

# Grid-connected PV Inverter

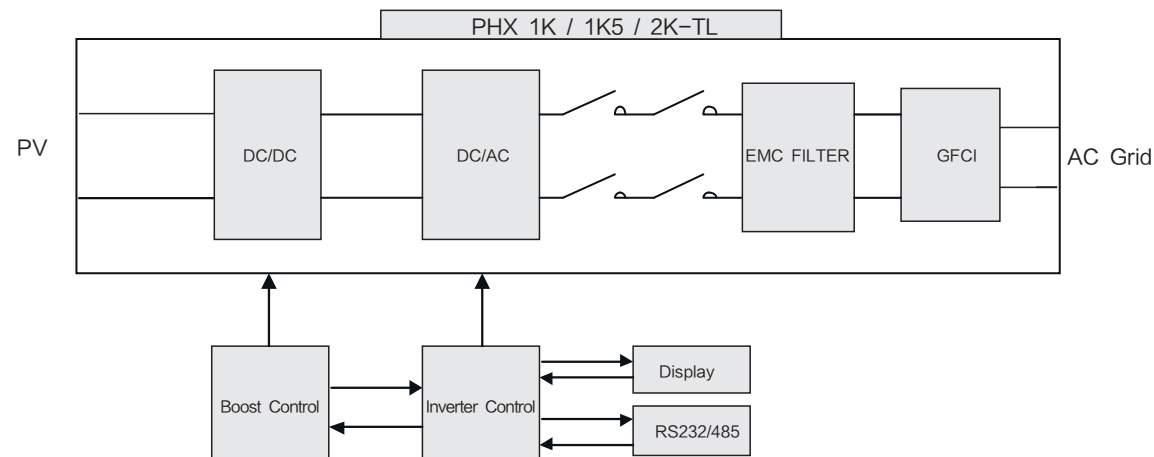
PHX 1K / 1K5 / 2K-TL



## Features

Features	Advantages	Benefits
<ul style="list-style-type: none"> <li>Standard 10 years warranty, 5 ~ 25 years optional</li> <li>Built-in GPRS as option</li> <li>Built-in Wifi as option</li> <li>External Inductor</li> <li>Smaller and lighter, 2 KW only 9.6kg</li> <li>High performance DSP for algorithm control</li> <li>VDE-AR-N 4105 certification</li> <li>New topology design</li> <li>Multi-button touch interface</li> <li>LCD screen visible at night</li> <li>Have anti-shading function</li> </ul>	<ul style="list-style-type: none"> <li>Longer life cycle</li> <li>Plug and play</li> <li>Free monitoring fee for data transmission</li> <li>Very lower internal temperature</li> <li>Easy transportation and installation</li> <li>Faster CPU speed</li> <li>Adjustable active and reactive power</li> <li>Maximum conversion efficiency up to 97.7%, Euro up to 96.9%</li> <li>User friendly operation</li> <li>Real-time data readable at night</li> <li>Suitable to complex installation environment</li> </ul>	<ul style="list-style-type: none"> <li>More stable and reliable</li> <li>No commissioning work to get real-time remote monitoring</li> <li>More convenient monitoring solution without any charge</li> <li>Longer life cycle</li> <li>Saving storage and installation space</li> <li>Higher inverter control accuracy</li> <li>Meet the latest certification and regulations</li> <li>Increase system payback ability</li> <li>Easy to operate</li> <li>Real-time operating condition accessible</li> <li>Increase the electricity generation of the system in shading environment</li> </ul>

## Block diagram



## Technical Data

MODEL	PHX 1K-TL	PHX 1K5-TL	PHX 2K-TL
<b>INPUT (DC)</b>			
Max. PV power	1300 W	1750 W	2300 W
Max. DC voltage	500 V	500 V	500 V
Nominal DC voltage	360 V	360 V	360 V
Operating MPPT voltage range	80 ~ 360 V	120 ~ 450 V	120 ~ 450 V
MPPT voltage range at nominal power	150 ~ 360 V	150 ~ 450 V	150 ~ 450 V
Start up DC voltage	90 V	150 V	150 V
Turn off DC voltage	80 V	120 V	120 V
Max. DC current	16 A	18 A	18 A
Max. short circuit current for each MPPT	20 A	20 A	20 A
Number of MPPT trackers	1	1	1
Number of DC connection for each MPPT	1	1	1
DC connection type	MC4 connector	MC4 connector	MC4 connector
<b>OUTPUT (AC)</b>			
Max. AC apparent power	1100 VA	1650 VA	2200 VA
Nominal AC power (cos phi = 1)	1000 W	1500 W	2000 W
Nominal grid voltage	220 V / 230 V / 240 V	220 V / 230 V / 240 V	220 V / 230 V / 240 V
Nominal grid frequency	50 Hz / 60 Hz	50 Hz / 60 Hz	50 Hz / 60 Hz
Max. AC current	5.8 A	9.0 A	11.0 A
Grid voltage range	185 ~ 276 V	185 ~ 276 V	185 ~ 276 V
Grid frequency range	45 ~ 55 Hz / 55 ~ 65 Hz	45 ~ 55 Hz / 55 ~ 65 Hz	45 ~ 55 Hz / 55 ~ 65 Hz
Power factor	0.95 capacitive..95 inductive	0.95 capacitive..95 inductive	0.95 capacitive..95 inductive
Total harmonic distortion (THD)	< 2%	< 2%	< 2%
Feed in starting power	30 W	30 W	30 W
Night time power consumption	< 1 W	< 1 W	< 1 W
Standby consumption	6 W	6 W	6 W
AC connection type	Plug-in connector	Plug-in connector	Plug-in connector
<b>EFFICIENCY</b>			
Max. efficiency (at 360 Vdc)	97.7%	97.7%	97.7%
Euro efficiency (at 360 Vdc)	96.7%	96.8%	96.9%
MPPT efficiency	99.9%	99.9%	99.9%
<b>PROTECTIONS</b>			
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)	
<b>REFERENCE STANDARD</b>			
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, EN 61000-3-2, EN 61000-3-3		
Grid standard	VDE-AR-N-4105, VDE 0126-1-1, RD 1699, C10/11, G83/2, UTE C15-712-1, AS 4777, CEI 0-21, EN 50438		
<b>PHYSICAL</b>			
Dimensions (W x D x H) (mm)	343 x 150 x 281		
Weight	9.6 kg		
Environmental protection rating	IP 65 (according to IEC 60529)		
Cooling concept	Natural convection		
Mounting information	Wall bracket		
<b>GENERAL</b>			
Operating temperature	-20°C to +60°C (derating above 45°C)		
RangeRelative humidity	0% to 98%, no condensation		
Max. altitude (above sea level)	2000 m		
Noise level	< 40 dB		
Isolation type	Transformerless		
Display	3 LED, Backlight, 4 x 20 Character LCD		
Data communication interfaces	RS485 (WiFi, GPRS integrated)		
Computer communication	USB		
Standard warranty	10 years (5 ~ 25 years optional)		

Disclaimer:  
 • These data in this document are tested under specified conditions. It may result in difference between actual results and these data due to some uncertain factors. The statement about this product is for reference only. It makes no representation or warranty.  
 • All specifications subject to change without notice.