KACO new energy.

Data sheet

blueplanet
50.0 TL3

Up with economy, down with costs.

The transformerless, three-phase inverter blueplanet 50.0 TL3.

For the blueplanet 50.0 TL3 we have further developed the configuration of the proven Powador 60.0 TL3: 50 reliable kVA which weigh a mere 70 kilograms and fit on the wall with ease. This inverter demonstrates its strengths in particular in solar power stations on a commercial and industrial scale.

The blueplanet 50.0 TL3 comes in different versions and is specifically geared towards your respective cost strategy:

- The S and B versions offer you everything you need if you are installing string collectors and overvoltage protection externally. There are no double costs in store for you.
- Rely on the M version if you intend to use external string collectors. Sockets for the DC and the AC side plug-and-play combined arrestors are already fitted.
- The XL version comes fitted with 10 string fuse holders and includes the DC side type 1 and 2 combined arrestor, as well as the socket for the AC side plug-and-play combined arrestor.

The DC switch is preinstalled in the B to XL versions. The blueplanet 50.0 TL3 S, B and M support large cable cross-sections on the DC and AC side. The benefit to you: reduced cabling loss, less sub-distribution. You can lay copper cable as before, or seize the opportunity of using aluminium ones that are less expensive. On the AC side, you also have your choice of cables with the blueplanet 50.0 TL3 XL. On the DC side, Sunclix plug connectors simplify the installation process.

Due to the compact design, the blueplanet 50.0 TL3 is easy to transport, hang up and take down - even on the module support. The durable aluminium housing is suitable for outdoor installation. The inverter only derates power from +50 °C upwards; this feature makes it particularly well-suited for operation in hot climates.

Do you require network and system protection or remote-controlled power regulation for your PV plant? KACO new energy is offering you a uniquely affordable and lean combined solution with blueplanet 50.0 TL3 and Powador-protect. The inverter is factory-fitted with coupler circuit breakers, which are actuated by Powador-protect. You will save yourself the cost of acquiring, installing and operating external coupler circuit breakers.

In the OD+ model variant, KACO new energy inverters are built to be resilient against salt air corrosion. Whereas you have normally to keep a minimum distance to the sea of 2000 metres, you can install OD+ inverters as near as 500 meters from the shoreline.

The testing of the devices is based on the norm IEC 60068-2-52:1996, Environmental testing - Part 2: Tests - Test Kb: Salt mist, cyclic (sodium chloride solution).

The following inverters are tested without any abnormalities and are available in an OD+ version: blueplanet 15.0 TL3 and 20.0 TL3, blueplanet 50.0 TL3, blueplanet 125 TL3.

Technical Data

DC input data	50.0 TL3
Max. recommended PV generator power	70 000 W
MPP range	580[1] - 900 V
Operating range	580[1] - 1050 V
Rated DC voltage/start voltage	600 V / 670 V
Max. no-load voltage	1 100 V
Max. input current	90 A
Max. short circuit current $I_{sc\ max}$	150 A
Number of MPP tracker	1
Connection per tracker	S/B/M: 1; XL: 10
AC output data	
Rated output	50 000 VA
Max. power	52 000 VA
Line voltage	240 V / 415 V (3/N/PE; 3/PEN) 230 V / 400 V (3/N/PE; 3/PEN) 220 V / 380 V (3/N/PE; 3/PEN)
Voltage range (Ph-Ph)	305 - 480 V
Rated frequency (range)	50 Hz / 60 Hz (42 - 68 Hz)
Rated current	3 x 69.6 @ 415 V 3 x 72.2 @ 400 V 3 x 76.0 @ 380 V
Max. current	3 x 76.5 A
Reactive power / cos phi	0-100% Smax / 0.30 ind. - 0.30 cap.
Max. total harmonic distortion (THD)	≤ 1.6 %
Number of grid phases	3
General data	
Max. efficiency	98.5 %
Europ. efficiency	98.1 %
Standby consumption	2.5 W
Circuitry topology	transformerless
Mechanical data	
Display	graphical display + LEDs
Control units	4-way navigation + 2 buttons
Interfaces	Ethernet, USB, RS485, optional: 4-DI
Fault signalling relay	potential-free NOC max. 30 V/1 A
DC connection	S/B/M: max.120 mm² cable plug, Cu/Al XL: DC plugs (SUNCLIX)
AC connection	screw terminals, max. 95 mm², Cu/Al
Ambient temperature	-20 °C … +60 °C [2]
Humidity	0 - 100%
Max. installation elevation (above MSL)	3 000 m
Min. distance from coast	2 000 m / 500 m (OD+ version)
Cooling	forced convection/speed controlled fan
Protection class	IP65
Noise emission	<61 db(A)
H x B x T	760 x 500 x 425 mm
Weight	70 kg (S), 71 kg (B/M), 73 kg (XL)
Certifications	
Safety	IEC 62109-1/-2, EN 61000-6-1/-2/-3, EN 61000-3-11/-12
Grid connection rule	overview see homepage/download area

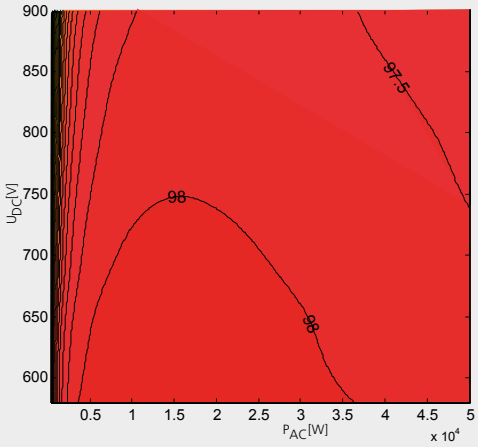
Conforms to the country-specific standards and regulations according to the country version that has been set.
[1] 560 V@220V/380V; 610 V@240V/415 V [2] Power derating at high ambient temperatures

Versions	S	B	M	XL	XLF
Numbers of DC input	1	1	1	10	10
DC switch	-	✓	✓	✓	✓
String protection PV+	-	-	-	✓	✓
String protection PV -	-	-	-	○	○
DC surge protection	-	-	○	Type 1 + 2	Type 1 + 2
AC surge protection	-		○	○	○
OD+	★	★	★	★	★

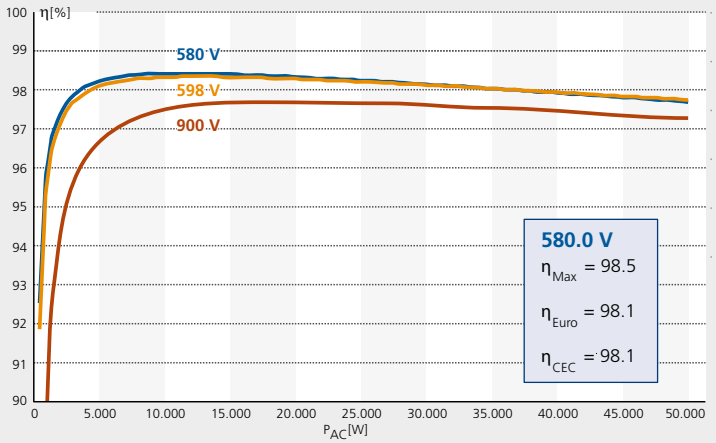
standard = ✓ upgradeable = ○ optional = ★

Graphical display of efficiency

3D efficiency diagram for blueplanet 50.0 TL3



Efficiency characteristic curve for blueplanet 50.0 TL3



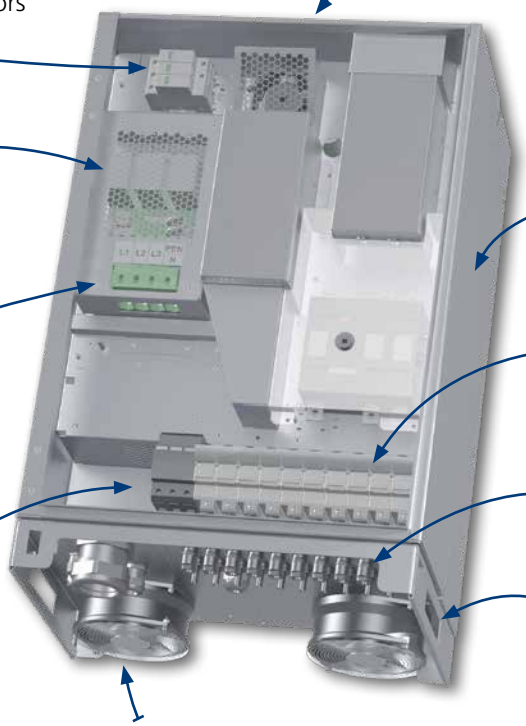
Profitability and reliability that you can see: Inside the blueplanet 50.0 TL3 XL.

Socket
for SPD type 1+2 AC combined arrestors (upgradeable)

AC relays
no external section switches needed

AC connection
- up to 95 mm² cable cross sections minimise connection losses
- save on material costs by using aluminium cables

Socket
for SPD type 1+2 DC combined arrestors (standard)



OD+ variant
- anodised heat sink
- Aluminium enclosure with C5 lacquer coat
- stainless steel fan guard, screws and hinges

Robust aluminium housing
for outdoor use

10 string fuses
for high-performance applications (upgradeable)

Sunclix plug-in connectors
for quick installation

Convenient grips
for safe and easy handling

Powerful, high-quality fans
- "Made in Germany"
- Derating from +50 °C

blueplanet 50.0 TL3

- NEW: OD+ variant protected against salt air corrosion
- IP65 aluminium housing for outdoor installation
- Wide MPP range for longer strings
- Up to 40% inverter oversizing possible
- Input voltage up to 1,100 V for flexibility and safety in the DC design
- Cost-saving DC and AC input configurations
- Large cable cross-sections possible for copper and aluminium cables
- Adjustable cos phi from 0.3 ind. to 0.3 cap. for special reactive power requirements
- External section switches unnecessary if used with Powador-protect
- High temperature power derating from +50 °C

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Your retailer

EN 5000807-15-180226