



Data sheet

blueplanet
3.0 TL1 | 3.5 TL1
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4.6 TL1

Small system? Big convenience. Highest yields!

The transformerless string inverters blueplanet 3.0 to 4.6 TL1.

KACO new energy has just rolled out its new "blueplanet" inverter series with a line-up of 1-phase, transformerless units. Newly developed, and, constructed from scratch, the blueplanet TL1 fulfil each and every requirement expected of modern solar PV inverters for use in residential PV systems: they are light and can be installed quickly; all essential technical features are included in the price; reliable operation and yields are guaranteed.

The finely-differentiated output of the blueplanet TL1 ranges from 3.0 to 4.6 kW (AC), so that even operators of the smallest PV systems will find the right inverter. The gradation of the output power therefore takes into consideration all current output limits stipulated in European network access provisions.

A wide voltage range starts at as little as 125 V and goes up to 550 V which allows for a multitude of string designs.

Having 2 MPP trackers, which can each process the whole AC power, system layout is now a breeze (blueplanet 3.0 TL1 also available with 1 MPPT). Angled roofs or sub-arrays with different orientations? That is no problem for the flexible blueplanet TL1 inverters.

And with their low weight, they are almost fun to mount. Using plug-in connectors on the DC and on the AC side, they are just as quickly connected as they are mounted. The inverters incorporate a small, maintenance-free, interior cooler (the blueplanet 3.0 TL1 is fanless!) which achieves uniform cooling without taking in ambient air. That means that the blueplanet TL1 is left completely free to achieve maximum output.

The standard incorporation of RS485, Ethernet and USB ensures elegant communication and convenient monitoring – even more interfaces are optionally

available. In order to assure perfect link-up, the inverters have the same integrated data logger and web server as their 3-phase siblings. For commissioning and checking on the current operating data, they also feature the same easy-to-use, clearly laid out, graphical display.

And, if you want to use your self-generated solar power in your own home, the blueplanet TL1 also come with our Privatt function for managing self-use.

Anything less would be a thing of the past!

Available in Q4/2014.

Technical data

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Electrical data	3.0 TL1 M1	3.0 TL1
Input variables		
MPP range@Pnom	200 V ... 510 V	140 V ... 510 V
Min DC voltage / starting voltage	125 V/150 V	125 V/150 V
No-load voltage	600 V *	600 V *
Max. input current	1x11,0 A	2x11,0 A
Number of MPP trackers	1	2
Max. power/tracker	3.1 kW	3.1 kW
Number of strings	2	2
Output variables		
Rated output	3 000 VA	3 000 VA
Supply voltage	230 V (1/N/PE)	230 V (1/N/PE)
Rated current	13.0 A	13.0 A
Rated frequency	50 Hz / 60 Hz	50 Hz / 60 Hz
cos phi	1-0,3 (ind/cap)	1-0,3 (ind/cap)
Number of grid phases	1	1
General electrical data		
Max. efficiency	97.2 %	97.2 %
Europ. efficiency	96.5 %	96.5 %
Night consumption	3 W	3 W
Switching plan	transformerless	transformerless
Grid monitoring	acc. to local requirements	acc. to local requirements
Mechanical data		
Display	graphical display + LEDs	graphical display + LEDs
Control units	4-way navigation + 2 buttons	4-way navigation + 2 buttons
Interfaces	standard: 2xEthernet, USB, RS485 optional: S0, 4-DI, 4-DO	standard: 2xEthernet, USB, RS485 optional: S0, 4-DI, 4-DO
Fault signalling relay	potential-free NOC max. 230 V/1 A	potential-free NOC max. 230 V/1 A
Connections	DC: solar connector AC: connection plug	DC: solar connector AC: connection plug
Ambient temperature	-25 °C ... +60 °C **	-25 °C ... +60 °C **
Cooling	natural convection	natural convection
Protection class	IP54	IP54
Noise emission	< 35 dB (A)	< 35 dB (A)
DC switch	integrated	integrated
Casing	innovative ASA / PC casting	innovative ASA / PC casting
H x W x D	560 x 367 x 225 mm	560 x 367 x 225 mm
Weight	15 kg	16.5 kg

* Feed in starts at less than 550 V. ** Power derating at high ambient temperatures.

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165 V ... 510 V	170 V ... 510 V	185 V ... 510 V	215 V ... 510 V
125 V/150 V	125 V / 150 V	125 V / 150 V	125 V / 150 V
600 V *	600 V *	600 V *	600 V *
2 x11.0 A	2x11.0 A	2x11.0 A	2x11.0 A
2	2	2	2
3.6 kW	3.8 kW	4.1 kW	4.7 kW
2	2	2	2
Output variables			
3 450 VA	3 680 VA	4 000 VA	4 600 VA
230 V (1/N/PE)	230 V (1/N/PE)	230 V (1/N/PE)	230 V (1/N/PE)
15.0 A	16.0 A	17.5 A	20.0 A
50 Hz / 60 Hz	50 Hz / 60 Hz	50 Hz / 60 Hz	50 Hz / 60 Hz
1-0,3 (ind/cap)	1-0,3 (ind/cap)	1-0,3 (ind/cap)	1-0,3 (ind/cap)
1	1	1	1
General electrical data			
97.2 %	97.2 %	97.2 %	97.2 %
96.4 %	96.5 %	96.6 %	96.6 %
3 W	3 W	3 W	3 W
transformerless	transformerless	transformerless	transformerless
acc. to local requirements	acc. to local requirements	acc. to local requirements	acc. to local requirements
Mechanical data			
graphical display + LEDs	graphical display + LEDs	graphical display + LEDs	graphical display + LEDs
4-way navigation + 2 buttons	4-way navigation + 2 buttons	4-way navigation + 2 buttons	4-way navigation + 2 buttons
standard: 2xEthernet, USB, RS485 optional: S0, 4-DI, 4-DO	standard: 2xEthernet, USB, RS485 optional: S0, 4-DI, 4-DO	standard: 2xEthernet, USB, RS485 optional: S0, 4-DI, 4-DO	standard: 2xEthernet, USB, RS485 optional: S0, 4-DI, 4-DO
potential-free NOC max. 230 V/1 A	potential-free NOC max. 230 V/1 A	potential-free NOC max. 230 V/1 A	potential-free NOC max. 230 V/1 A
DC: solar connector AC: connection plug	DC: solar connector AC: connection plug	DC: solar connector AC: connection plug	DC: solar connector AC: connection plug
-25 °C ... +60 °C **	-25 °C ... +60 °C **	-25 °C ... +60 °C **	-25 °C ... +60 °C **
natural convection	maintenance-free indoor fan	maintenance-free indoor fan	maintenance-free indoor fan
IP54	IP54	IP54	IP54
< 35 dB (A)	< 35 dB (A)	< 35 dB (A)	< 35 dB (A)
integrated	integrated	integrated	integrated
innovative ASA / PC casting	innovative ASA / PC casting	innovative ASA / PC casting	innovative ASA / PC casting
560 x 367 x 225 mm	560 x 367 x 225 mm	560 x 367 x 225 mm	560 x 367 x 225 mm
18 kg	18 kg	18 kg	18 kg

* Feed in starts at less than 550 V. ** Power derating at high ambient temperatures.



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2 MPP trackers

Broad MPP range

Lightweight, straightforward
mounting

Convenient AC and DC cabling
thanks to plug-in connectors

Numerous pre-installed
communication interfaces

Data logger with web server

Graphical display,
intuitive menu navigation

Priwatt function for the self-use
of solar power

Your retailer
