APsystems Microinverter User Manual

APsystems EZ1 series Microinverters

(For EMEA)



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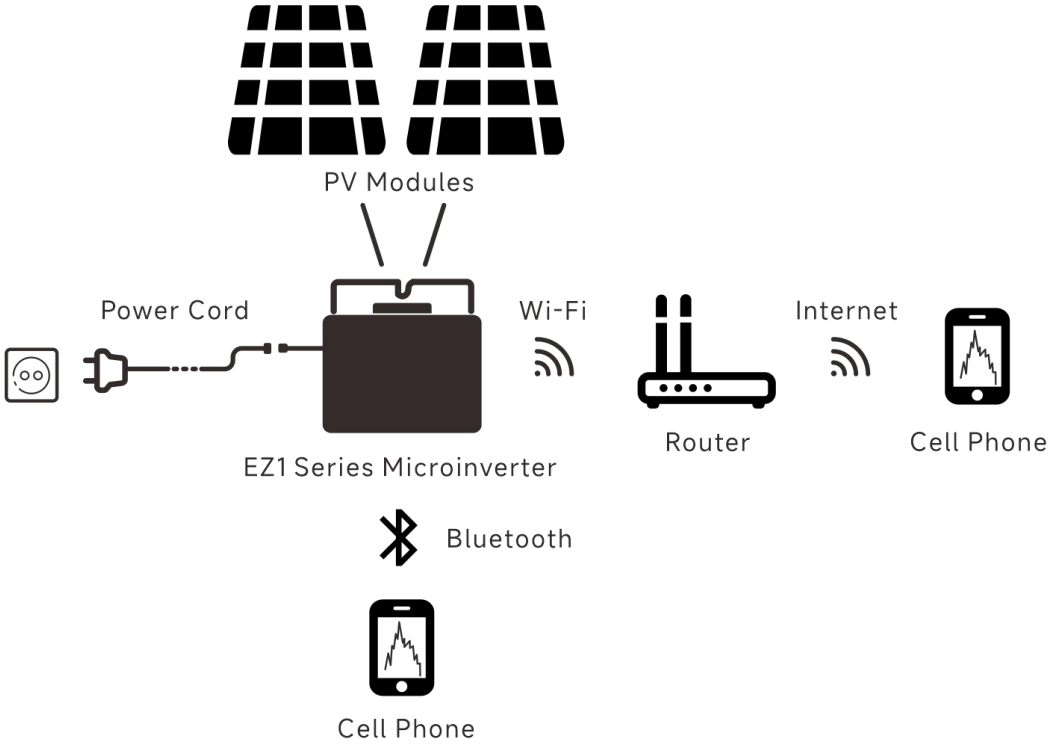
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2. APsystems Microinverter System Introduction

The EZ1 series APsystems Microinverter is used in balcony and DIY systems which comprised of the below key elements (The EZ1 series is not suitable for the rooftop system application scenario.) :

- PV modules
- Power Cord
- EZ1 series microinverter
- Router
- Cell phone



EZ1 series micorinverters have 2 input channels with independent MPPT and high input current and output power to adapt to today's larger power module. Users could directly connect to the EZ1 with their cell phones through Bluetooth and get the real-time data of the solar systems. Besides direct connection, EZ1 could also connect to a router through Wi-Fi and send data to cloud servers for remote monitoring.

Through an AC extension cable provided by APsystems, EZ1 could be plugged into a socket and start output energy, truly easy and convenient grid connection.

1. If the wireless signal in the area where the microinverter is weak, it is necessary to add a Wi-Fi signal booster at a suitable place between the router and the microinverter.
2. The EZ1 series product is only suitable for the following DIY application scenarios, such as balcony, garden, garage, and carport. The EZ1 series is not suitable for the rooftop system application scenario.
3. The EasyPower App supports monitoring up to 4 products from the EZ1 series. In Germany, the maximum power for plug-in PV systems is 800W, otherwise a professional electrician or installer is needed..
4. If the microinverter is connected to grid by plug, please comply with the local regulation about the power limit.

4. APsystems Microinverter System Installation

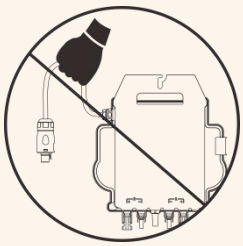
4.1 Additional Accessories Supplied by APsystems

- EZ1 power cord

4.2 Installation Procedures

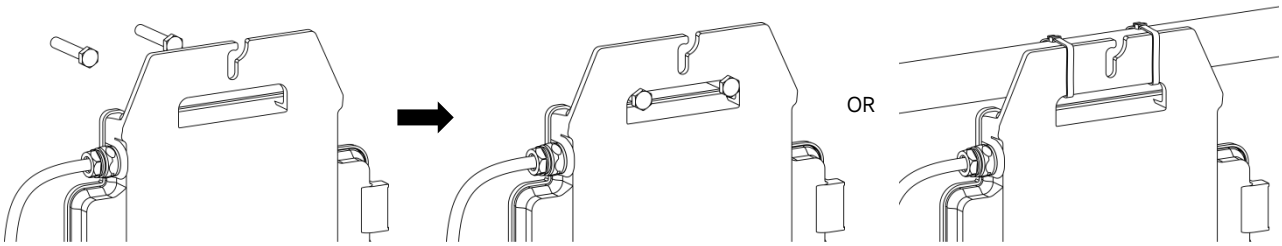
4.2.1 Step 1 - Verify that Grid Voltage Matches Microinverter Rating

Do NOT carry the microinverter by the AC cable. This may cause the AC cable to partially or fully disconnect from the unit, resulting in no or poor operation.



4.2.2 Step 2 - Install the Microinverters In Proper Position

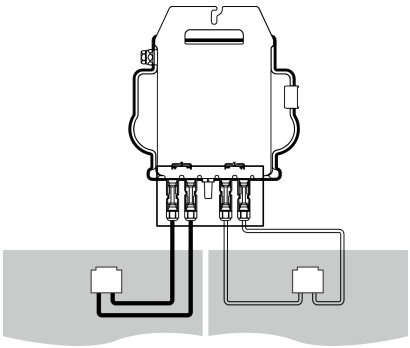
The Microinverter EZ1 can be installed on the balcony wall or fixed to the railing using cable ties. Select an appropriate installation method based on your actual scenario to ensure that the EZ1 is securely installed.

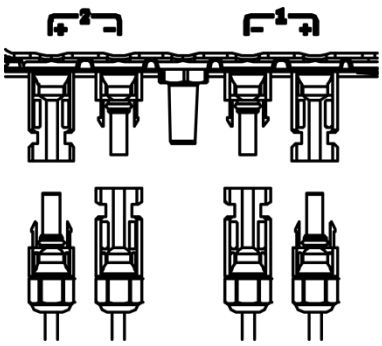


Install the microinverters in proper position to avoid direct exposure to rain, UV or other harmful weather events.

Customer using fixing bolts or cable ties, please prepare them by yourself

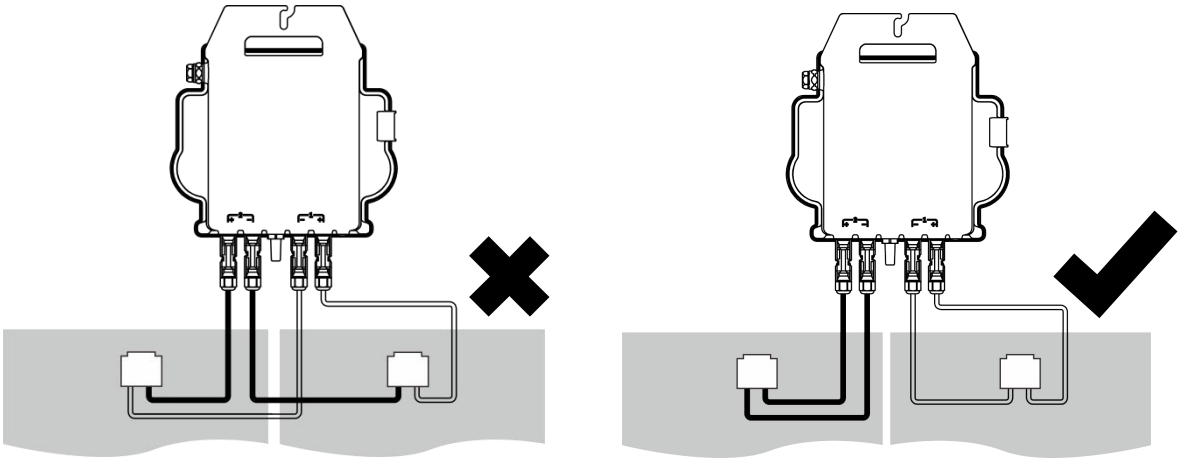
4.2.3 Step 3 - Connect APsystems Microinverters to the PV Modules





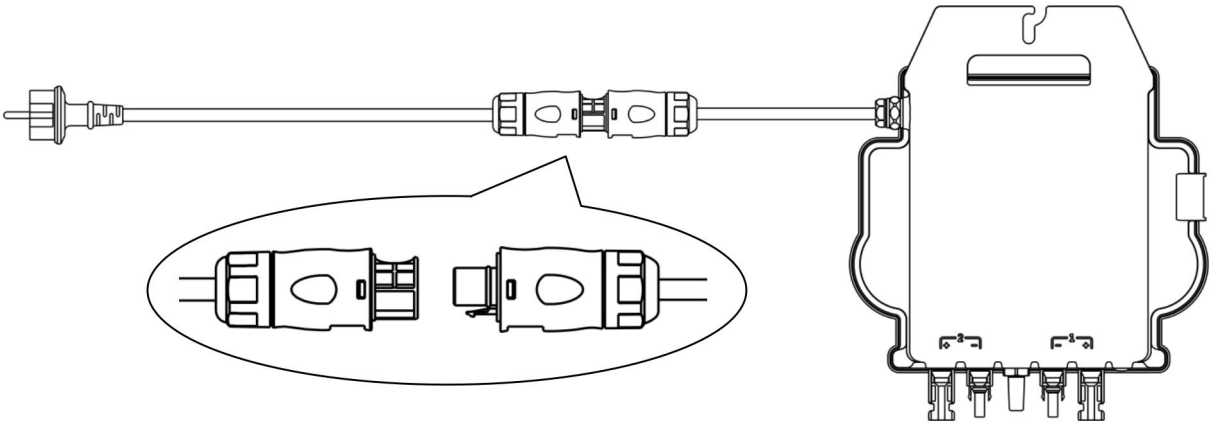
When plugging in the DC cables, the microinverter should immediately blink green ten times. This will happen as soon as the DC cables are plugged in and will show that the microinverter is functioning correctly. This entire check function will start and end within 10 seconds of plugging in the unit, so pay careful attention to these lights when connecting the DC cables.

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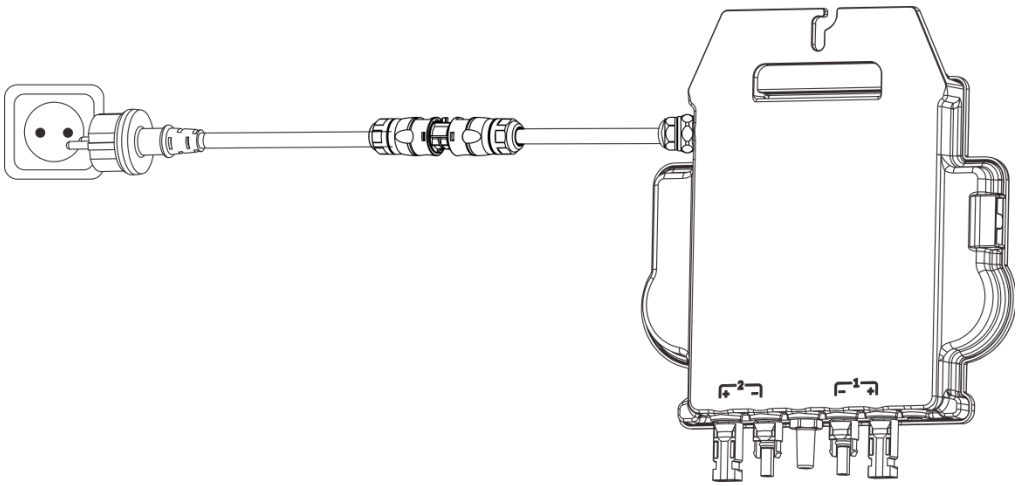


1. Each PV panel must be carefully connected to the same channel.
Make sure to not split positive and negative DC cables into two different input channels: microinverter will become damaged and warranty will not apply.
2. Please ensure each DC cable's length within 3 meters.

4.2.4 Step 4 - Connect the APsystems Microinverter to Power Cord



4.2.5 Step 5 - Insert the Power Cord Into the Socket



If the microinverter is connected to grid by plug, please comply with the local regulation about the power limit.

8.1 EZ1 Series Microinverter Datasheet

Model	EZ1-M	EZ1-H
Input Data (DC)		
Recommended PV Module Power (STC) Range	300Wp-730Wp+	410Wp-760Wp+
Peak Power Tracking Voltage	28V-45V	
Operating Voltage Range	26V-60V	
Maximum Input Voltage	60V	
Maximum Input Current	20A x 2	
Isc PV	25A x 2	
Maximum Inverter Backfeed Current To Array	0A	
Output Data (AC)		
Maximum Continuous Output Power	600VA[1] / 799VA	960VA
Nominal Output Voltage/Range	230V/184-253V	
Nominal Output Current	2.6A[1] / 3.5A	4.2A
Nominal Output Frequency/ Range	50Hz/48Hz-51Hz	
Power Factor	0.99	
Inrush Current	11.92A	
Maximum Output Fault Current	34A	
Maximum Output Overcurrent Protection	10A	
Wi-Fi Frequency Range	2412MHz - 2472MHz	
Wi-Fi Maximum Power (EIRP)	19.86dBm	
Bluetooth Frequency Range	2402MHz - 2480MHz	
Bluetooth Maximum Power (EIRP)	18.18dBm	
Efficiency		
Peak Efficiency	96.7%	
Nominal MPPT Efficiency	99.5%	
Night Power Consumption	20mW	
Mechanical Data		
Operating Ambient Temperature Range	-40 °C to +65 °C	
Storage Temperature Range	-40 °C to +85 °C	
Dimensions (W x H x D)	263mm x 218mm x 36.5mm	263mm x 218mm x 37mm
Weight	2.8kg	3kg
DC Connector Type	MC4 Compatible	
Cooling	Natural Convection - No Fans	
Enclosure Environmental Rating	IP67	
Pollution Degree Classification	PD3	
Operate Relative Humidity Range	4%~100%	
Maximum Altitude	<2000m	
Overvoltage Category	OVC II For PV Input Circuit, OVC III For Mains Circuit	

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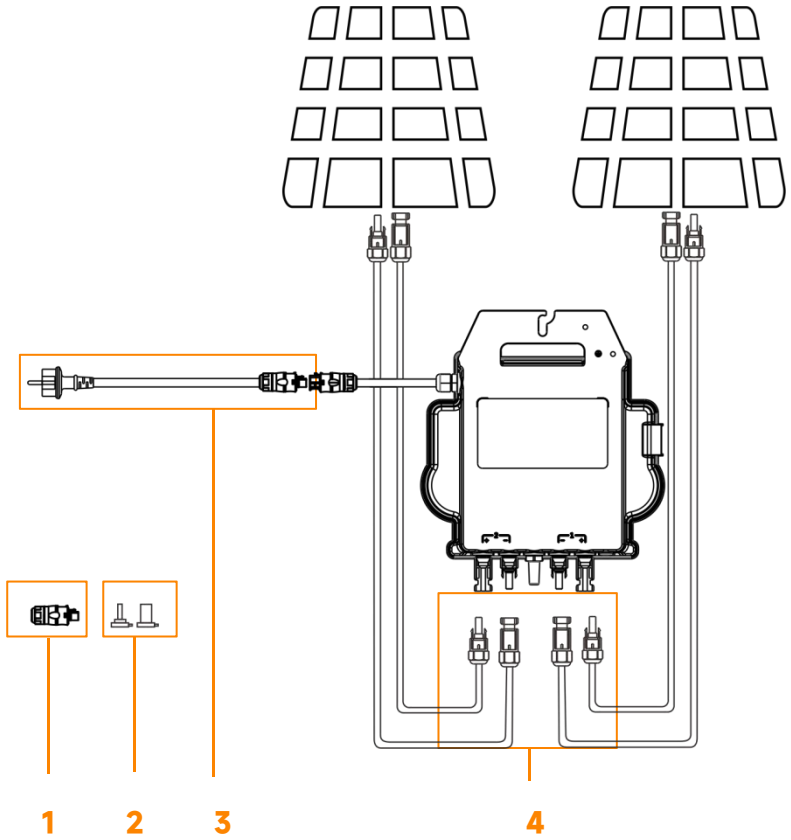
Power Cord(Optional)	
Wire Size	1.5mm²
Cable Length	5M as default
Plug Type	Schuko(2)
Features	
Communication	Built-in Wi-Fi and Bluetooth
Maximum Units Can Be Connected(3)	2
Isolation Design	High Frequency Transformers, Galvanically Isolated
Energy Management(4)	AP EasyPower APP
Warranty(5)	12 Years Standard
Compliances	
Safety, EMC & Grid Compliances	EN/IEC 62109-1; EN/IEC 62109-2; EN IEC 61000-6-1; EN IEC 61000-6-2; EN IEC 61000-6-3; EN IEC 61000-6-4; EN IEC 61000-3-2; EN 61000-3-3; EN 55011; EN 62920; EN 50549-1;EN 50549-10;NF EN 50549-1;NF EN 50549-10; PN-EN 50549-1; IRiESD; CEI 0-21; VDE-AR-N 4105; UTE C15-712-1; VFR 2019; UNE 217002; RD 647; RD 413; RD 1699; G98; G99; G98/NI; G99/NI

(1)The factory setting could be 600VA as default.
(2)If the microinverter is connected to grid by plug, please comply with the local regulation about the power limit.
(3)For some countries it is limited to 1 because of the regulations.
(4)The EasyPower App supports monitoring up to 4 units of product from the EZ1 series. In Germany, the maximum power for plug-in PV systems is 800W, otherwise a professional electrician or installer is needed.
(5)Support and warranty is not availabe for rooftop installation systems.
(6)APsystems' Microinverter Systems fully meet the rapid shutdown requirement without the need to install additional electrical equipment.

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10. EZ1 Accessory

10.2 Wiring Diagram



1	2	3	4
AC Connector (Female) (Optional)	**DC Male /Female Connector Cap** (Optional)	**Power Cord** (Optional)	**DC Extension Cable** (Optional)
AC Connector(3C,25A,Female)	DC Male /Female Connector Cap	EZ1 power cord(MC4)(1.5mm^2,5m)	2m DC Extension Cable (MC4)