

# Efficio On-Grid Inverters

E2L™

P140E



## Efficio On-Grid Inverters

The Efficio on-grid inverters are available in single phase and three versions from 3KWac in single phase to 40KWac in 3phase version.

The Single phase version can be used in 230V Phase to Neutral or in 208/240V Phase to Phase applications.



# Single Phase Units

- Maximum PV voltage up to 600Vdc
- DC / AC ration up to 1.35
- Type II DC Surge Protection Device
- Type III AC Surge Protection Device
- IP 65 Protection
- can be operated as part of a large PV on grid system
- WiFi / 4G Plug
- High Efficiency (>98.3%)
- Compact and light

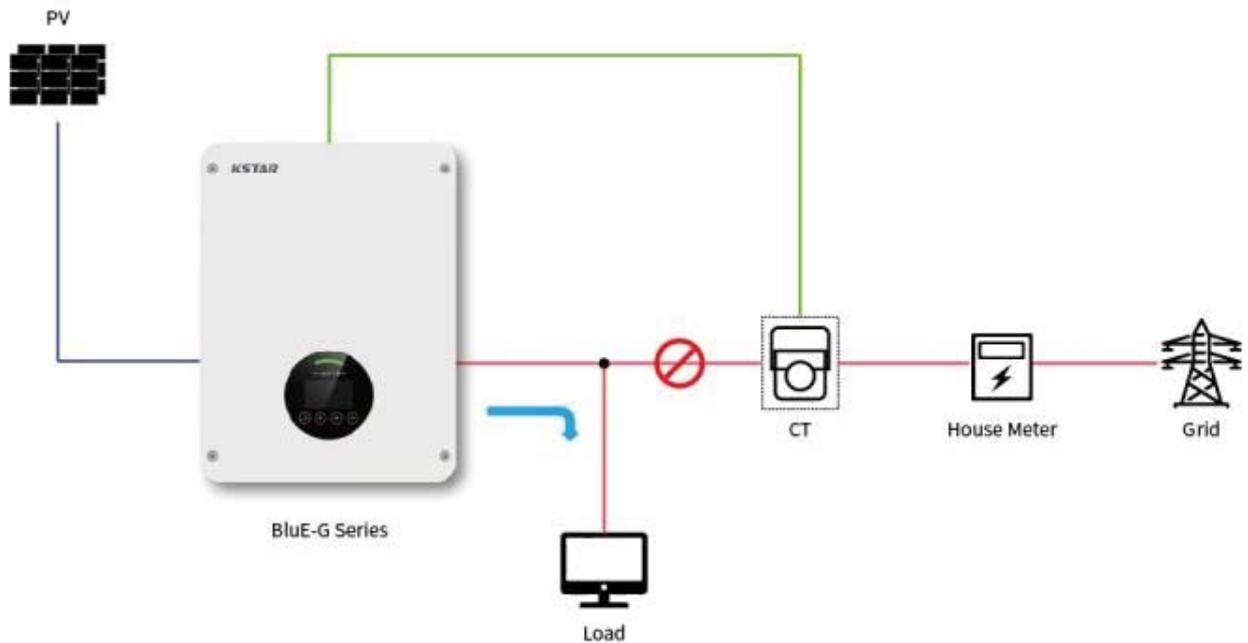


Fig.1: Recommended Installation Topology for both single and three phase units

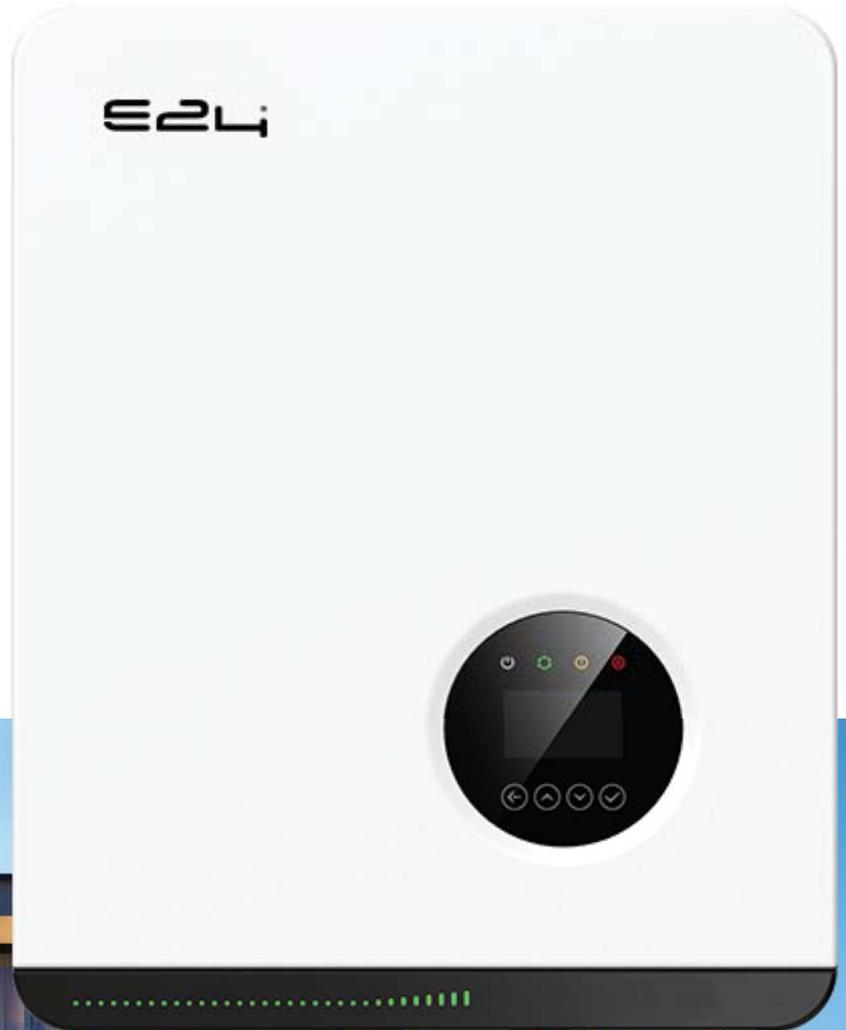
# Specifications

Specifications for single phase units from 3KWac to 6KWac:

MODEL	PVIE3-3KI	PVIE3-3K6I	PVIE3-4KI	PVIE3-5KI	PVIE3-6KI	PVIE3-8KI	PVIE3-10KI	PVIE-12KI
<b>Input(DC)</b>								
Max. remonmmended PV power	6000W	7200W	8000W	10000W	10000W	12000W	15000W	18000W
Max. DC voltage	1100V	1100V	1100V	1100V	1100V	1100V	1100V	1100V
Nominal voltage	600V	600V	600V	600V	600V	600V	600V	600V
Start voltage	180V	180V	180V	180V	180V	180V	180V	180V
MPPT voltage range	140 V~1,000 V	140 V~1,000 V	140 V~1,000 V	140 V~1,000 V	140 V~1,000 V	140 V~1,000 V	140 V~1,000 V	140 V~1,000 V
Number of MPP tracker	2	2	2	2	2	2	2	2
Strings per MPP tracker	1	1	1	1	1	1	1	1
Max. input current per MPPT	15A	15A	15A	15A	15A	15A	15A	15A
Max. short-circuit current per MPPT	25A	25A	25A	25A	25A	25A	25A	25A
<b>Output(AC)</b>								
Nominal AC output power	3000W	3600W	4000W	5000W	6000W	8000W	10000W	12000W
Maximum AC output power	3300VA	4000VA	4400VA	5500VA	6600VA	8800VA	11000VA	13200VA
Nominal AC voltage	400V 3L+N							
AC grid frequency range	50 / 60Hz(±5Hz)							
Maximum output current	4.8A	6.1A	6.8A	8.5A	10.1A	13.5A	16.9A	20A
Power factor(Φ)	0.8leading-0.8lagging							
THDi	3%							
<b>Efficiency</b>								
Max. efficiency	98.4%	98.4%	98.4%	98.4%	98.4%	98.6%	98.6%	98.6%
Euro efficiency	97.5%	97.5%	97.5%	97.5%	97.5%	98%	98.1%	98.1%
<b>Protection devices</b>								
DC switch	Yes							
Output over current	Yes							
Anti-islanding protection	Yes							
DC reverse polarity protection	Yes							
String fault Detection	Yes							
AC/DC surge protection	Type II							
Insulation detection	Yes							
AC short circuit protection	Yes							
<b>General Specifications</b>								
Dimensions W x H x D (mm)	380x483x161							
Weight(kg)	<18							
Operating temperature range	-25°C~+60°C							
Cooling type	Natural cooling							
Max. operation altitude	4000m							
Max. operation humidity	0-100%(No condensation)							
AC Output terminal type	Connector							
IP class	IP65							
Topology	Transformer-less							
Communication	RS485/Wifi/4G							
Display	LCD							
Certification & Standard	EN/IEC62109-1/2 ; IEC/EN61000-6-2;IEC/EN61000-6-4;IEC61683;IEC60068;IEC60529;IEC62116;IEC61727;							

# Three Phase Units

- Max. PV voltage up to 800V
- DC/AC ratio up to 2
- Type II DC /AC SPD
- Type III AC Surge Protection Device
- IP65 protection
- Can be operated as part of a large PV on grid system
- Reactive power control
- WiFi / 4G Plug optional
- High efficiency up to 98.6%
- Compact and light



Specifications for three phase units from 3KWac to 12KWac:

MODEL	PVIE1-3KI	PVIE1-4KI	PVIE1-5KI	PVIE1-6KI
<b>Input(DC)</b>				
Max. PV power	4050W	5400W	6750W	8100W
Max. DC voltage	600V	600V	600V	600V
Nominal voltage	380V	380V	380V	380V
Start voltage	100V	100V	100V	100V
MPPT voltage range	80V-560V	80V-560V	80V-560V	80V-560V
Number of MPP tracker	2	2	2	2
Strings per MPP tracker	1	1	1	1
Max. input current per MPPT	15A	15A	15A	15A
Max. short-circuit current per MPPT	18A	18A	18A	18A
<b>Output(AC)</b>				
Nominal AC output power	3000W	4000W	5000W	6000W
Max. AC apparent power	3300VA	4400VA	5500VA	6000VA
Nominal AC voltage	230V L-N or 208/240 L-L			
AC grid frequency range	50Hz / 60Hz±5Hz	50Hz / 60Hz±5Hz	50Hz / 60Hz±5Hz	50Hz / 60Hz±5Hz
Max. output current	14.5A	19A	24A	26A
Power factor (cosΦ)	0.8 leading ~ 0.8 lagging			
THDi	<3%			
<b>Efficiency</b>				
Max. efficiency	98.1%	98.3%	98.3%	98.3%
Euro efficiency	97.7%	97.9%	97.9%	97.9%
<b>Protection devices</b>				
DC switch	Yes	Yes	Yes	Yes
Anti-islanding protection	Yes	Yes	Yes	Yes
Output over current	Yes	Yes	Yes	Yes
DC reverse polarity protection	Yes	Yes	Yes	Yes
String fault Detection	Yes	Yes	Yes	Yes
Surge protection	DC Type II;AC Type			
Insulation detection	Yes	Yes	Yes	Yes
AC short circuit protection	Yes	Yes	Yes	Yes
<b>General Specifications</b>				
Dimensions W x H x D (mm)	380X380X150			
Weight(kg)	10	11	11	11
Operating temperature range	-25°C~+60°C			
Cooling type	Natural			
Max. operation altitude	4000m			
Max. operation humidity	0-100%			
AC Output terminal type	Quick connector			
IP class	IP65			
Topology	Transformer less			
Communication	RS485/WIFI/4G			
Display	LCD			
Certification & Standard	EN/IEC62109-1/2 ; IEC/EN61000-6-2;IEC/EN61000-6-4;IEC61683;IEC60068;IEC60529;IEC62116; IEC61727;EN50549-1;AS 4777.2;NRS 097;VDE-AR-N-4105;VDE 0126-1-1;CEI0-21;G98;G99;C10/C11;TED749; UNE217001;UNE217002;NB/T32004-2018 ; GB/T19964-2012;INMETRO			

\*Specifications subject to change without prior notice.

## Specifications for three phase units from 15 to 25KWac:

MODEL	PVIE3-15KI	PVIE3-17KI	PVIE3-20KI	PVIE3-25KI
<b>Input(DC)</b>				
Max. recommended PV power	22500W	22500W	30000W	36000W
Max. DC voltage	1100V	1100V	1100V	1100V
Nominal voltage	600V	600V	600V	600V
Start voltage	180V	180V	180V	180V
MPPT voltage range	140 V~1,000V	140 V~1,000V	140 V~1,000V	140 V~1,000V
Number of MPP tracker	2	2	2	2
Strings per MPP tracker	2/1	2	2	2
Max. input current per MPPT	30A/15A	30A	30A	30A
Max. short-circuit current per MPPT	50A/25A	50A	50A	50A
<b>Output(AC)</b>				
Nominal AC output power	15000W	17000W	20000W	25000W
Maximum AC output power	16500VA	18700VA	22000VA	27500VA
Nominal AC voltage	400V 3L+N			
AC grid frequency range	50 / 60Hz(±5Hz)			
Maximum output current	25A	27.1A	31.9A	39.7A
Power factor(Φ)	0.8leading-0.8lagging			
THDi	3%			
<b>Efficiency</b>				
Max. efficiency	98.6%	98.6%	98.6%	98.6%
Euro efficiency	98.2%	98.3%	98.3%	98.3%
<b>Protection devices</b>				
DC switch	Yes			
Output over current	Yes			
Anti-islanding protection	Yes			
DC reverse polarity protection	Yes			
String fault Detection	Yes			
AC/DC surge protection	Type II			
Insulation detection	Yes			
AC short circuit protection	Yes			
<b>General Specifications</b>				
Dimensions W x H x D (mm)	380x483x193			
Weight(kg)	<25			
Operating temperature range	-25°C~+60°C			
Cooling type	Fan cooling			
Max. operation altitude	4000m			
Max. operation humidity	0-100%(No condensation)			
AC Output terminal type	Connector			
IP class	IP65			
Topology	Transformer-less			
Communication	RS485/Wifi/4G			
Display	LCD			
Certification & Standard	EN/IEC62109-1/2 ; IEC/EN61000-6-2;IEC/EN61000-6-4;IEC61683;IEC60068;IEC60529;IEC62116;IEC61727; EN50549-1;AS 4777.2;VDE-AR-N-4105;VDE 0126-1-1;CEI0-21;G98;G99;C10/C11;NB/T32004-2018 ; GB/T19964-2012			

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Specifications for three phase units from 25 to 40KWac:

MODEL	PVIE3-27KI	PVIE3-30KI	PVIE3-40KI
<b>Input(DC)</b>			
Max. remonmmended PV power	37500W	45000W	60000W
Max. DC voltage	1100V	1100V	1100V
Nominal voltage	600V	600V	600V
Start voltage	180V	180V	180V
MPPT voltage range	200 V~1,000V	200 V~1,000V	200 V~1,000V
Number of MPP tracker	3	3	3
Strings per MPP tracker	2	2	2
Max. input current per MPPT	30A	30A	30A
Max. short-circuit current per MPPT	50A	50A	50A
<b>Output(AC)</b>			
Nominal AC output power	25000W	30000W	40000W
Maximum AC output power	27500VA	33000VA	44000VA
Nominal AC voltage	400V 3L+N		
AC grid frequency range	50 / 60Hz(±5Hz)		
Maximum output current	39.7A	47.7A	63.6A
Power factor(Φ)	0.8leading-0.8lagging		
THDi	3%		
<b>Efficiency</b>			
Max. efficiency	98.6%	98.7%	98.7%
Euro efficiency	98.3%	98.4%	98.4%
<b>Protection devices</b>			
DC switch	Yes		
Output over current	Yes		
Anti-islanding protection	Yes		
DC reverse polarity protection	Yes		
String fault Detection	Yes		
AC/DC surge protection	Type II		
Insulation detection	Yes		
AC short circuit protection	Yes		
<b>General Specifications</b>			
Dimensions W x H x D (mm)	380x483x227		
Weight(kg)	<35		
Operating temperature range	-25°C ~ +60°C		
Cooling type	Fan cooling		
Max. operation altitude	4000m		
Max. operation humidity	0-100%(No condensation)		
AC Output terminal type	Connector		
IP class	IP65		
Topology	Transformer-less		
Communication	RS485/Wifi/4G		
Display	LCD		
Certification & Standard	EN/IEC62109-1/2 ; IEC/EN61000-6-2;IEC/EN61000-6-4;IEC61683;IEC60068;IEC60529;IEC62116;IEC61727;EN50549-1; AS 4777.2;VDE-AR-N-4105;VDE 0126-1-1;CEIO-21;G98;G99;C10/C11;NB/T32004-2018 ; GB/T19964-2012		

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Hybrid



Storage Inverter



Battery



# E24 Modular Range Of Products For Building Easy, Flexible & Evolutive Solutions

E24 products dynamically evolve with the lifestyle and work style of its customers while easing the installation process.

E24 products are conceived in modules allowing for an easy upgrade to adjust with the needs of the customers. Being modular and easy to connect E24 products allow installers to easily configure the required modules for an optimal solution while offering easy upgrade options.



## Ordering Information

Ref Number	Description
PVIE1-3KI	On Grid Connected inverter, 2MPP, 4 Inputs, 1100Vdc , 3KW AC output, 4.05KW Max DC input, 1Phase, 230V, 50/60Hz
PVIE1-4KI	On Grid Connected inverter, 2MPP, 4 Inputs, 1100Vdc , 4KW AC output, 5.4KW Max DC input, 1Phase, 230V, 50/60Hz
PVIE1-5KI	On Grid Connected inverter, 2MPP, 4 Inputs, 1100Vdc , 5KW AC output,6.75KW Max DC input, 1Phase, 230V, 50/60Hz
PVIE1-6KI	On Grid Connected inverter, 2MPP, 4 Inputs, 1100Vdc , 6KW AC output, 8.1KW Max DC input, 1Phase, 230V, 50/60Hz
PVIE3-3K6I	On Grid Connected inverter, 2MPP, 4 Inputs, 1100Vdc , 3.6KW AC output, 7.2KW Max DC input, 3Phase, 400/230V, 50/60Hz
PVIE3-4KI	On Grid Connected inverter, 2MPP, 4 Inputs, 1100Vdc , 4KW AC output, 8KW Max DC input, 3Phase, 400/230V, 50/60Hz
PVIE3-5KI	On Grid Connected inverter, 2MPP, 4 Inputs, 1100Vdc , 5KW AC output, 10KW Max DC input, 3Phase, 400/230V, 50/60Hz
PVIE3-6KI	On Grid Connected inverter, 2MPP, 4 Inputs, 1100Vdc , 6KW AC output, 10KW Max DC input, 3Phase, 400/230V, 50/60Hz
PVIE3-8KI	On Grid Connected inverter, 2MPP, 4 Inputs, 1100Vdc , 8KW AC output, 12KW Max DC input, 3Phase, 400/230V, 50/60Hz
PVIE3-10KI	On Grid Connected inverter, 2MPP, 4 Inputs, 1100Vdc , 10KW AC output, 15KW Max DC input, 3Phase, 400/230V, 50/60Hz
PVIE3-12KI	On Grid Connected inverter, 2MPP, 4 Inputs, 1100Vdc , 12KW AC output, 18KW Max DC input, 3Phase, 400/230V, 50/60Hz
PVIE3-15KI	On Grid Connected inverter, 2MPP, 4 Inputs, 1100Vdc , 15KW AC output, 22.5KW Max DC input, 3Phase, 400/230V, 50/60Hz
PVIE3-20KI	On Grid Connected inverter, 2MPP, 4 Inputs, 1100Vdc , 20KW AC output, 30KW Max DC input, 3Phase, 400/230V, 50/60Hz
PVIE3-25KI	On Grid Connected inverter, 2MPP, 4 Inputs, 1100Vdc , 25KW AC output, 36KW Max DC input, 3Phase, 400/230V, 50/60Hz
PVIE3-27KI	On Grid Connected inverter, 2MPP, 4 Inputs, 1100Vdc , 25KW AC output, 37.5KW Max DC input, 3Phase, 400/230V, 50/60Hz
PVIE3-30KI	On Grid Connected inverter, 2MPP, 4 Inputs, 1100Vdc , 30KW AC output, 45KW Max DC input, 3Phase, 400/230V, 50/60Hz
PVIE3-40KI	On Grid Connected inverter, 2MPP, 4 Inputs, 1100Vdc , 40KW AC output, 60KW Max DC input, 3Phase, 400/230V, 50/60Hz
PVIEA-DCS1	DC switch for Efficio 1Phase inverters
PVIEA-DCS3	DC switch for Efficio 3Phase inverters
PVIEA-URS	USB to RS-485 Converter Kit
PVIEA-RS42	RS485/232 Module
PVIEA-GPRS	GPRS Option for web monitoring of up to 32 inverters
PVIEA-WFE1	Wi-Fi/Ethernet Option for web monitoring for 1 inverter
PVIEA-WFE32	Wi-Fi/Ethernet Option for web monitoring of up to 32 inverters

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ISO 9001:2015



QUALITY STANDARD

