Single Phase Inverter Second Generation

Omniksol-3k/4k/5k-TL2

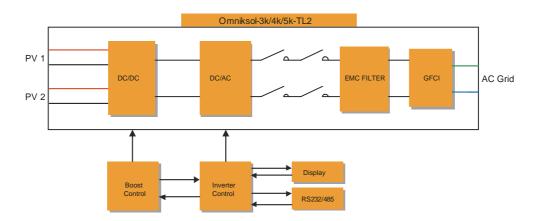




Product Features

Features	Advantages	Benefits
Standard 10years warranty,5-25 years optional	Longer life cycle	more stable and reliable
Built-in GPRS as option	Plug and play	 No commissioning work to get real-time remote monitoring
Built-in Wifi as option	Free monitoring through our webportal	 More convenient monitoring solution without any charge
External Inductor	 Very lower internal temperature 	Longer life cycle
Smaller and lighter, only 16.5kg	 Easy transportation and installation 	 Saving storage and installation space
High performance DSP for algorithm control	Faster CPU speed	 Higher inverter control accuracy
VDE-AR-N 4105 certification	 Adjustable active and reactive power 	 Meet the latest certification and regulations
New topology design	Maximum conversion efficiency up to 98.2%, Euro up to 97.5%	Increase system payback
Dual MPPT design	More flexible system design	Fit in various installation environments
Multi-button touch interface	 User friendly operation 	Easy to operate
LCD screen visible at night	Real-time data readable at night	Real-time operating condition accessible
Have anti-shading function Suitable to complex installation environment		 Increase the electricity generation of the syster in shading environment

Block Diagram



Technical Data

Omniksol-3k/4k/5k-TL2

Max. PV Power	Туре	Omniksol-3k-TL2	Omniksol-4k-TL2	Omniksol-5k-TL2
Max DC Voltage	Input (DC)			
Nominal DC Voltage Range 130 - 550V 120 - 550V 12	Max. PV Power	3400W	4500W	5200W
Operating MPPT Voltage Range 120 - 550V 120 - 550V 200 - 500V 200 - 500V	Max. DC Voltage	590V	590V	590V
MPPT Voltage Range at Nominal Power 150 - 500V 150V 150V	Nominal DC Voltage	360V	360V	360V
Start up DC Voltage	Operating MPPT Voltage Range	120 - 550V	120 - 550V	120 - 550V
Tum of IDC Voltage	MPPT Voltage Range at Nominal Powe	r 150 - 500V	200 - 500V	200 - 500V
Max. Discription 18A/18A	Start up DC Voltage	150V	150V	150V
Max. Short Circuit Current for each MPPT	Turn off DC Voltage	120V	120V	120V
Number of MPP trackers	Max. DC Current	12A/12A	16A/16A	18A/18A
Max. Input Power for each MPPT 2000W 2600W 3000W Number of DC Connection for each MPPT A.18:1 A.18:1 A.18:1 DC Connection Type	Max. Short Circuit Current for each MPF	PT 16A/16A	20A/20A	20A/20A
Number of DC Connection Type	Number of MPP trackers	2	2	2
DC Connection Type	Max. Input Power for each MPPT	2000W	2600W	3000W
Name	Number of DC Connection for each MP	PT A:1/B:1	A:1/B:1	A:1/B:1
Max AC Apparent Power 3300VM 4400VM 5000VA** Nominal AC Power(cos phi = 1) 3000W 4000W 4000W** Nominal Grid Voltage 220V/230V/240V 220V/230V/240V 220V/230V/240V Nominal Grid Frequency 50Hz/60Hz 50Hz/60Hz 50Hz/60Hz Max. AC Current 14.4A 19.0A 22.0A Grid Frequency Range* 45.55Hz/55-65Hz 45.55Hz/55-65Hz 45.55Hz/55-65Hz Power Factor 0.95 capacitive 0.95 inductive 0.95 capacitive 0.95 inductive 0.95 capacitive 0.95 inductive Power Factor 0.95 capacitive 0.95 inductive 0.95 capacitive 0.95 inductive 0.95 capacitive 0.95 inductive Power Factor 0.95 capacitive 0.95 inductive 0.95 capacitive 0.95 inductive 0.95 capacitive 0.95 inductive Nome Starting Power 30W 30W 30W 30W Starting Power Consumption 6W 6W 6W 6W AC Connection Type Plug-in connector Plug-in conn	DC Connection Type	MC4 connector	MC4 connector	MC4 connector
Nominal AC Power(cos phi = 1) 3000W 4000W 4600W" Nominal Grid Voltage 220V/230V/240V 220V/230V/240V 220V/230V/240V Nominal Grid Frequency 50Hz/60Hz 50Hz	Output (AC)			
Naminal AC Power(cos phi = 1) 3000W 4000W 4600W*	Max. AC Apparent Power	3300VA	4400VA	5000VA**
Nominal Grid Voltage	**	3000W	4000W	4600W**
Naminal Grid Frequency 50Hz/60Hz 50Hz/60Hz 50Hz/60Hz Max. AC Current 14.4A 19.0A 22.0A Grid Voltage Range* 185-278V 185-276V 185-276V Power Factor 0.95 capacitive0.95 inductive 0.95 capacitive0.95 inductive 0.95 capacitive0.95 inductive Total Harmonic Distortion (THD) <2%		220V/230V/240V	220V/230V/240V	220V/230V/240V
Max. AC Current 14.4A 19.0A 22.0A Grid Voltage Range* 185-276V 185-276V 185-276V Grid Frequency Range* 45-55Hz/55-65Hz 42-55Hz/55-65Hz 42-55Hz/55-6	~	50Hz/60Hz	50Hz/60Hz	
Grid Voltage Range* 185-276V 286-278 287-278 287-278 287-278 287-278 287-278 287-278 287-278 287-278 287-278 185-276V 185-276V 287-278				
Grid Frequency Range* 45-55Hz/55-65Hz 45-55Hz/55-65Hz 45-55Hz/55-65Hz 45-55Hz/55-65Hz 45-55Hz/55-65Hz 45-55Hz/55-65Hz 45-55Hz/55-65Hz 0.95 capacitive0.95 inductive 22%				
Power Factor 0.95 capacitive0.95 inductive 0.95 capacitive0.95 inductive 0.95 capacitive0.95 inductive Total Harmonic Distortion (THD) <2%				
Total Harmonic Distortion (THD)				
Feed in Starting Power				
Night time Power Consumption	` /	**		
Standby Consumption				
AC Connection Type	· ·			
Efficiency SERIFiciency (at 360Vdc) 98.2% 98.2% 98.2% 98.2% 97.5% 97.5% 97.5% 97.5% 97.5% 97.5% 97.5% 99.9% 100.00 <	· · · · · · · · · · · · · · · · · · ·			
Euro Efficiency (at 360Vdc) 97.3% 97.5% 97.5% MPPT Efficiency 99.9% 99.9% 99.9% Safety and Protection Vers DC Switch Optional Protection Class Besidual Current Monitoring Unit (RCMU) Integrated Grid Monitoring with Anti-Islanding Yes Protection Class 1 (According to IEC 62103) Overvoitage Category PV II / Mains III (According to IEC 62109-1) Reference Standard EN 61000-6-1, EN 61000-6-3, EN 61000-6-4, EN 61000-3-2, EN 61000-6-4, EN 61000-3-2, EN 61000-6-3, EN 61000-6-3, EN 61000-6-3, EN 61000-3-12 EMC Standard EN 61000-6-1, EN 61000-6-3, EN 61000-6-2, EN 61000-6-4, EN 61000-3-12 COLOR COL	*	r lug iii comiccioi	1 lag in connector	riag in connector
MPPT Efficiency 99.9% 99.9% 99.9% 99.9%	Max. Efficiency (at 360Vdc)	98.2%	98.2%	98.2%
Safety and Protection DC Insulation Monitoring Yes DC Switch Optional Residual Current Monitoring Unit (RCMU) Integrated Grid Monitoring with Anti-islanding Yes Protection Class 1 (According to IEC 62103) Overvortlage Category PV II / Mains III (According to IEC 62109-1) Reference Standard Safety Standard EN 61000-6-1, EN 61000-6-3, EN 61000-6-4, EN 61000-6-4, EN 61000-3-2, EN61000-3-3, EN61000-3-31, EN61000-3-12, EN61000-3-12, EN61000-3-3, EN61000-3-3, EN61000-3-3, EN61000-3-12, E	Euro Efficiency (at 360Vdc)	97.3%	97.5%	97.5%
DC Insulation Monitoring Yes DC Switch Optional Residual Current Monitoring Unit (RCMU) Integrated Grid Monitoring with Anti-Islanding Yes Protection Class I (According to IEC 62103) Overvoltage Category PV II / Mains III (According to IEC 62109-1) Reference Standard EN 62109, AS/NZS 3100 EMC Standard EN 61000-6-1, EN 61000-6-2, EN 61000-6-4, EN61000-3-2, EN61000-3-1, EN61000-3-12 Grid Standard VDE-AR-N-4105, VDE 0126-1-1, RD1699, CEID-21, C10/11, G83/2, UTE C15-712-1, EN50438, AS4777, CQC Physical Structure Environmental Protection Rating 16.5kg Environmental Protection Rating IP 65 (According to IEC 60529) Cooling Concept Internal fan convection Mounting Information Wall bracket General Data -20°C to +60°C (derating above 45°C) Relative Humidity 0% to 98%, no condensation Max. Altitude (above sea level) 2000m Moise Level 40dB Isolation Type Transformerless Display 3 LED, Backlight, 20 x 4 Character LCD Data Communication Interfaces RS485(WiFi, GPRS integrated)	MPPT Efficiency	99.9%	99.9%	99.9%
DC Switch Optional Residual Current Monitoring Unit (RCMU) Integrated Grid Monitoring with Anti-islanding Yes Protection Class I (According to IEC 62103) Overvoltage Category PV II / Mains III (According to IEC 62109-1) Reference Standard Safety Standard EN 62109, AS/NZS 3100 EMC Standard EN 61000-6-1, EN 61000-6-3, EN 61000-6-2, EN 61000-6-4, EN61000-3-12 Grid Standard VDE-AR-N-4105, VDE 0126-1-1, RD1699, CEIO-21, C10/11, G83/2, UTE C15-712-1, EN50438, AS4777, CQC Physical Structure Dimensions (WxHxD) 352x421x162.5mm Weight 16.5kg Environmental Protection Rating IP 65 (According to IEC 60529) Cooling Concept Internal fan convection Mounting Information Wall bracket General Data Vall bracket General Data -20°C to +60°C (derating above 45°C) Relative Humidity 0% to 98%, no condensation Max. Altitude (above sea level) 2000m Moise Level Isolation Type Transformerless Display 3 LED, Backlight, 20 x 4 Character LCD	Safety and Protection			
Residual Current Monitoring Unit (RCMU) Integrated Grid Monitoring with Anti-islanding Yes Protection Class I (According to IEC 62103) Overvoltage Category PV II / Mains III (According to IEC 62109-1) Reference Standard Safety Standard EN 61000-6-1, EN 61000-6-3, EN 61000-6-2, EN 61000-6-4, EN61000-3-2, EN 61000-3-12 EMC Standard VDE-AR-N-4105, VDE 0126-1-1, RD1699, CEI0-21, C10/11, G83/2, UTE C15-712-1, EN50438, AS4777, CQC Physical Structure Dimensions (WxHxD) 352x421x162.5mm Weight 16.5kg Environmental Protection Rating IP 65 (According to IEC 60529) Cooling Concept Internal fan convection Mounting Information Wall bracket General Data -20°C to +60°C (derating above 45°C) Relative Humidity 0% to 98%, no condensation Max. Altitude (above sea level) 2000m Mosic Level 40dB Isolation Type Transformerless Display 3 LED, Backlight, 20 x 4 Character LCD Data Communication Interfaces R5485(WiFi, GPRS integrated) Computer Communication USB	DC Insulation Monitoring		Yes	
Grid Monitoring with Anti-islanding Yes Protection Class I (According to IEC 62103) Overvoltage Category PV II / Mains III (According to IEC 62109-1) Reference Standard Safety Standard EN 62109, AS/NZS 3100 EMC Standard EN 61000-6-1, EN 61000-6-3, EN 61000-6-2, EN 61000-6-4, EN61000-3-2, EN61000-3-12 Grid Standard VDE-AR-N-4105, VDE 0126-1-1, RD1699, CEI0-21, C10/11, G83/2, UTE C15-712-1, EN50438, AS4777, CQC Physical Structure Dimensions (WXHXD) Dimensions (WXHXD) 352x421x162.5mm Weight 16.5kg Environmental Protection Rating IP 65 (According to IEC 60529) Cooling Concept Internal fan convection Mounting Information Wall bracket General Data Vb to +60°C (derating above 45°C) Relative Humidity 0% to 98%, no condensation Max. Altitude (above sea level) 2000m Noise Level < 40dB	DC Switch		Optional	
Protection Class	Residual Current Monitoring Unit (RCM	U)	Integrated	
Overvoltage Category	Grid Monitoring with Anti-islanding	,	Yes	
Overvoltage Category PV II / Mains III (According to IEC 62109-1) Reference Standard Safety Standard EN 62109, AS/NZS 3100 EMC Standard EN 61000-6-1, EN 61000-6-2, EN 61000-6-4, EN61000-3-2, EN61000-3-11, EN61000-3-12 Grid Standard VDE-AR-N-4105, VDE 0126-1-1, RD1699, CEI0-21, C10/11, G83/2, UTE C15-712-1, EN50438, AS4777, CQC Physical Structure Dimensions (WxHxD) Dimensions (WxHxD) 352x421x162.5mm Weight 16.5kg Environmental Protection Rating IP 65 (According to IEC 60529) Cooling Concept Internal fan convection Mounting Information Wall bracket General Data Volve the 60°C (derating above 45°C) Relative Humidity 0% to 98%, no condensation Max. Altitude (above sea level) 2000m Noise Level < 40dB	Protection Class			
Reference Standard Safety Standard EN 62109, AS/NZS 3100 EMC Standard EN 61000-6-1, EN 61000-6-2, EN 61000-6-4, EN 61000-3-2, EN 61000-3-12 Grid Standard VDE-AR-N-4105, VDE 0126-1-1, RD1699, CEI0-21, C10/11, G83/2, UTE C15-712-1, EN50438, AS4777, CQC Physical Structure Dimensions (WXHXD) 352x421x162.5mm Weight 16.5kg Environmental Protection Rating IP 65 (According to IEC 60529) Cooling Concept Internal fan convection Mounting Information Wall bracket General Data Very Cto +60°C (derating above 45°C) Relative Humidity 0% to 98%, no condensation Max. Altitude (above sea level) 2000m Noise Level 40dB Isolation Type Transformerless Display 3 LED, Backlight, 20 x 4 Character LCD Data Communication Interfaces RS485(Wift, GPRS integrated) Computer Communication USB Standard Warranty 10 Years (5-25 years optional)	Overvoltage Category			
Safety Standard EN 62109, AS/NZS 3100 EMC Standard EN 61000-6-1, EN 61000-6-3, EN 61000-6-2, EN 61000-6-4, EN61000-3-2, EN61000-3-12 Grid Standard VDE-AR-N-4105, VDE 0126-1-1, RD1699, CEI0-21, C10/11, G83/2, UTE C15-712-1, EN50438, AS4777, CQC Physical Structure Dimensions (WXHXD) 352x421x162.5mm Weight 16.5kg Environmental Protection Rating IP 65 (According to IEC 60529) Cooling Concept Internal fan convection Mounting Information Wall bracket General Data Operating Temperature Range -20°C to +60°C (derating above 45°C) Relative Humidity 0% to 98%, no condensation Max. Altitude (above sea level) 2000m Noise Level < 40dB Isolation Type Transformerless Display 3 LED, Backlift, 20 x 4 Character LCD Data Communication Interfaces RS485(WiFi, GPRS integrated) Computer Communication USB Standard Warranty 10 Years (5-25 years optional)				
EMC Standard			EN 62109. AS/NZS 3100	
EN61000-3-3, EN61000-3-11, EN61000-3-12	•	·		
Grid Standard VDE-AR-N-4105, VDE 0126-1-1, RD1699, CEI0-21, C10/11, G83/2, UTE C15-712-1, EN50438, AS4777, CQC Physical Structure Dimensions (WxHxD) 352x421x162.5mm Weight 16.5kg Environmental Protection Rating IP 65 (According to IEC 60529) Cooling Concept Internal fan convection Mounting Information Wall bracket General Data Operating Temperature Range -20°C to +60°C (derating above 45°C) Relative Humidity 0% to 98%, no condensation Max. Altitude (above sea level) 2000m Noise Level 40dB Isolation Type Transformerless Display 3 LED, Backlight, 20 x 4 Character LCD Data Communication Interfaces RS485 (WiFi, GPRS integrated) Computer Communication USB Standard Warranty 10 Years (5-25 years optional)	EMC Standard			
Physical Structure Dimensions (WxHxD) 352x421x162.5mm Weight 16.5kg Environmental Protection Rating IP 65 (According to IEC 60529) Cooling Concept Internal fan convection Mounting Information Wall bracket General Data Operating Temperature Range -20°C to +60°C (derating above 45°C) Relative Humidity 0% to 98%, no condensation Max. Altitude (above sea level) 2000m Noise Level < 40dB Isolation Type Transformerless Display 3 LED, Backlight,20 x 4 Character LCD Data Communication Interfaces RS485(WiFi, GPRS integrated) Computer Communication USB Standard Warranty 10 Years (5-25 years optional)	Grid Standard VD			
Dimensions (WxHxD) 352x421x162.5mm Weight 16.5kg Environmental Protection Rating IP 65 (According to IEC 60529) Cooling Concept Internal fan convection Mounting Information Wall bracket General Data Operating Temperature Range -20°C to +60°C (derating above 45°C) Relative Humidity 0% to 98%, no condensation Max. Altitude (above sea level) Noise Level 2000m Noise Level 3 LED, Backlight,20 x 4 Character LCD Data Communication Interfaces RS485 (WiFi, GPRS integrated) Computer Communication USB Standard Warranty 10 Years (5-25 years optional)		/		2 0 10 1 12 1, 21100 100, 710 11 11, 000
Weight 16.5kg Environmental Protection Rating IP 65 (According to IEC 60529) Cooling Concept Internal fan convection Mounting Information Wall bracket General Data Operating Temperature Range -20°C to +60°C (derating above 45°C) Relative Humidity 0% to 98%, no condensation Max. Altitude (above sea level) 2000m Noise Level < 40dB Isolation Type Transformerless Display 3 LED, Backlight,20 x 4 Character LCD Data Communication Interfaces RS485(WiFi, GPRS integrated) Computer Communication USB Standard Warranty 10 Years (5-25 years optional)			352v421v162 5mm	
Environmental Protection Rating IP 65 (According to IEC 60529) Cooling Concept Internal fan convection Mounting Information Wall bracket General Data Operating Temperature Range -20°C to +60°C (derating above 45°C) Relative Humidity 0% to 98%, no condensation Max. Altitude (above sea level) 2000m Noise Level < 40dB Isolation Type Transformerless Display 3 LED, Backlight,20 x 4 Character LCD Data Communication Interfaces RS485(WiFi, GPRS integrated) Computer Communication USB Standard Warranty 10 Years (5-25 years optional)				
Cooling Concept Internal fan convection Mounting Information Wall bracket General Data Operating Temperature Range -20°C to +60°C (derating above 45°C) Relative Humidity 0% to 98%, no condensation Max. Altitude (above sea level) 2000m Noise Level < 40dB Isolation Type Transformerless Display 3 LED, Backlight,20 x 4 Character LCD Data Communication Interfaces RS485(WiFi, GPRS integrated) Computer Communication USB Standard Warranty 10 Years (5-25 years optional)		•		
Mounting Information Wall bracket General Data Operating Temperature Range -20°C to +60°C (derating above 45°C) Relative Humidity 0% to 98%, no condensation Max. Altitude (above sea level) 2000m Noise Level < 40dB Isolation Type Transformerless Display 3 LED, Backlight,20 x 4 Character LCD Data Communication Interfaces RS485(WiFi, GPRS integrated) Computer Communication USB Standard Warranty 10 Years (5-25 years optional)		, , ,		
General Data Operating Temperature Range -20°C to +60°C (derating above 45°C) Relative Humidity 0% to 98%, no condensation Max. Altitude (above sea level) 2000m Noise Level < 40dB				
Operating Temperature Range -20°C to +60°C (derating above 45°C) Relative Humidity 0% to 98%, no condensation Max. Altitude (above sea level) 2000m Noise Level < 40dB Isolation Type Transformerless Display 3 LED, Backlight,20 x 4 Character LCD Data Communication Interfaces RS485(WiFi, GPRS integrated) Computer Communication USB Standard Warranty 10 Years (5-25 years optional)	6		vvali blacket	
Relative Humidity 0% to 98%, no condensation Max. Altitude (above sea level) 2000m Noise Level < 40dB Isolation Type Transformerless Display 3 LED, Backlight, 20 x 4 Character LCD Data Communication Interfaces RS485(WiFi, GPRS integrated) Computer Communication USB Standard Warranty 10 Years (5-25 years optional)			20°C to ±60°C (dorating above 45°)	C)
Max. Altitude (above sea level) Noise Level 4 40dB Isolation Type Transformerless Display 3 LED, Backlight,20 x 4 Character LCD Data Communication Interfaces RS485(WiFi, GPRS integrated) Computer Communication USB Standard Warranty 10 Years (5-25 years optional)			, ,	<u></u>
Noise Level < 40dB Isolation Type Transformerless Display 3 LED, Backlight,20 x 4 Character LCD Data Communication Interfaces RS485(WiFi, GPRS integrated) Computer Communication USB Standard Warranty 10 Years (5-25 years optional)	·	·		
Isolation Type Transformerless Display 3 LED, Backlight,20 x 4 Character LCD Data Communication Interfaces RS485(WiFi, GPRS integrated) Computer Communication USB Standard Warranty 10 Years (5-25 years optional)	,			64V.36
Display 3 LED, Backlight, 20 x 4 Character LCD Data Communication Interfaces RS485(WiFi, GPRS integrated) Computer Communication USB Standard Warranty 10 Years (5-25 years optional)				
Data Communication Interfaces RS485(WiFi, GPRS integrated) Computer Communication USB Standard Warranty 10 Years (5-25 years optional)	71	10 to 1 to		
Computer Communication USB Standard Warranty 10 Years (5-25 years optional)		1110 27 7.001		
Standard Warranty 10 Years (5-25 years optional)				784.25
		TELLOW-REPORTED		
	Standard Warranty *The AC voltage and frequency range may vary depend	ling on apositic country	10 Years (5-25 years optional)	EI PARAMINES

^{*}The AC voltage and frequency range may vary depending on specific country grid **4600VA, 4600W with VDE-AR-N 4105

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