



Data sheet

blueplanet
2.0 TL1 | 3.0 TL1
4.0 TL1 | 5.0 TL1

Small size, light weight, great features, best value!

KACO new energy is pleased to introduce our next generation single phase inverters for residential and small commercial projects. This new line offers the convenience of all-in-one features like an integrated Arc Fault Circuit Interrupter (AFCI), multiple MPPT channels, an optional integrated revenue grade meter, AC and DC over-current protection, and DC disconnection means; representing a range of installer time saving features never before seen from a leading global inverter manufacturer.

Speed is the key to reducing installation time and labor cost. This new line of inverters uses advanced, lightweight materials and improved power density to decrease your installation time by allowing for simple handling procedures in the field and reducing the amount of additional equipment that must be installed near the inverter.

All-in-one communications is now a standard feature from KACO new energy. The TL1 line includes SunSpec compliant Modbus RTU interfaces for 3rd party mon-

itoring as well as support for our legacy of KACO new energy branded monitoring interfaces. Each inverter comes standard with an RJ45 and RS485 port without the need to install any daughter cards.

The CEC efficiency rating of 96.5% and ultra-high accuracy MPPT tracking makes this unit the best choice for maximum yield on your projects.

The TL1 line is available in four size options: 2.0, 3.0, 4.0, and 5.0 kW. Each size model is available in six different feature packages so that you can get exactly the right inverter for your project. Installers, Designers, Owners, and End Customers know they are getting the best product for their project, every time.

Deliberate, dynamic, decision. Welcome to the Age of Ultra.

Available in Q1/2015.



blueplanet 2.0 TL1 to 5.0 TL1
with PV system disconnect box

Technical data

blueplanet 2.0 TL1 | 3.0 TL1 | 4.0 TL1 | 5.0 TL1

| Electrical data | 2.0 TL1 | 3.0 TL1 | 4.0 TL1 | 5.0 TL1 |
|---|---|--|--|--|
| DC electrical spec. | | | | |
| DC max input voltage | 600 V* | 600 V* | 600 V* | 600 V* |
| DC MPP operating range | 190 - 510 V | 140 - 510 V | 185 - 510 V | 215 - 510 V |
| DC operating range | 125 - 550 V | 125 - 550 V | 125 - 550 V | 125 - 550 V |
| DC min start voltage | 150 V | 150 V | 150 V | 150 V |
| DC max operating current | 1 x 11.0 A | 2 x 11.0 A | 2 x 11.0 A | 2 x 11.0 A |
| DC max Isc per channel | 1 x 13.2 A | 2 x 13.2 A | 2 x 13.2 A | 2 x 13.2 A |
| Max input source backfeed current | 0 | 0 | 0 | 0 |
| DC in. overload protection | yes, voltage and current during operation | | | |
| DC in. terminals | 1 Pos. & 1 Neg. | 2 Pos. & 2 Neg. | 2 Pos. & 2 Neg. | 2 Pos. & 2 Neg. |
| AC electrical spec. | | | | |
| AC max continuous output power | 2,000 | 3,000 | 4,000 | 4,600 @ 208 V 4,800 @ 220 V 5,000 @ 240 V |
| CEC weighted eff (@240V) | 96.5% estimated | 96.5% estimated | 96.5% estimated | 96.5% estimated |
| AC nominal voltage | 208 V / 220 V / 240 V | | | |
| AC continuous output current (A) | 8.3 A @ 240 V 9.1 A @ 220 V 9.7 A @ 208 V | 12.5 A @ 240 V 13.6 A @ 220 V 14.5 A @ 208 V | 16.7 A @ 240 V 18.2 A @ 220 V 19.2 A @ 208 V | 20.0 A @ 240 V 21.8 A @ 220 V 22.0 A @ 208 V |
| Frequency nominal range (Hz) | 60/60.5 to 59.3 | 60/60.5 to 59.3 | 60/60.5 to 59.3 | 60/60.5 to 59.3 |
| Power factor | unity (default), support to 0.3 lead/lag available | | | |
| Total harmonic distortion | < 0.5% | | | |
| Standby losses | US33+US3A < 4.0 W / US38+US39 < 4.6 W / US3C+US3D < 9.6 W | | | |
| AC short circuit protection | none | none | none | none |
| AC in. terminals/conductor L1-L2-N without PSD | AWG 14 - 10 | AWG 14 - 10 | AWG 14 - 10 | AWG 14 - 10 |
| AC max out. fault current, (RMS), duration | 380 A (P-P), 254 A (RMS), 0.09 ms | | | |
| Utility connection | 3 wire (L1, L2, N) | 3 wire (L1, L2, N) | 3 wire (L1, L2, N) | 3 wire (L1, L2, N) |
| Communications & user interface | | | | |
| User interface | graphical user interface with 3 LED status indicators | | | |
| Connectivity | Ethernet/USB/RS485 | | | |
| Certifications & safety | | | | |
| UL/IEEE/CSA/FCC | UL 1741 2nd Ed 2010/UL 1998/ CSA C22.2No 107.11/IEEE 1547/FCC Class B | | | |
| Internal AFCI | AFCI compliant with UL1699B provided with US38, US39, US3D models | | | |
| Fault signal relay | normal open dry contact relay (requires external voltage source) | | | |
| DC polarity safeguard | short circuit diode | | | |
| GFCI compliant w/NEC 690.35 for use with ungrounded PV arrays | UL1741 listed Ground Fault Circuit Interrupter | | | |

* Feed in starts at less than 550 V.

| Optional PSD data | 2.0 TL1 | 3.0 TL1 | 4.0 TL1 | 5.0 TL1 |
|--|--|---|---|---|
| PV system disconnect-Models US33, US39, US3C, & US3D only | | | | |
| Integrated AC/DC disconnect | no/yes | no/yes | no/yes | no/yes |
| AC disconnection means | provided by system integrator | | | |
| AC disconnection ratings | n/a | n/a | n/a | n/a |
| AC over current protection devices (OCPD) | current limiting inverter, 250 V, 30 A, midget class fuse per hot phase | | | |
| AC LOTO Provision | n/a | n/a | n/a | n/a |
| AC input terminals/conductor size L1 - L2/N | AC fuseholder: AWG 14 - 6 terminal block: AWG 20 - 6 | AC fuseholder: AWG 14 - 6 terminal block: AWG 20 - 6 | AC fuseholder: AWG 14 - 6 terminal block: AWG 20 - 6 | AC fuseholder: AWG 14 - 6 terminal block: AWG 20 - 6 |
| DC disconnection means | rotary switch accessible from exterior of enclosure with no tools required | | | |
| DC disconnection rating | 25 A, 4 pole, load break, pos and neg | | | |
| DC over current protection devices (OCPD) | current limiting inverter, 600 V, 15 A PV, fuse p/input channel | | | |
| DC LOTO provision | LOTO yes | LOTO yes | LOTO yes | LOTO yes |
| DC input terminals/conductor size per channel | DC fuseholder: AWG 14 - 6 | DC fuseholder: AWG 14 - 6 | DC fuseholder: AWG 14 - 6 | DC fuseholder: AWG 14 - 6 |
| Optional revenue grade meter | Veris Model E51C2 optional with US3C & US3D models | | | |
| Mechanical data | | | | |
| Mechanical integration | rack mount, roof mount, column mount, wall mount | | | |
| Enclosure construction | high impact polymer resin for inverter, power coated steel for optional PSD | | | |
| Inv w/out PSD (lb/kg) | 33/15 | 36/16.5 | 36/16.5 | 36/16.5 |
| Inv w/PSD | 45/20 | 48/22 | 48/22 | 48/22 |
| Unit dims w/out PSD, unit dims w/PSD, (in./mm) (HxWxD) | (22.0 x 14.5 x 8.6/ 560 x 367 x 225) (31.9 x 14.5 x 8.6/ 810 x 367 x 225) | | | |
| Operating temp. range (°F/°C) | (-13 to 140/-25 to 60) | | | |
| Storage temp. range (°F/°C) | (-22 to 158/-30 to 70) | | | |
| Noise emissions | < 35 db (A) | | | |
| Humidity % | 0 to 95 non condensing | | | |
| Enclosure rating inverter/PV sys. disconnect | NEMA 3R | | | |
| Cooling | passively cooled | | | |
| Altitude (ft/m) | 6500/2000 | 6500/2000 | 6500/2000 | 6500/2000 |



SUNSPEC
ALLIANCE

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2.0 TL1 | 3.0 TL1
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2 MPP-Trackers
on most models

Wide MPP range

Four inverter sizes, with
six option packages each

Light weight

Tool-less DC/AC conductor
terminations

Multiple communication options
standard- no daughter cards req.

ANSI C12.20 revenue grade
meter from Veris Technologies

Your retailer

www.kaco-newenergy.com