KACO new energy.

Powador 39.0 – 72.0 TL3

Transformerless, three-phase string inverters.

Efficient. Flexible. Proven.

3 MPP trackers and wide MPP range for flexibility in system planning and dealing with shadowing

Versions with overvoltage protection, 12 string inputs and fuse protection for the DC inputs

Graphical display, multilingual menu and pre-configured country settings for easy operation

System monitoring via integrated data logger with web server

Technical Data

DC input data	39.0 TL3 M1	39.0 TL3
Max. recommended PV generator power	39 000 W	39 000 W
MPP range	340 – 800 V	340 – 800 V
Operating range	200 – 950 V	200 – 950 V
Rated DC voltage / start voltage	600 V / 250 V	600 V / 250 V
Max. no-load voltage	1 000 V	1 000 V
Max. input current	102 A	3 x 34 A
Max. short circuit current $I_{sc\ max}$	122,4 A	3 x 40,8 A
Number of MPP tracker	1	3
Connection per tracker	1	1 (M) / 4 (XL)
Max.input power per tracker	34 300 W	20 000 W
AC output data		
Rated output	33 300 VA	33 300 VA
Max. power	34 600 VA	34 600 VA
Line voltage	240 V / 415 V (3 / N / PE) 230 V / 400 V (3 / N / PE) 220 V / 380 V (3 / N / PE)	240 V / 415 V (3 / N / PE) 230 V / 400 V (3 / N / PE) 220 V / 380 V (3 / N / PE)
Voltage range (Ph-Ph)	304 – 480 V	304 – 480 V
Rated frequency (range)	50 Hz / 60 Hz (45 – 65 Hz)	50 Hz / 60 Hz (45 – 65 Hz)
Rated current	3 x 46,4 A @ 415 V 3 x 48,1 A @ 400 V 3 x 50,6 A @ 380 V	3 x 46,4 A @ 415 V 3 x 48,1 A @ 400 V 3 x 50,6 A @ 380 V
Max. current	3 x 51,1 A	3 x 51,1 A
Reactive power / cos phi	0 – 100 % Snom / 0.30 ind. – 0.30 cap.	0 – 100 % Snom / 0.30 ind. – 0.30 cap.
Max. total harmonic distortion (THD)	3 %	3 %
Number of grid phases	3	3
General data		
Max. efficiency	98.0 %	98.0 %
Europ. efficiency	97.8 %	97.8 %
Standby consumption	1.5 W	1.5 W
Circuitry topology	transformerless	transformerless
Mechanical data		
Display	graphical display + LEDs	graphical display + LEDs
Control units	4-way navigation + 2 buttons	4-way navigation + 2 buttons
Interfaces	Ethernet, USB, RS485	Ethernet, USB, RS485
Fault signalling relay	potential-free NOC max. 30 V / 1 A	potential-free NOC max. 30 V / 1 A
DC connection	M: screw- / spring-loaded terminals max. 35 mm^2 XL: screw- / spring-loaded terminals max. 10 mm^2	M: screw- / spring-loaded terminals max. 35 mm^2 XL: screw-/ spring-type terminals max. 10 mm^2
AC connection	screw terminals max 50 mm^2	screw terminals max 50 mm^2
Ambient temperature	-20 °C – +60 °C [1)]	-20 °C – +60 °C [1)]
Humidity	0 – 95 %	0 – 95 %
Max. installation elevation (above MSL)	2 000 m	2 000 m
Min. distance from coast	2 000 m	2 000 m
Cooling	temperature controlled fan	temperature controlled fan
Protection class	IP54	IP54
Noise emission	< 58 db (A)	< 58 db (A)
H x W x D	1 360 x 840 x 355 mm	1 360 x 840 x 355 mm
Weight	151 kg	151 kg
Certifications		
Safety	EN 62109-1 / -2, EN 61000-6-1 / -2 / -3, EN 61000-3-11 / -12	
Grid connection rule	overview see homepage / download area	

60.0 TL3	48.0 TL3 Park	72.0 TL3 Park
60 000 W	48 000 W	72 000 W
480 – 850 V	410 – 800 V	580 – 850 V
200 – 950 V	200 – 950 V	200 – 950 V
600 V / 250 V	790 V / 250 V	790 V / 250 V
1 000 V	1 000 V	1 000 V
3 x 36 A	3 x 34 A	3 x 36 A
3 x 45 A	3 x 40,8 A	3 x 45 A
3	3	3
1 (M) / 4 (XL)	1 (M) / 4 (XL)	1 (M) / 5 (XL)
20 000 W	20 000 W	24 000 W
50 000 VA	40 000 VA	60 000 VA
52 000 VA	41 600 VA	62 400 VA
240 V / 415 V (3 / N / PE) 230 V / 400 V (3 / N / PE) 220 V / 380 V (3 / N / PE)	277 V / 480 V (3 / N / PE)	277 V / 480 V (3 / N / PE)
304 – 480 V	330 – 528 V	330 – 528 V
50 Hz / 60 Hz (45 – 65 Hz)	50 Hz / 60 Hz (45 – 65 Hz)	50 Hz / 60 Hz (45 – 65 Hz)
3 x 69,6 A @ 415 V 3 x 72,2 A @ 400 V 3 x 76,0 A @ 380 V	3 x 48,2 A	3 x 72,2 A
3 x 76,5 A	3 x 51,1 A	3 x 76,5 A
0 – 100 % Snom / 0.30 ind. – 0.30 cap.	0 – 100 % Snom / 0.30 ind. – 0.30 cap.	0 – 100 % Snom / 0.30 ind. – 0.30 cap.
3 %	3 %	3 %
3	3	3
97.8 %	98.0 %	98.0 %
97.5 %	97.9 %	97.8 %
1.5 W	1.5 W	1.5 W
transformerless	transformerless	transformerless
graphical display + LEDs	graphical display + LEDs	graphical display + LEDs
4-way navigation + 2 buttons	4-way navigation + 2 buttons	4-way navigation + 2 buttons
Ethernet, USB, RS485	Ethernet, USB, RS485	Ethernet, USB, RS485
potential-free NOC max. 30 V / 1 A	potential-free NOC max. 30 V / 1 A	potential-free NOC max. 30 V / 1 A
M: screw- / spring-loaded terminals max. 35 mm^2 XL: screw-/ spring-type terminals max. 10 mm^2	M: screw- / spring-loaded terminals max. 35 mm^2 XL: screw-/ spring-type terminals max. 10 mm^2	M: screw- / spring-loaded terminals max. 35 mm^2 XL: screw-/ spring-type terminals max. 10 mm^2
screw terminals max 50 mm^2	screw terminals max 50 mm^2	screw terminals max 50 mm^2
-20 °C – +60 °C [1]	-20 °C – +60 °C [1]	-20 °C – +60 °C [1]
0 – 95 %	0 – 95 %	0 – 95 %
2 000 m	2 000 m	2 000 m
2 000 m	2 000 m	2 000 m
temperature controlled fan	temperature controlled fan	temperature controlled fan
IP54	IP54	IP54
< 58 db (A)	< 58 db (A)	< 58 db (A)
1 360 x 840 x 355 mm	1 360 x 840 x 355 mm	1 360 x 840 x 355 mm
173 kg	151 kg	173 kg
EN 62109-1 / -2, EN 61000-6-1 / -2 / -3, EN 61000-3-11 / -12		
overview see homepage / download area		

[1] Power derating at high ambient temperatures

Versionen	M	XL	XLF
Number of DC inputs	3 x 1	3 x 4 3 x 5 [2]	3 x 4 3 x 5 [2]
DC-switch	✓	✓	✓
String protection PV+	-	✓	✓
String protection PV -	-	○	✓
DC surge protection	-	Type 1 + 2	Type 1 + 2

Standard = ✓ upgradeable = ○ optional = ★

[2] Park-versions

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