

FICHAS TÉCNICAS DE LOS ELEMENTOS Y EQUIPOS

PANEL SOLAR 410 Wp



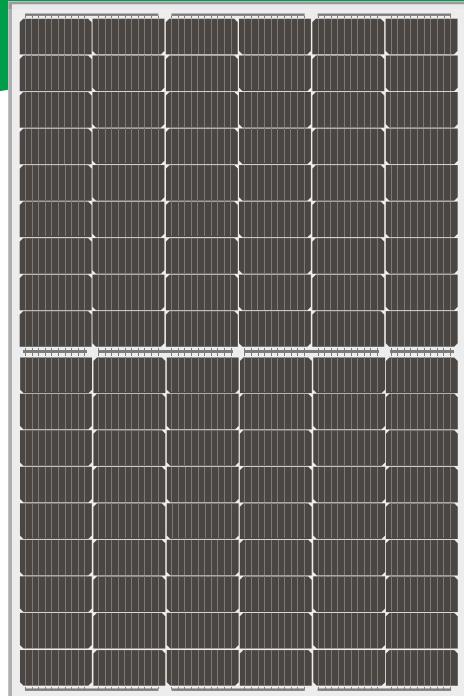
ECO GREEN ENERGY
Building a Greener World

ATLAS by Eco Green Energy

390-410W

M10 / 182 mm Cell - 108 Half-cell

Founded in 2008, Eco Green Energy is a french brand solar PV manufacturer and distributing now its PV module in more than 60 countries over the world. Atlas series solar modules are made only with grade A cells for highest power generation, lowest LCOE, and ensured more than 25 years lifespan.



KEY FEATURES



Gallium-doped Technology



Lower LCOE and BOS



Anti PID/ Low LID protection



Less Hot Spot Shading effects



Lower temperature coefficient

108-Cell

MONOCRYSTALLINE MODULE

20.97%

MAXIMUM EFFICIENCY

0~+5W

POSITIVE POWER TOLERANCE

GRADE A

CELLS GUARANTEED

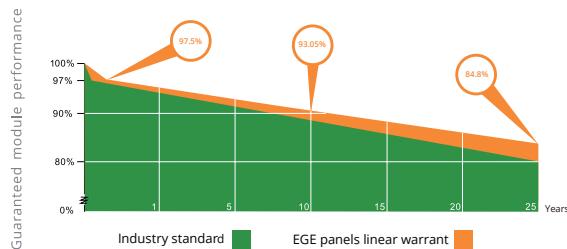


French Quality Module



LINEAR PERFORMANCE WARRANTY

12-Year Product Warranty • 25-Year Linear Power Warranty



COMPREHENSIVE CERTIFICATES

IEC 61215/ IEC 61730 / IEC 61701 / IEC 62716

ISO 9001 : Quality Management Systems



ELECTRICAL DATA AT STC*

Power output (Pmax)	390 W	395 W	400 W	405 W	410 W
Power tolerance	0~+5 W				
Module efficiency	19.95 %	20.20 %	20.46 %	20.72 %	20.97 %
Maximum power voltage (Vmp)	30.42 V	30.62 V	30.82 V	31.02 V	31.22 V
Maximum power current (Imp)	12.82 A	12.88 A	12.94 A	13.00 A	13.06 A
Open circuit voltage (Voc)	36.54 V	36.74 V	36.94 V	37.14 V	37.34 V
Short circuit current (Isc)	13.50 A	13.55 A	13.60 A	13.65 A	13.70 A

*Standard Test Conditions: Irradiance: 1 000 W / m² • Cell temperature: 25°C • AM: 1.5

ELECTRICAL DATA AT NMOT*

Power output (Pmax)	287 W	291 W	295 W	298 W	302 W
Maximum power voltage (Vmp)	28.38 V	28.58 V	28.78 V	28.98 V	29.18 V
Maximum power current (Imp)	10.11 A	10.18 A	10.25 A	10.28 A	10.35 A
Open circuit voltage (Voc)	34.09 V	34.29 V	34.49 V	34.69 V	34.89 V
Short circuit current (Isc)	10.60 A	10.65 A	10.70 A	10.75 A	10.80 A

*Nominal Operating Cell Temperature: Irradiance: 800 W / m² • Ambiant temperature: 20°C

• AM: 1.5 • Wind speed: 1 m/s

MECHANICAL CHARACTERISTICS

Cell type	Monocrystalline (182x91 mm)
Number of cells	108
Dimensions	1724x1134x35mm (1.5mm Cell Gap)
Weight	22 kg
Glass	3.2 mm tempered glass, High transmission (>94%), Anti-Reflective Coating
Frame	Anodized aluminium alloy
Junction box	IP68 rated (3 by pass diodes)
Cable	4.0mm ² ; 300mm(+) / 400mm(-); Length can be customized
Connector	MC4 or MC4 compatible
Max front load (e.g.: snow)	5400 Pa
Max back load (e.g.: wind)	2400 Pa

TEMPERATURE CHARACTERISTICS

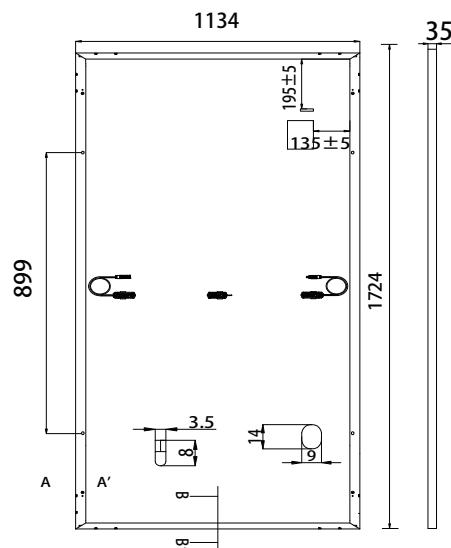
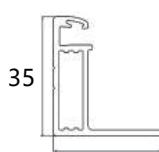
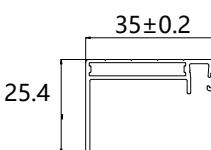
NOCT	45°C ±2 °C
Temperature coefficient of Pmax	-0.35%/°C
Temperature coefficient of Voc	-0.28%/°C
Temperature coefficient of Isc	+0.048%/°C

MAXIMUM RATINGS

Operating temperature range	-40 °C ~+85 °C
Maximum system voltage	1500 DC (IEC) 1500 DC (UL)
Max series fuse rating	25 A

PACKAGING (1724x1134x35mm)

Type	Pcs	Weight
Per Pallet	31 pcs	715 kg
40ft HQ Container	806 pcs	18.6 t

Dimension of PV Module (mm)**Frame Cross Section A-A****Frame Cross Section B-B**

BATERIA DE LITIO 120 AH 24-25.6 V

TRLiF25-120P (25.6V120Ah)

Rechargeable Li-ion Battery-Industrial Battery-LFP Series



Product Features

 Square LFePO ₄ cell—42100140A (3.2V 63Ah), higher reliability	 Longer cycle life 3650 cycles@90%DOD.
 Fully replaceable with current batteries (Lead-acid, Ni-Cd)	 Lithium iron phosphate technology, safe and reliable.
 Maintenance free 50% lighter than lead acid batteries	 Optimum adaptation to variety applications with series & parallel expansion support

Product Application



Nominal Characteristics

Nominal Voltage	25.6V
Nominal Capacity (@0.2C)	120Ah (8S2P)
Nominal Energy	3072Wh
Internal Resistance	50mΩ
Self Discharge Rate	≤3.5% per month
Cycle Life (@20-28°C,0.2C,90%DOD)	3650 Cycles
Parallel Connected Function	No more than 2 groups in parallel
Series Connected Function	No more than 2 groups in series

Charging Specificaitons

Charging Limited Voltage/Float Charge Voltage(For Standby use)	28.8V/27.6V±0.2V
Max. Charging Current	60A

Discharging Specificaitons

Discharging Cut-off Voltage	20.0V
Max. Discharging Continuous Current	60A
Max. Discharging Pulse Current	120A,<3S

CARGADOS / REGULADOR SOLAR 40A

6. JN-MPPT-AL/BL/CL buck charge MPPT solar controller

Product Features:

1. Advanced multiphase synchronous rectification technology also has high conversion efficiency in low power charging environment.
2. Aluminum metal for structure, JN-MPPT-AL/BL/CL series can be used in all kinds of harsh condition
3. The battery temperature compensation function.
4. 12/24/48V auto .
5. Data storage. It can last for 10 years.
6. The battery temperature compensation function.
7. Four sections of charging ways: MPPT charge -equalizing charge-improving char-floating charge.
8. Over-charge protection, over-discharge protection, over-temperature protection, over-load protection and reverse connection protection functions.
9. Though the RS485 communication host computer, controller support WIFI module or GPS module to expand and implement APP cloud monitoring. (optional)



Technical Parameters:

Type	System parameters																			
	JN-MPPT-AL(10-50A)					JN-MPPT-BL(30-70A)					JN-MPPT-CL(50-120A)									
Current (A)	10	20	30	40	50	30	40	50	60	70	50	60	80	100	120					
System identification voltage range(V)	12Vsystem										DC9V-DC16V									
	24Vsystem										DC18V-DC32V									
	48Vsystem										DC42V-DC60V									
	96Vsystem										96V is an independent system									
PV panel open circuit input voltage range (V)	20V ~ 100V(12V system) 40V ~ 150V (recommend below145V) (24V system) 80V ~ 150V (recommend below145V) (48V system) ----- (96V system)																			
Maximum charging current (A)	10	20	30	40	50	30	40	50	60	70	50	60	80	100	120					
PV Maximum input power(12V)(W)	150	250	400	500	600	400	500	600	750	850	600	750	1000	1200	1450					
PV Maximum input power(24V)(W)	300	500	800	1000	1200	800	1000	1200	1500	1700	1200	1500	2000	2400	2900					
PV Maximum input power(48V)(W)	600	1000	1600	2000	2400	1600	2000	2400	3000	3400	2400	3000	4000	4800	5500					
PV Maximum input power(96V)(W)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--					
Output maximum current (A)	10	15	15	20	25	15	20	25	30	35	25	30	40	50	60					
MPPT effectiveness	> 99.5%																			
Conversion efficiency	> 96%																			
System rated voltage (v)	12Vsystem			24Vsystem			48Vsystem			96Vsystem		12VSystem default								
Over voltage(overcharge)(v)	14 ~ 18V			28 ~ 36V			56 ~ 62V			112 ~ 144		Default16V								
Over voltage return (v)	13 ~ 17V			26 ~ 34V			52 ~ 62V			104 ~ 136		Default15V								
Charging limit voltage (v)	12.9 ~ 16.9V			25.7 ~ 33.7V			51.6 ~ 62V			103 ~ 105V		Default14.9V								
Balanced charging voltage(v)	12.7 ~ 16.7V			25.4 ~ 33.4V			50.8 ~ 62V			102 ~ 134V		Default14.7V								
Boost charging voltage(v)	12.4 ~ 16.4V			24.8 ~ 32.8V			49.6 ~ 62			99 ~ 131V		Default14.4V								
Boost charge return voltage(v)	11.2 ~ 15.2V			22.4 ~ 30.4V			44.8 ~ 62V			90 ~ 122V		Default13.2V								
Float charging voltage(v)	11.8 ~ 15.8V			23.6 ~ 31.6V			47.2 ~ 62V			94 ~ 126V		Default13.8V								
Discharge voltage (v)	8.8 ~ 12.8V			17.6 ~ 25.6V			35.2 ~ 51.2V			70 ~ 102		Default10.8V								
Discharge return voltage(v)	11.1 ~ 15.1V			22.2 ~ 30.2V			44.4 ~ 60.4V			89 ~ 121V		Default13.1V								
Balance charge time (H)	1/2/3hours																			
Boost charging time(H)	1/2/3hours																			
Device address	1 ~ 99																			
Electric drive voltage (v)	5 ~ 11V																			
Electric close voltage (v)	5 ~ 11V																			
Electric delay (H)	10min																			
Temperature compensation(°C)	0 ~ 4																			
Over temperature protection(°C)	70 ° C current reduction, 90 ° C off charging and DC load																			
Working temperature (°C)	-20°C ~ 50°C																			
storage temperature (°C)	-40°C ~ 80°C																			
Humidity (°C)	10%~90%, Non-condensate																			
Weight (kg)	1.5kg 2.3kg 3.6kg																			
Size (mm)	201.5*145*81(40 ~ 50A)	254.5*170*97 (50 ~ 70A)	310*205*95(50 ~ 120A)																	

Note: Specifications are subject to change without notice.



INVERSOR SOLAR 1000 W

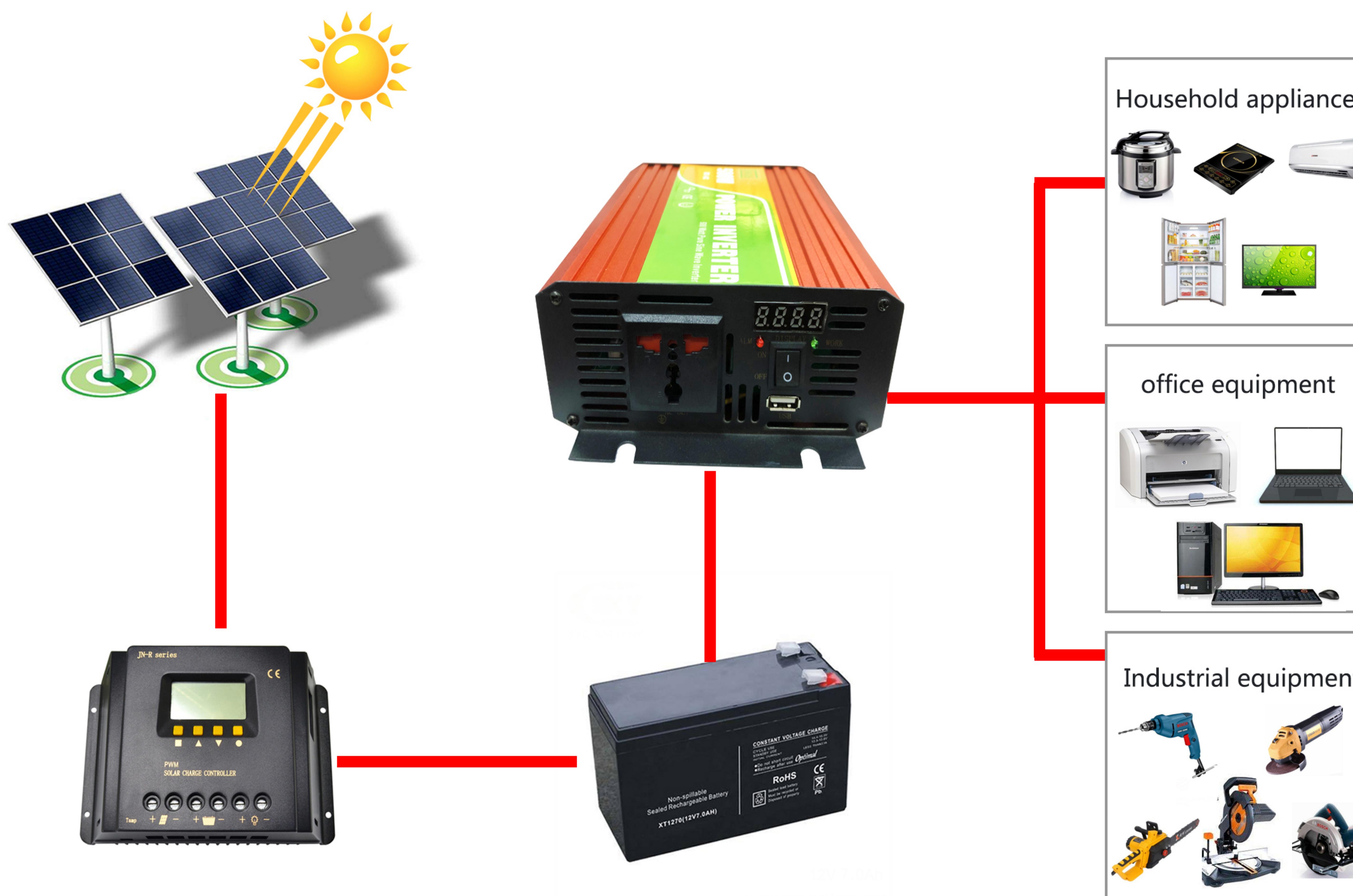
1. JN-H series pure sine wave inverter

Product Features:

1. Original dual-soft start technology.
2. CPU core SPWM pulse width control technology.
3. Original constant power output technology.
4. Diode anti-reverse technology.
5. Input and output isolation technology.
6. Safe anti-shock protection function.
7. Aluminum alloy shell, surface blasted anodized, high hardness, beautiful appearance.
8. Safe anti-shock protection function.
9. AC output pure sine wave, better for equipment use.
10. Full fault protections (including overload protection, over current protection, high temperature protection, short circuit protection, reverse connection protection, built-in fuse, etc.)
11. Battery protection function (battery overvoltage, undervoltage protection, overvoltage recovery, undervoltage recovery, etc.).



System application diagram



Technical Parameters:

System parameters									
Product number		JN-H							
Power level	300W	500W	1000W	1500W	2000W	3000W	4000W	5000W	
Rated power	300W	500W	1000W	1500W	2000W	3000W	4000W	5000W	
Output peak power	600W (<1S)	1000W (<1S)	2000W (<1S)	3000W (<1S)	4000W (<1S)	6000W (<1S)	8000W (<1S)	10000W (<1S)	
Battery voltage	12/24/48VDC					24/48/96VDC			
Machine (L*W*H mm)	166*125 *55	235*146 *66	305*146 *66	330*180 *90	390*180 *90	390*216 *155	485*218 *155	485*218 *155	
Package (L*W*H mm)	510*260 *380 (10PCS)	590*310 *380 (10PCS)	490*200 *380 (4PCS)	405*230 *165 (1PC)	485*445 *370 (4PCS)	460*315 *255 (1PC)	560*300 *250 (1PC)	560*300 *250 (1PC)	
Net weight kg	0.9	1.55	2.45	3.5	4.35	8.85	11.8	12	
Gross weight kg	1.2	2.05	3	4.2	5.5	10.35	12.5	13	
Output	Inverter output voltage		100/110/120/220/230/240VAC						
	Inverter output frequency		50HZ±0.5HZ or 60HZ±0.5HZ						
	Output waveform		pure sine wave						
	Output waveform distortion		THD<3% (linear load)						
	Output maximum efficiency		up to 95%						
	Output voltage error value		low&high 10%						
	USB output voltage		5V						
	LED display		shows working status, and error status						
	Current type		Optional according to customer requirements						
	Start mode		soft start						
	Cooling method		Intelligent fan control						
Protection function	Undervoltage/overvoltage		LED red light, automatic recovery Buzzer alarm						
	Overload		Overload 120%, LED red light, lock up Buzzer alarm						
	Over temperature		LED red light, automatic recovery Buzzer alarm						
	Short-circuit		LED red light, automatic recovery Buzzer alarm						
	Input		reverse diode						
Working environment									
Temperature		-20°---+70°							
Storage environment									
Temperature		-30°---+75°							

Note: Specifications are subject to change without notice.

MEDIDOR PREPAGO



Make It Easy



JOY111M2

Single Phase DIN-Rail Prepaid Electricity Meter



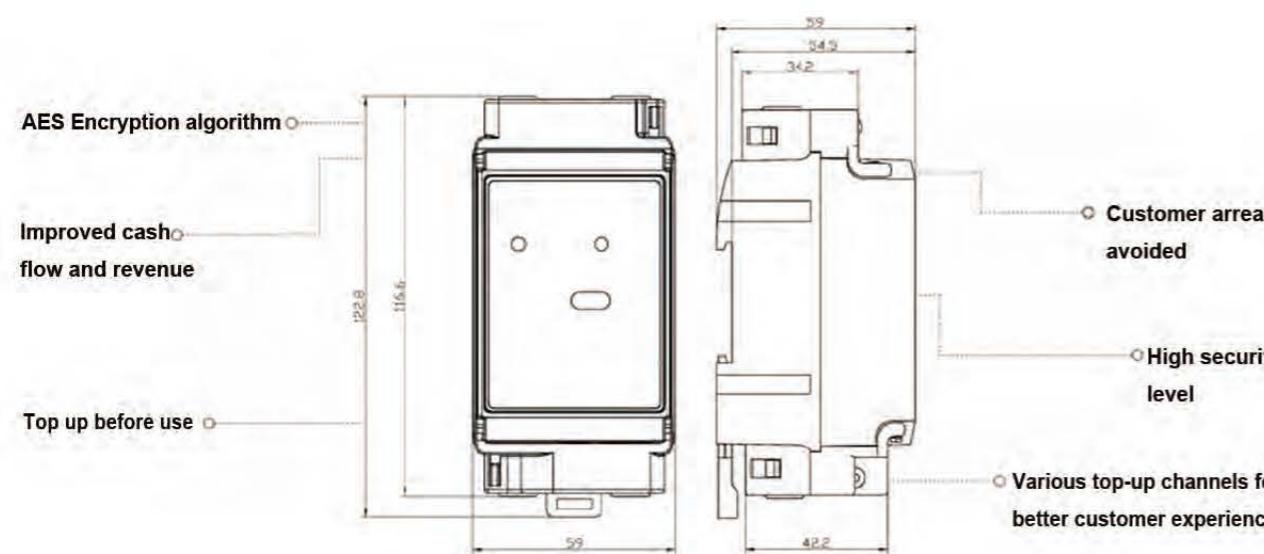
DESCRIPTION

JOY111M2, a DIN-Rail prepaid meter, consists of two parts, MCU (Metering Control Unit) and CIU (Customer Interface Unit), which communicate via a non-polarized twin-core cable.

The MCU can be installed outside house in a meter box and communicates with the CIU via non-polarized 2-wire communication, while the CIU is installed in customer's house. It provides more safety and easier daily operation.

FEATURES

- ▶ Improved sealing against ingress of insects
- ▶ Significant Reverse Energy (SRE) detection
- ▶ Magnetic interference detection
- ▶ Over load protection
- ▶ Easy switch between prepayment and post-payment option
- ▶ Automatic diagnosis of various faults includes contactor fault, memory fault, etc.
- ▶ Optional configuration: JOY111+ CIU3 (2 wire communication)
- ▶ Open cover detection
- ▶ No-load protection
- ▶ STS compliant



TECHNICAL SPECIFICATION

Item	Parameter	
Nominal Voltage	120/220/230/240V	
Operating Range	70% to 130% of Un	
Frequency Range	50/60Hz	
Base Current (lb)	5A/10A	
Max Current (Imax)	80A	
Constant	1000 imp/kWh	
Accuracy	Class 1	
Starting Current	4%lb	
Max Withstand Voltage	420V (48hr)	
Insulation Classification	Double insulation	
Insulation Level	4kV rms for 1 minute	
Voltage Circuit	≤ 2W/10VA	
Current Circuit	≤ 1.0VA@lb	
Electrostatic Discharge	16kV air discharge; 10kV contact discharge	
Immunity to Fast Transient Burst	4kV	
Surge Immunity	4kV or 6kV alternative	
User Interface(On CIU)	12 keys, international layout standard with 0-9 numeric key, backspace and enter key	
External Interface	Optical port	
Disconnection Device	Internal Contactor	
Terminal Type	Moving Cage	
Maximum Cable Size	Φ8.5 mm	
LED Indicator	Pulse LED: 1000 imp/kWh Credit LED: low credit alarm with blinking Communication LED	
Communication With CIU	Non-polarized 2 wire low voltage Distance: over 200m	
Installation	MCU:DIN Rail mounted CIU: Wall mounted	
Weight	300g	
Product Life	15 Years Data retained over 20 years	
Operating Temperature	-30°C - 60°C	
Storage Temperature	-40°C - 70°C	
Relative Humidity	≤ 95%;annual mean 75%	
IP Rating	IP51	
Standard	Meter Standard	IEC 62052-11, IEC62053-21, IEC 62055-31
Compliance	Communication Standard	IEC62055-41, IEC62056-21



Make It Easy



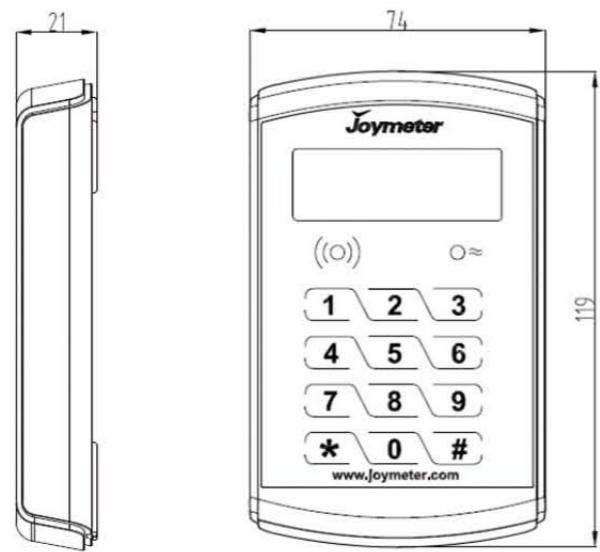
CIU3
Customer Interface Unit

DESCRIPTION

JOYU3 is a compact customer interface unit with a touch type keypad. All the operations are typed in by touching the keypad. It can be installed on the wall of house separated from the meter. With its independent operation, JOYU3 is immune to any form of tampering on the customer interface unit.

FEATURES

- ▶ Touch type keypad
- ▶ Operation with audible and text feedback
- ▶ Adjustable audio and visual low credit warning level
- ▶ Power supply from communication cable
- ▶ Long communication distance
- ▶ Compact design
- ▶ Easy installation



TECHNICAL SPECIFICATIONS

Item	Parameter
Application Range	Widely compatible with JOY111M2, JOY211M2, JOY311M2
Working Voltage	2 wire: 12VDC
Communication Type	2 wire: 2 Non-polarized wires, 0.2mm ²
Communication distance	>200m
LCD	8 digits + icons + 2 digits (index) Size: 58mm x 26mm
LCD Displays	Synchronize automatically with the connected electricity meter Adjustable audio and visual low credit warning level
Pulse LED	1000 imp/kWh
Credit LED	low credit alarm with blinking
Buzzer	Feedback on key press Token accept or reject Low credit alarm with beeps
Installation	Indoor wall-mounted Connected to electricity meter via 2 non-polarized wires
Insulation Classification	Double insulation
Operating Temperature	-30°C - 60°C
Storage Temperature	-40°C - 70°C
Relative Humidity	≤ 95%; annual mean 75%
IP Rating	IP51
Product Life	15 Years
User Interface	12 keys, international outlay standard with 0-9 numeric key, backspace and enter key Touch sensitive keys with long life span
Operation	Operation with audible and text feedback
Weight	106g
Dimension	119mm x 74mm x 21mm