

Mono-Directional Single Phase Off-line Inverter Series

E2L™

P300E



Mono-Directional, Single Phase, Off-Line Solar inverters 3KW to 5KW per unit for Off-Grid, Weak-Grid Applications.

The P300 Series offers a wide range of inverters ideally suited for applications where no energy feed-in to the grid is required.

5KW units may be connected in parallel to increase power or create a three phase configuration to supply three phase loads (up to 30KW of total power supply can be attained).

The P300 series include Dry contact, and RS232 ports. It is possible to add a module (optional) to allow for BMS RS485

communication to connect to other devices by hardware or the use of a WiFi dongle to connect the unit to the cloud in order to provide the user with access to cloud monitoring through wifi.

All units have a 200% overload capability making the P300 series a very sturdy and reliable inverter.

The ESIM01™ Inverter Series

The ESIM01™ Inverter Series is a modular decentralized system built in modules of 5KW each; reaching a total capacity of up to 30 KW when combined in parallel units.

The ESIM01™ is highly compact and efficient allowing substantial savings in space and energy.

The ESIM01™ Hybrid Inverter Series exceptional design meets basic modern requirements in terms of energy efficiency and environmental friendly applications for homes and small businesses.

E24's hybrid inverter employs transformer less high frequency IGBT technology to offer the highest efficiency while remaining silent during its operation.

In addition, ESIM01™ Hybrid Inverter Series modular design offers consumers the flexibility to accommodate an increase in power, reliability level, runtime or renewable energy capacity by simply adding additional inverter modules or battery modules.

This makes the ESIM01™ Hybrid Inverter Series a user-friendly, easy-to-install, and compact product that can provide plenty of benefits for our customers.



- **Super compact - fits anywhere**
- **Silent Operation**
- **10ms transfer time for critical load**
- **Up to 97 % efficiency**
- **Up to 6 Units in Parallel**
- **Optional Cloud Monitoring**
- **Can be combined for single or three phase operation (ESIM01-5KI only)**



The ESIM01™ Unmatched Features

The ESIM01™ Hybrid Inverter Series is engineered to adapt to almost multiple existing number of energy sources in a manner to optimise energy costs and minimize generator operation while offering immediate power backup to the user.

With or without renewable energy sources:

The ESIM01™ hybrid system may be used without renewable energy inputs. Under such a case the ESIM01™ will only store the energy of the utility mains into the batteries and seamlessly restore the energy.

Wide Utility/Generator input voltage:

The ESIM01™ accepts a wide range of voltage and frequency input with voltage ranging from 120V to 280V per phase and frequency variations from 40Hz to 70 Hz.

Seamless, easy operation:

The ESIM01™ is engineered to operate without any user intervention. There is no need to push any buttons or understand how it works. It simply does.

Large Screen LCD:

For our more curious customers, when and why, the ESIM01 hybrid inverter series include a touch screen LCD display with an intuitive menu displaying detailed data about the system.

Strong Overload Capability

The ESIM01™ Hybrid Inverter is capable of handling overloads of 110% - 125% / 150% for 10s / 5s respectively.

Power Walk In

Power Walk In function allows the rectifier of each unit to be turned on progressively and in sequences in order to avoid the sudden load on generators.

Dry Contacts

The ESIM01™ Series includes dry contacts that can be used to trigger certain actions like the automatic start-up of a diesel generator when battery is low and its shutdown when battery is charged.

Comprehensive Communication Options

Communications options include: RS232, Dry Contacts, RS485 (option), Modbus (option), SNMP adaptor (Option), Wifi (Option).

DSP Technology

The ESIM01™ Hybrid Inverter is built on advance Digital Signal Processing technology in order to provide high performance steady and accurate operation over its lifetime while offering outstanding efficiency (up to 96% in online mode).

Standards

The ESIM01™ Hybrid Inverter complies to EN 60950-1 standards.

Intelligent Battery Management

The ESIM01™ Hybrid Inverter includes an intelligent battery charger that includes a float/boost charger and a dynamic cut-off level that reduces battery maintenance and improves battery life.

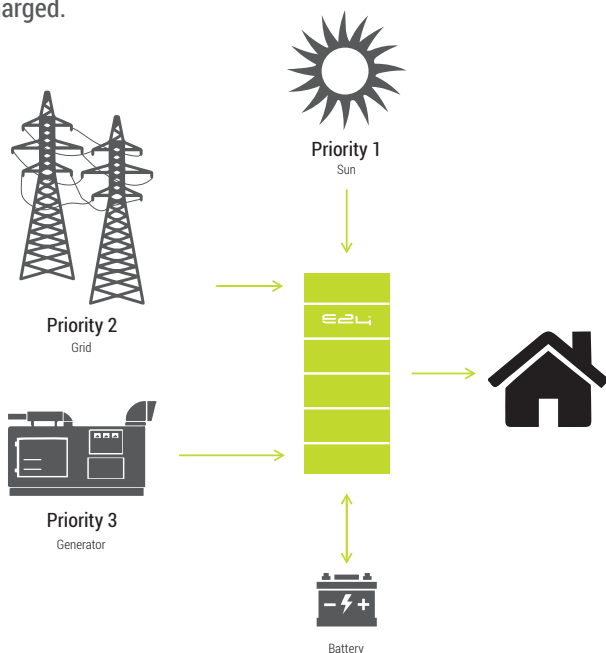
Generator control (Optional)

When used with E24 Energy Controllers as part of E24 innovative turnkey Energy Storage Solutions; the ESIM01™ includes the controls to automatically start and stop an auxiliary generator in the event where the power drawn by the load either exceeds a preset level of current discharge of the batteries or a preset level of battery capacity.

The preset level of discharge can be set to trigger the starting of the generator when the load reaches a level that will deplete the batteries in less than 3 to 8 hours.

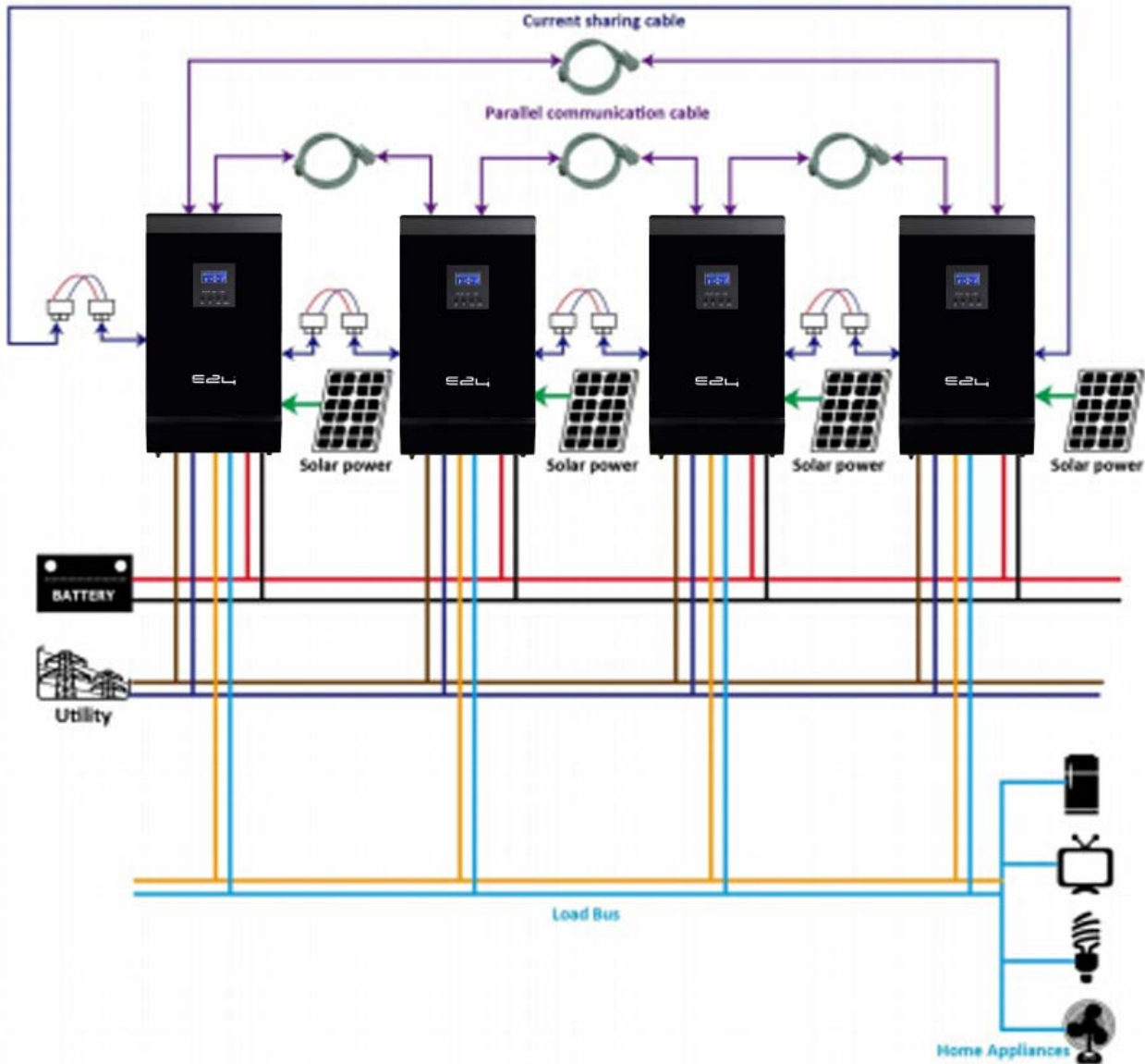
The preset level of battery discharge that will trigger the starting of the generator can be set to a depth of discharge ranging between 30% and 80%. The lower the depth of discharge set, the higher the runtime on batteries before the generator starts but the shorter the number of cycles that the battery can deliver (shorter battery lifetime). Refer to our battery brochure for details.

The ESIM01™ automatically shuts down the generator when the load is decreased below the prest maximum load or when the battery capacity is restored.



System Topology

Truly Modular and Evolvable



The ESIM01™ can be upgraded by adding modules. You may start with one ESIM01™ inverter and decide later that you wish to add more units when your load increases.

Our ESIM01 Hybrid inverter series can be utilized in different configuration to support single-phase and three-phase applications.

Simply add units in parallel (up to 6 units) for a maximum output power of 30KVA for single phase applications; or utilize the combination of 6 units in parallel to support three-phase application and provide up to 10KVA per phase.

The advantage of a modular system is that it allows to replace one module in case of a damaged unit.

The ESIM01™ allows to detect easily which module is faulty. It is then easy to swap the faulty module with a new one. Simply remove and slide out the faulty module and replace and snap in the new module and the system is operational again.

Customers who own multiple ESIM01™ units may keep one module as a common spare part for all systems allowing to minimize downtime.

ESIM01™ Series Technical Specifications

Line Mode Specifications	Inverter Model	ESIM01-2KI	ESIM01-3KI	ESIM01-5KI
	Input Voltage Waveform	Sinusoidal (utility or generator)		
	Nominal Input Voltage	230Vac		
	Low Loss Voltage	170Vac±7V (UPS); 90Vac±7V (Appliances)		
	Low Loss Return Voltage	180Vac±7V (UPS); 100Vac±7V (Appliances)		
	High Loss Voltage	280Vac±7V		
	High Loss Return Voltage	270Vac±7V		
	Max AC Input Voltage	300Vac		
	Nominal Input Frequency	50Hz / 60Hz (Auto detection)		
	Low Loss Frequency	40±1Hz		
	Low Loss Return Frequency	42±1Hz		
	High Loss Frequency	65±1Hz		
	High Loss Return Frequency	63±1Hz		
	Output Short Circuit Protection	Circuit Breaker		
	Efficiency (Line Mode)	>95% (Rated R load, battery full charged)		
Transfer Time	10ms typical (UPS); 20ms typical (Appliances)			
Power Limitation				

Charge Mode Specifications	Charging Algorithm	3-Steps		
	Utility Charging Mode			
	Utility Charging Current (Programmable)	Up to 30A	Up to 60A	Up to 60A
	Charging Floating Voltage	27Vdc	27Vdc	54Vdc
	Solar Charging Mode			
	Charging Current (MPPT)	Up to 40A from solar (Total Charging Current = 70A Max.)	Up to 60A from solar (Total Charging Current = 120A Max.)	Up to 80A from solar (Total Charging Current = 140A Max.)
	System DC Voltage	24Vdc	24Vdc	48Vdc
	Max. PV Array Open Circuit Voltage, Power	102Vdc, 1000W	145Vdc, 1500W	145Vdc, 4000W
	Standby Power Consumption	2W		
	DC Voltage Accuracy	+/-0.3%		

General Specifications	Safety Certification	CE		
	Operating Temperature Range	0°C to 55°C		
	Storage temperature	-15°C~ 60°C		
	Dimension (D*W*H), mm	100 x 227 x 305	100 x 300 x 440	120 x 295 x 468
	Net Weight, kg	5.2	9.5	11



The Mono-Directional Single Phase Off-line Inverter Series

Invert Mode Specifications	Inverter Model	ESIM01-2KI	ESIM01-3KI	ESIM01-5KI
	Rated Output Power	3KVA/2.4KW	3KVA/3KW	5KVA/4KW
	Output Voltage Waveform	Pure Sine Wave		
	Output Voltage Regulation	230Vac±5%		
	Output Frequency	50Hz		
	Peak Efficiency	93%	93%	90%
	Overload Protection	5s@≥150% load; 10s@110%~150% load		
	Surge Capacity	2* rated power for 5 seconds		
	Nominal DC Input Voltage	24Vdc	24Vdc	48Vdc
	Cold Start Voltage	23.0Vdc	23.0Vdc	46.0Vdc
	Low DC Warning Voltage @ load < 20% @ 20% ≤ load < 50% @ load ≥ 50%	22.0Vdc 21.4Vdc 20.2Vdc	22.0Vdc 21.4Vdc 20.2Vdc	44.0Vdc 42.8Vdc 40.4Vdc
	Low DC Warning Return Voltage @ load < 20% @ 20% ≤ load < 50% @ load ≥ 50%	23.0Vdc 22.4Vdc 21.2Vdc	23.0Vdc 22.4Vdc 21.2Vdc	46.0Vdc 44.8Vdc 42.4Vdc
	Low DC Cut-off Voltage @ load < 20% @ 20% ≤ load < 50% @ load ≥ 50%	20.5Vdc 20.4Vdc 19.2Vdc	20.5Vdc 20.4Vdc 19.2Vdc	41.0Vdc 40.8Vdc 38.4Vdc
	High DC Recovery Voltage	29Vdc	29Vdc	58Vdc
	High DC Cut-off Voltage	30Vdc	30Vdc	60Vdc
	No Load Power Consumption	<50W	<50W	<50W
Saving Mode Power Consumption	<15W	<15W	<15W	

Charging Controls	Voltage Setting	Battery Type	Float	
			24	48
		Flooded/AGM/Gel	27	54
	Charging Curve	<p>The graph plots Battery Voltage per cell (left y-axis, 2.25Vdc marked) and Charging Current% (right y-axis, 50% and 100% marked) against Time (x-axis). The curve starts at a low voltage and current, rises linearly during the Bulk (Constant Current) phase (t0) until it reaches a plateau at 2.25Vdc. During the Maintenance (Floating) phase (t1), the voltage remains constant while the charging current gradually decreases from 100% towards 0%.</p>		

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
ESIM01-3KI	Solar off-Grid Inverter, 24Vdc, 3KW, 1 Phase, 230V, 50/60Hz, 1.5KWp, 145Vdc, RS 232
ESIM01-5KI	Modular Solar off-Grid Inverter, IP65, 48Vdc, 5KW, 1 Phase, 230V, 50/60Hz, 4KWp, 145Vdc, RS 232
ESIMO-WiFi-C	MODBUS Box
ESIMO-WiFi-M	Wifi Card for OI and OIP Series
ESIM01-MOD	Wifi Module for OI and OIP Series

E24®

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ISO 9001:2015



QUALITY STANDARD

