KACO new energy.

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 overcurrent 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 monitoring 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

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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			
Mechnical 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) Inv w/PSD	33/15 45/20	36/16.5 48/22	36/16.5 48/22	36/16.5 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

VERIS INDUSTRIES™

SUNSPEC ALLIANCE

US-02-141209

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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

www.kaco-newenergy.com

Your retailer