observan las normas y directivas específicas del país  
<sup>1)</sup> Reducción de potencia a altas temperaturas ambientales

Su representante local