YHI

Solar Power

PRODUCT CATALOGUE

Modules | Microinverters | Inverters | Mounting Systems & Electrical | Storage | Charge Controllers | Batteries

ENPHASE. ReneSola Trinasolar SOLAX POWER

Suntellite LG Chem SMA NEUTON POWER

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CONTENTS

Modules

1

10 Overview
12 Suntellite Polycrystalline 15W - 150W Modules
14 Suntellite Monocrystalline 200W Module
15 Suntellite 250W & 260W Polycrystalline Modules
16 Renesola Virtus II 260W Polycrystalline Module
18 Trina Solar Duomax 265W Multicrystalline Module
20 Trina Solar Honey 270W Polycrystalline Module
22 Trina Solar Honey Plus 285W Monocrystalline Module

Microinverters

2

26 Overview
27 Enphase S230 microinverter
28 Enphase S270 microinverter
29 Enphase Envoy S-Series Communications Gateway
31 Enphase Enlighten Manager - Monitoring System
32 Enphase AC Battery
34 Enphase Cabling & Connectors

Inverters

3

38 Overview
40 SolaX Hybrid Ready SKTL Inverters
42 SolaX Eternal Chargers
44 SolaX Hybrid SKSU Inverters
46 SolaX EPS Box
47 SolaX Lithium Battery
48 SolaX Mini Inverters
50 SolaX Air Inverters
52 SolaX X1 Boost Inverters
54 SolaX X3 Three Phase Inverters
56 SMA Sunny Island Inverter Chargers
60 SMA Sunny Boy Storage Battery Inverter
62 SMA Sunny Boy Inverters
64 SMA Sunny Backup Inverter
65 SMA Sunny Backup Switch Box
66 SMA Sunny Mini Central Inverter
68 SMA Sunny Tripower Three Phase Inverters
70 SMA Accessories

Mounting Systems & Electrical

4

76 Neuton Power Pitched Roof Racking System
78 Neuton Power Tilt Racking System
79 Neuton Power Grounding Components
80 Dynoraxx PV Mounting System
81 S-5 Mounting Brackets
82 Neuton Power RV Roof Mount Kit
84 Cabling & Connectors
86 AC/DC Circuit Breakers
87 AC/DC Isolators & Enclosures
89 Neuton Solar Power Diverter

Storage

5

92 LG Chem Resu Batteries
94 Enphase AC Battery
95 SolaX Lithium Battery

Charge Controllers

6

98 Neuton Power Charge Controllers
99 Neuton Power MPPT Charge Controllers

Batteries

7

104 C&D Lead Carbon Batteries
105 C&D OPZV Gel Batteries
106 Crown Deep Cycle Batteries
107 Vision CL Batteries
108 Vision FM Batteries

Your New Zealand Solar Supplier

YHI (New Zealand) Ltd is a leading New Zealand distributor of solar power equipment. We strive to bring you the highest quality products from the best global brands.

YHI (New Zealand) Ltd is a leading New Zealand power products distribution company and offers a comprehensive product range in Power Systems, Solar Power and Motive Power products, as well as offering Power Systems Solutions and Services.

From the small beginnings in 1995, YHI (New Zealand) Ltd has grown to six locations throughout New Zealand and has 80 staff. YHI (New Zealand) Ltd also has contract warehouses in the Palmerston North and Invercargill to offer even better availability to our customers in those regions.

YHI (New Zealand) Ltd is a Proud Member of:

SEANZ Sustainable Electricity Association New Zealand

DRIVE ELECTRIC

EnergyManagement Association of New Zealand

ECO WARRANTY www.intlcert.com


AUCKLAND
TAURANGA
HAMILTON
PALMERSTON NORTH
Contract Warehouse
WELLINGTON
CHRISTCHURCH
DUNEDIN
INVERCARGILL
Contract Warehouse

As a leading global manufacturer of next generation photovoltaic products, we believe close cooperation with our partners is critical to success. With local presence around the globe, **Trina** is able to provide exceptional service to each customer in each market and supplement our innovative, reliable products with the backing of Trina as a strong, bankable partner. We are committed to building strategic, mutually beneficial collaborations with installers, developers, distributors and other partners as the backbone of our shared success in driving Smart Energy Together.

Renesola are leading global manufacturers of high-efficiency solar PV modules. Renesola are focused on improving product efficiency and expanding their portfolio of green energy offerings.

Suntellite specialises in R&D, manufacture, marketing and sales of PV products. The main product offering is solar modules and these are exported to 47 countries. Suntellite is committed to the responsibility of "planting a greener future".

Founded in 2006, **Enphase Energy** is a US based technology company designing intelligent product solutions in the solar market, with over 10 million microinverters shipped world wide. Enphase continues to push the boundaries of technology with continuous improvement and quality at the heart of their philosophy.

Neuton Power provide an extensive range of high quality power products, including automotive and deep cycle batteries, PV modules, mounting components, and solar charge controllers.

SolaX's vision is to be a world leader in the development, production and sales of solar inverters that incorporate ground breaking technologies and state of the art capabilities. This journey has led to the creation of SolaX's X-Hybrid battery storage system.

As market leader for solar inverters **SMA** is setting benchmarks again and again: leading-edge efficiencies of 98 % and new technology ensures maximum yields and the highest user convenience. SMA offer the right device for each application: for all module types, for grid-connection and feeding into stand-alone grids, for small house systems and commercial systems in the Megawatt range.

LG Chem are a world-class chemical company providing innovative materials and solutions. Ranked as global No.1 in the automotive and ESS battery markets, LG Chem are leading the world in the lithium-ion battery market.

The concept of combining photovoltaic arrays with standing seam metal roofing is growing. A standing seam metal roof has a life expectancy consistent with that of framed PV modules. **S-5** bracketry technology ensures the best mounting options.

DynoRaxx® offers the most innovative solar mounting solutions on the market today. Innovative materials. Improved designs. Superior technical support. You will install more solar panels in less time and at a lower cost with our flat roof and pitched roof racking systems.

Experience the difference that our powerful, reliable, state of the art designed batteries offer. Whatever your fitment requirements are, get the performance you want, and need, from **Crown Battery**, world leaders in battery manufacturing technology since 1926.

C&D Technologies produces battery power solutions and services for the solar, telecommunications, UPS, switchgear and emerging markets. C&D Technologies unique ability to offer complete systems, designed and produced to high technical standards set it apart from other brands.

Vision sealed lead acid batteries have gained an enviable reputation for quality and reliability in both New Zealand and overseas markets. From Vision's smallest battery for security applications to the larger FM and CL range used in solar and UPS applications, as well as the 2V1000Ah cells used in major power utility and battery bank applications - Vision can provide the battery to suit your application.

1

Modules

YHI stock a range of high-quality, high-efficiency monocrystalline and polycrystalline PV modules from world leading brands to suit all your solar requirements.

PARTCODE	DESCRIPTION	DIMENSIONS H/W/D	VOLTAGE
Suntellite			
SUNPV15	Suntellite 15W Polycrystalline Module	350 x 360 x 20mm	12V
SUNPV30	Suntellite 30W Polycrystalline Module	650 x 360 x 25mm	12V
SUNPV50	Suntellite 50W Polycrystalline Module	540 x 670 x 30mm	12V
SUNPV90	Suntellite 90W Polycrystalline Module	920 x 670 x 30mm	12V
SUNPV150	Suntellite 150W Polycrystalline Module	1482 x 670 x 35mm	12V
SUNPV200	Suntellite 200W Polycrystalline Module	1580 x 808 x 35mm	24V
SUNZDNY250P60BLK	Suntellite 250W Polycrystalline Module Black	1640 x 992 x 35mm	24V
SUNZDNY260P60	Suntellite 260W Polycrystalline Module	1640 x 992 x 35mm	24V
Renesola			
SPVR260II	Renesola 260W Virtus II Polycrystalline Module	1640 x 992 x 40mm	24V
Trina Solar			
TSM265PEG5	Trina Solar 265W Duomax Multicrystalline Module	1658 x 992 x 6mm	24V
TSM270PD05	Trina Solar 270W Honey Polycrystalline Module	1650 x 992 x 35mm	24V
TSM285DD0508	Trina Solar 285W Honey M Plus Monocrystalline Module	1650 x 992 x 35mm	24V

Suntellite
Polycrystalline Module

YHI Part Code SUNPV15, SUNPV30, SUNPV50

FEATURES

- Cost-effective standard solar modules for skylight, roofing and facades applications
- 0 to +3% positive tolerance for mainstream products
- Withstand high wind loads and snow loads (5400Pa)
- Anti-reflective highly transparent, low iron tempered glass
- Transmission rate 3.18%

BENEFITS

- 5 year mechanical warranty
- 25 year linear warranty to 70% power output
- Product liability insurance

MODULE	SUNPV15	SUNPV30	SUNPV50
Electrical Characteristics			
Max. Power (Pmax)	15Wp	30Wp	50Wp
Optimum Operating Voltage (Vm)	17.19Vm	17.06Vm	17.21Vm
Optimum Operating Current (Im)	0.87A	1.76A	2.91A
Open-Circuit Voltage (Voc)	21.7V	21.77V	21.94V
Short-Circuit Current (Isc)	0.95A	1.89A	3.12A
Cell Efficiency	17.10%	17.10%	17.10%
Module Efficiency	15.37%	15.37%	15.37%
Characteristics			
Solar Cell	Poly-crystalline		
Output Tolerance (Pmax)	0~+3%		
Temperature Cycling Range	(-40 ~ 85°C)		
NOCT	40°C ±2°C		
Temperature Coefficients of Isc	+(0.053±0.01)%/K		
Temperature Coefficients of Voc	-(0.35±0.01)%/K		
Temperature Coefficients of Pmax	-(0.40±0.05)%/K		
Dimensions			
Height	350mm	650mm	540mm
Width	360mm	360mm	670mm
Depth	20mm	25mm	30mm

Suntellite
Polycrystalline Module

YHI Part Code SUNPV90, SUNPV150

FEATURES

- Cost-effective standard solar modules for skylight, roofing and facades applications
- 0 to +3% positive tolerance for mainstream products
- Withstand high wind loads and snow loads (5400Pa)
- Anti-reflective highly transparent, low iron tempered glass
- Transmission rate 3.18%

BENEFITS

- 5 year mechanical warranty
- 25 year linear warranty to 70% power output
- Product liability insurance

MODULE	SUNPV90	SUNPV150
Electrical Characteristics		
Max. Power (Pmax)	90Wp	150Wp
Optimum Operating Voltage (Vm)	17.41Vm	17.8Vm
Optimum Operating Current (Im)	5.17A	8.43A
Open-Circuit Voltage (Voc)	21.94V	22.15V
Short-Circuit Current (Isc)	5.62A	8.93A
Cell Efficiency	17.10%	17.10%
Module Efficiency	15.37%	15.37%
Characteristics		
Solar Cell	Poly-crystalline	
Output Tolerance (Pmax)	0~+3%	
Temperature Cycling Range	(-40 ~ 85°C)	
NOCT	40°C ±2°C	
Temperature Coefficients of Isc	+(0.053±0.01)%/K	
Temperature Coefficients of Voc	-(0.35±0.01)%/K	
Temperature Coefficients of Pmax	-(0.40±0.05)%/K	
Dimensions		
Height	920mm	1482mm
Width	670mm	670mm
Depth	30mm	35mm

YHI Part Code SUNPV200

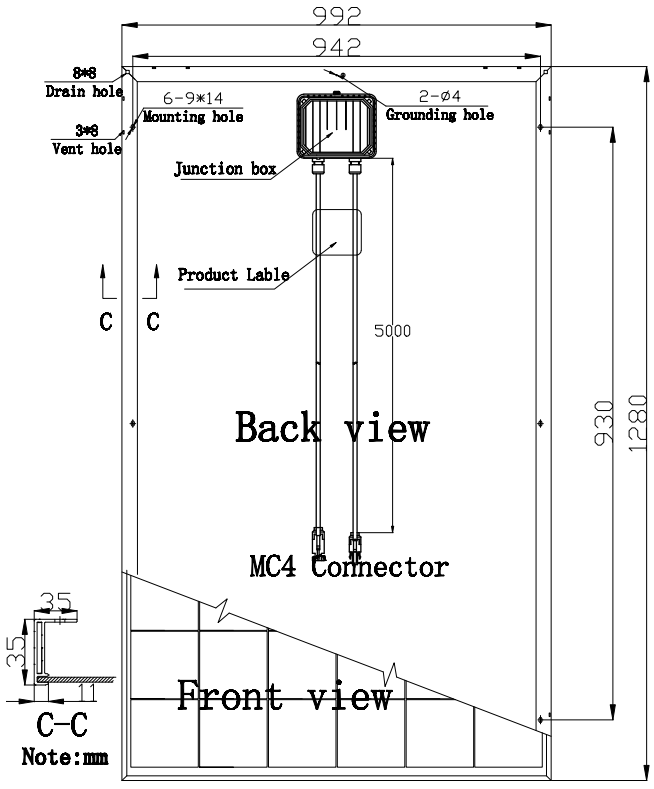
FEATURES

- Cost-effective standard solar modules for skylight, roofing and facades applications
- 0 to +3% positive tolerance for mainstream products
- Withstand high wind loads and snow loads (5400Pa)
- Anti-reflective highly transparent, low iron tempered glass
- Transmission rate 3.18%

BENEFITS

- 5 year mechanical warranty
- 25 year linear warranty to 70% power output
- Product liability insurance

MODULE	SUNPV200
Electrical Characteristics	
Max. Power (Pmax)	200Wp
Optimum Operating Voltage (Vm)	36.95V
Optimum Operating Current (Im)	5.42A
Open-Circuit Voltage (Voc)	44.95V
Short-Circuit Current (Isc)	5.65A
Cell Efficiency	17.9%
Module Efficiency	15.7%
Characteristics	
Solar Cell	Poly-crystalline (125x125mm)
Output Tolerance (Pmax)	0~+3%
Temperature Cycling Range	(-40°C ~ 85°C)
NOCT	47°C
Temperature Coefficients of Isc	(+0.06%/C)
Temperature Coefficients of Voc	(-0.35%/C)
Temperature Coefficients of Pmax	(+0.4%/C)
Dimensions	
Height	1580mm
Width	808mm
Depth	35mm

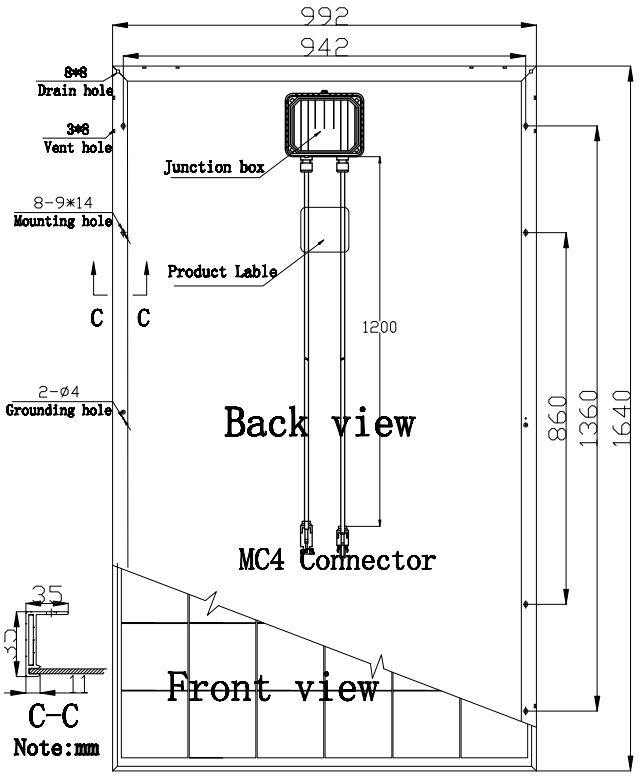


YHI Part Code SUNZDNY250P60BLK, SUNZDNY260P60

FEATURES

- Automatic cell and module production with 100% quality control and product trace-ability.
- 0 to +3% of positive power tolerance guaranteed
- PID Free (Potential Induced Degradation)
- TUV Certified (5400Pa tested against snow and 2400Pa against
- the wind)
- The production system is ISO9001, ISO14001, OHSAS18001
- Fire Test Approved : Application class A, Safety Class II, Fire Rating A
- High salt mist and ammonia resistance
- 12 years limited workmanship warranty
- 25 year linear performance
- Product liability insurance

MODULE	SUNZDNY250P60BLACK	SUNZDNY260P60
Electrical Characteristics		
Max. Power (Pmax)	250Wp	260Wp
Optimum Operating Voltage (Vm)	30.76V	31.91V
Optimum Operating Current (Im)	8.13A	8.15A
Open-Circuit Voltage (Voc)	37.75V	39.10V
Short-Circuit Current (Isc)	8.55A	8.56A
Cell Efficiency	17.40%	18.10%
Module Efficiency	15.37%	15.98%
Characteristics		
Solar Cell	Poly-crystalline (156x156mm)	
Output Tolerance (Pmax)	0~+3%	
Number of cells	60 cells in a series	
Module dimension (W x H xD)	1640 x 992 x 35mm	
Weight	18.80kg	
Max. System Voltage	1000V (TUV)/ 1000V (UL)	
Max. Series Fuse Rating	15A	
Output Cable	PV 4mm2	
Cable Length	1200mm±5	
Number of bypass diodes	3/6	
Temperature Cycling Range	(-40°C ~ 85°C)	
NOCT	47°C ±2°C	



Temperature Coefficients of Isc	+0.46%/K
Temperature Coefficients of Voc	-0.303%/K
Temperature Coefficients of Pmax	-0.41%/K
Load capacity	394 pcs/20'GP 896pcs/40'HQ

Renesola Virtus II
Polycrystalline Module

YHI Part Code SPVR260II

FEATURES

- ISO9001, OHSAS18001, ISO14001 Certified
- Conforms with IEC 61215: 2005, IEC 61730: 2004, UL 1703 PV Standards
- Mechanical Load Capability of up to 5400Pa
- High Module Conversion Efficiencies
- Application Class A, Safety Class II, Fire Rating C
- Easy Installation and Handling
- 10 year material and workmanship guarantee
- 25 year linear power output guarantee

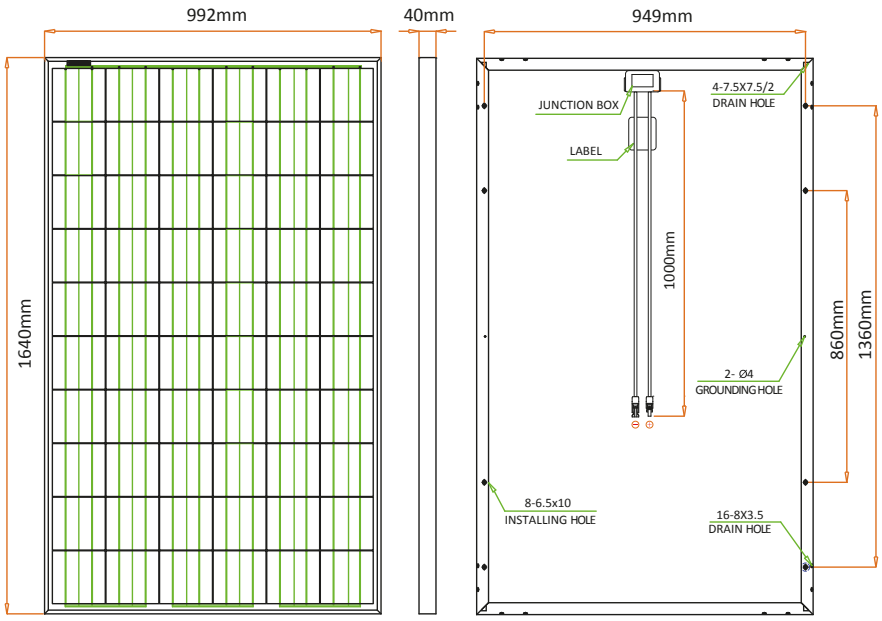
MODULE	SPVR260II
Electrical Characteristics STC	
Max. Power (Pmax)	260W
Power Tolerance	0~+5W
Module Efficiency	16%
Maximum Power Current (Imp)	8.53A
Maximum Power Voltage (Vmp)	30.5V
Short Circuit Current (Isc)	8.95A
Open Circuit Voltage (Voc)	37.6V

Values at Standard Test Conditions STC (Air Mass AM1.5, Irradiance, 1000W/m^2, Cell Temperature 25°C

Electrical Characteristics NOCT	
Max. Power (Pmax)	193W
Maximum Power Current (Imp)	6.74A
Maximum Power Voltage (Vmp)	28.6V
Short Circuit Current (Isc)	7.27A
Open Circuit Voltage (Voc)	35.2V

Values at Normal Operating Cell Temperature, Irradiance of 800 W/m^2, spectrum AM 1.5, ambient temperature 20°C , wind speed 1m/s

APPROVED PRODUCT



Drawing Only for Reference

MODULE	SPVR260II

Dimensions

Height (H)	1640mm
Width (W)	992mm
Depth (D)	40mm

Max. Ratings

Operating Temperature	-40°C~+85°C
Max. System Voltage	1000VDC (EU)/600VDC (US)
Max. Series Fuse Rating	20A (EU)/20A (US)

Characteristics

Temperature Coefficient of VOC	-0.30%/°C
Temperature Coefficient of Isc	-0.04%/°C
Temperature Coefficient of Pmax	-0.40%/°C
Nominal Operating Cell Temp. (NOCT)	45°C±2 °C

Mechanical Characteristics

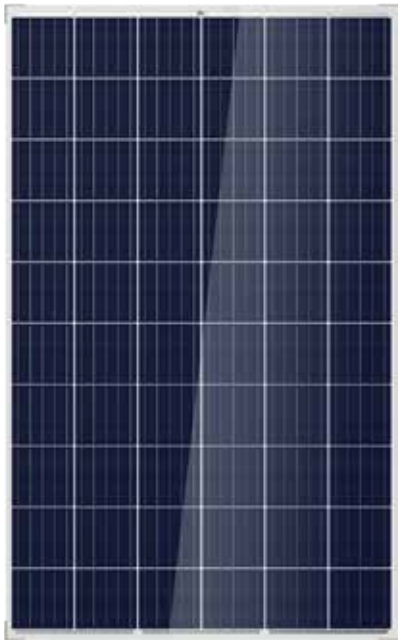
Cell Type	Virtus II (Polycrystalline) 156 x 156mm, 60 (6x10) pcs in series
Glass	High Transmission, Low Iron, Tempered Glass
Frame	Anodized Aluminum Alloy
Junction Box	IP65/IP67 rated, with bypass diodes
Output Cable	4mm² (EU)/12 AWG (US), 1000mm
Weight	18.5kg

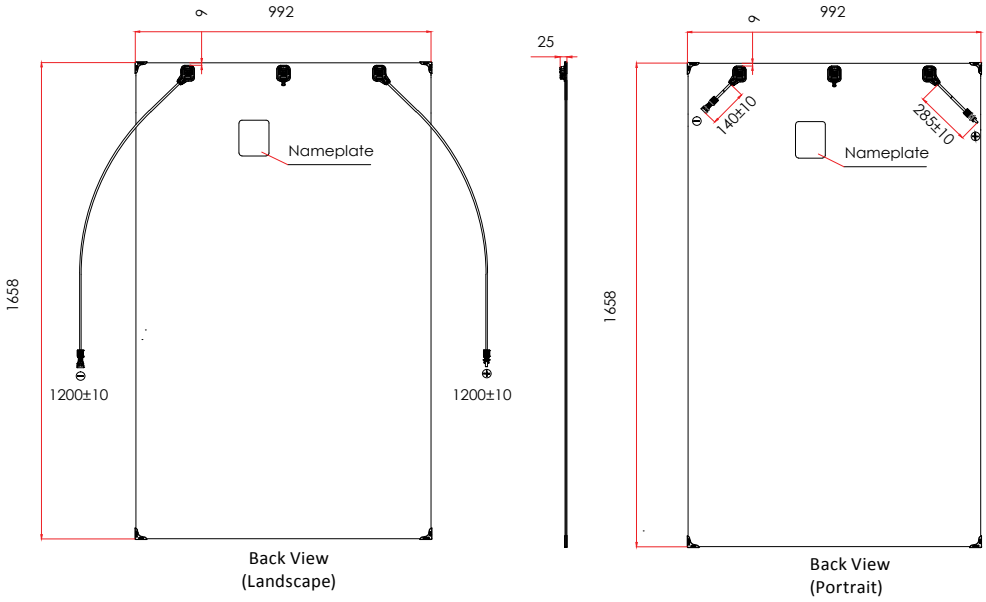
Varied Irradiation Efficiencies

Irradiance	200W/m²	400W/m²	600W/m²	800W/m²	1000W/m²
Efficiency	15.8%	16.2%	16.2%	16.1%	16.0%

Trina Solar Duomax
Multicrystalline Glass Module

YHI Part Code TSM265PEG5





60 CELL
MULTICRYSTALLINE MODULE

16.4%
MAXIMUM EFFICIENCY

0~+5W
POSITIVE POWER TOLERANCE

HIGHLY RELIABLE DUE TO STRINGENT QUALITY CONTROL

- PID resistant and free of snail trails
- Increased module robustness to minimize micro-cracks
- 100% EL double inspection

ENHANCED SAFETY

- Fire class A certified by TUV Rheinland according to fire test IEC 61730-2/MST 23
- Certified for fire type 13 (UL 1703)

INCREASED VALUE

- Higher maximum system voltage reduces BOS costs
- 30 year linear warranty
- 0.5% annual degradation
- Low thermal coefficents for more energy production at higher temperature

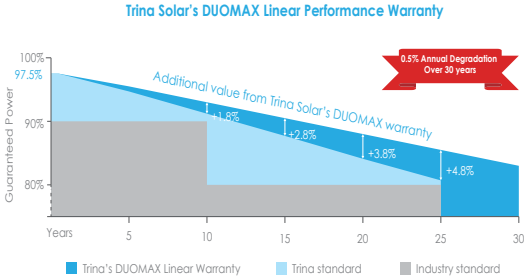
CERTIFIED TO WITHSTAND THE MOST CHALLENGING ENVIRONMENTAL CONDITIONS

- Module coating resistant to sand, acid, and alkali
- 2400 Pa wind load
- 5400 Pa snow load
- 35mm hail stones at 97 km/h

COMPREHENSIVE PRODUCTS AND SYSTEM CERTIFICATES

ISO 9001, ISO14001, ISO14064, OHSAS18001 Certified

Conforms with IEC61215, IEC61730, UL1703, IEC61701, IEC62716



APPROVED PRODUCT

MODULE	TSM265PEG5		

Electrical Characteristics STC

Max. Power (Pmax)	260W	265W	270W
Power Tolerance		0~+5W	
Module Efficiency	15.8%	16.1%	16.4%
Maximum Power Current (Imp)	8.52A	8.60A	8.69A
Maximum Power Voltage (Vmp)	30.5V	30.8V	31.1V
Short Circuit Current (Isc)	9.10A	9.20A	9.26A
Open Circuit Voltage (Voc)	37.6V	37.6V	37.6V

STC: Irradiance 1000 W/m^2 , Cell Temperature 25ºC, Air Mass AM1.5.
*Measuring tolerance: ±3%.

Electrical Characteristics NOCT

Max. Power (Pmax)	193W	197W	201W
Maximum Power Current (Imp)	6.89A	6.98A	7.11A
Maximum Power Voltage (Vmp)	28.0V	28.2V	28.3V
Short Circuit Current (Isc)	7.35A	7.43A	7.49A
Open Circuit Voltage (Voc)	34.9V	34.9V	34.9V

NOCT: Irradiance at 800 W/m^2, Ambient Temperature 20ºC, Wind Speed 1 m/s.

Dimensions

Height	1658mm
Width	992mm
Depth	6mm

Max. Ratings

Operating Temperature	-40~+85ºC
Max. System Voltage	1500V DC (IEC) 1000V DC (UL)
Max. Series Fuse Rating	15A

Characteristics

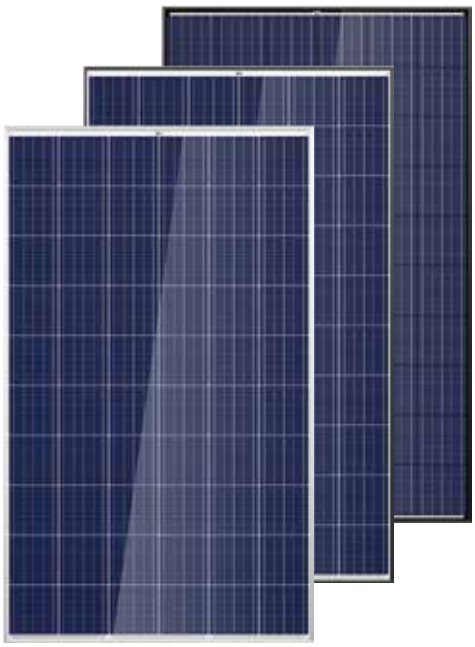
Temperature Coefficient of VOC	- 0.32%/ºC
Temperature Coefficient of Isc	0.05%/ºC
Temperature Coefficient of Pmax	- 0.41%/ºC
Nominal Operating Cell Temp. (NOCT)	44ºC (±2ºC)

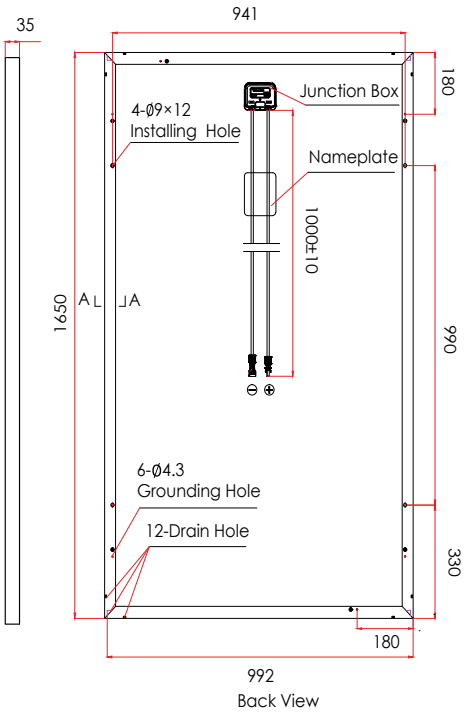
Mechanical Characteristics

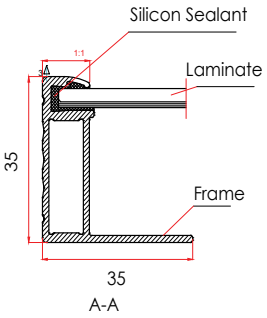
Cell Type	60 cells (6 x 10) pcs in series
Glass	2.5mm (0.10 inches), High Transmission, AR Coated Heat Strengthened Glass
Frame	Frameless
Junction Box	IP 67 or IP 68 rated
Output Cable	Photovoltaic Technology Cable 4mm x 1000mm
Weight	23.0 kg

Trina Solar Honey
Polycrystalline Module

YHI Part Code TSM270PD05







60 CELL
POLYCRYSTALLINE MODULE

16.5%
MAXIMUM EFFICIENCY

0~+5W
POSITIVE POWER TOLERANCE

OUR MOST VERSATILE PRODUCT

- Compatible with all major BOS components and systems designs
- 1000V UL/1000V IEC certified

MAXIMIZE LIMITED SPACE

- 60-cell module power output up to 270w
- Up to 165 W/m^2 power density

HIGHLY RELIABLE DUE TO STRINGENT QUALITY CONTROL

- Over 30 in-house tests (UV, TC, HF and many more)
- In-house testing goes well beyond certification requirements
- PID resistent
- 100% EL double inspection

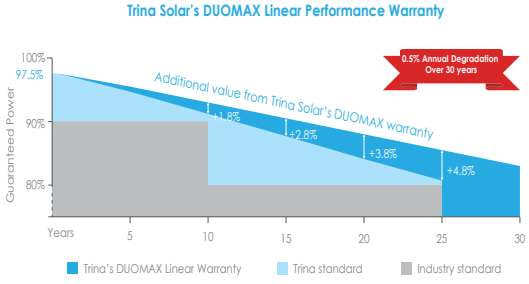
CERTIFIED TO WITHSTAND CHALLENGING ENVIRONMENTAL CONDITIONS

- 2400 Pa wind load
- 5400 Pa snow load
- 35mm hail stones at 97 km/h

COMPREHENSIVE PRODUCTS AND SYSTEM CERTIFICATES

ISO 9001, ISO14001, ISO14064, OHSAS18001 Certified

Conforms with IEC61215, IEC61730, UL1703, IEC61701, IEC62716



APPROVED PRODUCT

MODULE	TSM270PD05			

Electrical Characteristics STC

Max. Power (Pmax)	255W	260W	265W	270W
Power Tolerance	0~+5W			
Module Efficiency	15.6%	15.9%	16.2%	16.5%
Maximum Power Current (Imp)	8.37A	8.50A	8.61A	8.73A
Maximum Power Voltage (Vmp)	30.5V	30.6V	30.8V	30.9V
Short Circuit Current (Isc)	8.88A	9.00A	9.10A	9.18A
Open Circuit Voltage (Voc)	38.1V	38.2V	38.3V	38.4V

STC: Irradiance 1000 W/m^2 , Cell Temperature 25ºC, Air Mass AM1.5.
*Measuring tolerance: ±3%.

Electrical Characteristics NOCT

Max. Power (Pmax)	189W	193W	197W	200W
Maximum Power Current (Imp)	6.71A	6.81A	6.89A	6.97A
Maximum Power Voltage (Vmp)	28.2V	28.4V	28.6V	28.7V
Short Circuit Current (Isc)	7.17A	7.27A	7.35A	7.41A
Open Circuit Voltage (Voc)	35.3V	35.4V	35.5V	35.5V

NOCT: Irradiance at 800 W/m^2, Ambient Temperature 20ºC, Wind Speed 1 m/s.

Dimensions

Height (H)	1650mm
Width (W)	992mm
Depth (D)	35mm

Max. Ratings

Operating Temperature	-40~+85ºC
Max. System Voltage	1000V DC (IEC) 1000V DC (UL)
Max. Series Fuse Rating	15A

Characteristics

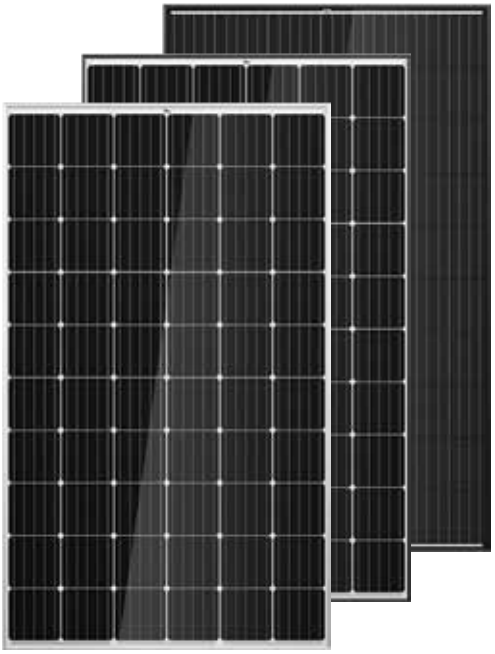
Temperature Coefficient of VOC	- 0.32%/ºC
Temperature Coefficient of Isc	0.05%/ºC
Temperature Coefficient of Pmax	- 0.41%/ºC
Nominal Operating Cell Temp. (NOCT)	44ºC (±2ºC)

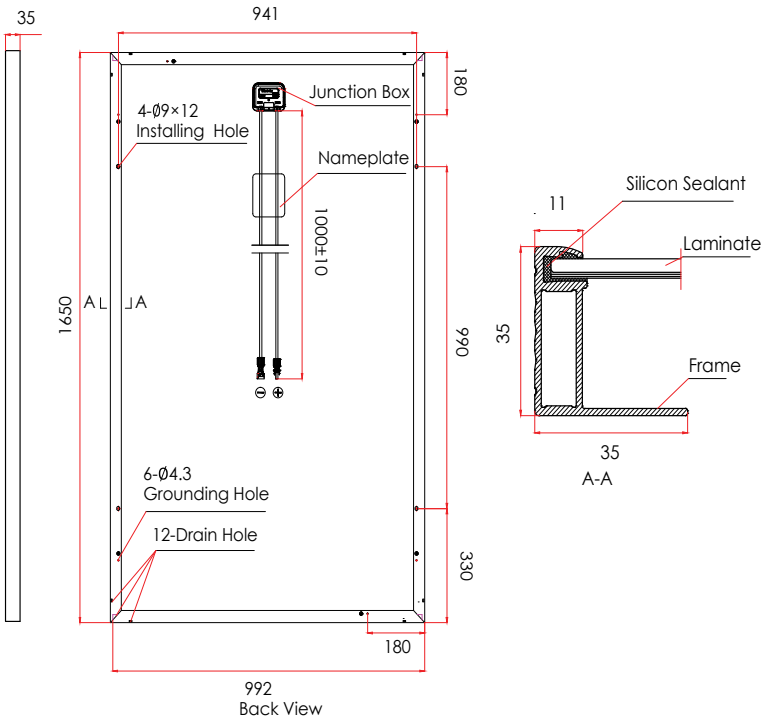
Mechanical Characteristics

Cell Type	60 cells (6 x 10) pcs in series
Glass	3.2mm (0.13 inches), High Transmission, AR Coated Tempered Glass
Frame	Silver Anodized Aluminium Alloy (PD05); Black (PD05.08, PD05.05)
Junction Box	IP 67 or IP 68 rated
Output Cable	Photovoltaic Technology Cable 4mm x 1000mm
Weight	18.6 kg

Trina Solar Honey Plus
Monocrystalline Module

YHI Part Code TSM285DD0508





60 CELL
MONOCRYSTALLINE MODULE

18%
MAXIMUM EFFICIENCY

0~+5W
POSITIVE POWER TOLERANCE

EXCELLENT LOW LIGHT PERFORMANCE ON CLOUDY DAYS, MORNINGS AND EVENINGS

- Advanced surface texturing
- Back surface field
- Selective emitter

MAXIMIZE LIMITED SPACE WITH TOP-END EFFICIENCY

- Up to 180 W/m² power desnity
- Low thermal coefficients for greater energy production at high operating temperatures

HIGHLY RELIABLE DUE TO STRINGENT QUALITY CONTROL

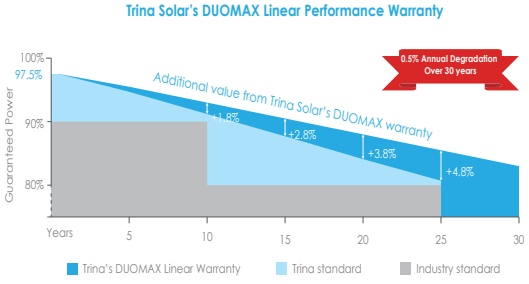
- Over 30 in-house tests (UV, TC, HF and many more)
- In-house testing goes well beyond certification requirements
- 100% EL double inspection

CERTIFIED TO WITHSTAND CHALLENGING ENVIRONMENTAL CONDITIONS

- 2400 Pa wind load
- 5400 Pa snow load
- 35mm hail stones at 97 km/h

COMPREHENSIVE PRODUCTS AND SYSTEM CERTIFICATES

ISO 9001, ISO14001, ISO14064, OHSAS18001 Certified
Conforms with IEC61215, IEC61730, UL1703, IEC61701, IEC62716



APPROVED PRODUCT

MODULE	TSM285DD0508					

Electrical Characteristics STC

Max. Power (Pmax)	270W	275W	280W	285W	290W	295W
Power Tolerance	0W~+5W					
Module Efficiency	16.5%	16.8%	17.1%	17.4%	17.7%	18.0%
Maximum Power Current (Imp)	8.66A	8.76A	8.84A	8.97A	9.01A	9.08A
Maximum Power Voltage (Vmp)	31.2V	31.4V	31.7V	31.8V	32.2V	32.5V
Short Circuit Current (Isc)	9.18A	9.26A	9.35A	9.45A	9.50A	9.55A
Open Circuit Voltage (Voc)	38.4V	38.7V	39.0V	39.3V	39.5V	39.7V

STC: Irradiance 1000 W/m^2 , Cell Temperature 25ºC, Air Mass AM1.5.
*Measuring tolerance: ±3%.

Electrical Characteristics NOCT

Max. Power (Pmax)	201W	205W	209W	212W	216W	220W
Maximum Power Current (Imp)	6.96A	7.02A	7.10A	7.17A	7.23A	7.28A
Maximum Power Voltage (Vmp)	28.9V	29.2V	29.4V	29.6V	29.9V	30.2V
Short Circuit Current (Isc)	7.41A	7.48A	7.55A	7.63A	7.67A	7.71A
Open Circuit Voltage (Voc)	35.7V	36.0V	36.3V	36.6V	36.7V	36.9V

NOCT: Irradiance at 800 W/m^2, Ambient Temperature 20ºC, Wind Speed 1 m/s.

Dimensions

Height	1650mm
Width	992mm
Depth	35mm

Max. Ratings

Operating Temperature	-40~+85ºC
Max. System Voltage	1000V DC (IEC) 1000V DC (UL)
Max. Series Fuse Rating	15A

Characteristics

Temperature Coefficient of VOC	- 0.29%/ºC
Temperature Coefficient of Isc	0.05%/ºC
Temperature Coefficient of Pmax	- 0.39%/ºC
Nominal Operating Cell Temp. (NOCT)	44ºC (±2ºC)

Mechanical Characteristics

Cell Type	60 cells (6 x 10) pcs in series
Glass	3.2mm (0.13 inches), High Transmission, AR Coated Tempered Glass
Frame	Silver Anodized Aluminium Alloy (DD05AII); Black (DD05A.08II, DD05A.05II)
Junction Box	IP 67 or IP 68 rated
Output Cable	Photovoltaic Technology Cable 4mm x 1000mm
Weight	18.6kg

2

Microinverters

YHI are proud to provide microinverters from Enphase Energy. Enphase Microinverters offer the most advanced inverter technology on the market, which means higher production, greater reliability, and unmatched intelligence.

Enphase

PARTCODE	DESCRIPTION	PEAK OUTPUT POWER	BATTERY CAPABLE
S230-60-LN-2-AU	Enphase S230 Microinverter 230VA	230VA	YES
S270-72-LN-2-AU	Enphase S270 Microinverter 270VA	270VA	YES
ENV-S-WM-230 M	Enphase S Metered Envoy +DRM	N/A	YES
ENVS-WM1-230M-3P	Enphase S Metered Envoy Three Phase	N/A	YES
B270-1200-LN-ETC	Enphase AC Battery 270W/1.2KWH 230 VAC	270VA	N/A

Enphase S230
Microinverter

YHI Part Code S230-60-LN-2-AU

FEATURES

- Optimised for 60-cell modules
- Maximises energy production
- Minimises impact of shading, dust, and debris
- No DC design or string calculation required
- More than 1 million hours of testing
- Industry-leading warranty, up to ten years
- Transformer isolated
- 10 year warranty

Built on the fifth-generation platform, the **Enphase S230 Microinverter**™ achieves the highest inverter efficiency for module-level power electronics. With its all-AC approach, the S230 simplifies design and installation, and delivers optimal energy harvest. The S230 is compatible with storage systems, including battery management systems.

The Enphase S230 integrates seamlessly with **Engage Cable**, the **Enphase Envoy-S**™ communications gateway, and **Enphase Enlighten**™ monitoring and analysis software.

MICROINVERTER	S230-60-LN-2-AU

Input Data (DC)

Commonly used module pairings	195W - 285W
Maximum input DC voltage	48V
Peak power tracking voltage	27V - 37V
Operating range	16V - 48V
Min/Max start voltage	22V/48V
Max DC short circuit current	15A

Output Data (AC)

Peak output power	230VA
Maximum continuous output power	220VA
Nominal voltage/range	230V/184V - 276V
Nominal output current	0.95A
Nominal frequency/range	50Hz/45 - 55Hz
Power factor at rated power	>0.95
Maximum units per 20 A branch circuit	17 (Ph + N), 48 (3PH + N)
Maximum output fault current (source)	49Apk < 10 µs, 12 Arms 3 cycles
Current (inrush)	0A
AC backfeed current to module	0mA
Power factor (adjustable)	0.7 leading ... 0.7 lagging
Protective class/over voltage category (OVC)	I/3

Efficiency

EN 50530 (EU) efficiency	95.8%
Peak efficiency	96.7%
Static MPPT efficiency (weighted, reference EN50530)	99.5%
Night time power consumption	< 50mW

Mechanical Data

Ambient temperature range	-40ºC to +65ºC
Enclosure environmental rating	Outdoor — IP 67
Connector type, MC4	S230-60-LN-2 S230-60-LN-2-AU
Connector type, Amphenol H4	S230-60-LN-5 S230-60-LN-5-AU
Dimensions (WxHxD)	172 mm x 175 mm x 35 mm
Weight	1.8kg
Cooling	Natural convection - No fans
Humidity range	0% - 100% (condensing)

Enphase S270
Micro Inverter

YHI Part Code S270-72-LN-2-AU

FEATURES

- Optimised for high-powered 72-cell and compatible with 60-cell modules
- Maximises energy production
- Minimises impact of shading, dust, and debris
- No DC design or string calculation required
- More than 1 million hours of testing
- Industry-leading warranty, up to ten years
- Transformer isolated
- 10 year warranty

Built on the fifth-generation platform, the **Enphase S270 Microinverter**™ achieves the highest inverter efficiency for module-level power electronics for both 60-cell and high-powered 72-cell modules. With its all-AC approach, the S270 simplifies design and installation, and delivers the most reliable energy solution for your customers.

The **Enphase S270** is compatible with storage systems, including battery management systems, and it integrates seamlessly with the **Engage Cable**, the **Enphase Envoy-S**™ communications gateway, and **Enphase Enlighten**™ monitoring and analysis software.

MICROINVERTER	S270-72-LN-2-AU

Input Data (DC)

Commonly used module pairings	230W - 350W
Maximum input DC voltage	60V
Peak power tracking voltage	27V - 48V
Operating range	16V - 60V
Min/Max start voltage	22V/60V
Max DC short circuit current	15A

Output Data (AC)

Peak output power	270VA
Maximum continuous output power	260VA
Nominal voltage/range	230V/184V - 276V
Nominal output current	1.15A
Nominal frequency/range	50Hz/45 - 55Hz
Power factor at rated power	>0.95
Maximum units per 20 A branch circuit	14 (Ph + N), 42 (3PH + N)
Maximum output fault current (source)	49 Apk < 10 µs, 12 Arms 3 cycles
Current (inrush)	0A
AC backfeed current to module	0mA
Power factor (adjustable)	0.7 leading ... 0.7 lagging
Protective class/over voltage category (OVC)	I/3

Efficiency

EN 50530 (EU) efficiency	95.6%
Peak efficiency	96.9%
Static MPPT efficiency (weighted, reference EN50530)	99.5%
Night time power consumption	< 50mW

Mechanical Data

Ambient temperature range	-40°C to +65°C
Enclosure environmental rating	Outdoor — IP 67
Connector type, MC4	S270-72-LN-2 S270-72-LN-2-AU
Connector type, Amphenol H4	S270-72-LN-5 S270-72-LN-5-AU
Dimensions (WxHxD)	172 mm x 175 mm x 35 mm
Weight	1.8kg
Cooling	Natural convection - No fans
Humidity range	0% - 100% (condensing)

Enphase Envoy
S Metered +DRM

YHI Part Code ENV-S-WM-230 M

FEATURES

- Enables web-based monitoring and control
- Bidirectional communications for remote upgrades
- Power export limiting and phase imbalance management*
- AS/NZS 4777.2:2105 DRM (Demand Response Mode) ready*
- Easy system configuration using Enphase Installer Toolkit™ mobile app
- Flexible networking with Wi-Fi, Ethernet, or mobile
- Designed for installation indoors or in an outdoor enclosure
- 5 year warranty

The **Enphase Envoy-S Metered**™ communications gateway delivers solar production and energy consumption data to Enphase Enlighten™ monitoring and analysis software for comprehensive, remote maintenance and management of the Enphase System.

With production metering and consumption monitoring options, Envoy-S is the platform for total energy management and integrates with the **Enphase AC Battery**™.

ENVOY	ENV-S-WM-230 M
Power Requirements	
Hardwired	230VAC or 400Y/230VAC, 50Hz. Max 20A over current protection required
Capacity	
No. of microinverters polled	Up to 600
Mechanical Data	
Dimensions (WxHxD)	213 x 126 x 45mm
Weight	0.5kg
Ambient temperature range	-40° to 65°C -40° to 46°C if installed in an enclosure
Environmental rating	IP30. For installation indoors or in an IP54-rated (or better) enclosure.
Altitude	To 2000 meters
USB ports	Two USB 2.0 ports, auto-sensing, auto-negotiation
Internet Connection Options	
Integrated Wi-Fi	802.11b/g/n
Ethernet	802.3, Cat5E (or Cat 6) UTP Ethernet cable (not included)
Cellular	Optional, CELLMODEM-02 (not included)

Compliance	
Compliance	IEC/EN 61010-1:2010, EN50065-1, EN61000-4-5, EN61000-6-1, EN61000-6-2, C-Tick
Advanced Functions	
Power export limiting	Configurable for zero export when installed with S-Series microinverters
Phase imbalance management	Configurable for phase imbalance management when installed with S-Series microinverters
DRM	Terminal block connections for Demand Response Enabling Device (DRED)

***When used with the Enphase S-Series Microinverter™ and/or Enphase AC Battery™.**

Enphase Envoy
Three Phase Metered

YHI Part Code ENVS-WM1-230M-3P

FEATURES

- Enables web-based monitoring and control
- Bidirectional communications for remote upgrade
- Easy system configuration using Enphase Installer Toolkit™ mobile app
- Flexible networking with Wi-Fi, Ethernet, or mobile
- Designed for installation indoors or in an outdoor enclosure
- 5 year warranty

The **Enphase Envoy-S Metered**™ communications gateway delivers solar production and energy consumption data to Enphase Enlighten™ monitoring and analysis software for comprehensive, remote maintenance and management of the Enphase System.

With production metering and consumption monitoring options, Envoy-S is the platform for total energy management and integrates with the **Enphase AC Battery**™.

ENVOY	ENV-S-WB-230-IM
Power Requirements	
Hardwired	230VAC or 400Y/230VAC, 50Hz Max 20A over current protection required
Capacity	
No. of microinverters polled	Up to 600
Mechanical Data	
Dimensions (WxHxD)	213 x 126 x 45mm
Weight	0.5kg
Ambient temperature range	-40° to 65°C -40° to 46°C if installed in an enclosure
Environmental rating	IP30. For installation indoors or in an IP54-rated (or better) enclosure.
Altitude	To 2000 meters
USB ports	Two USB 2.0 ports, auto-sensing, auto-negotiation
Internet Connection Options	
Integrated Wi-Fi	802.11b/g/n
Ethernet	802.3, Cat5E (or Cat 6) UTP Ethernet cable (not included)
Cellular	Optional, CELLMODEM-02 (not included)

Compliance	
Compliance	IEC/EN 61010-1:2010, EN50065-1, EN61000-4-5, EN61000-6-1, EN61000-6-2, C-Tick
Advanced Functions	
Power export limiting	Configurable for zero export when installed with S-Series microinverters
Phase imbalance management	Configurable for phase imbalance management when installed with S-Series microinverters

CT Clamps

CT-100-SPLIT

NOTE: Two CT clamps per phase are required, the 3Phase Envoy S-Metered comes with two clamps. Additional clamps can be purchased.

Enphase Enlighten Manager
For Solar Professionals

Get it at the App Store or Google Play Store.

Comes with Enphase Envoy

Designed for the Solar Professional, Enlighten Manager streamlines the operations and maintenance processes and enables efficient management of multiple Enphase systems.

- View detailed performance data from a fleet of PV installations down to the individual module
- Remotely diagnose and resolve issues impacting system performance and easily determine whether an unplanned truck roll is necessary.
- Streamline operations and easily monitor activations in process.

- Access performance reports 24/7 with secure, backed–up online data storage.
- Compare actual system performance data against modelled performance data.
- Access performance data for PV module warranty claims.

Enphase MyEnlighten
For System Owners

Get it at the App Store or Google Play Store.

Comes with Enphase Envoy

MyEnlighten connects system owners to their solar experience through an engaging interface that displays energy production, system health and environmental benefits.

- Social media buttons make it easy to brag to friends and family about all your energy savings.
- Easily compare current performance against a previous day, week or month.
- System status indicator tells you when the system is not performing as expected and what can be done to restore performance.

- Easily verify system health and performance at a glance.
- One click sharing with integrated social media buttons. Accessible from any device with an internet connection.
- View historical weather data to understand variations in performance.

YHI Part Code B270-1200-LN-ETC

Enphase Partcode: B270-1200-LN-I-AU00-RV0

FEATURES

- Lithium iron phosphate (LFP) chemistry for long cycle life
- 10 year warranty
- Modular design promotes redundancy
- Quick and easy single person installation
- Plug and play installation
- Interconnects with standard household AC wiring
- No high voltage DC in system
- Cells safety-tested and certified by TÜV Rheinland
- Prismatic cells are highly stable over time

The **Enphase AC Battery**™ is simple to install, safe, very reliable, and provides the lowest lifetime energy cost for both new solar customers and retrofit customers. In addition, as an installer, you can design the right system size to meet the needs of the homeowner.

Wall Mount Bracket options available for mounting Enphase AC Battery. See below for specifications and product codes.

BATTERY	B270-1200-LN-ETC

Output Data (AC)

Peak output power	270VA
Rated (continuous) output power	260VA
Nominal frequency	50Hz
Extended line to neutral voltage range	184 to 276VAC
Extended frequency range	45 to 55Hz
Power factor	0.7 leading to 0.7 lagging
Maximum units per 20 A branch circuit	13
Peak inverter efficiency	96.9%

Battery Chemistry

Capacity	1.2kWh
Depth of discharge (usable capacity)	>95%
Ambient temperature range	-20°C to 45°C
Chemistry	Lithium Iron Phosphate (LFP)
Cell safety certifications	TUV Rheinland, UL
Roundtrip cell efficiency[1]	96%

Mechanical Data

Dimensions	390 (W) x 325 (H) x 220 (D) mm
Weight	25kg
Installation	Wall mounted in an indoor, unoccupied space using standard AC wiring in conduit or in wall, where allowed.
Enclosure	IP20
Cooling	Natural convection – No active or passive cooling infrastructure required
Grid configuration	TN-C-S

Features and Compliance

Compatibility	Compatible with PV systems using the Enphase Envoy-S™ Metered gateway
Communication	Power Line Communication (PLC), TCP/IP through Envoy-S
Services	Maximising self-consumption, time of use optimisation, power export limiting[2]
Monitoring	Enlighten Manager and MyEnlighten monitoring options
Compliance	AS/NZS 4777.2, AS/NZS CISPR 22, AS/NZS 62040.1.1, UN 38.3
Limited Warranty[3]	>80% capacity, up to 10 years or 7300 cycles

1. At 25°C.
2. Optional. Requires Enphase S-Series Microinverters™ to implement.
3. Whichever occurs first. Restrictions apply.

Wall Mount Accessories

BWM-450MM-A

Accommodates 16 inch (400mm) battery-to-battery spacing
To suit 450mm stud centres
Weight: 3.5 kg

BWM-600MM-A

Accommodates 16 inch (400mm) battery-to-battery spacing
To suit 600mm stud centres
Weight: 3.5 kg


ENPHASE.
1.0kW

1

2

3

4

5

6

7

8

9

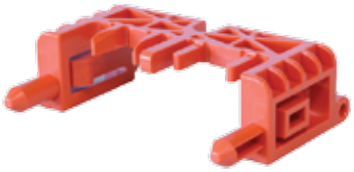
YHI PRODUCT CODE	DESCRIPTION	PICTURE NUMBER
CELLMODEM-02	Enphase Cellular Modem	1
EFM-35MM	Enphase 35mm Frame Mount	2
EFM-40MM	Enphase 40mm Frame Mount	3
EFM-CC	Enphase Connector Clip	4
EPLC-04	Enphase Power Line Carrier Ethernet Bridge Pair Au	5
ET-CLIP-100	Enphase Cable Clip	6
ET-INSTL	Enphase Install Kit (4x Branch Terminator, 1x Disconnect Tool, 5x Sealing Caps)	7
ET-SEAL-10	Enphase Sealing Cap (10 Units/Bag)	8
ET-SPLK-05	Enphase Engage Coupler (5 Units/Bag)	9

10

11

12

13



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16

17

YHI PRODUCT CODE	DESCRIPTION	PICTURE NUMBER
ET-TERM-10	Enphase Branch Terminator (10 Units/Bag)	10
LCF-250-PC	Enphase 3 Phase Comms Filter	11
LPC-01	Enphase Legrand Phase Coupler	12
ET-DISC-05	Enphase Cable Disconnect Tool (5 Units/Bag)	13
ET10-230-SINGLEPLUG	Enphase 230Vac Trunk Cable Single Phase Connector Portrait	14
ET10-400-SINGLEPLUG	Enphase 400Vac Trunk Cable Three Phase Connector Portrait	15
ET17-230-SINGLEPLUG	Enphase 230Vac Trunk Cable Single Phase Connector Landscape	16
ET17-400-SINGLEPLUG	Enphase 400Vac Trunk Cable Three Phase Connector Landscape	17

3

Inverters

YHI offer a wide range of market leading inverters from SolaX Power and SMA.

SolaX

PARTCODE	DESCRIPTION	MPPT	NOMINAL OUTPUT	IP RATING	WIFI
SKTL3000	SolaX 3000W Hybrid Ready Inverter	2	3000W	IP20	Included
SKTL5000C	SolaX 5000W Hybrid Ready Inverter	2	4600W	IP20	Included
SKBMU2500	SolaX 2500W External Charger	N/A	2500W	IP20	N/A
SKBMU5000	SolaX 5000W External Charger	N/A	5000W	IP20	N/A
SKSU3000	SolaX 3000W Hybrid Inverter EPS	2	3000W	IP20	Included
SKSU3700	SolaX 3700W Hybrid Inverter EPS	2	3680W	IP20	Included
SKSU5000	SolaX 5000W Hybrid Inverter EPS	2	4600W	IP20	Included
X1MINI1.1KW	SolaX X1 Mini 1.1KW Inverter	1	1100W	IP20	Included
X1MINI1.5KW	SolaX X1 Mini 1.5KW Inverter	1	1500W	IP20	Included
X1MINI2KW	SolaX X1 Mini 2KW Inverter	1	2000W	IP20	Included
X1AIR2.5KW	SolaX X1 Air 2.5KW Inverter	1	2500W	IP65	Included
X1AIR3KW	SolaX X1 Air 3KW Inverter	1	3000W	IP65	Included
X1AIR3.3KW	SolaX X1 Air 3.3KW Inverter	1	3300W	IP65	Included
X1BOOST3.3KW	SolaX X1 Boost 3.3KW Inverter	2	2500W	IP65	Included
X1BOOST3.6KW	SolaX X1 Boost 3.6KW Inverter	2	3000W	IP65	Included
X1BOOST4.2KW	SolaX X1 Boost 4.2KW Inverter	2	3000W	IP65	Included
X1BOOST4.6KW	SolaX X1 Boost 4.6KW Inverter	2	3300W	IP65	Included
X1BOOST5KW	SolaX X1 Boost 5KW Inverter	2	3300W	IP65	Included
ZDNYTL10000	SolaX TL 10KW Three Phase Inverter	2	10000W	IP65	Included
ZDNYTL12000	SolaX TL 12KW Three Phase Inverter	2	20000W	IP65	Included
ZDNYTL15000	SolaX TL 15KW Three Phase Inverter	2	15000W	IP65	Included
ZDNYTL17000	SolaX TL 17KW Three Phase Inverter	2	17000W	IP65	Included
ZDNYTL20000	SolaX TL 20KW Three Phase Inverter	2	20000W	IP65	Included

PARTCODE	DESCRIPTION	MPPT	NOMINAL OUTPUT	IP RATING	WIFI
SMA					
SI30M	Sunny Island 3KW Inverter Charger	N/A	2300W	IP54	N/A
SI44M	Sunny Island 4.4KW Inverter Charger	N/A	3000W	IP54	N/A
SI60H11	Sunny Island 6KW Inverter Charger	N/A	4600W	IP54	N/A
SI80H11	Sunny Island 8KW Inverter Charger	N/A	6000W	IP54	N/A
SMASBS2500HV	SMA 2.5KW High Voltage Battery Inverter	N/A	2500W	IP65	N/A
SB3000TL21	Sunny Boy 3KW Single Phase TL Inverter	2	3000W	IP65	N/A
SB5000TL21	Sunny Boy 5KW Single Phase TL Inverter	2	4600W	IP65	N/A
SBU5000	Sunny Backup Inverter 5KW	N/A	W	IP30/IP65	N/A
SMC8000TL	Mini Central 8KW Single Phase TL Inverter	1	8250W	IP65	N/A
SMC10000TL10	Mini Central 10KW Single Phase TL Inverter	1	10350W	IP65	N/A
STP6000TL20	Sunny Tripower Inverter 6KW 3 Phase	2	6125W	IP65	N/A
STP8000TL10	Sunny Tripower Inverter 8KW 3 Phase	2	8200W	IP65	N/A
STP12000TL10	Sunny Tripower Inverter 12KW 3 Phase	2	12275W	IP65	N/A

YHI Part Code SKTL3000, SKTL5000C

BENEFITS

- Save money by becoming independent from ever increasing energy prices.
- European and American made
- Highly effective solar power utilization and long battery life by intelligently designed charging module.
- Intelligent interaction mode
- 5 year warranty

When looking for a quality stand alone inverter that boasts performance and allows you to gain the most from your feed-in-tarrif, the **SK-TL Series** is a powerful investment.

INVERTER	SK-TL3000	SK-TL5000C
Input (DC)		
Max. recommended DC power (W)	3300W	5000W
Max. DC voltage (V)	550V	
Norminal DC operating voltage (V)	360V	
MPPT voltage range (V)	125V - 530V	
Max. input current (A)	12A/12A	
Max. short circuit current (A)	15A/15A	
Number of MPP trackers	2	
Strings per MPP tracker	1	
Output (AC)		
AC nominal power [W]	3000W	4600W
Nominal AC voltage; range [V]	230VAC 50Hz; 180~270VAC	
AC nominal current [A]	13A	20A
Max. AC current [A]	14.4A	22.1A
Total harmonic distortion (THD)	< 3%	
Power factor (rated power)	1	
Displacement Power Factor	0.9	
Efficiency		
MPPT efficiency	99.9%	
Euro-efficiency	97.0%	
Max. efficiency	97.6%	
Standby losses	< 3W	

YHI Part Code SKTL3000, SKTL5000C

INVERTER	SK-TL3000 & SK-TL5000C
Display	
LCD	Backlight 16*4 character
Communication interfaces	Ethernet/Dry contact/WiFi
LED light	4
Button	4
Other	
DC switch	Integrated
Max No. of supported external expansion	4
Operating temperature range	-20°C ~+50°C (derating at 40°C)
Storage stability range	-20°C ~+60°C
Altitude	< 2000m
Cooling concept	Forced airflow
Noise emission (typical)	< 40dB
Humidity (%)	0~90 (non-condensing)
Degree of protection	IP20 (for indoor use)
Overvoltage category	III (electric supply side), II (PV side)
EMC	IEC61000-6-1/2/3/4
Topology	Transformer-less
Warranty	5 years
Dimensions (W x H x D)	635 x 520 x 150mm
Weight	25kg
Certificate	Germany, Australia,Belgium, Netherlands, Denmark, Austria

YHI Part Code SKBMU2500, SKBMU5000

FEATURES & BENEFITS

- Battery reverse polarity protection
- Battery anti-shock design
- 5 year Warranty

The **SolaX** battery manager can be used with SK-TL series inverter for extending the battery capability of self use. Three options gives you flexibility when building your own energy storage system.

EXTERNAL CHARGER	SKBMU2500	SKBMU5000
Battery Manager		
Battery type	Lead-acid battery/lithium battery	
Battery nominal voltage	48V	48V
Battery voltage range	40V - 60V	40V - 60V
Battery capacity	10kWh	20kWh
Max. charging current	50A	100A
Charging curve	3-stage adaptive with maintenance	
Over-current protection/ Over-temperature protection	Yes	Yes
Communication Interfaces	Can/RS232	Can/RS232
Charge		
Max. power	2500W	4600W
Max. charge current	50A	100A (50A from grid)
Discharge		
Max. power	2500W	4600W
Max. discharge current	50A	100A
Depth of discharge	80% for lithium battery/50% for lead-acid battery (adjustable)	

EXTERNAL CHARGER	SKBMU2500 & SKBMU5000
Other	
Operating temperature range	-10 °C~+50 °C (derating at 40)
Storage stability range	-20 °C~+60 °C
Altitude	< 2000m
Cooling concept	Forced airflow
Noise emission (typical)	< 40dB
Humidity (%)	0~95 (non-condensing)

Other Continued	
Protection class	IP20 (for indoor use)
EMC standard	IEC61000-6-1/2/3/4
Dimensions (W x H x D)	289 x 595 x 167mm (2500)
Dimensions (W x H x D)	460 x 595 x 167mm (5000)
Weight	13kg
Weight	23kg

YHI Part Code SKSU3000, SKSU3700, SKSU5000

BENEFITS

- European and American made
- Highly effective solar power utilisation and long battery life by intelligently designed charging module
- Intelligent interaction mode
- 5 year warranty

The SKSU series of hybrid inverter includes 1 built-in battery manager unit and solar MPPT.
This intelligent hybrid inverter provides a full solution for energy consumers to maximize the use of their generated solar energy and minimize their energy bills.

HYBRID INVERTER	SKSU3000	SKSU3700	SKSU5000
Input Data (DC)			
Max. recommended DC power	3300W	4000W	5000W
Max. DC voltage	550V		
Norminal DC operating voltage	360V		
MPPT voltage range	125V - 530V		
Max. input current	12A	12A/12A	12A/12A
Max. short circuit current	15A	15A/15A	15A/15A
Number of MPP trackers	1	2	2
Strings per MPP tracker	1	1	1
Output (AC)			
AC nominal power	3000W	3680W	4600W
Nominal AC voltage; range	230VAC 50Hz; 180~270VAC		
AC nominal current	13A	16A	20A
Max. AC current	14.4A	16A	22.1A
Total harmonic distortion	< 3%		
Power factor (rated power)	1		
Displacement Power Factor	0.95 leading...0.95 lagging		

Charge		Discharge	
Max.power	2500W	Max.power	2500W
Max.charge current	50A	Max.discharge current	50A
		Depth of discharge	80%

YHI Part Code SKSU3000, SKSU3700, SKSU5000

HYBRID INVERTER	SKSU3000, SKSU3700 & SKSU5000

Efficiency

MPPT efficiency	99.9%
Euro-efficiency	97.0%
Max. efficiency	97.6%
Standby losses	< 7W

Display

LCD	Backlight 16*4 character
Communication interfaces	Ethernet/Dry contact/WiFi
LED light	4
Button	4

EPS with internal charger

EPS rated power	2000VA
EPS rated voltage, Frequency	230VAC 50/60HZ
EPS rated current	9A
EPS peak power	1.5VAxPrated, 10s
Total harmonic distortion	< 3%THD
Switch time	< 5s

Other

DC switch	Optional
Max No. of supported external expansion	0
Operating temperature range	-10 °C~+50 °C (derating at 40 °C)
Storage stability range	-20 °C~+60 °C
Altitude	< 2000m
Cooling concept	Forced airflow
Noise emission (typical)	< 40dB
Humidity (%)	0~90 (non-condensing)
Degree of protection	IP20 (for indoor use)
Overvoltage category	III (electric supply side), II (PV side)
EMC	IEC61000-6-1/2/3/4
Topology	Transformer-less
Warranty	5 years
Dimensions (W/H/D)	680 x 595 x 167mm
Weight	32kg
Certificate	Germany, Australia,Belgium, Netherlands, Denmark, Austria

YHI Part Code SKEPSBOX

EPS BOX	SKEPSBOX
Grid	
MAX. AC Input Current	63A
Rated AC Voltage	230V
Rated AC Frequency	50Hz/60Hz
EPS	
Rated EPS Current	17A
Rated EPS Voltage	230V
Rated EPS Frequency	50Hz/60Hz
Load	
Rated Load Output Current, Grid Mode	63A
Rated Load Output Current, EPS Mode	17A
Rated Grid Voltage	230V
Rated Grid Frequency	50Hz/60Hz
Load	
Dimension (W x H x D)	300 x 220 x 170mm
Dimensions Of Packing (W x H x D)	403 x 263 x 230mm
Weight	3kg
Operating Temperature Range	-10°C~+50°C
Degree Of Protection	IP20
Warranty	1 Year

YHI Part Code XLIBPHANT

FEATURES

- Scalable storage (2.4kWh units)
- "Plug and Play" installation
- High performance with >6000 Cycle Life
- 10 year lifespan
- 80% DoD
- Intelligent BMS reporting alarms in real time
- Wide temperature tolerance
- 5 year warranty

The **Phantom-S** is a high quality, scalable solar battery storage solution.

LITHIUM BATTERY	XLIBPHANT
Nominal	
Nominal Voltage	48V
Nominal Capacity	50Ah (2.4kWh)
Physical	
Dimension	445 x 428 x 97.5mm
Weight	24kg
Electrical	
Discharge Voltage	45V ~ 54V
Charge Voltage	52.5V - 54V
Maximum Discharge Current	100A(2C)@1Min
Maximum Charge Current (A)	100A(2C)@1Min

Other	
Communication Port	RS232, RS485, CAN
Lifespan	>6,000 (DoD 80%)
Depth of Discharge	80%
Working Temperature	0°~50°C (32°F~122°F)
Safety Certificates	TÜV, CE, UN38.3, TLC

YHI Part Code X1MINI1.1KW, X1MINI1.5KW, X1MINI2KW

FEATURES & BENEFITS

- Maximum efficiency up to 97.1%
- Small and lightweight
- IP65 protection allows indoor & outdoor use
- 5 year warranty
- Integrated WiFi

SolaX X1 Mini, a range of inverters designed and engineered specifically for the global market and the growing demand for smaller PV arrays.

With a start-up voltage of just 60V and a maximum efficiency of 97.1%, the X1 Mini promises unrivalled performance, allowing you to harvest the maximum amount of energy possible from your PV system.

MINI INVERTER	X1MINI1.1KW	X1MINI1.5KW	X1MINI2KW
Input (DC)			
Max. recommended DC power	1250W	1650W	2200W
Max. input DC voltage	400V	400V	400V
Max. input current	10A	10A	10A
MPPT voltage range	70V-380V	70V-380V	70V-380V
Start input/output voltage	60V/90V	60V/90V	60V/90V
Number of MPP tracker/ strings per MPP tracker	1/1		
Output			
AC nominal power	1100W	1500W	2000W
Max. AC power	1100VA	1500VA	2000VA
Nominal AC voltage; range	220V/230V/240V;180V-280V	220V/230V/240V;180V-280V	220V/230V/240V;180V-280V
AC grid frequency; range	50Hz/60Hz; ±5Hz	50Hz/60Hz; ±5Hz	50Hz/60Hz; ±5Hz
Max. AC current	5.5A	7.5A	9.5A
Power factor (full load)	0.8 leading - 0.8 lagging	0.8 leading - 0.8 lagging	0.8 leading - 0.8 lagging
Total harmonic distortion (THD)	< 1.5%	< 1.5%	< 1.5%
Power Consumption			
Standby power	< 10W	< 10W	< 10W
Efficiency			
MPPT Efficiency	99.9%	99.9%	99.9%
Euro Efficiency	95.5%	96%	96.5%
Max. Efficiency	97.1%	97.1%	97.1%

YHI Part Code X1MINI1.1KW, X1MINI1.5KW, X1MINI2KW

MINI INVERTER	X1MINI1, 1KW, X1MINI1.5KW & X1MINI2KW
Safety & Protection	
Over voltage protection	YES
Over current protection	YES
DC isolation impedance monitoring	YES
Ground fault current monitoring	YES
DC injection monitoring	YES
RCD protection	YES
Safety	EN62109-1/-2; G83/2:AS4777.2-2015;VDE4105; EN50438;CQC
EMC	EN61000-6-2;EN61000-6-3;EN61000-3-2;EN61000-3-3
Environment Limits	
Protection class	IP 65
Operating temperature	-20°C~+60°C (derating at 45°C)
Humidity (%)	0~95%, no condensation
Altitude (m)	2000m
Storage temperature	-20°C~+60°C
Noise emission	< 30dB
Dimension & Weight	
Dimensions (W x H x D)	248 x 350 x 124mm
Weight	7kg
General Data	
Topology	Transformerless
Communication interface	RS 485/ WiFi/ DRM/ USB
LED display	6 LED
Warranty	5 years
Cooling type	Natural

YHI Part Code X1AIR2.5KW, X1AIR3KW, X1AIR3.3KW

The X1 Air series are a high quality dual MPPT inverter offering efficiency and reliability at an unbeatable cost.

SolaX have developed a range of single phase inverters unrivaled in the industry for their quality, reliability and efficiency. The SolaX single phase inverters boast a wide MMPT voltage range to allow for more energy harvesting and have a maximum input voltage of 600V, with maximum efficiency of 97.6%

AIR INVERTER	X1AIR2.5KW	X1AIR3KW	X1AIR3.3KW
Input (DC)			
Max. recommended DC power	2700W	3200W	3450W
Max. input DC voltage	600V	600V	600V
Max. input current	10A	10A	10A
MPPT voltage range	100V-580V	100V-580V	100V-580V
Start input/output voltage	65V/120V	65V/120V	65V/120V
Number of MPP tracker/ strings per MPP tracker	1/1		
Output			
AC nominal power	2500W	3000W	3300W
Max. AC power	2500VA	3000VA	3300VA
Nominal AC voltage; range	220V/230V/240V;180V-280V		
AC grid frequency; range	50Hz/60Hz; ±5Hz		
Max. AC current	12A	14A	15A
Power factor (full load)	0.8 leading - 0.8 lagging		
Total harmonic distortion (THD)	< 1.5%	< 1.5%	< 1.5%
Power Consumption			
Input Standby power	< 10W	< 10W	< 10W
Efficiency			
MPPT Efficiency	99.9%	99.9%	99.9%
Euro Efficiency	96.5%	96.5%	96.5%
Max. Efficiency	97.6%	97.6%	97.6%

YHI Part Code X1AIR2.5KW, X1AIR3KW, X1AIR3.3KW

MINI INVERTER	X1AIR2.5KW, X1AIR3KW, X1AIR3.3KW
Safety & Protection	
Over voltage protection	YES
Over current protection	YES
DC isolation impedance monitoring	YES
Ground fault current monitoring	YES
DC injection monitoring	YES
RCD protection	YES
Safety	EN62109-1/-2; G83/2;AS4777.2-2015;VDE4105; EN50438;CQC
EMC	EN6 I 000-6-2;EN6 I 000-6-3;EN6 I 000-3-2;EN6 I 000-3-3
Environment Limits	
Protection class	IP 65
Operating temperature	-20°C~+60°C(derating at 45°C)
Humidity (%)	0~95%, no condensation
Altitude	2000m
Storage temperature	-20 °C~+6°C
Noise emission	< 30dB
Dimension & Weight	
Dimensions (W x H x D)	323 x 402 x 119mm
Weight	9.5kg
General Data	
Topology	Transformerless
Communication interface	RS 485/ WiFi/ DRM/ USB
LED display	11 LED
Warranty	5 years (10 years optional)
Cooling type	Natural

YHI Part Code X1BOOST3.3KW, X1BOOST3.6KW, X1BOOST4.2KW, X1BOOST4.6KW, X1BOOST5KW

The X1 Boost series are a high quality single MPPT inverter offering efficiency and reliability at an unbeatable cost.

SolaX have developed a range of single phase inverters, unrivaled in the industry for their quality, reliability and efficiency. The SolaX single phase inverters boast a wide MPPT voltage range to allow for more energy harvesting and have a maximum input voltage of 600V, with a maximum effeciency of 97.8%.

BOOST INVERTER	X1BOOST3.3KW	X1BOOST3.6KW	X1BOOST4.2KW	X1BOOST4.6KW	X1BOOST5KW
Input (DC)					
Max. recommended DC power	3500W	4000W	4600W	5200W	5200W
Max. DC voltage	600V	600V	600V	600V	600V
Norminal DC operating voltage	360V	360V	360V	360V	360V
Max. Input current	12A/12A	12A/12A	12A/12A	12A/12A	12A/12A
Max. short circuit current	15A/15A	15A/15A	15A/15A	15A/15A	15A/15A
MPPT voltage range	125V-580V	125V-580V	125V-580V	125V-580V	125V-580V
MPPT voltage range (full load)	150V-550V	160V-550V	190V-550V	220V-550V	220V-550V
Start input voltage	100V	100V	100V	100V	110V
Start output voltage	150V	150V	150V	150V	150V
Shut down input voltage	70V	70V	70V	70V	70V
No. of MPP trackers	2	2	2	2	2
Strings per MPP tracker	1	1	1	1	1
Output (AC)					
AC nominal power	3300W	3680W	4200W	4600W	4999W
Max. AC power	3300VA	3680VA	4200VA	4600VA	4999VA
Rated grid voltage (AC voltage range)	220V/230V/240V;180V-280V				
Rate grid frequency (AC range)	50Hz(45Hz to 55Hz)/60Hz(55Hz to 65hz)				
Max. output current (A)	15A	16A	19A	21A	21A
Displacement power factor	0.8 overexcited to 0.8 underexcited				
Total harmonic distortion (THD)	< 2%				

YHI Part Code X1BOOST3.3KW, X1BOOST3.6KW, X1BOOST4.2KW, X1BOOST4.6KW, X1BOOST5KW

BOOST INVERTER	X1BOOST3.3KW	X1BOOST3.6KW	X1BOOST4.2KW	X1BOOST4.6KW	X1BOOST5KW
Efficiency					
MPPT Efficiency	99.9%	99.9%	99.9%	99.9%	99.9%
Euro Efficiency	97.0%	97.0%	97.0%	97.0%	97.0%
Max. Efficiency	97.8%	97.8%	97.8%	97.8%	97.8%
Power Consumption					
Input standby power	< 2W				
Standard					
Safety	IEC62109-1/-2 AS3100				
EMC	EN 61000-3-2/EN 61000-3-3/EN 61000-3-11/EN 61000-3-12/ EN 61000-6-2/EN 61000-6-3				
Certification	VDE 0126-1-1 A1:2012/VDE-AR-N 4105/G83/G59/AS4777				
Environment Limits					
Protection class	IP 65				
Operating temperature	-20°C~+60°C(derating at +45°C)				
Humidity (%)	0~95%, no condensation				
Altitude	< 2000m				
Storage temperature	-20°C~+60°C				
Noise emission	< 25db				
Mounting	Wall hanging				
Others					
Dimensions (W x H x D)	420 x 339 x 143mm				
Weight	14.6kg	14.6kg	16.7kg	16.7kg	16.7kg
Cooling Concept	Natural				
Topology	Transformerless				
Communication	Wifi, RF, Meter, RS485, USB, DRM				
LCD display	LCD				
Button	4 (CapSense Button)				
Warranty	5 years				

YHI Part Code ZDNYTL10000, ZDNYTL12000, ZDNYTL15000, ZDNYTL17000, ZDNYTL20000

SolaX have developed a range of three phase inverters unrivalled in the industry for their quality, reliability and efficiency.

The X3 three phase inverters boast a wide MPPT voltage range to allow for more energy harvesting, and at 98.2% have the highest maximum efficiency available in the market today. In addition all **SolaX** X3 inverters are IP65 rated, have an integrated DC switch, WiFi as standard and an 'OptiCool' temperature controlled fan.

BOOST INVERTER	ZDNYTL10000	ZDNYTL12000	ZDNYTL15000	ZDNYTL17000	ZDNYTL20000
Input (DC)					
Max. DC Input power	10260W	12300W	15370W	17420W	20500W
Max. DC Input voltage	1000V				
Max. Input current (A)	A:22/B:11	A:22/B:11	A:22/B:22	A:22/B:22	A:22/B:22
MPPT Voltage range	320V-800V	380V-800V	350V-800V	400V-800V	480V-800V
Min. DC Voltage/Start Voltage	220V/250V				
No. of MPP trackers/ Strings per MPP tracker	2/A:3 B:1	2/A:3 B:1	2/A:3 B:3	2/A:3 B:3	2/A:3 B:3
Output (AC)					
AC Nominal Power	10000W	12000W	15000W	17000W	20000W
Max. AC Power	10000W	12000W	15000W	17000W	20000W
Nominal AC Voltage; Range	3/N/PE 230V/400V; 160V-280V				
AC Grid Frequency; Range	50Hz; 44-55Hz				
Max. AC Current	16A	20A	24A	25A	29A
Power Factor (full load)	0.9 leading ... 0.9 lagging				
Total Harmonic Distortion (THD)	< 3%				
Efficiency					
MPPT Efficiency	99.9%				
Euro Efficiency	97.6%				
Max. Efficiency	98.2%				

BOOST INVERTER	ZDNYTL10000	ZDNYTL12000	ZDNYTL15000	ZDNYTL17000	ZDNYTL20000
Power Consumption					
Input standby power	< 10W				
Internal Consumption (Night)	< 1W				
Safety and Protection					
DC Disconnect	Yes				
Internal Overvoltage Protection	Yes				
DC Current/Insulation Monitoring	Yes/Yes				
Grid Monitoring/Earth Fault Monitoring	Yes/Yes				
Islanding Protection	Yes				
RCD Protection	Yes				
Protection Class/Overvoltage Category	IEC62103 (1)/IEC60664-1 (3)				
Environment Limits					
Degree Of Protection	IP65 (IP54 for fan)				
Operating temperature	-20°C~+60°C(derating at +45°C)				
Humidity (%)	0~95%, no condensation				
Altitude Limit (m)	< 2000				
Storage temperature	-20°C~+60°C				
Noise emission	< 50dB				
Others					
Dimensions (W x H x D)	513 x 651.5 x 207mm				
Weight	48kg	48kg	50.5kg	50.5kg	51kg
Cooling Concept	'OptiCool' temperature controlled fan				
Topology	Transformerless				
Communication Interfaces	Ethernet/WiFi				
LCD display	Graphic LCD				
Warranty	5 years				

SMA Sunny Island
Inverter Charger For Off-Grid Applications

YHI Part Code SI30M, SI44M

FEATURES

- For self-consumption systems, battery backup systems and off-gridsystems
- For single- and three-phase systems from 2 to 13 kW
- All lead-acid batteries and many lithium-ion batteries can be used
- Maximum efficiency greater than 95 %
- High efficiency of overall system
- Proven safety thanks to external certification
- Long battery life thanks to intelligent battery management
- Reliable operation thanks to high overload capacity

The **Sunny Island 3.0M and 4.4M** support a wide range of on-grid and off-grid applications. Its high protection class, wide temperature range and overload capacity provide the kind of reliability needed for off-grid use. Intelligent load and energy management keeps the system running even in critical situations. And being a core element in the SMA Flexible Storage System for new and existing PV systems, the Sunny Island system stores generated solar power and works with the Sunny Home Manager to intelligently manage home energy consumption. The quick configuration guide and intuitive user interface help ensure quick and convenient commissioning. The new Sunny Island 3.0M and 4.4M systems are the perfect product solutions for stand-alone and grid-connected systems in a power output range of up to 13kW.

INVERTER	SI30M	SI44M
Operation On The Utility Grid Or Generator		
Rated input voltage/AC input voltage range	230V/172.5V to 264.5V	
Rated input frequency/permitted input frequency range	50Hz/40Hz to 70Hz	
Maximum AC input current	50A	
Maximum AC input power	11500W	
Stand-Alone or Emergency Power Operation		
Rated grid voltage/AC voltage range	230V/202V to 253V	
Rated frequency/frequency range (adjustable)	50Hz/45Hz to 65Hz	
Rated power (for Unom/fnom/25°C/cos φ=1)	2300W	3300W
AC power at 25°C for 30 min/5 min/3 s	3000W/3500W/5500W	4400W/4600W/5500W
AC power at 45°C continuously	2000W	3000W
Rated current/short-circuit current (peak)	10A/60A	14.5A/60A
THD output voltage/power factor with rated power	< 4.5%/−1 to +1	
Battery DC Input		
Rated input voltage/DC input voltage range	48 V/41 V to 63 V	
Maximum battery charging current/rated DC charging current/DC discharging current	51A/45A/51A	75A/63A/75A
Battery type/battery capacity (range)	Li-ion*, FLA, VRLA/100 Ah to 10000 Ah (lead)/50 Ah to 10000 Ah (li-ion)	

SMA Sunny Island
Inverter Charger For Off-Grid Applications

INVERTER	SI30M	SI44M
Battery DC Input Continued		
Charge control	IUoU charge procedure with automatic full charge and equalization charge	
Efficiency/Self-Consumption		
Maximum efficiency	95.5%	
Self-consumption without load/standby	18W/6.8W	
Protective Devices (Equipment)		
AC short-circuit/AC overload	●/●	
DC reverse polarity protection/DC fuse	–/–	
Overtemperature/battery deep discharge	●/●	
Overvoltage category as per IEC 60664-1	III	
General Data		
Dimensions (W x H x D)	467 mm x 612 mm x 242mm	
Weight	44kg (97 lbs)	
Operating temperature range	–25°C to +60°C (–13°F to +140°F)	
Protection class according to IEC 62103	I	
Climatic category according to IEC 60721	3K6	
Degree of protection according to IEC 60529	IP54	
Features/Function		
Operation and display/multifunction relay	External via SRC-20/2	
Three-phase systems/battery backup function	●/●	
State of charge calculation/full charge/ equalization charge	●/●/●	
Integrated soft start/generator support	●/●	
Battery temperature sensor/data cables	●/●	
Certificates and approvals	www.SMA-Solar.com	
Warranty	5 years	
Accessories		
For off-grid applications		
Battery fuse/external battery current measurement	o/o	
Interface SI-COMSMA (RS485)	o	
Sunny Island Charger SIC50-MPT**	o	
For on-grid applications		
Battery fuse	o	
Interface SWDMSI-NR (Speedwire)	o	
Sunny Home Manager/SMA Energy Meter	o/o	
Automatic transfer switch for battery backup**	o	

● Standard features
o Optional features - Not Available
* See list of approved Lithium-Ion Batteries at www.SMA-Solar.com
** Procurement via external supplier

SMA Sunny Island
Inverter Charger For Off-Grid Applications

YHI Part Code SI60H11, SI80H11

The new **Sunny Island** impresses with its high protection class and wide temperature range. Moisture, dust and temperature fluctuations won't impair its operation, even after 20 years. Thanks to OptiCool, there's no need to compromise when it comes to overload capacity and economic viability. OptiPower, the intelligent load and energy management system, ensures operation even in critical situations. OptiUse makes installation, commissioning and daily use easier than ever with automatic rotary field detection, an optimized quick configuration guide and intuitive operation. And the intelligent OptiBat battery management system automatically controls the most important charging and discharging procedures, which extends the service life of sensitive energy storage.

FEATURES

- OptiUse: fast installation and commissioning, simplified operation
- OptiBat: state of charge calculation keeps you informed at all times
- IP 54: optimal protection from dust and humidity
- OptiCool: greater temperature range
- OptiPower: secure operation in any situation
- For systems from 3 to 300 kW
- Supports Multicluster Technology

INVERTER	SI60H11	SI80H11
AC Output (Loads/Stand-Alone Grid)		
Rated grid voltage/AC voltage range	230 V/202 V ... 253 V	
Rated frequency/frequency range (adjustable)	50Hz/45 Hz ... 65 Hz	
Rated power (for Unom/fnom/25°C/cos φ = 1)	4600W	6000W
AC power at 25°C for 30 min/5 min/3 sec	6000W/6800W/11000W	8000W/9100W/11000W
AC power at 45°C	3700W	5430W
Rated current/maximum output current (peak)	20A/120A	26A/120A
THD output voltage/power factor with rated power	< 4 %/-1 ... +1	
AC Input (PV Array, Grid or MC Box)		
Rated input voltage/AC input voltage range	230V/172.5V ... 264.5V	
Rated input frequency/allowable input frequency range	50Hz/40Hz ... 70Hz	
Maximum AC input current	50A	
Maximum AC input power	11500W	
Battery DC Input		
Rated input voltage/DC voltage range	48V/41V ... 63V	
Maximum battery charging current	110A	140A
Rated DC charging current/DC discharging current	90 A/103A	115A/136A
Battery type/battery capacity (range)	FLA, VRLA/100Ah ... 10 000Ah	
Charge control	IUoU charge procedure with automatic full charge and equalization charge.	

Efficiency/Self-Consumption

Maximum efficiency	95%
Self-consumption without load/standby	< 26W/< 4W

Protective Devices (Equipment)

AC short-circuit/AC overload	●/●
DC reverse polarity protection/DC fuse	–/–
Overtemperature/battery deep discharge	●/●
Overvoltage category as per IEC 60664-1	III

General Data

Dimensions (W x H x D)	467 x 612 x 242mm
Weight	63kg
Operating temperature range	–25°C to +60°C (–13°F to +140°F)
Protection class according to IEC 62103	I
Climatic category according to IEC 60721	3K6
Degree of protection according to IEC 60529	IP54

Features/Function

Operation and display/multifunction relay	External via SRC-20/2
Three-phase systems/parallel connection	●/●
Integrated bypass/multicluster operation	-/●
State of charge calculation/full charge/equalization charge	●/●/●
Integrated soft start/generator support Battery temperature sensor/data cables	●/●
Battery temperature sensor/data cables	●/●
Certificates and approvals	www.SMA-Solar.com
Warranty	5 years

Accessory

Battery cable/battery fuse	o/o
Interface SI-COMSMA (RS485)/SI-SYSCAN (Multi-cluster)	o/o
Extended generator start "GenMan"	o
Load-shedding contactor/battery current measure-ment	o/o

● Standard features
○ Optional features - Not Available

Sunny Island Remote Control

SMASRC-20

SMA Sunny Boy
Storage Battery Inverter

YHI Part Code SMASBS2500HV

FEATURES

- Multiple configuration options and extendable PV design
- For new and existing systems
- Compatible with all high-voltage lithium-ion batteries
- Most economical AC-connected system on the market
- 97% efficiency
- Integrated dynamic active power limitation for PV inverters
- One-person installation
- WLAN and intuitive web interface

The **Sunny Boy Storage** is the battery inverter for high-voltage batteries from important reputable manufacturers. With a charge and discharge power of 2.5 kW, it is ideally suited to coping with the electricity demand of a private household. The device combines the flexibility of the AC coupling with the advantages of high-voltage technology, enabling a significant reduction in system and installation costs. Thanks to the integrated web server and the direct portal access, commissioning is simple and the energy flows in the household are as transparent as possible. However electric current is produced and consumed – whether in existing or new PV systems, using wind energy, in CHP plants or to ensure a secure supply in the event of grid failures – the Sunny Boy Storage does it all, both today and in the future, because systems with the Sunny Boy Storage can be flexibly extended at any time on both the generator and battery sides.

STORAGE	SMASBS2500HV
AC Connection	
Rated power (at 230V, 50Hz)	2500W
Max. apparent AC power	2500VA
Nominal AC voltage/range	220V, 230V, 240V/180V to 280V
AC power frequency/range	50Hz, 60Hz/−5Hz to +5Hz
Rated power frequency/rated grid voltage	50Hz/230V
Max. AC current	11A
Power factor at rated power	1
Adjustable displacement power factor	0.8 overexcited to 0.8 underexcited
Feed-in phases/connection phases	1/1
Battery DC Input	
Max. DC power (at cos φ =1)	2650W
Max. DC voltage	500V
DC voltage range/DC rated voltage	100V to 500V/360V
Min. DC voltage/start DC voltage	100V/100V
Max. DC current	10A
Max. DC short-circuit current	18A
Battery type	Li-ion*

Efficency	
Max. efficiency/European weighted efficiency	~97.0%/~96.5%
Self-consumption with no load and battery consumption/standby	≤ 10 W/≤ 2 W
Protective Devices	
Input-side disconnection point	-
Ground fault monitoring/grid monitoring	●/●
DC reverse polarity protection/AC short-circuit current capability/galvanically isolated	-/●/-
All-pole-sensitive residual-current monitoring unit	●
Protection class (according to IEC 62103)/overvoltage category (according to IEC 60664-1)	I/III
General Data	
Dimensions (W x H x D)	450 x 357 x 122mm
Inverter weight	9.2kg
Operating temperature range in battery operation	−40°C to +60°C (−40°F to +140°
Noise emission, typical	< 25dB
Topology	Transformerless

General Data Continued

Cooling method	Convection
Degree of protection (according to IEC 60529)/climatic category (according to IEC 60721-3-4)	IP65/4K4H
Max. permissible value for relative humidity (non-condensing)	1

Features/Functions/Accessories

DC connection/AC connection	Connector/connector
Integrated web server	●
Interfaces	Ethernet/WLAN
Communication protocols	Modbus (SMA, Sunspec), Webconnect
Battery communication	CAN Bus
Integrated dynamic active power limitation	●
Warranty	10 years
Certificates and approvals (more available upon request)	AS4777, C10/11/2012, CEI0-21, CE, G83/2, DIN EN 62109-1 / IEC 62109-1, VDE-AR-N4105
Certificates and approvals (currently being planned)	NEN 50438, VFR 2014, G59/3 EN50438, RD 1699, VDE0126-1-1, PPC, NRS097, PPDS, IEC61727
Sunny Home Manager/SMA Energy Meter	o/o

● Standard features
○ Optional features - Not Available
* SMA-approved batteries, e.g. Tesla Powerwall Daily, etc.

SMA Sunny Boy
Single Phase Solar Inverter

YHI Part Code SB3000TL21, SB5000TL21

FEATURES

- Maximum efficiency of 97 %
- Multi-string technology in all power classes
- Cost saving due to fewer parallel strings
- Shade management with OptiTrac Global Peak
- Maximum DC input voltage of 750 V
- Integrated grid management functions and reactive power provision
- Fast connection, no tools required
- Bluetooth® technology as standard

It all remains the best: The new transformerless **Sunny Boy** is the ideal solution, especially for demanding PV arrays and partly shaded plants. Version 20 of the successful Sunny Boy offers a further array of advantages. It's more flexible in its range of applications, provides even more efficient yields, and it's easier to use.

The high DC voltage of 750 V proves to be a cost advantage, since fewer parallel strings are required. In addition, the integrated grid management functions make the devices suitable for universal applications and allow them to actively support the grid.

INVERTER	SB3000TL21	SB5000TL21
Input (DC)		
Max. DC power (@ cos φ = 1)	3200W	5250W
Max. input voltage	750V	750V
MPP voltage range/rated input voltage	175V ... 500 V/400V	
Min. input voltage/initial input voltage	125V/150V	
Max. input current input A/input B	15A/15A	
Max. input current per string input A/input B	15A/15A	
Number of independent MPP inputs/strings per MPP input	2/A:2; B:2	
Output (AC)		
Rated power (@ 230 V, 50 Hz)	3000W	4600W
Max. apparent AC power	3000VA	5000VA
Nominal AC voltage/range	220V, 230V, 240V/180V - 280V	
AC power frequency/range	50Hz, 60Hz/-5Hz ... +5Hz	
Rated power frequency/rated grid voltage	50Hz/230V	
Max. output current	16A	22A
Power factor at rated power	1	
Displacement power factor, adjustable	0.8 overexcited ... 0.8 underexcited	
Feed-in phases/connection phases	1/1	
Efficiency		
Max. efficiency/European weighted efficiency	97%/96%	97%/96 .5%

INVERTER	SB3000TL21	SB5000TL21
Protective Devices		
DC disconnect device	●	
Ground fault monitoring/grid monitoring	●/●	
DC reverse polarity protection/AC short-circuit current capability/galvanically isolated	●/●/–	
All-pole-sensitive residual-current monitoring unit	●	
Protection class (according to IEC 62103) / overvoltage category (according to IEC 60664-1)	I/III	
General Data		
Dimensions (W x H x D)	490 x 519 x 185mm	
Weight	26kg	
Operating temperature range	–25°C ... +60°C (–13°F ... +140°F)	
Noise emission (typical)	25dB	
Self-consumption (night)	1W	
Topology	Transformerless	
Cooling concept	Convection	
Degree of protection (according to IEC 60529)	IP65	
Climatic category (according to IEC 60721-3-4)	4K4H	
Maximum permissible value for relative humidity (non-condensing)	100%	
Features		
DC connection/AC connection	SUNCLIX/Spring clamp terminal	
Display	Graphic	
Interface: RS485/Bluetooth/Speedwire/Webconnect	o/●/o/o	
Multi-function relay/Power Control Module	o/o	
Warranty	5 years	
Certificates and approvals (additional on request)	AS 4777, C10/11, CE, CEI 0-21, EN 50438[1], G59/2, G83/1-1, IEC 61727, NRS 097-2-1, PEA, PPC, PPDS, RD1699, RD 661, UTE C15-712, VDE-AR-N 4105, VDE0126-1-1	

● Standard features
o Optional features - Not Available

SMA Sunny Backup
Solar Inverter

YHI Part Code SBU5000

FEATURES

- Can be integrated into existing and new PV plants
- Pre-configured sets for various performance classes
- Single and three-phase systems are possible
- Modularly extendable
- Capacities from 5 kW to 100 kW available
- Small battery through integration into the PV plant
- Power supply and battery charging over the grid
- Continuously high PV efficiency
- Automatic switching to backup in only approx. 20 milliseconds

Greatest performance and user benefits along with the lowest investment and operating costs: in comparison with conventional emergency power systems, the **Sunny Backup System** scores well. As an add-on to the PV plant the Sunny Backup automatically switches to stand-alone power supply within approximately 20 milliseconds of a grid failure. Both new and existing PV plants can be equipped with a Sunny Backup System – with no effect on PV efficiency. And the best part: due to the integration of the PV plant, a small and therefore low-cost battery can be implemented as it is usually only needed to bridge the night hours.

INVERTER	SBU5000

Output Data (loads)

Nominal power/current during grid operation	8kW/35A
Backup power (duration/30 min/1 min)	5kW/6.5kW/8.4kW
Number of phases (grid operation/ backup operation)	3/1
Voltage (range)	230V (187V – 253V)
Frequency (range)	50Hz(45 to 55Hz)
Permissible grid structure	TN/TT
Typical interruption time in the event of power outage	20 ms

Input PV Plant

Nominal AC PV output/current	5.7kW/25A
Compatible PV inverters	all SB and SMC 4600A

Input Battery

Nominal voltage/number of blocks	48V/4V x 12V
Type/energy/capacity per block	AGM/6.8 kWh/142 Ah
Service life (according to Eurobat)	> 12 years

Efficiency/Internal Consumption

Max. efficiency backup operation	95 %
Internal consumption day/night (Silent Mode)	48W/32W

Protection Devices

DC reverse polarity protection/total discharge protection	●/●
AC short-circuit/AC overload	●/●
Grid monitoring (SMA Grid Guard)/galvanic isolation	●/●

General Data

Dimensions SBU (W x H x D)	467 x 612 x 235mm
Dimensions AS-Box (W x H x D)	600 x 600 x 210mm
Dimensions battery per block (W x H x D)	498 x 230 x 177mm
Weight per (SBU/AS-Box/battery block)	63kg/29kg/54.5kg
Operating temperature range	–25°C ... +50°C
Protection rating (SBU, AS-Box)	IP30/IP65

Features/Function

Integrated bypass in the event of faults/test operation	●/●
State of charge calculation/generator input	●/○
Warranty SBU 5000	5 years
Battery warranty (2 years), AS-Box warranty (5 years)	●
Certificates and permits	www.SMASolar.com

Accessories

Battery cables/DC distributor/ communication cables	3m/○/5m
Battery fuses "BATFUSE"	○
Interfaces (RS485 PB/Multicluster PB)	○/○
Additional battery parallel/other battery	○/○

● Standard features
○ Optional features - Not Available

SMA Sunny Backup
Automatic Switch Box M-20

YHI Part Code SMAASBOXM20

SWITCH BOX	SMAASBOXM20
General Data	
Number of phases	1
Nominal voltage range	187V ... 253V
Nominal voltage range in case of higher input voltage range*	195.5V ... 260V
Nominal frequency range	45Hz ... 55Hz
Number of Sunny Backup to be connected	1
Permitted grid structure	TN-C/TT
Width x height x depth	550 x 950 x 225mm
Weight	51kg
Maximum altitude above MSL	3000m
Protection rating of enclosure**	IP54
Protection rating of inner protective cover**	IP20
Protection class***	II
EMC environment	A/B
EC Declaration of Conformity	Yes
Automatic disconnection unit****	Yes, in combination with Sunny Backup 5000
Inner subdivision*****	Structure 1 (no subdivision)
Maximum prospective short-circuit current of grid connection	25kA

* optional
** according to IEC 60529
*** according to IEC 417
**** according to DIN VDE 0126-1-1
***** according to IEC 60439-1

For more information visit **www.yhipower.co.nz**

SMA Sunny Mini Central
Single Phase Solar Inverter

YHI Part Code SMC8000TL

The transformerless **Sunny Mini Central** 8000TL provides owners with high yields. With the Sunny Mini Central family of transformerless inverters, it will be even easier to realize PV plants from 18 kWp to the megawatt range. The finely graduated performance classes are ideal for precise configuration of PV plants. The flexibility it provides for the layout of plants and a favorable price-performance ratio make the Sunny Mini Central the ideal inverter for mid-sized to large solar power plants.

FEATURES

- Maximum efficiency of 98 %
- The best tracking efficiency with OptiTrac MPP tracking
- Transformerless, with H5 topology
- OptiCool active temperature management
- SMA Power Balancer for three-phase grid connection
- Integrated ESS DC switchdisconnector
- DC plug system SUNCLIX

INVERTER	SMC8000TL
Input (DC)	
Max. DC power (@ cos φ =1)	8250W
Max. DC voltage	700V
MPP voltage range	333V - 500V
DC nominal voltage	350V
Min. DC voltage/start voltage	330V/400V
Max. input current/per string	25A/25A
Number of MPP trackers/strings per MPP tracker	1/4
Output (AC)	
AC nominal power (@ 230 V, 50 Hz)	8000W
Max. AC apparent power	8000VA
Nominal AC voltage; range	220V, 230V, 240V; 180V–260V(262V*)
AC grid frequency; range	50Hz, 60Hz; ± 4.5Hz
Max. output current	35A
Power factor (cos φ)	1
Phase conductors/connection phases/ power balancing	1/1/●
Efficiency	
Max. efficiency/Euro-eta	98.0 %/97.7 %
Protection Devices	
DC reverse-polarity protection/reverse current protection	●/-
ESS switch-disconnector	●
AC short circuit protection	●
Ground fault monitoring	●
Grid monitoring (SMA Grid Guard)	●
Galvanically isolated/all-pole sensitive fault current monitoring unit	-/●
DC overvoltage protector (type II), can be integrated	-
String failure detection	-
Protection class/overvoltage category	I/III
General Data	
Dimensions (W x H x D)	468 x 613 x 242mm
Weight	33kg
Operating temperature range	–25°C ... +60°C
Noise emission (typical)	≤ 40dB
Internal consumption (night)	0.25W
Topology	transformerless
Cooling concept	OptiCool
Electronics protection rating/connection area (as per IEC 60529)	IP65
Climatic category (per IEC 60721-3-4)	4K4H
Features	
DC connection: SUNCLIX	●
AC connection: screw terminal/spring-type terminal	●/-
Display: text line/graphic	●/-
Interfaces: RS485/Bluetooth®	o/o
Warranty	5 years
Certificates and permits (more available on request)	CE ,VDE 0126-1-1, DK 5940*, RD 1663, PPC, AS4777, EN 50438**, C10/C11, PPDS

● Standard features
o Optional features - Not Available
* Only applies to IT variants
** Does not apply to all national deviations of EN 50438

SMA Sunny Mini Central
Single Phase Solar Inverter

YHI Part Code SMC10000TL10

FEATURES

- Reactive power supply
- Maximum efficiency of 97.7 %
- Transformerless, with H5 topology
- OptiCool active temperature management
- Pluggable SMA Power Balancer for three-phase power supply line
- Integrated ESS DC switch-disconnector
- Monitored string fuses
- DC plug system SUNCLIX

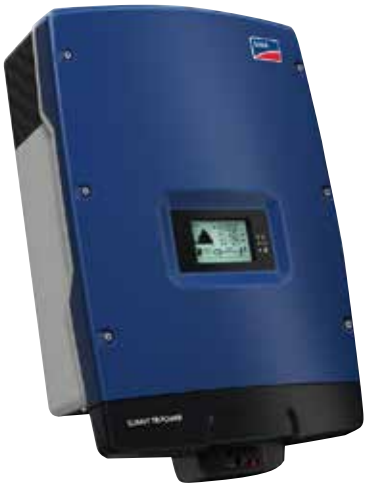
Sunny Mini Central inverters with Reactive Power Control are the ideal solution when utility companies demand reactive power supply. They can be used to realize plant designs which specify for the displacement factor cos φ and the corresponding percentage of reactive power. This way, large PV power stations can now make optimum use of grid distribution capacities, which significantly contributes to the success of renewable energy.

INVERTER	SMC10000TL10
Input (DC)	
Max. DC power (@ cos φ=1)	10350 W
Max. input voltage	700V
MPP voltage range/rated input voltage	333V - 500V/350V
Min. input voltage/initial input voltage	333V/400V
Max. input current	31A
Max. input current per string	31A
Number of independent MPP inputs/strings per MPP input	1/5
Output (AC)	
Rate output power (@ 230 V, 50 Hz)	10000W
Max. AC apparent power	10000VA
Nominal AC voltage; range	220V, 230V, 240V/ 180V – 265V
AC power frequency/range	50Hz, 60Hz/-6Hz … +5Hz
Rated power frequency/rated power voltage	50Hz/230V
Max. output current	44A
Power factor at rated output power	1
Adjustable displacement factor	0.8 overexcited … 0.8 underexcited
Feed-in phases/connection phases	1 /1
Power balancing	●
Efficiency	
Max. efficiency/Euro-efficiency	97.7 %/97.2 %
Protection	
Reverse current protection/input-side disconnection device	Optional (fuses)/●
Ground fault monitoring/grid monitoring	●/●
DC reverse-polarity protection/AC short-circuit current capability/galvanically isolated	●/●/-
All-pole sensitive residual current monitoring unit	●
Protection class (according to IEC 62103)/ overvoltage category (according to IEC 60664-1)	I/III
General Data	
Dimensions (W x H x D)	468 x 613 x 242mm
Weight	35 kg/77.16 lb
Operating temperature range	-25 °C … +60 °C/-13 °F … +140 °F
Noise emission (typical)	45dB
Self-consumption (night)	0.25W
Topology	Transformerless
Cooling concept	OptiCool
Degree of protection (according to IEC 60529)	IP65
Climatic category (according to IEC 60721-3-4)	4K4K
Maximum permissible value for relative humidity (non-condensing)	100%
Features	
DC terminal	SUNCLIX
AC terminal	Screw Terminal
Display	Text line
Interface: RS485/Bluetooth	o/o
Warranty	5 years
Certificates and approvals (more available on request)	CE, VDE0126-1-1, RD 1663/2000, RD 661/2007, EN 50438*, C10/11, PPDS, EC 61727, UTE C15-712-1

● Standard features
o Optional features - Not Available
* Only applies to IT variants
** Does not apply to all national deviations of EN 50438

SMA Sunny Tripower
Three Phase Solar Inverter

YHI Part Code STP6000TL20, STP8000TL10, STP12000TL10



FEATURES

- Maximum efficiency of 98.3 %
- Shade management with OptiTrac Global Peak
- Active temperature management with OptiCool
- DC input voltage of up to 1,000 V
- Integrated grid management functions
- Reactive power supply
- Module-tailored system design with Optiflex
- SMA Webconnect
- Sunny Portal communication
- Bluetooth® communication
- Simple country configuration
- Multifunction relay comes standard
- Three-phase feed-in
- SUNCLIX DC plug-in system
- Integrated ESS (Electronic Solar Switch)

With the addition of the new 10 kVA and 12 kVA versions to the portfolio, the **Sunny Tripower** product range covers a broad spectrum of applications. Highly flexible with its proven Optiflex technology and asymmetrical multistring, it delivers maximum yields with a top efficiency rating and OptiTrac Global Peak. In addition to Bluetooth communication, it also comes standard with a direct Sunny Portal connection via SMA Webconnect. Other standard features include integrated grid management functions, reactive power supply and suitability for operation with a 30 mA RCD. When it comes to system design in the 5 to 12 kW power classes, the Sunny Tripower is the optimum product solution – for applications ranging from use in your own home and larger PV rooftop systems to implementation of smaller-scale PV farms.

INVERTER	STP6000TL20	STP8000TL10	STP12000TL10
Input (DC)			
Max. DC power (@ cos φ = 1)	6125W	8200W	12275W
Max. input voltage	1000V		
MPP voltage range/rated input voltage	295V ... 800V/580V	330V ... 800V/580V	440V ... 800V/580V
Min. input voltage/start input voltage	150V/188V		
Max. input current input A/input B	11A/10A	15A/10A	18A/10A
Max. input current per string input A/ input B	11A/10A	15A/10A	18A/10A
Number of independent MPP inputs/ strings per MPP input	2/A:2; B:2		
Output			
Rated power (@ 230 V, 50 Hz) 5000 W	6000W	8000W	12000W
Max. AC apparent power	6000VA	8000V	12000VA
Nominal AC voltage	3/N/PE; 220/380 V, 3/N/PE; 230/400 V, 3/N/PE; 240/415 V		
Nominal AC voltage range	160V ... 280V		
AC grid frequency/range	50Hz, 60Hz/-5Hz ... +5Hz		
Rated power frequency/rated grid voltage	50Hz/230V		
Max. output current	8.7A	11.6A	17.4A
Power factor at rated power	1		
Adjustable displacement power factor	0.8 overexcited ... 0.8 underexcited		
Feed-in phases/connection phases	3/3		

INVERTER	STP6000TL20	STP8000TL10	STP12000TL10
Efficiency			
Max. efficiency/European efficiency	98%/97.4%	98%/97.6%	98.3%/97.9%
Protective devices			
DC disconnect device		●	
Ground fault monitoring/grid monitoring		●/●	
DC reverse polarity protection/AC short-circuit current capability/galvanically isolated		●/●/-	
All-pole sensitive residual-current monitoring unit		●	
Protection class (according to IEC 62103)/overvoltage category (according to IEC 60664-1)		I/III	
General data			
Dimensions (W x H x D)		470 x 730 x 240 mm	
Weight	37kg(81.6 lb)	37kg(81.6 lb)	38kg(84 lbs)
Operating temperature range		-25°C ... +60°C(-13 °F ... +140 °F)	
Noise emission (typical)		40dB	
Self-consumption (at night)		1W	
Topology/cooling concept		Transformerless/Opticool	
Degree of protection (according to IEC 60529)		IP65	
Climatic category (according to IEC 60721-3-4)		4K4H	
Maximum permissible value for relative humidity (non-condensing)		100%	
Features			
DC connection/AC connection		SUNCLIX/spring-cage terminal	
Display		Graphic	
Interface: RS485, Bluetooth, Speedwire/Webconnect		○/●/●	
Multifunction relay/Power Control Module		●/○	
Warranty		5 years	
Certificates and permits (more available on request)		AS 4777, CE, CEI 0-213, C10/11:2012, DIN EN 62109-1, EN 504381, G59/3, G83/2, IEC 61727/MEA², IEC 61727/PEA², IEC 62109-2, NEN EN 50438, NRS 097-2-1, PPC, PPDS, RD 661/2007, RD 1699:2011, SI 4777, UTE C15-712-1, VDE0126-1-1, VDE AR-N 4105, VFR 2013, VFR 2014	

● Standard features
○ Optional features - Not Available

YHI Part Code SMAENERGYMETER

FEATURES

- Quick plug and play installation
- Graphic visualization of current measured values in Sunny Portal
- Space-saving DIN rail mounting in household distribution thanks to compact enclosure
- Flexible use in applications >63 A thanks to external current transformers
- Fast three-phase, bidirectional reading of measured values for effective energy management
- Fast Speedwire communication

The powerful measurement solution for intelligent energy management within the SMA Smart Home: The **SMA Energy Meter** takes phase-accurate and balanced electrical measured values, such as a grid feed-in and purchased electricity meter, and communicates these values via Speedwire. Thanks to its ability to quickly acquire bidirectional measured values, the SMA Energy Meter is the ideal supplier of data for intelligent energy management within the SMA Smart Home. All PV generation data, purchased electricity and grid feed-in can be transmitted via standard Ethernet cable to the Sunny Home Manager, for example, or, in the future, to the Sunny Boy Smart Energy. This, in turn, facilitates optimal energy monitoring, effective load and battery management and reliable active power limitation at the grid feed-in point while taking self-consumption into account

INVERTER | **SMAENERGYMETER**

Communication

Fieldbus	Speedwire, 10/100 Mbit/s

Max. Radio Range

Speedwire/fast Ethernet	100m (between two devices)

Inputs (voltage and current)

Nominal voltage	230V/400V
Frequency	50Hz, 60Hz/±5%
Nominal current/limiting current per line conductor	5A/63A (>63A can be connected via external current transformers)
Start-up current	< 25mA
Connection cross-section	1.0 mm² to 25mm²
Torque for screw terminals	2.0Nm

Ambient conditions in operation

Ambient temperature	–25°C to +40°C (–13°F ... +104°F)
Storage temperature range	–25°C ... +70° C (–13°F ... +158°F)
Protection class (according to IEC 62103)	II
Degree of protection (according to IEC 60529)	IP2X
Max. permissible value for relative humidity (non-condensing)	5% – 95%

General data

Dimensions (W x H x D)	88 x 70 x 65mm
Individual units	4
Weight	0.3kg (0.66lb)
Mounting location	Switch or meter cabinet
Mounting type	Top-hat rail mounting
Status display	2 LEDs
Self-consumption	< 2W
Measurement accuracy	1%
Sampling frequency	< 1Hz
Languages of the manual	German, English, Italian, French, Spanish, Dutch, Portuguese, Greek

Features

Warranty	2 years
Certificates and permits	www.SMA-Solar.com

YHI Part Code SMAHOMEMANAGER

The **Sunny Home Manager** is the ideal solution for intelligent energy management within the SMA Smart Home. It provides an overview of all energy flows in the household, automatic load control, and the integration of storage into the available SMA Flexible Storage System as well as in the upcoming SMA Integrated Storage System. The Sunny Home Manager includes PV forecast data allowing for optimum load management and a considerably higher rate of self-consumption. In addition, the active power fed into the utility grid can be limited to any value between 10 and 100 percent of the installed PV array power.

FEATURES

- Active power limitation at the grid-connection point
- Consumption analysis for each individual load
- Display of recommended actions for load management
- Automatic, intelligent control of loads via a maximum of 10 SMA radio-controlled sockets
- Convenient commissioning with the system setup assistant
- Convenient system monitoring via Sunny Portal
- Overview of all energy flows in the home
- Visualization of weather and PV forecast data
- Several standardized meter interfaces
- Individual specifications for controllable devices
- Easy to combine with SMA Smart Home* components

INVERTER	SMAHOMEMANAGER
Communication	
Inverter communication	Bluetooth®/Speedwire
Sunny Portal communication	Ethernet
Connections	
Inverter	See inverter communication
Ethernet	10/100 Mbit, RJ45
Energy meter	SMA Energy Meter via Ethernet, Three 2 x 4-pole plugs for connection of S0 cable or D0 optical probes
Max. Number of Connected SMA Devices	
Total number of devices in the system	up to 24
Number of devices as loads under active energy management	up to 12
Max. Radio Range	
Bluetooth in free-field conditions	Up to 100m (can be extended with an SMA radio-controlled socket)
Speedwire	100m
Voltage Supply	
Voltage supply	External plug-in power supply
Input voltage	100V – 240V AC; 50/60Hz
Power consumption	< 6W (max. 14.3W)

Ambient Conditions in Operation	
Ambient temperature	-25°C to +60°C(-13°F to +140°)
Degree of protection (according to EN IEC 60529)	IP20
Max. permissible value for relative humidity (non-condensing)	5% to 95%
General data	
Dimensions (W x H x D)	170 x 124.5 x 41.5mm
Weight	0.22kg (0.5 lb)
Mounting location	Indoors
Installation options	Top-hat rail mounting, wall mounting
Status display	2 LEDs
Languages of the manual	German, English, Italian, Spanish, French, Dutch, Portuguese, Greek, Czech
Features	
Operation	Via Sunny Portal
Update function	Manually or automatically
Warranty	5 years
Certificates and permits	www.SMA-Solar.com

YHI Part Code SMASRC-20

FEATURES

- Control and visualization unit
- Usable from a distance of up to 20 meters
- Wall or top-hat rail mounting
- For systems with Sunny Island 3.0M/4.4M & Sunny Island 6.0H/8.0H
- Easy to read four line display
- SD card as service interface

Sunny Island systems using the **Sunny Remote Control** are flexible and easy to operate: to maximize the user convenience, we have moved the control unit out of the inverter. You can now commission and monitor the battery-powered inverters conveniently without having to be standing right in front of the inverter. The Sunny Remote Control can be used at a distance of up to 20 meters and processes information from up to three devices.

The rotary switch enables intuitive operation. The four-line display gives you information on the current plant status at a glance. An SD card serves as the service interface. Another convincing feature is the simplicity of installing the SRC-20. Just one cable is needed for the electrical connection and communication. Plug it in at both ends and you are ready for installation, commissioning or plant information.

REMOTE CONTROL

Display and Operation

Display	4 x 20 characters
Operation	Rotary switch

Interfaces

DC supply voltage	12V (of Sunny Island 3.0M/4.4M/6.0H/8.0H data cable)
Nominal current	200mA
Data storage and service	SD/MMC card with 128MB 1GB
Communication	RS422
Data cable	CAT5e-FTP patch cable (2 x RJ45 plug)
Max. cable length	20m

SMAHOMEMANAGER

General data

Dimensions (W/H/D)	225 x 140 x 65mm
Weight	approx. 400g
Ambient temperature	0°C to +50°C
Degree of protection of the device as per DIN EN 60529	IP20

Features/Function/Accessories

SD/MMC card	128MB (included)
Data cable	CAT5e-FTP patch cable, 5 m (included)
Certification	CE

Sunny Island Speed Wire

SMASPEEDWIRESI6.0H

For smooth communication: Speedwire can be used to access PV systems via Sunny Explorer. Device configuration and parameter checks are easy and convenient. In addition, with Modbus all parameters can be viewed remotely or set automatically. And setpoints can be entered for direct control of Sunny Island output.

Bluetooth Interface Upgrade

SMA1RADPIGBACK

The RS485 wiring for plant monitoring and communication allows functional lengths of up to 1200 meters. The Sunny WebBox collects all the data and informs you about the status of the PV plant. With Piggy-Back the data transmission is reliable even in interference-prone areas. Subsequent expansions are possible without problem thanks to the modular design principle.

4

Mounting Systems & Electrical

YHI supplies a comprehensive range of PV mounting and electrical components that can be used to create a customized solution for your solar system.

FEATURES

- **Easy Installation:** The tilt–in module can be put into the extruded rail from any section and can be pre–assembled with the clamp and roof hook, minimising time and cost of installation
- **Flexibility & Adjustable:** These systems accommodate most commercially available framed or frameless solar panels and diverse roof types
- **Safety & reliability:** The racking systems can stand up to the extreme weather and comply with AS/NZS 1170 load standards

Neuton Power Pitched Roof designs have great flexibility for both commercial and residential roof solar systems. Suitable for installing framed and frameless modules flush to a pitched roof. Special extruded Aluminium rail, pre–assembled clamps and varied roof hooks or brackets with tilt–in modules ensure easy and quick installation, saving on labour time and cost. The customised rail lengths do not require on–site cutting or welding – maximising the appearance, structural strength and anti–corrosive performance.

Technical Information

Install Site	Pitched roof
Tilt angle	Flush with roof up to 60°
Building height	Up to 20 metres
Max wind speed	Up to 60 metres/ second
Snow load	Up to 1.4 KN/m2
Material	High class aluminium alloy, stainless steel
Anti-corrosive life	Anodized
Product life expectancy	More than 20 years
Warranty	10 years

Silver GD Rail Cap

GSADRCSG

Black GD Rail Cap

GSADRGN

FEATURES

- Material: Al6005–T5
- Patent extruded aluminium section
- High class anodized aluminium

RAIL

PV Mounting Rail

GSDR2560	Rail with a standard length of 2560mm
GSDR3405	Rail with a standard length of 3405mm
GSDR4200	Rail with standard length of 4200mm
GSDR4200BLACK	Black rail with standard length of 4200mm

Rail Splice Kit

GSDRSP

FEATURES

- Material: Al6005–T5 & A2–70 bolt
- Connects two rail units

PRODUCT CODE	DESCRIPTION	PICTURE NO.
Framed Module Clamps		
GSEC35	End clamp kit 35mm	1
GSEC35BLACK	End clamp kit 35mm black	2
GSEC40	End clamp kit 40mm	1
GSEC40BLACK	End clamp kit 40mm black	2
GSEC46	End clamp kit 46mm	1
GSEC50	End clamp kit 50mm	1
GSECL80	Glass panel end clamp kit 80mm	5
GSIC35	Inter clamp kit 35mm	3
GSIC35BLACK	Inter clamp kit 35mm black	4
GSIC40	Inter clamp kit 40mm	3
GSIC40BLACK	Inter clamp kit 40mm black	4
GSIC46	Inter clamp kit 46mm	3
GSIC50	Inter clamp kit 50mm	3
GSICL80	Glass panel inter clamp kit 80mm	6

PRODUCT CODE	DESCRIPTION	NO.
Pitched Roof Racking		
GSDM25	GS tilt-in set for tile hook	1
GSIK01	Fixed tile bracket stainless steel	2
GSIK05	Aluminium tin interface kit	3
GSIKH04	Hanger bolt hook	4
GSIKPUCK	Solar puck	5
BRKTADJTILE	Solar adjustable tile bracket	6
BRKTFLASH	Solar flashfoot single bracket	7
SOLARBOLT	Solar fastening bolt steel purlin	8
SOLAREJOT10050	EJOT solarbolt for steel purlins	9

For further technical information view online at www.yhipower.co.nz

Neuton Power Adjustable Tilt Solar Racking System is applicable to install the usual framed module to tilt a certain angle with the roof. The solar system can be a fixed angle or adjustable such as 10~15 deg, 15~30 deg and 30~60 deg for your requirement. The special extruded aluminium rail, the tilt–in module, the clamp kit and the round leg can be pre–assembled and make the installation easy and quick to save your labour costs and time. The customised length can eliminate the need to weld and cut on site to keep the high anticorrosive performance, the structures strength and the appearance.

Technical Information

Install Site	Low profile roof or flat roof
Tilt angle	10 ~ 60°
Building height	Up to 20 metres
Max wind speed	Up to 60 metres/ second
Snow load	Up to 1.4 KN/m2
Standards	AS/NZS 1170 and other international standards
Material	High class aluminium alloy, stainless steel
Anti-corrosive	Anodized aluminium & stainless steel
Product expectancy	More than 20 years
Warranty	10 years

FEATURES

- **Easy Installation:** The tilt–in module can be put into the extruded rail from any section and can be pre–assembled with the clamp and roof hook, minimising time and cost of installation
- **Durability:** Providing broad installation flexibility. These systems can accommodate most commercially available framed solar panels and diverse roof types. They can also scale easily from small to large, multi–megawatt installations
- **Flexibility & Adjustable:** These systems accommodate most commercially available framed or frameless solar panels and diverse roof types
- **Safety & reliability:** The racking systems comply with AS/NZS 1170 safety standards and other international structure load standards. Main support components have been tested to guarantee structure and load carrying capacity

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PRODUCT CODE	DESCRIPTION	NO.
BRKTTILTINT	Solar tilt interface bracket kit	1
GSADFL	Adjustable front leg for tin roof	2
GSADRL1015	Adjustable rear leg 10-15 degrees	3
GSADRL1530	Adjustable rear leg 15-30 degrees	4
GSADRL3060	Adjustable rear leg 30-60 degrees	5

Grounding Lug Aluminium

GSGGL

FEATURES

- Connect system to equipment ground conductor

Grounding Clip

GSGGC

FEATURES

- Material: SUS304 stainless steel
- Works with Inter Clamp to install on Neuton Power rail.

Bonding Jumper

GSGBJA

FEATURES

- Material: Braided copper wire & stainless steel clip & A2–70 bolt
- Electrically connects spliced rails
- Excellent electricity conductivity

Neuton Power Ground Mounting System is suitable for framed or frameless module PV arrays.

GROUNDMTASSY

Neuton Power grounding products can be used to bond solar modules to the aluminium rails and the aluminium rails to the ground, so the entire solar system is grounded and safe. Grounding products include the stainless steel grounding clip and aluminium grounding lug, which are all designed to comply with the requirement of AS5033, UL467 for bonding or grounding systems.

FEATURES

- **Easy Installation:** Parts have been pre–assembled in the factory to save on installation time
- **Flexibility & Adjustable:** Smart design reduces the difficulty of installations in most conditions
- **Safety & reliability:** The structure has been checked and tested rigorously against extreme weather conditions

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PRODUCT CODE	DESCRIPTION	NO.
GSGM3405GROUND	Ground mount rail 3405mm	1
GSBRSC60	Ground mount clamp	2
GSBRSP	Ground mount rail splice kit	3
GSPGBA	Ground mount support beam	4
GSPGOP2950	Ground mount support open post 2950mm	5
GSPGTC	Ground mount support beam top cap	6

DynoRaxx Evolution FR delivers a tool–less ballasted racking system for mounting PV solar panels on flat roofs and surfaces. The proprietary design of the DynoRaxx ballasted–racking system has been created to simplify and speed installation without compromising quality or performance. With DynoRaxx Evolution FR, buying commercial solar panel racking has never been more cost–effective.

RUGGED CONSTRUCTION

Baskets – Fibreglass

Rails – Fibreglass

Clamps – 304 stainless steel

EASY INSTALLATION

Initial measurement and chalk line needed for placement of first row

Precision components require no field measuring

Assembles without tools

Saves time and labour to install more modules per hour

Ballast weight to be supplied by customer

HIGH PERFORMANCE

PE Certified

ASCE 7–05 compliant

IBC 2006 compliant

Wind tunnel tested

WARRANTY

DynoRaxx Evolution carries a 10–year limited material and workmanship warranty

PRODUCT CODE	DESCRIPTION
Dynoraxx Mounting System	
DR2LBASKET	Two leg basket
DR4LBASKET	Four leg basket
DRBOND	Dynobond 8"
DRBOND38	Dynobond 38"
DREVOPRCLAMP	Evolution pitched roof clamp
DREVOPRRAIL	Evolution pitched roof rail
DRLOCKINGPIN	Locking pin
DRRAIL	Rail with dynoslide and pins

FEATURES

- Fibreglass
- Proprietary racking enables fast installation in less than half the time of other systems
- No tools needed for assembly — one–step pivot clamp secures panels to racking
- Versatility to accommodate all framed PV solar panels on the market
- Eliminates need to penetrate roof with fasteners on most installations
- Smaller footprint than competitive systems saves roof space and adds flexibility
- 10° tilt available
- Elevated system — does not impede water drainage
- Non–corrosive
- No thermal expansion

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PRODUCT CODE	DESCRIPTION	PICTURE NO.
S-5-K GRIP MINI	Grip mini alumunium utility clamp	1
S-5-PROTEA BRACKET	Protea bracket stainless steel utility clamp	2
S-5-PV EDGE GRAB KIT	Edge grab kit end clamp	3
S-5-S CLAMP	Aluminium utility clamp	4
S-5-U MINI	Mini aluminium utlity clamp	5
S-5PVKIT	PV kit solar mounting bracket mid clamp	6
S-5TOPFIXCORBRKTAU	Top fix corru bracket-au	7
S-5TOPFIXCORBRKTAUMINI	Top fix corru bracket-au mini	8
S-5TRAPBRKTKSRW	Trap bracket KSRW	9

Neuton Power RV Roof Mount Kit
Solar Panel Roof Mount Kit For RV

YHI Part Code RVMOUNTKIT

The **Neuton Power RV Mount Kit** can be used with any sized aluminum framed solar panel to provide secure mounting to RVs, boats and many flat surface applications. The PV Mount Kit will support the solar panel at the optimum height above the surface to enable airflow from underneath, ensuring the solar panel functions as efficiently as possible.

NOTE: The mount kit can be installed without penetrating the mounting surface using the recommended sealant.

Material: ABS Plastic

7 piece kit:

4x Solar panel corner moulds

1x Solar cable junction box

2x Solar panel side mounts

APPLICATIONS

- RV
- Boat
- Caravan
- Enclosed trailer
- Other Mobile Applications

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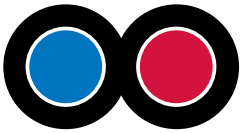

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YHI PRODUCT CODE	DESCRIPTION	PICTURE NO.
CABLE4MM5CF	4mm 5 core flex cable	1
CABLE4MMEARTH	4mm earth cable	2
CABLE4MMSING	4mm single core solar lap cable	3
CABLE4MMTWIN	4mm twin core solar cable	4
CABLE6MM4CF	6mm 4 core flex cable	5
CABLE6MMEARTH	6mm earth cable	6
CABLE6MMSINGLE	6mm single core solar cable	7
CABLE6MMTWIN	6mm twin core solar cable	8
GSAPC01	Plastic cable clip	9

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YHI PRODUCT CODE	DESCRIPTION	PICTURE NO.
GSSSCC05	S/S cable clip for 2 cables	1
DC4BRANCHSET	DC4 branch connector set	2
MC4CONNSET	MC4 connector set	3
JMTHYSET	JMTHY connector set	4
SPA53111210	M10 solar gland with locknut	5
SPA53111236	M25 solar gland with locknut	5
GSCT01	Plastic coated S/S cable ties (100 per bag)	6
SPVLABEL	AS4777 label kit	7
TOOLKIT	Solar toolkit	8
SPVLABELACBATT	Label Kit AC Battery	9
SPVLABELDCBATT	Label Kit DC Battery	10

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YHI PRODUCT CODE	DESCRIPTION	PICTURE NO.
MCB16A3P6KA	6KA MCB 16A AC Circuit Breaker 3P	1
MCB20A3P6KA	6KA MCB 20A AC Circuit Breaker 3P	1
MCB25A3P6KA	6KA MCB 25A AC Circuit Breaker 3P	1
MCB32A3P6KA	6KA MCB 32A AC Circuit Breaker 3P	1
SPA86289	6KA MCB 16A AC Circuit Breaker	2
SPA86290	6KA MCB 20A AC Circuit Breaker	2
SPA86291	6KA MCB 25A AC Circuit Breaker	2
SPA86292	6KA MCB 32A AC Circuit Breaker	2
MCBLOCK	Locking device for Noark MCB	3
SPA88067	500VDC MCB 2P 10A DC Circuit Breaker 2P	4
SPA88068	500VDC MCB 2P 16A DC Circuit Breaker 2P	4
SPA88070	500VDC MCB 2P 25A DC Circuit Breaker	4
SPA88076	1000VDC MCB 2P 16A DC Circuit Breaker	4
SPA88131	500VDC MCB 2P 32A DC Circuit Breaker	4
SPA88132	500VDC MCB 2P 40A DC Circuit Breaker	4
SPA88133	500VDC MCB 2P 50A DC Circuit Breaker	4
SPA88134	500VDC MCB 2P 63A DC Circuit Breaker	4
SPA88139	1000V MCB 2P 32A DC Circuit Breaker	4
SPA88140	1000V MCB 2P 40A DC Circuit Breaker	4
SPA88141	1000V MCB 2P 50A DC Circuit Breaker	4
SPA88142	1000V MCB 2P 63A DC Circuit Breaker	3

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YHI PRODUCT CODE	DESCRIPTION	PICTURE NO.
PV-AC20A	20A AC 1P isolation switch IP65	1
PV-AC35A	35A AC 1P isolation switch IP65	2
ST20A1PAC230V	SUNTREE 20A 230V 1POLE AC isolator	3
ST32A1PAC415V	SUNTREE 32A 415V 1POLE AC isolator	4
ST20A3PAC415V	SUNTREE 20A 415V 3POLE AC isolator	5
ST35A3PAC415V	SUNTREE 35A 415V 3POLE AC isolator	6

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YHI PRODUCT CODE	DESCRIPTION	PICTURE NO.
ISO1500	1500V DC isolator IP67 box	1
ST32A4PDC1000V	SUNTREE 32A 1000V 4POLE DC ISOLATOR	2
ST32A4PDC1000VMC4	SUNTREE 32A 1000V 4POLE DC ISOLATOR WITH MC4	3
SPAN4D	IP65 4 pole PV power enclosure	4
SPAN8D	IP65 8 pole PV power enclosure	5
SPD150I	1Phase 150kA, 1 mode, DIN, surge diverter	6
SPD360NI	3 Phase, 60kA, 2 mode, (L-N & N-E), surge diverter	7

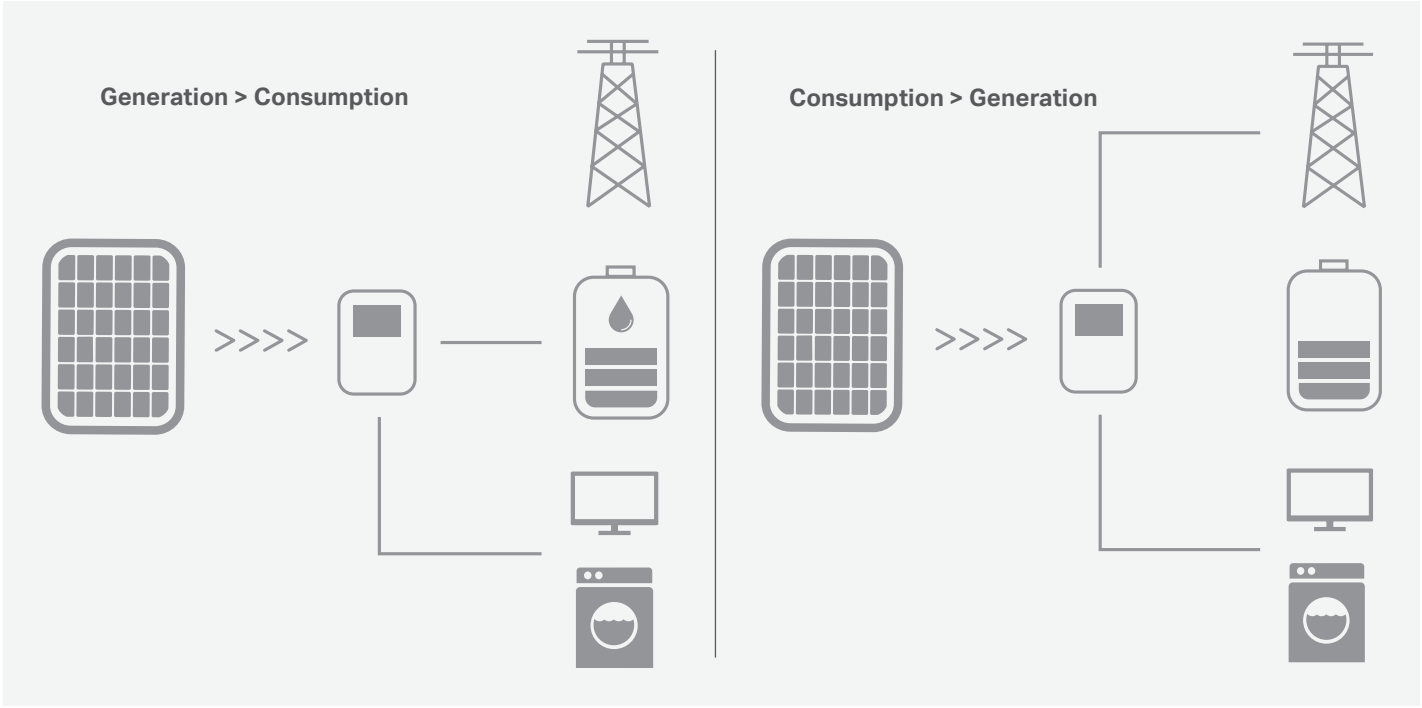
Neuton Solar Power Diverter
Solar Power Diverter

YHI Part Code NPSPD

BENEFITS

- Use the excess energy generated from your solar systems
- Use your hot water cylinder as an energy bank
- Save $100's of dollars per year

The **Neuton Solar Power Diverter** takes advantage of the surplus energy generated by your solar system during the day to heat your water cylinder. Optimising the self consumption of your system.



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Storage

The introduction of the Energy Storage System is set to revolutionise the solar industry. YHI provide energy storage solutions from world-class brands LG Chem, Enphase and SolaX Power.

YHI Part Code LGRESU64, LGRESU32

FEATURES

- **Compact Size & Light Weight:** The increase in power density, from 36Wh/ℓ to 144Wh/ℓ, enabled an ultra-compact, ultra-lightweight battery to be designed. The compact size makes the RESU 6.4 EX easy to handle
- **Expandable System:** The RESU 6.4.EX allows for expansion with two 3.2kWh modules so you can have a 6.4kWh or 9.6kWh or even 12.8kWh system. With such flexibility it is a great solution for households of many sizes
- **Installation Friendly:** The RESU 6.4 EX can be installed indoors and the unit can bemounted on sturdy walls easily
- 10 year warranty

LG Communication Cable SMA to LG Chem

LGCOMMSMA

LG Communication Cable SolaX to LG Chem

LGCOMMSOLAX

LG Chem's RESU 6.4 EX with 144Wh/ℓ brings storage solutions to New Zealand at an affordable price and a top class quality.

Technical Specification

INVERTER	LGRESU64	LGRESU32
Nominal Energy	6.4kW	3.2kW
Nominal Capacity (CC/CV Mode, Cut-off : 0.05C)	126Ah	63Ah
Dimension (W x H x D)	406 x 664 x 165mm	230 x 664 x 165mm
Weight	60kg	30kg
Max Discharge Current	110A	
Nominal Voltage (DC)	51.8V	
Voltage Range (DC)	45.2V - 58.1V	
Nominal Discharge Current	0.3C	
Nominal Charge Current	0.3C	
Peak Power (25°C/77°F)	5kW	
Faradic Charge Efficiency (25°C/77°F)	99%	
Battery Roundtrip Efficiency (C/3, 25°C/77°F)	95%	
Expected Lifetime (25°C/77°F)	>10 years	
Cycle Life (90% DOD, 25°C/77°F)	>6,000 cycle	
Available Operating Temperature	0°C~40°C	
Optimal Operating Temperature	15°C~30°C	
Storage Temperature	-30°C~50°C	
Cooling	Natural Convection	
Interface	CAN, CANopen Communication	
Cell Safety	ICE 62133	
Pack Safety	IEC 62619	
United Nation Class	UN 3480	
Hazard Classification	Class 9	
Transportation Regulation Compliance	UN 38.3	
Protection Class	IP 21	

LG Chem Resu Battery
Storage

YHI Part Code LGRESU3.3, LGRESU6.5, LGRESU9.8, LGRESU9.8HVSMA, LGRESU9.8HVSEDGE

FEATURES

- Industry-leading continuous power (4.2kW for RESU6.5) DC round-trip efficiency (95%)
- LG Chem's L&S (Lamination & Stacking) technology provides durability ensuring 80% of capacity retention after 10 years
- 10 year warranty

The compact and lightweight nature of the **RESU** is world-class. It is designed to allow easy wall-mounted or floor-standing installation for both indoor and outdoor applications. The inverter connections have also been simplified, reducing installation time and costs.

48V LOW VOLTAGE	LGRESU3.3	LGRESU6.5	LGRESU9.8
Specifications			
Total Energy	3.3kWh	6.5kWh	9.8kWh
Usable Energy	2.9kWh	5.9kWh	8.8kWh
Capacity (Ah)	63Ah	126Ah	189Ah
Nominal Voltage	51.8V	51.8V	51.8V
Voltage Range	42.0V ~ 58.8V	42.0V ~ 58.8V	42.0V ~ 58.8V
Max Power	3.0kW	4.2kW	5.0kW
Peak Power (For 3 sec)	3.3kW	4.6kW	7.0kW
Dimension (W x H x D)	452 x 401 x 120mm	452 x 654 x 120mm	452 x 483 x 227mm
Weight	31kg	52kg	75kg
Enclosure Protection Rating	IP55		
Communication	CAN 2.0B		
Cell Certificates	UL1642		
Product Certificates	CE/RCM/TUV (ICE 62619)/UL1973		

400V HIGH VOLTAGE	LGRESU9.8HVSMA & LGRESU9.8HVSEDGE		
Specifications			
Total Energy	9.8kWh	Weight (kg)	97kg 99.8kg
Usable Energy	9.3kWh	Enclosure Protection Rating	IP55
Capacity	63Ah	Communication	RS485 CAN 2.0B
Voltage Range	350V~450V 385V~550V	Cell Certificates	UL1642
Max Power	5.0kW	Product Certificates	TUV (IEC 62619)/UL1973/CE
Peak Power (For 3 sec)	7.0kW		
Dimension (W x H x D)	744 x 907 x 206mm		

Enphase AC Battery
Storage

YHI Part Code B270-1200-LN-ETC

Enphase Partcode: B270-1200-LN-I-AU00-RV0

FEATURES

- Lithium iron phosphate (LFP) chemistry for long cycle life
- 10-year warranty
- Modular design promotes redundancy
- Quick and easy single person installation
- Plug and play installation
- Interconnects with standard household AC wiring
- No high voltage DC in system
- Cells safety-tested and certified by TÜV Rheinland
- Prismatic cells are highly stable over time

The **Enphase AC Battery**™ is simple to install, safe, very reliable, and provides the lowest lifetime energy cost for both new solar customers and retrofit customers. In addition, as an installer, you can design the right system size to meet the needs of the homeowner.

Wall Mount Bracket options available for mounting Enphase AC Battery. See below for specifications and product codes.

BATTERY	B270-1200-LN-ETC

Output Data (AC)

Peak output power	270VA
Rated (continuous) output power	260VA
Nominal frequency	50Hz
Extended line to neutral voltage range	184VAC to 276VAC
Extended frequency range	45Hz to 55Hz
Power factor	0.7 leading to 0.7 lagging
Maximum units per 20 A branch circuit	13
Peak inverter efficiency	96.9%

Battery Chemistry

Capacity	1.2kWh
Depth of discharge (usable capacity)	>95%
Ambient temperature range	-20°C to 45°C
Chemistry	Lithium Iron Phosphate (LFP)
Cell safety certifications	TUV Rheinland, UL
Roundtrip cell efficiency[1]	96%

Mechanical Data

Dimensions	390 x 325 x 220mm
Weight	25kg
Installation	Wall mounted in an indoor, unoccupied space using standard AC wiring in conduit or in wall, where allowed.
Enclosure	IP20
Cooling	Natural convection – No active or passive cooling infrastructure required
Grid configuration	TN-C-S

Features and Compliance

Compatibility	Compatible with PV systems using the Enphase Envoy-S™ Metered gateway
Communication	Power Line Communication (PLC), TCP/IP through Envoy-S
Services	Maximising self-consumption, time of use optimisation, power export limiting[2]
Monitoring	Enlighten Manager and MyEnlighten monitoring options
Compliance	AS/NZS 4777.2, AS/NZS CISPR 22, AS/NZS 62040.1.1, UN 38.3
Limited Warranty[3]	>80% capacity, up to 10 years or 7300 cycles

1. At 25°C.
2. Optional. Requires Enphase S-Series Microinverters™ to implement.
3. Whichever occurs first. Restrictions apply.

Wall Mount Accessories

Accommodates 16 inch (400mm) battery-to-battery spacing
To suit 450mm stud centres
Weight: 3.5 kg

BWM-450MM-A

Accommodates 16 inch (400mm) battery-to-battery spacing
To suit 600mm stud centres
Weight: 3.5 kg

BWM-600MM-A

SolaX
XLIB Phantom-S Storarge Battery

YHI Part Code XLIBPHANT

FEATURES

- Longer life
- User-friendly
- Easy installation
- High performance with 8000 Cycle Life
- Continuous charge/discharge current: 100A (2C)
- High reliability with 2 MCUs
- 5 year warranty

The **SolaX** second generation storage battery, Phantom-S, has a higher energy density and more powerful performance. Perfect for both residential and small businesses.

LITHIUM BATTERY	XLIBPHANT
Nominal	
Nominal Voltage	48V
Nominal Capacity	50Ah
Physical	
Dimension (W x H x D)	445 x 428 x 97.5mm
Weight	24kg
Electrical	
Discharge Voltage	45V ~ 54V
Charge Voltage	52.5V ~ 54V
Maximum Discharge Current	100A (2C, recommended under 5 minutes)
Maximum Charge Current	100A (2C2C, recommended under 5 minutes)

Other	
Communication Port	RS232, RS485, CAN
Working Life	15 Years (25°C/77°F
Cycle Life	>6,000 (Temp. 25°C, DoD 95%) EOL 60% >8,000 (Temp. 25°C, DoD 80%) EOL 60%
Working Temperature	Charge: 0°~50°C (32°F~122°F) Discharge: -5°C~50°C (23°F~122°F)
Safety Certificates	TÜV, CE, UN38.3, TLC

6

Charge Controllers

Neuton Power provides a range of highly-efficient Solar Charge Controllers.

Neuton Power Charge Controller
Solar Charge Controller

YHI Part Code SLC12/24-10, SLC12/24-20

FEATURES

- 12/24VDC Auto Detect
- Automatic Day/Night recognition
- Simplistic Digital LED menu for easy to use quick key settings
- Intelligent dual timer function
- Suitable for use with GEL, Sealed Lead Acid & Flooded Batteries
- 1 year warranty

Fully automatic operation, utilising pulse width modulation (PWM) for increased battery life & optimised system performance.

CONTROLLER	SLC12/24-10	SLC12/24-20
Technical Specification		
Nominal system voltage	12V/24V DC Auto Work	12V/24V DC Auto Work
Maximum battery voltage	32V	32V
Rated charge current	10A	20A
Charge circuit voltage drop	≤ 0.26V	≤ 0.26V
Discharge circuit voltage drop	≤ 0.15V	≤ 0.15V
Self consumption	≤ 6mA	≤ 6mA
NTTV (night time threshold voltage)	12V System: 5V/24V System: 10V	12V System: 5V/24V System: 10V
DTTV (daytime threshold voltage)	12V System: 6V/24V System: 12V	12V System: 6V/24V System: 12V
Temperature compensation coefficient (TEMPCO)	-30Mv/˚C/12V (25˚C ref)	-30Mv/˚C/12V (25˚C ref)
Working temperature	-35˚C to +55˚C	-35˚C to +55˚C
Storage temperature	-35˚C to +80˚C	-35˚C to +80˚C
Humidity	10% - 90% NC	10% - 90% NC
Case protection	IP30	IP30
Overall dimension (L x W x H)	150 x 82 x 50 mm	150 x 82 x 50 mm
Terminal	$6mm^2$	$6mm^2$
Net Weight	0.35kg	0.35kg

Neuton Power Charge Controller
Solar Charge Controller

YHI Part Code ENS12/24-20D, ENS12/24-30D, ENS12/24-40D, ENS12/24-50D, ENS12/24-60D

Highly efficient charge controller that utilises pulse width modulation (PWM) for increased battery life & optimised system performance.

FEATURES

- 12/24VDC Auto Detect
- LCD screen displaying battery voltage, PV charge current, load discharge current, total PV discharge Ah, low voltage disconnect, low voltage reconnect
- Electronic Protection Functions
- External temperature sensor
- Temperature compensation automatically regulates charging and discharging parameters for improved battery life
- Power from PV indication
- Dual solar input terminals
- Suitable for use with GEL, Sealed Lead Acid & Flooded Batteries
- 1 year warranty

CONTROLLER	ENS12/24-20D	ENS12/24-30D	ENS12/24-40D	ENS12/24-50D	ENS12/24-60D
Technical Specification					
Nominal voltage	12/24, Automatic Recognition	12/24, Automatic Recognition	12/24, Automatic Recognition	12/24, Automatic Recognition	12/24, Automatic Recognition
Nominal battery current	20A	30A	40A	50A	60A
Max PV input power	300W@12V 600W@24V	450W@12V 900W@24V	600W@12V 1200W@24V	750W@12V 1500W@24V	900W@12V 1800W@24V
Max solar input voltage VOC	30V/48V	30V/48V	30V/48V	30V/48V	30V/48V
Min solar input voltage VMP	16V/32V	16V/32V	16V/32V	16V/32V	16V/32V
Power conversion efficiency	Max 90%	Max 90%	Max 90%	Max 90%	Max 90%
Standby power consumption	< 15mA	< 15mA	< 20mA	< 20mA	< 20mA
Length ≤1m charge loop drop	< 0.25V	< 0.25V	< 0.25V	< 0.25V	< 0.25V
Length ≤1m discharge loop drop	< 0.05V	< 0.05V	< 0.05V	< 0.05V	< 0.05V
Temperature compensation	-3 mv/cell *K	-3 mv/cell *K	-3 mv/cell *K	-3 mv/cell *K	-3 mv/cell *K
Dimensions (L x W x H)	172 x 126 x 73 mm	172 x 126 x 73 mm	172 x 126 x 73 mm	172 x 126 x 73 mm	172 x 126 x 73 mm
Weights	0.35kg	0.36kg	0.38kg	0.4kg	0.4kg
Ambient temperature range	-40 to +50˚C	-40 to +50˚C	-40 to +50˚C	-40 to +50˚C	-40 to +50˚C
Case protection	IP22	IP22	IP22	IP22	IP22
Float charge	13.8V/27.6V	13.8V/27.6V	13.8V/27.6V	13.8V/27.6V	13.8V/27.6V
Constant voltage charge	14.6V (14~15V settable) 29.2V (28~30V Settable)				
Low disconnect voltage	11V (10.4~11.4V settable) 22V (20.8~22.8V Settable)				
Low reconnect voltage	12.8V (12.2~13.2V Settable) 25.6V (24.4~26.4V Settable)				
Grounding	Positive Grounding				
Battery Type	GEL, AGM, Wet Battery				

Neuton Power Charge Controller
MPPT Charge Controller

YHI Part Code MPPT12/24-40D, MPPT12/24-80D

FEATURES

- Applicable to various types of batteries
- MPPT Function
- Temperature sensor battery charging compensation
- Overload protection (Automatic restoration)
- Overcharge protection
- Short Circuit protection (Automatic restoration)
- Thunder protection
- Reverse discharge protection
- Reverse polarity connection protection
- Under voltage protection
- 1 year warranty

The **Neuton Power MPPT Solar Controller** can intelligently regulate the working voltage of solar panels, letting the solar panels always work at Maximum Power Point of V-A curve. Compared with an ordinary solar controller, this MPPT controller can increase the efficiency of PV modules by 10% - 30%.

Technical Specification

CONTROLLER	MPPT12/24-40D	MPPT12/24-80D
Rated Voltage	24V/48V	12V/24V/48V
Max Load Current	40A	80A
Input voltage range	12~40V/24V~ 80V/48V ~ 110V	20~ 60V/28V ~ 90V/56V ~ 150V
Length ≤1m Charge loop drop	< 0.25V	
Length ≤1m Discharge loop drop	> 0.05V	
Over Voltage protection	17V/34V/68V	
Full charge cut	27.4V/54.8V	13.7V/27.4V/54.8V
Low voltage cut	10.5V ~ 11V/21V ~ 22V/42V ~ 43V	
Temperature compensation	-3mv/˚C/Cell	
No load loss	≤10mA	≤30mA
Max wire area	6mm^2	16mm^2
Ambient Temperature	-25˚C - +55 ˚C	
Weight	0.74kg	2.66kg

7

Batteries

YHI stocks a comprehensive range of Lead Carbon, Gel, Deep Cycle and SLA/AGM batteries from reputable brands C&D Technologies, Crown and Vision.

FEATURES

- Enhanced power stability and reliability in cyclic applications
- Endurable power system with a longer service life
- Fast capacity recovery for next discharge cycle
- Minimised total ownership
- Long life-cycle service design
- Excellent Partial State of Change (PSoC) and cyclic performance
- Leading charging acceptance
- Compliant to major global specifications
- Extreme temperature tolerance
- 3 year warranty

LEAD CARBON

Technical Specification

Product	Voltage	10Hr Ah Rate	Length	Width	Height	Total Height	Weight
SHC1240	12V	36Ah	229mm	139mm	200mm	205mm	16kg
SHC1265	12V	59Ah	273mm	174mm	201mm	204mm	24kg
SHC12100	12V	91Ah	341mm	173mm	213mm	216mm	34kg
SHC12100FT	12V	91Ah	511mm	110mm	237mm	237mm	34kg
SHC12110	12V	91Ah	341mm	173mm	213mm	216mm	34kg
SHC12150FT	12V	150Ah	559mm	126mm	285mm	285mm	50kg
SHC12200FT	12V	172Ah	559mm	126mm	328mm	328mm	60kg
SHC2300	2V	300Ah	166mm	114mm	360mm	378mm	18kg
SHC2400	2V	400Ah	166mm	146mm	360mm	378mm	23kg
SHC2600	2V	600Ah	166mm	210mm	360mm	378mm	33kg

FEATURES

- Design life: 15 Years
- Tubular Positive Plate - Special grid construction, pressure cast from antimony free alloy, with highly porous gauntlets that retain the active material.
- Pasted negative plate - service lives consistent with the positive plates
- Separators - extremely high porosity and low internal resistance
- Electrolyte - Gel Structure
- Containers and lids - Made of plastic (ABS) material.
- Cells are normally installed in an upright position on steel stands
- One way relief value - opens at low pressure and is fitted with a flame arrestor device
- 2 year warranty on standby applications

C&D Tubular GEL (OPzV) Series range of valve regulated lead acid stationary batteries combine the benefits of recombination technology (i.e. virtually no maintenance due to very low gas emissions) plus the advantages of conventional vented batteries with positive tubular plates (i.e. long life and excellent cycling capability).

OPZV GEL

Technical Specification

Product Code	Voltage	10Hr Ah Rate	Length	Width	Height	Weight	Terminal Type
CD2200TGEL	2V	200Ah	103mm	206mm	354mm	19kg	M10
CD2250TGEL	2V	250Ah	124	206mm	354mm	23kg	M10
CD2300TGEL	2V	300Ah	145	206mm	354mm	28kg	M10
CD2350TGEL	2V	350Ah	124	206mm	471mm	31kg	M10
CD2420TGEL	2V	420Ah	145	206mm	471mm	36kg	M10
CD2490TGEL	2V	490Ah	166	206mm	471mm	41kg	M10
CD2600TGEL	2V	600Ah	145	206mm	643mm	49kg	M10
CD2800TGEL	2V	800Ah	210	191mm	664mm	65kg	M10
CD21000TGEL	2V	1000Ah	210	233mm	646mm	80kg	M10
CD21200TGEL	2V	1200Ah	210	275mm	665mm	93kg	M10
CD21500TGEL	2V	1500Ah	210	275mm	796mm	115kg	M10
CD22000TGEL	2V	2000Ah	214	399mm	771mm	155kg	M10
CD22500TGEL	2V	2500Ah	214	487mm	769mm	200kg	M10
CD23000TGEL	2V	3000Ah	214	576mm	771mm	235kg	M10

FEATURES

- Heat-sealed Case and Cover Design
- Rigid Connectors - Heavy-duty TTP, COS and Post connectors deliver maximum electrical efficiency and durability.
- X-TEND Container Design - X-Tend provides more electrolyte above the battery plates so batteries can perform longer between watering intervals, lowering preventive maintenance costs and improving overall ROI on your Crown Battery purchase.
- Heavy-Duty Construction - Crown deep cycle batteries are the heavyweight of the industry. More weight means more lead, which translates into a battery that will work and last longer.
- PROeye™ - No mess, no guess system for inspecting electrolyte levels that signals when watering is required.
- Posi-Wrap™ Envelope Separators - Posi-Wrap Separators reduce maintenance and prevent failure due to short-circuiting and plate shredding, ensuring reliability and durability.
- Z3 Plate Construction - Crown's Z3 design combines three integrated features for superior performance and durability.
- Our signature "Diamond Z" grid architecture
- An inset lug position
- Our revolutionary "LifePlus™" active paste material
- 1 year warranty

DEEP CYCLE

Technical Specification

Product Code	Voltage	20Hr Ah Rate	5Hr Ah Rate	Length	Width	Height	Terminal Type
CR205	6V	205Ah	170Ah	260mm	179mm	278mm	Standard
CR220	6V	220Ah	180Ah	260mm	179mm	278mm	Std/Type S
CR260	6V	260Ah	215Ah	260mm	179mm	295mm	Standard
CR275	6V	275Ah	228Ah	298mm	183mm	286mm	Standard
CR350	6V	350Ah	290Ah	183mm	310mm	359mm	Standard
CR430	6V	430Ah	340Ah	314mm	183mm	410mm	Standard
CR165	8V	165Ah	146Ah	262mm	181mm	283mm	Standard
CR24DC95	12V	95Ah	75Ah	273mm	171mm	235mm	Standard
CR27DC115	12V	115Ah	90Ah	334mm	171mm	238mm	Standard
CR31DC130	12V	130Ah	105Ah	334mm	175mm	238mm	Standard

FEATURES

- Stable Quality & High Reliability
- Sealed Construction
- Long Service Life, Float or Cyclic
- Maintenance-Free Operation
- Low Pressure Venting System
- Heavy Duty Grids
- Low Self Discharge
- 48 month warranty

VISIONS CL series of VRLA batteries are recognised as the most reliable and high quality battery system in the industry. VISION CL series batteries are designed with advanced AGM (Absorbent Glass Mat) technology, Long service life designed with 20 years, the batteries also comply to the most popular international standards, such as IEC896-2, BS6290-4, Eurobat Guide.

CL BATTERY

Technical Specification

Product Code	Voltage (V)	10Hr Ah Rate	Length	Width	Height	Total Height	Weight
CL200	2V	200Ah	173mm	111mm	330mm	364mm	15kg
CL300	2V	300Ah	171mm	151mm	330mm	364mm	21kg
CL400	2V	400Ah	210mm	176mm	330mm	367mm	28kg
CL500	2V	500Ah	241mm	175mm	330mm	365mm	33kg
CL600	2V	600Ah	302mm	175mm	330mm	367mm	42kg
CL800	2V	800Ah	410mm	175mm	330mm	367mm	57kg
CL1000	2V	1000Ah	475mm	175mm	330mm	367mm	66.5kg
CL1500	2V	1500Ah	400mm	350mm	345mm	382mm	100kg
CL2000	2V	2000Ah	490mm	350mm	345mm	382mm	132kg
CL3000	2V	3000Ah	710mm	350mm	345mm	382mm	204kg

FEATURES

- Stable quality & high reliability
- Higher power density
- Reliable construction
- Valve regulating
- Excellent recovery from deep discharge
- 36 month warranty

VISION FM series are designed for general-purpose applications, such as UPS, telecom, and electrical utilities. With 10 years design life, the batteries comply to the most popular international standards, such as IEC896-2, BS6290-4, Eurobat Guide. The battery container and cover are available both in V0 class flame retardant ABS or HBO ABS plastics. With more than 15 years of production experience, the VISION FM series of VRLA batteries are recognised as the most reliable and high quality battery system in the industry.

FM BATTERY

Technical Specification

Product Code	Voltage (V)	10H Ah Rate	Length	Width	Height	Total Height	Weight
3FM225	6V	225Ah	320mm	176mm	225mm	247mm	30.5kg
3FM225SX	6V	225Ah	260mm	180mm	247mm	247mm	30.5kg
6FM33	12V	33Ah	195mm	130mm	155mm	168mm	10.2kg
6FM40	12V	40Ah	197mm	165mm	170mm	170mm	13.5kg
6FM55	12V	55Ah	229mm	138mm	208mm	220mm	19kg
6FM60	12V	60Ah	258mm	166mm	206mm	215mm	24kg
6FM65	12V	65Ah	350mm	167mm	179mm	179mm	23.4kg
6FM75	12V	75Ah	258mm	166mm	206mm	215mm	24kg
6FM80	12V	80Ah	350mm	167mm	179mm	179mm	24kg
6FM100	12V	100Ah	330mm	171mm	215mm	222mm	32kg
6FM120	12V	120Ah	410mm	176mm	227mm	227mm	38kg
6FM120SX	12V	200Ah	522mm	238mm	218mm	223mm	65kg
6FM150	12V	150Ah	485mm	172mm	240mm	240mm	55.5kg
6FM200	12V	200Ah	522mm	238mm	218mm	223mm	65kg
6FM230	12V	230Ah	520mm	269mm	203mm	208mm	72.6kg

YHI (NEW ZEALAND) LTD

A subsidiary of YHI International Limited

Email: powersales@yhi.co.nz **Freephone: 0800 99 33 44**

Auckland
Phone 09 250 0000
Fax 09 279 2452

Tauranga
Phone 07 572 3391
Fax 07 574 9123

Christchurch
Phone 03 338 3125
Fax 03 943 3961

Hamilton
Phone 07 847 0526
Fax 07 847 8714

Wellington
Phone 04 569 6485
Fax 04 569 6486

Dunedin
Phone 03 455 0280
Fax 03 456 3732

PO BOX 97-116 MANUKAU CITY

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