Installation Guide

Three Phase Inverter with SetApp Configuration

PN: SEXXK-XXXXIXXXX

For Europe and APAC

Version 1.0

Disclaimers

Important Notice

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The content of these documents is continually reviewed and amended, where necessary. However, discrepancies cannot be excluded. No guarantee is made for the completeness of these documents.

The images contained in this document are for illustrative purposes only and may vary depending on product models.

Emission Compliance

This equipment has been tested and found to comply with the limits applied by the local regulations.

These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, you are encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Changes or modifications not expressly approved by the party responsible for compliance may void the user's authority to operate the equipment.

Revision History

Version 1.0 (Dec. 2020)

Initial release

Contents

HANDLING AND SAFETY INSTRUCTIONS

During installation, testing and inspection, adherence to all the handling and safety instructions is mandatory. **Failure to do so may result in injury or loss of life and damage to the equipment.**

Safety Symbols Information

The following safety symbols are used in this document. Familiarize yourself with the symbols and their meaning before installing or operating the system.

	WARNING!
	Denotes a hazard. It calls attention to a procedure that, if not correctly performed or adhered to, could result in **injury or loss of life**. Do not proceed beyond a warning note until the indicated conditions are fully understood and met.
	CAUTION!
	Denotes a hazard. It calls attention to a procedure that, if not correctly performed or adhered to, could result in **damage or destruction of the product**. Do not proceed beyond a caution sign until the indicated conditions are fully understood and met.
	NOTE
	Denotes additional information about the current subject.
	IMPORTANT SAFETY FEATURE
	Denotes information about safety issues.

Disposal requirements under the Waste Electrical and Electronic Equipment (WEEE) regulations:

	NOTE
	Discard this product according to local regulations or send it back to SolarEdge.

IMPORTANT SAFETY INSTRUCTIONS

SAVE THESE INSTRUCTIONS

WARNING!

The inverter cover must be opened only after switching the inverter ON/OFF/P switch located at the bottom of the inverter to OFF. This disables the DC voltage inside the inverter. Wait five minutes before opening the cover. Otherwise, there is a risk of electric shock from energy stored in the capacitors.

P = Program/Pair
1 = ON
0 = OFF

WARNING!

Before operating the inverter, ensure that the inverter AC power cable and wall outlet are grounded properly. This product must be connected to a grounded, metal, permanent wiring system, or an equipment-grounding conductor must be run with the circuit conductors and connected to the equipment grounding terminal or lead on the product.

WARNING!

Opening the inverter and repairing or testing under power must be performed only by qualified service personnel familiar with this inverter.

WARNING!

The inverter input and output circuits are isolated from the enclosure. This system does not include an isolation transformer and should be installed with an ungrounded PV array in accordance with the requirements of NEC Articles 690.35 and 690.43 National Electric Code, ANSI/NFPA 70, 2011 (and Canadian Electrical Code, Part I, for installations in Canada).

Equipment grounding is the responsibility of the installer and must be performed in accordance with all applicable Local and National Codes.

WARNING!

Do not touch the PV panels or any rail system connected when the inverter switch is ON, unless grounded.

WARNING!

SafeDC complies with IEC60947-3 when installing the system with a worst case SafeDC voltage (under fault conditions) < 120V.
The worst case voltage is defined as: Voc,max+ (String Length-1)*1V, where:

- Voc,max = Maximum Voc (at lowest temperature) of the PV modules in the string (for a string with multiple modules, use the max value)
- String Length = number of power optimizers in the string

CAUTION!

This unit must be operated according to the technical specification datasheet provided with the unit.

CAUTION!

HEAVY OBJECT. To avoid muscle strain or back injury, use proper lifting techniques, and if required - a lifting aid.

NOTE

Use PV modules rated according to IEC 61730 class A.

NOTE

The symbol ⏚ appears at grounding points on the SolarEdge equipment. This symbol is also used in this manual.

NOTE

A SolarEdge inverters can be installed in sites with an alternative power source such as a generator. SolarEdge requires installing a physical or electronic interlock, which will signal to the inverter when the grid has been disconnected. Interlock procurement, installation, maintenance and support are the responsibility of the installer. Damage to the inverter due to incorrect interlock installation or use of an interlock that is incompatible with the SolarEdge system will render the SolarEdge warranty invalid.

For more information on connecting an alternative power source to SolarEdge inverter, refer to https://www.solaredge.com/sites/default/files/se-inverter-support-of-voltage-sources.pdf.

NOTE

The following warning symbols appear on the inverter warning label:

	Risk of electric shock
	Risk of electric shock from energy stored in the capacitor. Do not remove cover until 5 minutes after disconnecting all sources of supply.
	Hot surface – To reduce the risk of burns, do not touch.

Chapter 1: Introducing the SolarEdge Power Harvesting System

The SolarEdge power harvesting solution maximizes the power output from any type of solar photovoltaic (PV) installation while reducing the average cost per watt. The following sections describe each of the system's components.

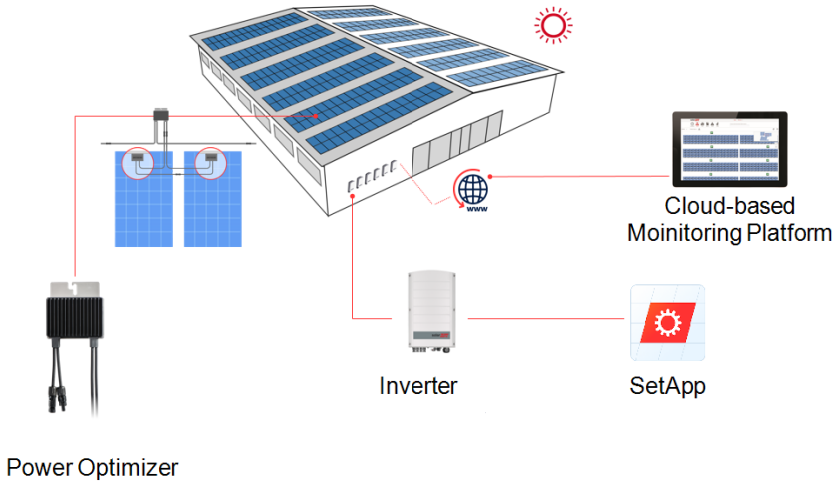


Figure 1: The SolarEdge power – harvesting system components

Power Optimizer

The power optimizers are DC-DC converters connected to PV modules in order to maximize power harvesting by performing independent Maximum Power Point Tracking (MPPT) at the module level.

Each power optimizer also transmits module performance data over the DC power line to the inverter.

Inverter

The inverter efficiently converts DC power from the modules into AC power that can be fed into the main AC service of the site and from there to the grid. The inverter also receives the monitoring data from each power optimizer and transmits it to a central server (the monitoring platform; requires Internet connection).

The DC Safety Unit has a manually operated switch for disconnecting the DC power of a SolarEdge system. The DC Safety Unit is located below the inverter and is connected to the inverter with AC and DC wires.

Designer

Designer recommends inverter and power optimizer selection per site size and enables report generation. You can create a project in Designer and export the site design with the string layout to the monitoring platform.

Monitoring Platform

The monitoring platform enables monitoring the technical and financial performance of one or more SolarEdge sites. It provides past and present information on the system performance both at the system and module levels.

SetApp

SetApp, a mobile application, that enables activating and configuring the inverter through a smartphone.

Installation Procedures

The following procedures are used for installing and setting up a new SolarEdge site. Some procedures, may also apply to modify an existing site.

1. Connecting Power Optimizers in Strings, page 18
2. Recording power optimizer serial numbers (optional), page 44
3. Mounting the inverter, page 27
4. Connecting the AC and the Strings to the Inverter, page 33, or Connecting the AC and the String to the DC Safety Unit,
5. Activating, commissioning and configuring the system, page 40
6. Connecting the inverter to the monitoring platform, page 45

Installation Equipment List

Standard tools can be used during the installation of the SolarEdge system. The following is a recommendation of the equipment needed for installation:

- Allen torque screwdriver for 5mm screw type for the inverter enclosure screws
- Allen torque screwdriver for M5/M6/M8 screw types
- Standard torque flat-head screwdrivers set

- Non-contact voltage detector
- Cordless drill (with a torque clutch) or screwdriver and bits suitable for the surface on which the inverter and optimizers will be installed. Use of an impact driver is *not* allowed.
- Mounting hardware (stainless bolts, nuts, and washers) for attaching:
  - the mounting brackets to the mounting surface
  - the power optimizer to the racking (not required for smart modules)
- Tools:
  - MC4 crimper
  - Wire cutters
  - Wire strippers
  - Voltmeter
  - Mobile phone with latest SetApp version

For installing the communication options, you may also need the following:

- For Ethernet:
  - CAT6 twisted pair Ethernet cable with RJ45 connector
  - If using a CAT6 cable spool: RJ45 plug and RJ45 crimper
- For RS485:
  - Four- or six-wire shielded twisted pair cable
  - Watchmaker precision screwdriver set

Inverter Transport and Storage

Transport the inverter in its original packaging, facing up and without exposing it to unnecessary shocks. If the original package is no longer available, use a similar box that can withstand the weight of the inverter (refer to the inverter weight in the specification datasheet provided with the unit), has a handle system and can be closed fully.

Store the inverter in a dry place where ambient temperatures are -13°F to 140°F / -25°C to +60°C.

Chapter 2: Installing the Power Optimizers

Safety

WARNING!

When modifying an existing installation, turn OFF the inverter ON/OFF/P switch, the DC Safety Unit (if applicable) and the AC circuit breaker on the main AC distribution panel.

CAUTION!

Power optimizers are IP68/NEMA6P rated. Choose a mounting location where optimizers will not be submerged in water.

CAUTION!

The power optimizer must be operated according to the technical specifications provided with the power optimizer.

CAUTION!

Cutting the power optimizer input or output cable connector is prohibited and will void the warranty.

CAUTION!

All PV modules must be connected to a power optimizer.

CAUTION!

If you intend to mount the optimizers directly to the module or module frame, first consult the module manufacturer for guidance regarding the mounting location and the impact, if any, on module warranty. Drilling holes in the module frame should be done according to the module manufacturer instructions.

CAUTION!

Installing a SolarEdge system without ensuring compatibility of the module connectors with the optimizer connectors may be unsafe and could cause functionality problems such as ground faults, resulting in inverter shut down. To ensure mechanical and electrical compatibility of the power optimizer connectors with the PV module connectors to which they are connected:

- Use identical connectors from the same manufacturer and of the same type on the poweroptimizers, modules and the inverter DC input; or
- Verify that the connectors are compatible in the following way:
  - The module connector manufacturer should explicitly verify compatibility with the SolarEdge optimizerconnectors and the Inverter DC input connectors.
  - A third-party test report by one of the listed external labs (TUV, VDE, Bureau Veritas UL, CSA, InterTek) should be obtained, verifying the compatibility of the connectors.

For more information, refer to https://www.solaredge.com/sites/default/files/optimizer-input-connector-compatibility.pdf

IMPORTANT SAFETY FEATURE

Modules with SolarEdge power optimizers are safe. They carry only a low safety voltage before the inverter is turned ON. As long as the power optimizers are not connected to the inverter or the inverter is turned OFF, each power optimizer will output a safe voltage of 1V.

Installation Guidelines

- For the minimum and maximum number of power optimizers in a string (string length), see the power optimizer datasheets. Refer to the Designer for string length verification. The Designer is available on the SolarEdge website at: https://www.solaredge.com/products/installer-tools/designer#/.
- *Do not* use extension cables between a module and a power optimizer, between two modules connected to the same power optimizer, or between two power optimizers other than in the following cases:

  Between a power optimizer and a module:

  - Power optimizers with the 4-type suffix in their part number (Pxxx-**4**xxxxxx) - extension cables of up to 16 m can be installed per power optimizer (8 m for DC+ and 8 m for DC-).
  - Power optimizers manufactured starting from working week 42, 2019, as indicated in the serial number (Example: S/N SJ5019A-xxxxxxxx - working week 50, 2019) - extension cables of up to 16 m can be installed per power optimizer (8 m for DC+ and 8 m for DC-).

  Between two power optimizers or between a power optimizer and the inverter:

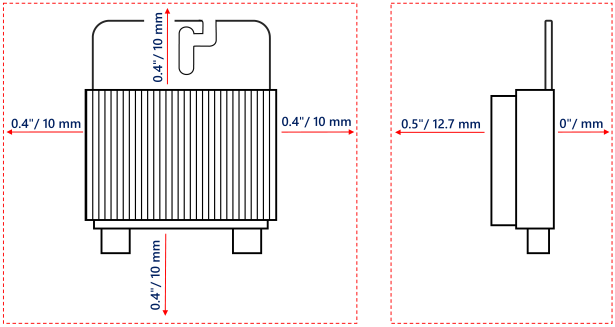
  - Extension cables can be installed between power optimizers only from row to row, around obstacles or pathways within a row and from the end of the string to the inverter. The total length of the extension cables must not exceed the following values:

Single Phase Inverters	Three Phase Inverters
All - 300 m / 1000 ft	SE17K and below - 300 m /1000 ft SE20K and above - 700 m / 2300 ft

- For connecting homerun DC cables from power optimizers to the inverter, use cables with the following cross-sections:
  - For MC4 connectors - 8-14 AWG / 2.5-10 mm^2
  - For DC terminal blocks inside the inverter or Connection Unit - 6-14 AWG / 2.5-16 mm^2

- Frame-mounted power optimizers are mounted directly on the module frame, regardless of racking system (rail-less or with rails). For installation of frame-mounted power optimizers, refer to http://www.solaredge.com/sites/default/files/installing_frame_mounted_power_optimizers.pdf.
- The power optimizer can be placed in any orientation.
- If connecting more modules than power optimizer inputs in parallel, use a branch cable. Some commercial power optimizer models have a dual input.
- Position the power optimizer close enough to its module so that their cables can be connected.
- Make sure to use power optimizers that have the required output and input conductor length.
- Completely shaded modules may cause their power optimizers to temporarily shut down. This will not affect the performance of the other power optimizers in the string, as long as the minimum number of unshaded power optimizers connected in a string of modules is met. If under typical conditions fewer than the minimum power optimizers are connected to unshaded modules, add more power optimizers to the string.
- To allow for heat dissipation, maintain clearance as specified below.

All power optimizers, except for the P860 and M1600 power optimizers



P860 and M1600 power optimizers

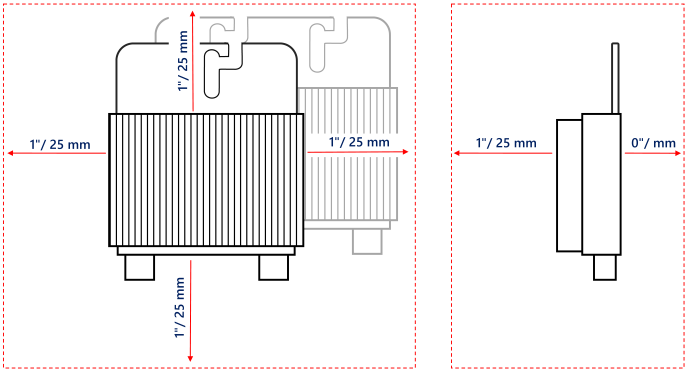


Figure 2: Power optimizer clearance

- When installing PV modules in a confined space such as Building-integrated photovoltaic (BIPV) modules, ventilation measures may be required to ensure that the power optimizers are not exceeding the maximum temperatures stated in their specifications.

Step 1: Mounting the Power Optimizers

For each of the power optimizers[1]:

1. Determine the power optimizer mounting location and use the power optimizer mounting brackets to attach the power optimizer to the support structure . It is recommended to mount the power optimizer in a location protected from direct sunlight. For frame-mounted power optimizers follow the instructions supplied with the optimizers, or refer to https://www.solaredge.com/sites/default/files/installing_frame_mounted_power_optimizers.pdf.
2. If required, mark the mounting hole locations and drill the hole.

   CAUTION!

   Drilling vibrations may damage the power optimizer and will void the warranty. Use a torque wrench or an electric drill with adjustable clutch that meets the mounting torque requirements. *Do not* use impact drivers for mounting the power optimizer.
   Do not drill through the power optimizer or through the mounting holes.
3. Attach each power optimizer to the rack using M6 (1/4'') stainless steel bolts, nuts and washers or other mounting hardware. Apply torque of 9-10 N*m / 6.5-7 lb*ft.
4. Verify that each power optimizer is securely attached to the module support structure.
5. Record power optimizer serial numbers and locations, as described in *Reporting and Monitoring Installation Data* on page 43.

Step 2: Connecting a PV module to a Power Optimizer

NOTE

Improper wiring may cause electrical faults in a PV system. To avoid electrical faults, verify proper locking of connectors and avoid cable tension and friction. Proper planning, materials and installation reduce the risk of electric arcs, short-circuits and ground faults in the PV system.

NOTE

Images are for illustration purposes only. Refer to the label on the product to identify the plus and minus input and output connectors.

[1] Not applicable to smart modules.

For each of the power optimizers:

- Connect the Plus (+) output connector of the module to the Plus (+) input connector of the power optimizer.
- Connect the Minus (-) output connector of the module to the Minus (-) input connector of the power optimizer.

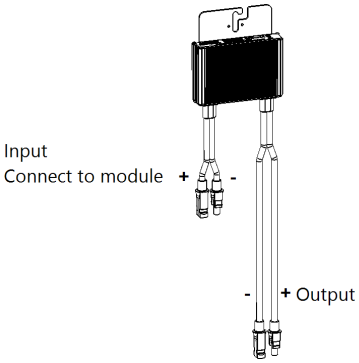


Figure 3: Power optimizer connectors

Step 3: Connecting Power Optimizers in Strings

You can construct parallel strings of unequal length, that is, the number of power optimizers in each string does not have to be the same. The minimum and maximum string lengths are specified in the power optimizer datasheets. Refer to the Designer for string length verification.

1. Connect the Minus (-) output connector of the string's first power optimizer to the Plus (+) output connector of the string's second power optimizer.
2. To minimize electromagnetic interference (EMI), make sure to minimize the distance between the positive and negative DC cables.
   For detailed instructions, see:
   https://www.solaredge.com/sites/default/files/se-emi-performanceapplication-note.pdf

WARNING!

In case of dual-input power optimizers, seal any unused input connectors with the supplied pair of seals.

3. If you intend to monitor the installation, using the monitoring platform, record the physical location of each power optimizer, as described in *Creating Logical and Physical Layout using Installation Information* on page 44.

Step 4: Verifying Proper Power Optimizer Connection

When a module is connected to a power optimizer, the power optimizer outputs a safe voltage of 1V (±0.1V). Therefore, the total string voltage should equal 1V times the number of power optimizers connected in series in the string. For example, if 10 power optimizers are connected in a string, then 10V should be produced.

Make sure the PV modules are exposed to sunlight during this process. The power optimizer will only turn ON if the PV module provides at least 2W.

In SolarEdge systems, due to the introduction of power optimizers between the PV modules and the inverter, the short circuit current I_{SC} and the open circuit voltage V_{OC} hold different meanings from those in traditional systems.

For more information about the SolarEdge system's string voltage and current, refer to the *V_{OC} and I_{SC} in SolarEdge Systems Technical Note*, available on the SolarEdge website at: https://www.solaredge.com/sites/default/files/isc_and_voc_in_solaredge_sytems_technical_note.pdf

→ To verify proper power optimizer connection:

- Measure the voltage of each string individually before connecting it to the other strings or to the inverter. Verify correct polarity by measuring the string polarity with a voltmeter. Use a voltmeter with at least 0.1V measurement accuracy.

NOTE

Since the inverter is not yet operating, you may measure the string voltage and verify correct polarity on the DC wires inside the DC Safety Unit.

For troubleshooting power optimizer operation problems, refer to *Power Optimizer Troubleshooting* on page 62.

Proper power optimizer connection can also be verified in the Designer application.

For more information, refer to https://www.solaredge.com/products/installer-tools/designer#/.

Step 5: Connecting the Strings to a Combiner Box

For connecting the strings to the DC safety Unit with glands using a single input connection use a combiner box. The combiner box should reside between the modules and the inverter.

For the procedure see *Connecting PV Strings to the DC Safety Unit with Glands* on page 37.

Chapter 3: Installing the Inverter

Install the inverter either before or after the modules and power optimizers have been installed.

CAUTION!

Do not rest the connectors at the bottom of the inverter on the ground, as it may damage them. To rest the inverter on the ground, lay it on its back.

Inverter Package Contents

- One inverter with DC Safety Unit (if applicable)
- Mounting bracket kit
- Quick installation guide
- Warranty card
- Safety instructions page
- Technical Specifications page

Identifying the Inverter

Refer to the sticker on the inverter that specifies its **Serial Number** and its **Electrical Ratings**. Provide the serial number when contacting SolarEdge support. The serial number is also required when opening a new site in the monitoring platform.

Inverter and DC Safety Unit Interfaces

Figure 4 shows an inverter with a DC Safety Unit.

NOTE

The DC Safety Unit is applicable based on the inverter model and country of installation.

Figure 4: Inverter with DC Safety Unit

Inverter Interfaces

Figure 5 shows the inverter connectors and components, located at the bottom of the inverter.

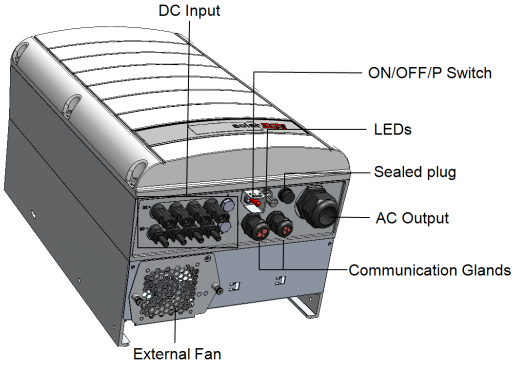


Figure 5: Inverter Interfaces

- **AC output**: AC output gland, AC cable external gauge, 19-28mm diameter for connection to the grid
- **DC input**: MC4 connector, for connection of the PV installation.
- **Two communication glands**: for connection of inverter communication options. Each gland has three openings. Refer to *Setting Up Communication with the Monitoring Platform* on page 46 for more information.

- **P/ON/OFF switch**:

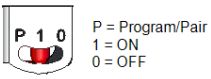


Figure 6: ON/OFF/P switch

  - **ON (1)** - Turning this switch ON (after power optimizer pairing) starts the operation of the power optimizers, enables power production and allows the inverter to begin exporting power to the utility grid.
  - **OFF (0)** - Turning this switch OFF reduces the power optimizer Voltage to a low safety Voltage and inhibits exportation of power. When this switch is OFF, the control circuitry remains powered up.
  - **P** - Moving and releasing the switch allows viewing system information via the LEDs, and performing the following functions:

P Position Duration	Function	Comments
Switch moved to P for **2 seconds**, then released.	• Displays (via LEDs) production information for 5 seconds, or error type indications (if exist) for 5 seconds. • Activates the Wi-Fi access point for connecting to the SetApp	While the switch is in P, all LEDs are ON. When the switch is released all LEDs turn OFF for 0.5 sec and then display the production or error indication.
Switch moved to P for **more than 5 seconds**, then released.	Starts pairing	Pairing is indicated by all 3 LEDs blinking simultaneously.

LEDs: three LEDs indicate, by color and state (on/ off/ blinking[1]/ flickering[2]/alternating[3]), different system information, such as errors or performance indications. For more information, refer to https://www.solaredge.com/leds.

The main LED indications are:

- Blue ON - the inverter is communicating with the monitoring platform
- Green ON - the system is producing
- Green blinking - AC is connected but the system is not producing
- Red ON - system error

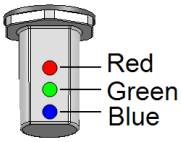


Figure 7: LEDs

The following table describes system performance information by LED color and ON/OFF/P switch position.

[1] Blinking = Turns ON and OFF for the same duration

[2] Flickering = Turns ON for 100 ms and turns OFF for 5 seconds

[3] Alternating = Alternate LED flashes

Indication	ON/ OFF/ P Switch Position	LED Color			Comment
		Red	Green	Blue	
Power optimizers not paired	ON (1)	OFF	Blinking	• S_OK: ON • No S_OK: OFF	S_OK: ON communication with the monitoring platform is established.
Pairing		Blinking	Blinking	Blinking	
Wake-up/ Grid Monitoring		OFF	Blinking	Blinking	
System Producing		OFF	ON	• S_OK: ON • No S_OK: OFF	For detailed percentage of production, refer to the following table.
Night mode (no production)		OFF	Flickering	• S_OK: ON • No S_OK: OFF	
Inverter is OFF (Safe DC)	OFF (0)	OFF	Blinking	• S_OK: ON • No S_OK: OFF	
Inverter is OFF (DC not safe)		Blinking	Blinking	• S_OK: ON • No S_OK: OFF	
Inverter configuration or reboot	ON / P	ON	ON	ON	
Inverter firmware upgrade	ON / P	Alternating	Alternating	Alternating	The upgrade process can take up to 5 minutes
Error	Any	ON	ON/ OFF/ Blinking/ Flickering	ON/ OFF / Blinking	Refer to *Errors and Troubleshooting* on page 60

The following table describes production percentage of AC information by LED color and ON/OFF/P switch position.

Indication	ON/ OFF/ P Switch Position	LED Color			Comment
		Red	Green	Blue	
Percentage of AC Production: *0 %*	ON (1)	OFF	OFF	OFF	This indicates power production as percentage of rated peak AC output power
Percentage of AC Production: *0 - 33 %*		OFF	ON	OFF	
Percentage of AC Production: *33 - 66 %*		OFF	OFF	ON	
Percentage of AC Production: *66 - 100 %*		OFF	ON	ON	

DC Safety Unit Interfaces

- **DC Safety Unit** (if applicable), including:
  - **ON/OFF switch**: connects and disconnects DC power to the inverter
  - **AC output**: Cable gland for connection of AC power to the grid
  - **DC input**: Cable glands or MC4 connectors for connection of PV strings
  - **External Protective Earth (PE) grounding** (optional): Cable gland for external grounding

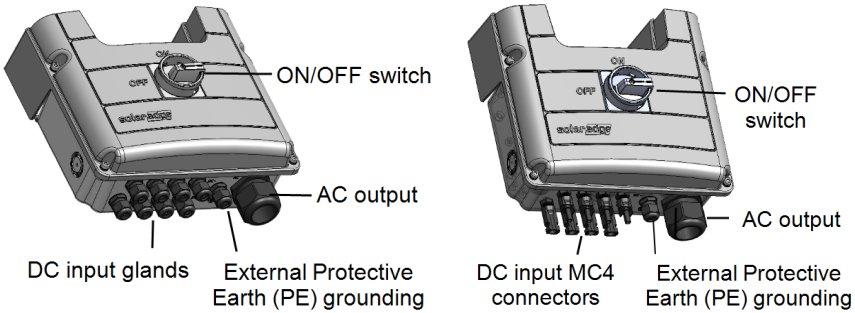


Figure 8: DC Safety Unit with cable glands (Left) and with MC4 connectors (Right)

NOTE

When the DC Safety Unit is OFF (for example during maintenance) it may be locked to prevent a safety hazard:

1. Move the switch to the lock position.
2. Insert the lock through the knob opening and lock.

Mounting the Inverter

The inverter is supplied with a mounting bracket kit:

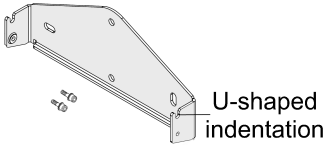


Figure 9: Mounting bracket kit

NOTE

Make sure the mounting surface or structure can support the weight of the inverter.

CAUTION!

SolarEdge inverters and power optimizers can be installed at a minimum distance of 50 m/ 164 ft from the shoreline of an ocean or other saline environment, as long as there are no direct salt water splashes on the inverter or power optimizer.

For SolarEdge inverters installed at a distance of 200 m / 655 ft or closer to the shoreline, special brackets purchased separately from SolarEdge and SS304 stainless screws are required.

1. Determine the inverter mounting location, on a wall, stud framing or pole. It is recommended to mount the inverter in a location protected from direct sunlight.
2. To allow proper heat dissipation, maintain the following minimum clearance areas between the inverter and other objects as described at: https://www.solaredge.com/sites/default/files/se-clearance-guidelines-for-multiple-inverter-mounting.pdf

   Verify that the fan, located at the bottom of the inverter, is not blocked and that air can flow freely.

Figure 10: Inverter fan - air flow

CAUTION!

Do not block the airflow from the inverter.

3. Position the mounting bracket against the wall/pole and mark the drilling hole locations (refer to *Mechanical Specifications* on page 66 for inverter and mounting bracket dimensions).
4. Drill at least two holes and mount the bracket to the mounting surface. Verify that the bracket is firmly attached to the mounting surface.
5. Hang the inverter on the bracket (See *Figure 11*):
   a. Lift the inverter from the sides, or hold it at the top and bottom.
   b. Lower the inverter onto the U-shaped indentations of the mounting bracket. Let the inverter lay flat against the wall or pole.
   c. Insert the two supplied screws through the outer heat sink fin on both sides of the inverter and into the bracket. Tighten the screws with a torque of 4.0 N*m / 2.9 lb.*ft.

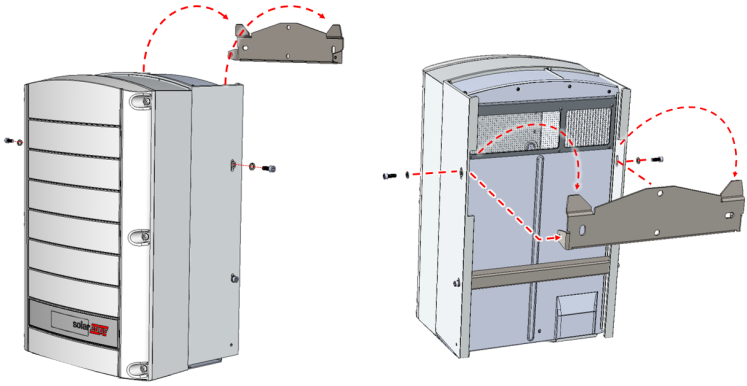


Figure 11: Hanging the inverter on the brackets

6. Verify that the inverter is firmly attached to the mounting surface.

Installing Inverter with DC Safety Unit

1. Position the mounting bracket against the wall/pole and mark the drilling hole locations (refer to *Mechanical Specifications* on page 66 for inverter and mounting bracket dimensions).
2. Drill at least two holes and mount the bracket to the mounting surface. Verify that the bracket is firmly attached to the mounting surface.
3. Hang the inverter on the bracket (See *Figure 11*):
   a. Lift the inverter from the sides, or hold it at the top and bottom. Do not lift holding the DC Safety Unit as it may be damaged.
   b. Lower the inverter onto the U-shaped indentations of the mounting bracket. Let the inverter lay flat against the wall or pole

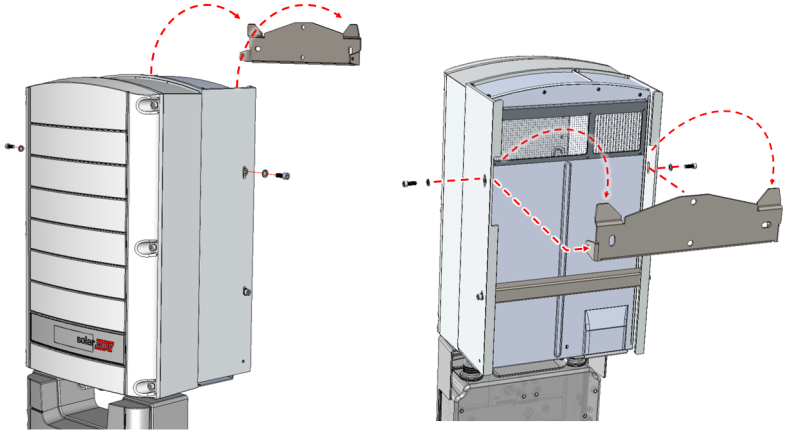


Figure 12: Hanging the inverter on the brackets

4. Mark the location of the drilling hole required for the screw that secures the bracket of the DC Safety Unit to the wall (See *Figure 13*) and remove the inverter from the wall.

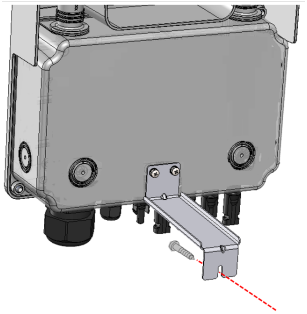


Figure 13: Securing the DC Safety Unit to the wall

5. Drill a hole for the screw anchor securing DC Safety Unit to the wall.
6. Hang the inverter on the bracket (See *Figure 11*):
   a. Lift the inverter from the sides, or hold it at the top and bottom. Do not lift holding the DC Safety Unit as it may be damaged.
   b. Lower the inverter onto the U-shaped indentations of the mounting bracket. Let the inverter lay flat against the wall or pole.
   c. Insert the two supplied screws through the outer heat sink fin on both sides of

the inverter and into the bracket. Tighten the screws with a torque of 4.0 N*m / 2.9 lb.*ft.

7. Use a screw to secure the bracket that secures DC Safety Unit to the wall.
8. Verify that the inverter is firmly attached to the mounting surface.

Grounding the Inverter

In some locations, local regulations requires grounding the chassis of the inverter. If the Inverter is installed indoors, a ground wire should be connected to a building electrical ground point. If the inverter is installed outdoors, connect the inverter chassis with a ground wire to a properly grounded point.

→ To connect the inverter to a Ground point:

1. Connect the lug of a Ground Wire to the Ground Point on either the right or left hand side of the inverter chassis.

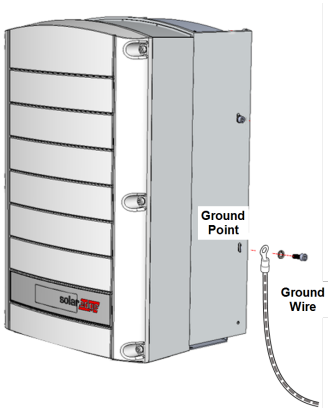


Figure 14: Grounding the Inverter

2. Connect the lug on the other side of the Ground Wire to the building electrical ground point or properly grounded point.

Chapter 4: Connecting AC and PV Strings to the Inverter

This chapter describes how to connect the inverter to the AC grid, and to the strings of modules with power optimizers.

If using an inverter with a DC Safety Unit, refer to the instructions in *Connecting the AC Grid to the Inverter or to the DC Safety Switch* on page 33.

Grid Connection Guidelines

- In most countries, three phase inverters require neutral connection at all times. In some countries, the three phase inverters can be connected to delta grids; in other cases, multiple single phase inverters can be used.
  Prior to system installation, refer to:
  - Three Phase Inverters for 3-Wire Grids application note at: https://www.solaredge.com/sites/default/files/se_three_phase_inverters_for_delta_grids.pdf
  - Grids Supported by SolarEdge Inverters application note at: https://www.solaredge.com/sites/default/files/grids_supported_by_se_inverters_europe_and_apac.pdf
  - Countries Supported by the SolarEdge Inverters application note to confirm compatibility at: https://www.solaredge.com/sites/default/files/se_inverters_supported_countries.pdf. Installing without confirmation may void the inverter warranty.
- For recommended circuit breaker size per model refer to Determining the Circuit Breaker Size application note at
  https://www.solaredge.com/sites/default/files/determining-the-circuit-breaker-size-for-three-phase-inverters.pdf

Connecting the AC Grid to the Inverter or to the DC Safety Switch

Use AC cable in a diameter of 19 mm to 28 mm. For three phase connection, use a standard cable with five wires (L1,L2,L3 + N + PE) or three wires (L1,L2,L3 + PE) cable . The cross section of the conductor of the wires must be 4 mm^2 to 16 mm^2.

When using a stranded wire, the use of ferrule is at installer discretion.

For more wiring information refer to the *SolarEdge Recommended AC Wiring Application Note*, available on the SolarEdge website at http://www.solaredge.com/files/pdfs/application-note-recommended-wiring.pdf.

Connecting the AC Grid to the Inverter

→ To *connect the AC grid to the inverter:*

1. Turn OFF the AC circuit breaker.
2. Release the six Allen screws of the inverter cover and carefully move the cover horizontally before lowering it.

CAUTION!

When removing the cover, make sure not to damage internal components. SolarEdge will not be held responsible for any components damaged as a result of incautious cover removal.

3. Expose 10 mm to 11 mm / 0.4 '' of wire insulation (*Figure 15*).

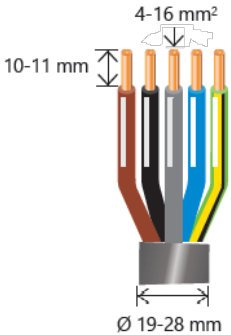


Figure 15: 5-Wire AC Cable - Insulation Stripping

4. Open the AC cable gland and insert the AC Cable through the gland.
5. Connect the wires according to the labels on the AC Terminal Blocks inside the inverter - connect the PE wire first. Tighten the screws of the terminal block with a torque of 1.2-1.5 N*m / 0.88-1.1 lb*ft.

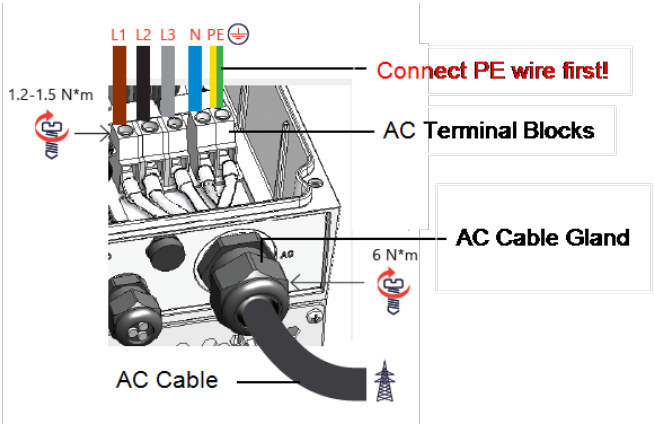


Figure 16: Connection of AC Cable to the Inverter

6. Tighten the AC Cable Gland with a torque of 6 N*m / 4.4 lb*ft.
7. Verify that all wires are firmly tightened to the terminal blocks. Check that the wires are fully inserted and cannot be pulled out easily. Ensure that unused terminal block screws are tightened.
8. Close the inverter cover and tighten the screws with a torque of 9 N*m / 6.6 lb*ft.

Connecting the AC Grid to the DC Safety Unit

→ To connect the AC grid to the DC Safety Unit:

1. Turn OFF the AC circuit breaker.
2. Release the six Allen screws and carefully remove the inverter cover by pulling out the cover and lowering it down.
3. Release the four Allen screws and remove the cover of the DC Safety Unit.

CAUTION!

When removing the cover, make sure not to damage internal components. SolarEdge will not be held responsible for any components damaged as a result of incautious cover removal.

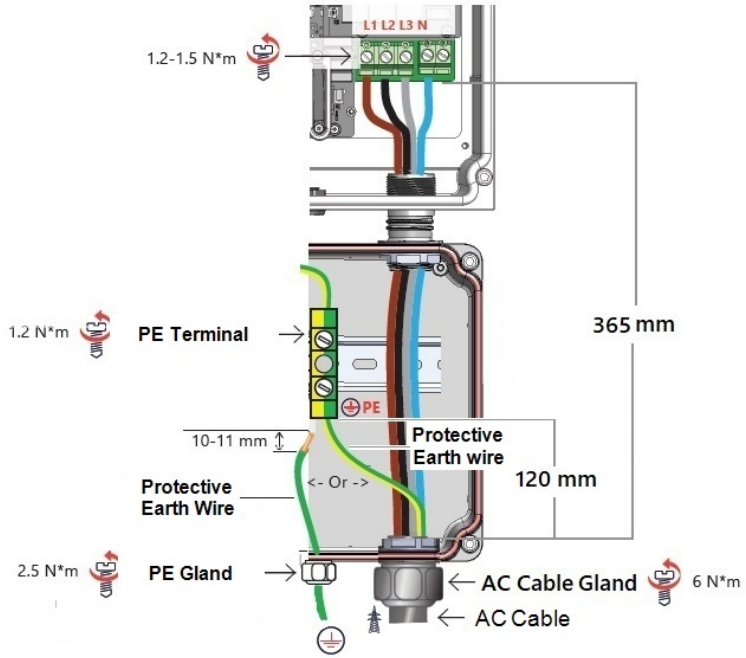


Figure 17: AC Cable and Ground Connections to Inverter with DC Safety Unit

4. Connect the Protective Earth Wire of the AC Cable to the PE Terminal. Alternatively, route a Protective Earth Wire through the PE Gland and connect the wire to the PE Terminal. Tighten the screw of the PE Terminal with a torque of 1.5 N*m / 1.1 lb*ft. Tighten the Earth Cable Gland with a torque of 2.5 N*m / 1.84 lb*ft.

WARNING!

Always connect the PE Protective Earth Wire first (See Figure 17). The Ground point of the inverter and the Terminal of the DC Safety Unit are linked by a grounding wire. Do not disconnect the wire on either side!

5. Open the AC cable gland of the DC Safety Unit and insert the cable through the gland (See *Figure 17*).
6. Strip the external cable insulation, as shown in *Figure 17*, and expose 10 mm to 11 mm / 0.4 '' of wire insulation (*Figure 15*).
7. Connect the remaining wires according to the labels on the AC Terminal Block of the inverter. Tighten the screws of the Terminal Blocks with a torque of 1.2-1.5 N*m / 0.88-1.1 lb*ft.
8. Tighten the DC Safety Unit AC cable gland with a torque of 6 N*m / 4.4 lb*ft.

9. Verify that all wires inside the DC Safety Unit and inverter are firmly tightend to the terminal blocks. Check that the wires are fully inserted and cannot be pulled out easily. Ensure that unused terminal block screws are tightened.
10. Close the inverter cover and tighten the screws with a torque of 10.3 N*m / 7.6 ft.*lb.
11. Close the DC Safety Unit cover and tighten the screws with a torque of 9 N*m / 6.6 lb*ft.

Connecting the PV Strings to the Inverter

Connect the PV string to the DC input pairs. For PV strings connection, the inverter is equipped with MC4 DC connectors. Inverters with the DC Safety Unit, may have MC4 connectors or glands for PV string connection. Additional PV strings can be added to the system by parallel connection using an external combiner box or branch cables. Installation and connection of the combiner box must be done before connecting to the inverter or DC Safety Unit.

When wiring an inverter with glands, the cross section of the conductor of the DC wires must be 4 mm^2 to 16 mm^2. When using a stranded wire, the use of ferrule is at installer discretion.

NOTE

Functional electrical earthing of DC-side negative or positive poles is prohibited because the inverter has no transformer. Grounding (earth ground) of module frames and mounting equipment of the PV array modules is acceptable.

NOTE

SolarEdge's fixed input voltage architecture enables the parallel strings to be of different lengths. Therefore, they do not need to have the same number of power optimizers, as long as the length of each string is within the permitted range.

Connecting the Strings to the Inverter or DC Safety Unit MC4 Connectors

When using inverter models above SE25K, the total length of extension cables used in a single PV string should not exceed 700m.

→ To connect the strings to the inverter or DC Safety Unit with MC4 connectors:

1. Turn OFF the AC circuit breaker.
2. Turn OFF the DC switch of the DC Safety Unit (if applicable).
3. Turn OFF the ON/OFF/P switch of the inverter.

4. Connect the MC4 cable connectors coming from each PV string to the DC+ and DC- connectors at the bottom of the inverter or DC Safety Unit.

Figure 18: Inverter/DC Safety Unit DC MC4 connectors

Connecting PV Strings to the DC Safety Unit with Glands

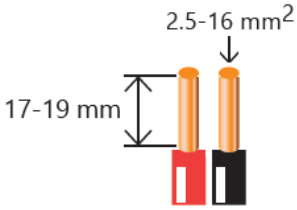
→ To connect PV strings to the DC Safety Unit:

1. Turn OFF the AC circuit breaker
2. Turn OFF the DC switch of the DC Safety Unit
3. Turn OFF the ON/OFF/P switch of the inverter
4. Loosen the four Allen screws and remove the cover of the DC Safety Unit .

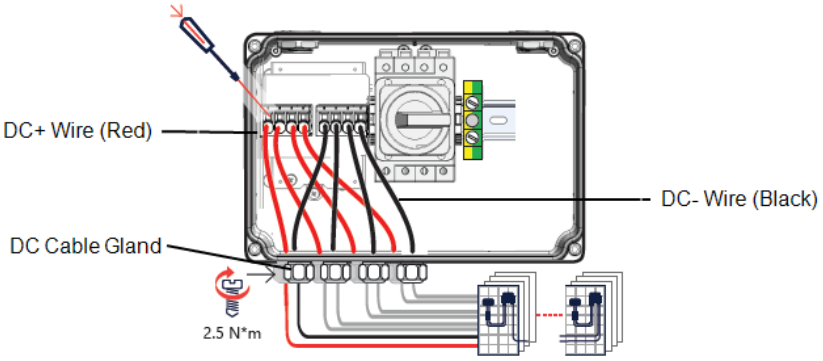
CAUTION!

When removing the cover, make sure not to damage internal components. SolarEdge will not be held responsible for any components damaged as a result of incautious cover removal.

5. Strip 17-19 mm of the DC wire insulation.



6. Insert the wires into the DC input glands of the DC Safety Unit.



7. Connect the DC wires according to the DC+ and DC- labels on the terminal blocks.

- Use a screwdriver blade that fits freely into the release mechanism opening on the terminal block. Too large a blade can crack the plastic housing.
- Insert the screwdriver into the terminal block and press the release mechanism and open the clamp.
- Insert the conductor of the wire into the round opening and remove the screwdriver – the wire is automatically clamped.

8. Verify that all wires are connected firmly.
9. Tighten the glands with a torque of 2.5 N*m.
10. Close the DC Safety Unit cover and secure it by tightening the four screws with a torque of 10.3 N*m / 7.6 ft.*lb.
11. Ensure proper cable entry sealing: inspect the entire cable run and use standard sealant to avoid water penetration.

Selecting a Residual Current Device (RCD)

In every PV installation, elements of the system contribute to current leakage to protective earth (PE).

IMPORTANT SAFETY FEATURE

All SolarEdge inverters incorporate a certified internal RCD (Residual Current Device) to protect against possible electrocution in case of a malfunction of the PV array, cables or inverter (DC). The RCD in the SolarEdge inverter can detect leakage on the DC side. There are 2 trip thresholds for the RCD as required by the DIN VDE 0126-1-1 standard. A low threshold is used to protect against rapid changes in leakage typical of direct contact by people. A higher threshold is used for slowly rising leakage currents, to limit the current in grounding conductors for fire safety. The default value for higher speed personnel protection is 30mA, and 100mA per unit for lower speed fire safety.

If an external RCD is required by local regulations, check which type of RCD is required for the relevant electric code. Install the residual-current device (RCD) in accordance with the applicable local standards and directives.

For detailed information, refer to the *RCD Selection for SolarEdge Inverters Application Note*, available on the SolarEdge website at http://www.solaredge.com/sites/default/files/application_note_ground_fault_rcd.pdf.

Chapter 5: Activating, Commissioning and Configuring the System

You can connect communication options at this stage, as described in *Setting Up Communication with the Monitoring Platform* on page 46.

After completing all connections, activate and commission the system using the inverter SetApp mobile application. You can download the SetApp from the Apple App Store and Google Play before arriving at the site.

Internet connection is required for the download, one-time registration, and logging in, but not required for using the SetApp.

Step 1: Activating the Installation

During system activation, a Wi-Fi connection is created between the mobile device and the inverter and the system firmware is upgraded.

Before activation

- Download, register (first time only) and log-in to SetApp on your mobile device. Verify that the application is updated with the latest version.
- If applicable, turn on all devices (battery, Energy Meter) connected to the inverter, so that the devices may be auto-detected.

→ To activate the inverter:

1. Turn ON the AC circuit breaker on the main distribution panel.
2. Open SetApp and follow the on-screen instructions (scan the inverter bar-code; move the ON/OFF/P switch to P position for 2 seconds and release).

   SetApp creates a Wi-Fi connection, upgrades the inverter firmware and activates the inverter.

3. When the activation is complete, do one of the following:
   - Select **Connect to Another Device** to continue activating additional inverters.
   - Select **Start Commissioning** for pairing and other system configuration.

Step 2: Commissioning and Configuring the Installation

This section describes how to use the SetApp menus for commissioning and configuring the inverter settings.

Menus may vary in your application depending on your system type.

→ To access the Commissioning screen:

Do one of the following:

- During first time installation: Upon activation completion, in the SetApp, tap **Start Commissioning**.
- If the inverter has already been activated and commissioned:
  - If not already ON - turn ON AC to the inverter by turning ON the circuit breaker on the main distribution panel.
  - Open SetApp and follow the on-screen instructions (scan the inverter QR code, move the ON/OFF/P switch to P position for 2 seconds and release).

    The mobile device creates a Wi-Fi connection with the inverter and displays the main Commissioning screen.

Setting Country, Grid and Language

The inverter must be configured to the proper settings in order to ensure that it complies with the country grid code and functions.

1. From the **Commissioning** screen select **Country & Grid**.
2. From the **Country & Grid** drop-down list, select the required option and tap **Set Country & Grid**.
3. From the **Language** drop-down list, select your language and tap **Set Language**.

Pairing

1. From the **Commissioning** menu, select **Pairing**.
2. Tap **Start Pairing**.
3. When **Pairing Complete** is displayed, the system startup process begins:

Since the inverter is ON, the power optimizers start producing power and the inverter starts converting AC.

WARNING!

When you turn ON the inverter ON/OFF/P switch, the DC cables carry a high voltage and the power optimizers no longer output a safe output.

When the inverter starts converting power after the initial connection to the AC, the inverter enters Wake up mode until its working voltage is reached. This mode is indicated by the flickering green inverter LED.

When working voltage is reached, the inverter enters Production mode and produces power. The steadily lit green inverter LED indicates this mode.

4. Tap **OK** to return to the **Commissioning** menu.

Communication

Communication settings can be configured only after communication connections are complete. Refer to *Setting Up Communication with the Monitoring Platform* on page 46.

- Select **Monitoring Communication** to configure communication with the monitoring platform.
- Select **Site Communication** to configure communication between multiple SolarEdge devices or external non-SolarEdge devices, such as batteries or loggers.

Power Control

The Grid Control option may be disabled. Enabling it opens additional options in the menu.

The Energy Manager option is used for setting power export limitation, as described in the *Export Limitation Application Note*, available on the SolarEdge website at https://www.solaredge.com/sites/default/files/feed-in_limitation_application_note.pdf.

Step 3: Verifying Proper Activation and Commissioning

1. Select **Information** and verify that the correct firmware versions are installed on each inverter.
2. Select **Status** and verify that inverter is operating and producing power.

3. Verify that additional configurations were properly set by viewing the relevant Status screens.
4. Verify that the green inverter LED is steadily lit.

Your SolarEdge power harvesting system is now operational.

Reporting and Monitoring Installation Data

Monitoring the site requires connecting the inverter to the monitoring platform, using any of the wired or wireless options available from SolarEdge. Refer to *Setting Up Communication with the Monitoring Platform* on page 46.

The Monitoring Platform

The monitoring platform provides enhanced PV performance monitoring and inverter yield assurance through immediate fault detection and alerts at the module, string and system level.

Using the platform, you can:

- View the latest performance of specific components.
- Find under-performing components, such as modules, by comparing their performance to that of other components of the same type.
- Pinpoint the location of alerted components using the physical layout.

The monitoring platform enables accessing site information, including up-to-date information viewed in a physical or logical view:

- **Logical Layout**: Shows a schematic tree-layout of the components in the system, such as: inverters, optimizers, strings, modules, meters and sensors, as well as their electrical connectivity. This view enables you to see which modules are connected in each string, which strings are connected to each inverter, and so on.
- **Physical Layout**: Provides a bird's eye view of the actual placement of modules in the site, and allows pinpoint issues to the exact location of each module on a virtual site map.

If you do not report the mapping of the installed power optimizers, the monitoring platform will show the logical layout indicating which power optimizers are connected to which inverter, but will not show strings or the physical location of power optimizers.

The monitoring platform includes a built-in help system, that guides you through the monitoring functionality.

For more information, refer to https://www.solaredge.com/products/pv-monitoring#/.

Creating Logical and Physical Layout using Installation Information

To display a logical layout, insert the inverter serial number in the new site created in the monitoring platform. When the communication between the inverter and the monitoring server is established, the logical layout is displayed.

To display a physical layout, you need to map the locations of the installed power optimizers. To map the locations, use one of the methods described in the next sections.

Designer

Designer recommends inverter and power optimizer selection per site size and enables report generation. You can create a project in Designer and export the site design with the string layout to the monitoring platform.

For more information, refer to https://www.solaredge.com/products/installer-tools/designer#/.

Mapper Application

Use the Mapper smart phone application to scan the power optimizer and inverter 2D bar-codes and create a virtual map of a PV site for enhanced monitoring and easier maintenance.

The Mapper

- Simple on-site registration of new systems.
- Creating, editing and verifying system physical layout.
- Scanning and assigning the power optimizer serial number to the correct module in the system physical layout.

For detailed information, refer to the *Mapper* demo movies:

- Creating new sites using the Mapper mobile application
- Mapping existing sites using the Mapper mobile application

Physical Layout Editor

1. If you are a registered installer, access the monitoring platform site creation page at https://monitoring.solaredge.com/solaredge-web/p/home#createSites. If you have not yet signed up, go to https://monitoring.solaredge.com/solaredge-web/p/createSelfNewInstaller.
2. Fill out all required information in the screen, which includes information about your installation, as well as details about its logical and physical mapping.

Using a Paper Template

Fill out the Physical Layout Template (downloadable from the SolarEdge website http://www.solaredge.com/files/pdfs/physical-layout-template.pdf) using the detachable 2D barcode stickers on each power optimizer. Once the form is completed, use the Mapper to scan the 2D codes and create the map in the monitoring platform. Optionally, you can send the sticker sheet to SolarEdge Support for physical layout creation.

Chapter 6: Setting Up Communication with the Monitoring Platform

The inverter sends the following information to the monitoring platform:

- Power optimizer information received via the DC power lines (the PV output circuit)
- Inverter information
- Information of any other connected devices

This chapter describes how to set up communication between:

- The inverter and the monitoring platform through the Internet (wired/ wireless)
- Multiple inverters for a leader-follower configuration

Communication setup is not required for power harvesting, however it is needed for using the monitoring platform .

Communication Options

The following types of communication can be used to transfer the monitored information from the inverter to the monitoring platform.

NOTE

This guide refers to 3rd party communication products, such as internet switches and routers, that are not supported by SolarEdge. For detailed information on how to install and use the products, refer to the respective publication provided with each product.

Ethernet

Ethernet is used for a LAN connection. For connection instructions refer to *Creating an Ethernet (LAN) Connection* on page 50

RS485

RS485 is used for the connection of multiple SolarEdge devices on the same bus in a leader-follower configuration. RS485 can also be used as an interface to external devices, such as meters and third party data loggers.

- RS485-1: Enables the connection of multiple devices (inverters/Commercial Gateway) over the same bus, such that connecting only one device to the internet is sufficient to provide communication services for all the devices on the bus.

- RS485-2: Enables connection of multiple SolarEdge devices and of non-SolarEdge devices over the same bus.

For connection instructions refer to *Creating an RS485 Bus Connection* on page 56.

Wi-Fi

This communication option enables using a Wi-Fi connection for connecting to the monitoring platform. It requires an external antenna, available from SolarEdge, which can be purchased separately and assembled during system installation. The Wi-Fi Antenna is provided with a user manual, which should be reviewed prior to connection. Refer to https://www.solaredge.com/sites/default/files/se-wifi-zigbee-antenna-installation-guide.pdf

Cellular

This wireless communication option (purchased separately) enables using a cellular connection to connect one or several devices (depending on the data plan used) to the monitoring platform.

The Cellular Plug-in is provided with a user manual, which should be reviewed prior to connection. Refer to https://www.solaredge.com/sites/default/files/cellular_gsm_installation_guide_for_inverters_with_setapp.pdf

Communication Connectors

Two communication glands are used for connection of the various communication options. Each gland has three openings. The table below describes the functionality of each opening. Unused openings should remain sealed.

Gland#	Opening	Functionality	Cable size (diameter)
Com 1 (PG16)	One small	External antenna cable	2-4 mm
	Two large	Ethernet connection (CAT6), Cellular, or Wi-Fi	4.5-7 mm
Com 2 (PG13.5)	All three	RS485, power reduction	2.5-5 mm

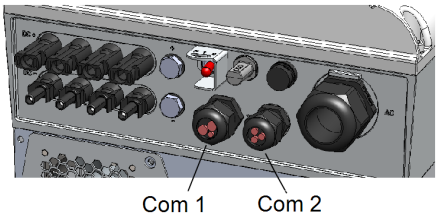


Figure 19: Communication Glands

The communication board has a standard RJ45 terminal block for Ethernet connection, and a 6-pin terminal block for RS485 connection, as shown below:

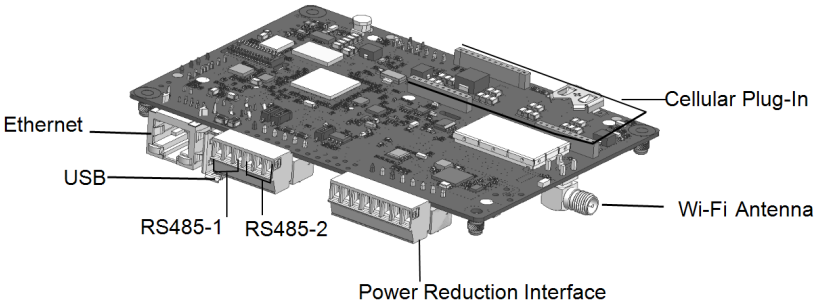


Figure 20: Internal communication connectors

Removing the Inverter Cover

→ To remove the inverter cover

1. Switch off the AC circuit breaker on the main distribution panel.
2. Switch off the inverter ON/OFF/P switch and wait 5 minutes for the internal capacitors to discharge.
3. Turn the DC Safety Unit (if applicable) to OFF.
4. Open the Allen screws of the inverter cover and carefully pull the cover horizontally before lowering it.
5. Open the inverter cover (see *Figure 21*).

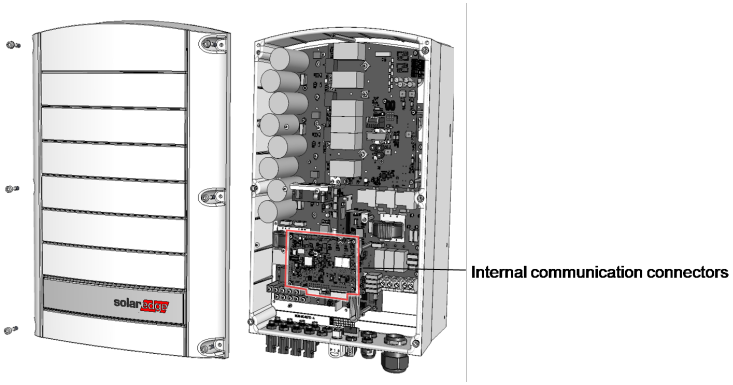


Figure 21: Accessing the Internal communication connectors

CAUTION!

When removing the inverter cover, make sure not to damage the internal components. SolarEdge will not be held responsible for any components damaged as a result of incautious cover removal.

Removing the DC Safety Unit Cover (if applicable)

1. Switch off the AC circuit breaker on the main distribution panel and the safety switch (if applicable).
2. Open the DC Safety Unit cover: Release the four Allen screws and remove the cover.

CAUTION!

When removing the DC Safety Unit cover, make sure not to damage the internal components. SolarEdge will not be held responsible for any components damaged as a result of incautious cover removal.

Creating an Ethernet (LAN) Connection

This communication option enables using an Ethernet connection to connect the inverter to the monitoring platform via LAN.

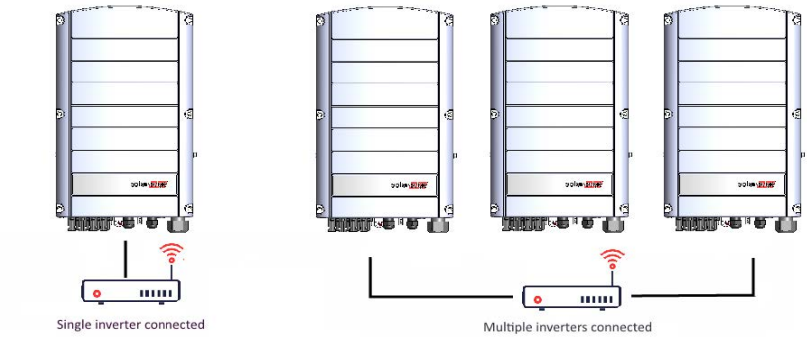
Ethernet cable specifications:

- Cable type – a shielded Ethernet cable (CAT6 may be used).
- Maximum distance between the inverter and the router – 100 m/ 330 ft.

NOTE

If using a cable longer than 10 m / 33 ft in areas where there is a risk of induced voltage surges by lightning, it is recommended to use external surge protection devices.

For details refer to: http://www.solaredge.com/files/pdfs/lightning_surge_protection.pdf.



Example of Ethernet connection

→ To connect the Ethernet cable:

1. Remove the inverter cover as described *Removing the Inverter Cover* on page 49
2. Open the communication gland #1.

CAUTION!

The gland includes a rubber waterproof fitting, which should be used to ensure proper sealing.

3. Remove the plastic seal from one of the large opening.
4. Remove the rubber fitting from the gland and insert the CAT6 cable through the gland and through the gland opening in the inverter.
5. Push the cable into the cut opening of the rubber fitting.

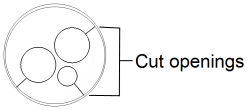


Figure 22: Rubber fitting

CAT6 standard cables have eight wires (four twisted pairs), as shown in the diagram below. Wire colors may differ from one cable to another. You can use either wiring standard, as long as both sides of the cable have the same pin-out and color-coding.

RJ45 Pin #	Wire Color[1]		10Base-T Signal 100Base-TX Signal
	T568B	T568A	
1	White/Orange	White/Green	Transmit+
2	Orange	Green	Transmit-
3	White/Green	White/Orange	Receive+
4	Blue	Blue	Reserved
5	White/Blue	White/Blue	Reserved
6	Green	Orange	Received-
7	White/Brown	White/Brown	Reserved
8	Brown	Brown	Reserved

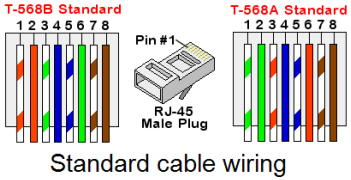


Figure 23: Standard cable wiring

[1] The inverter connection does not support RX/TX polarity change. Supporting crossover Ethernet cables depends on the switch capabilities.

6. Use a pre-crimped cable to connect via gland #1 to the RJ45 plug on the inverter's communication board or, if using a spool of cable, connect as follows:
   a. Insert the cable through gland #1.
   b. Remove the cable's external insulation using a crimping tool or cable cutter and expose eight wires.
   c. Insert the eight wires into an RJ45 connector, as described in *Figure 23*.
   d. Use a crimping tool to crimp the connector.
   e. Connect the Ethernet connector to the RJ45 port on the communication board.

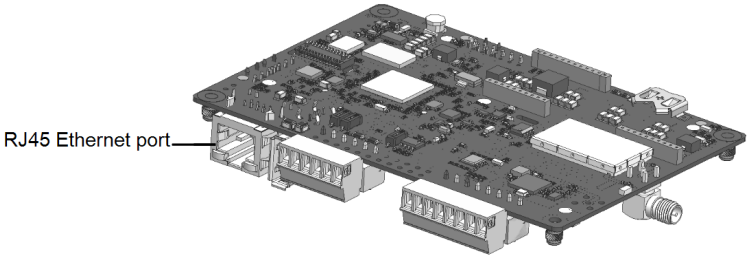


Figure 24: The RJ45 Ethernet connection

7. For the switch/router side, use a pre-crimped cable or use a crimper to prepare an RJ45 communication connector: Insert the eight wires into the RJ45 connector in the same order as above (*Figure 23*).
8. Connect the cable RJ45 connector to the RJ45 port of the Ethernet switch or router. You can connect more than one inverter to the same switch/router or to different switches/routers, as needed. Each inverter sends its monitored data independently to the monitoring platform.
9. The inverter is configured by default to LAN. If reconfiguration is required:
   a. Make sure the ON/OFF/P switch is OFF.
   b. Turn ON the DC Safety Unit, if applicable.
   c. Turn ON the AC to the inverter by turning ON the circuit breaker on the main distribution panel.
   d. Configure the connection as described in *Communication* on page 42.

NOTE

If your network has a firewall, you may need to configure it to enable the connection to the following address:

- Destination Address: prod2.solaredge.com
- TCP Port: 22222, 22221, or 80 (for incoming and outgoing data)

10. Verify the connection, as described in *Verifying the Connection* on page 57.

Creating an RS485 Bus Connection

The RS485 option enables creating a bus of connected inverters, consisting of up to 31 follower inverters and 1 leader inverter. Using this option, inverters are connected to each other in a bus (chain), via their RS485 connectors. The first and last inverters in the chain must be terminated as described on page 56.

RS485 wiring specifications:

- Cable type: Shielded Ethernet cable with a minimum of 3-wire twisted pair (CAT6 cable may be used)
- Wire cross-section area: 0.2- 1 mm² (CAT6 cable may be used)
- Maximum nodes: 32
- Maximum distance between first and last devices: 1 km /3300 ft

NOTE

If using a cable longer than 10 m/33 ft in areas where there is a risk of induced voltage surges by lightning, it is recommended to use surge protection devices. For details refer to: https://www.solaredge.com/sites/default/files/lightning_surge_protection.pdf.

If grounded metal conduits are used for routing the communication wires, a lightning protection device is not required.

The following sections describe how to physically connect the RS485 bus and how to configure the bus.

→ To connect the RS485 communication bus:

1. Remove the inverter cover as described in *Removing the Inverter Cover* on page 49
2. Remove the seal from one of the openings in communication gland #2 and insert the wire through the opening.
3. Pull out the 6-pin RS485 terminal block connector, as shown below.

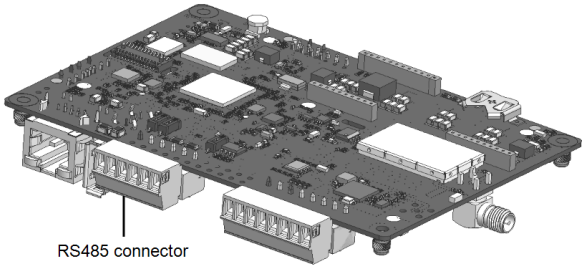


Figure 25: RS485 terminal block on the communication board

4. Loosen the screws of pins A(+), B(-), and G on the left of the RS485 terminal block (RS485-1 or RS485-2).

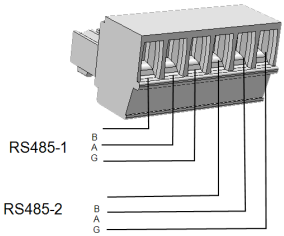


Figure 26: RS485 terminal block

5. Insert the wire ends into the **G**, **A** and **B** pins shown above. Use Four- or six-wire twisted pair cable for this connection.

   You can use any color wire for each of the **A**, **B** and **G** connections, as long as:

   - The same color wire is used for all A pins the same color for all B pins and the same color for all G pins
   - The wire for G is not from the same twisted pair as A or B.

6. For creating an RS485 bus - connect all B, A and G pins in all inverters. The following figure shows this connection schema:

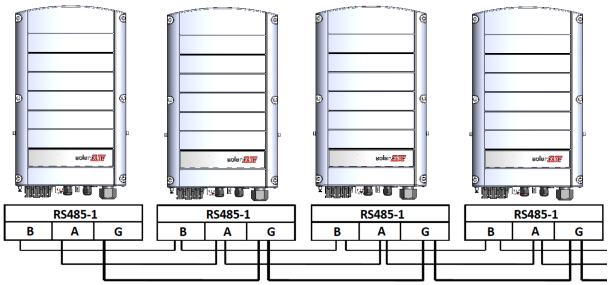


Figure 27: Connecting the inverters in chain

NOTE

Do not cross-connect B, A and G wires.

7. Tighten the terminal block screws.
8. Check that the wires are fully inserted and cannot be pulled out easily.
9. Push the RS485 terminal block firmly all the way into the connector on the right side of the communication board.
10. Terminate the first and last SolarEdge device in the chain by switching a termination DIP-switch inside the inverter to ON (move the left switch up). The DIP-switch is located on the communication board and is marked SW1.

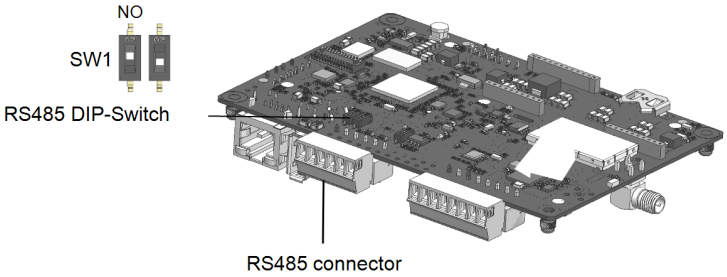


Figure 28: RS485 termination DIP-switch (SW1)

NOTE

Only the first and last SolarEdge devices in the chain should be terminated. The other inverters in the chain should have the termination switch OFF (down position).

RS485 Bus Configuration

→ To connect to the monitoring platform:

1. Designate a single inverter as the connection point between the RS485 bus and the monitoring platform. This inverter will serve as the leader inverter.
2. Connect the leader to the monitoring platform using Ethernet (refer to *Creating an Ethernet (LAN) Connection* above).

→ To configure the RS485 bus:

All inverters are configured by default as followers. To configure the leader:

1. Make sure the inverter's ON/OFF/P switch is off.
2. Make sure that the AC circuit breaker on the main distribution panel is on.
3. Turn on the DC Safety Unit.
4. Turn on the DC Safety Unit (if applicable).
5. Access SetApp, as described in *Communication* on page 42.
6. From the **Commissioning** screen, select **Site Communication** > **RS485-1** > **Protocol** > **SolarEdge** > **SolarEdge Leader**.
7. Return to the **RS485-1** screen and select **Follower Detect.**

   The system starts automatic detection of the follower inverters connected to the leader inverter. The inverter should report the correct number of followers. If it does not, verify the connections and terminations in all inverters in the chain.
8. To check the follower IDs and last communication time, select **RS485-1** > **Follower List**.
9. Verify the connection of the leader to the monitoring platform, as described below.

Verifying the Connection

After connecting and configuring a communication option, perform the following steps to check that the connection to the monitoring server has been successfully established.

1. If the DC Safety Unit cover is not closed, close it: Attach the DC Safety Unit cover and secure it by tightening the screws with a torque of 10.3 N*m/ 7.6 lb.*ft.For proper sealing, first tighten the corner screws and then the two central screws.

   Access SetApp and select **Commissioning** > **Status**.
2. In the **Summary** section, under **Server Comm.**, make sure **S_OK** is displayed together with the selected communication option.

3. Scroll down to the **Communication** section and check that the communication options are as required.

Signaling Options

Alternative Power Source

Energy-generation systems (such as PV inverters) connected to the grid may consist of different types of energy generating sources.

In some cases, when grid power is disconnected, PV inverters operate in parallel with other voltage sources, such as generators.

When inverters operate concurrently with generators, they may be subjected to voltage and frequency fluctuations that exceed

trips, which are preset according to regional grid connection requirements. To support simultaneous operation of the inverter and

a generator, the inverter extends its Voltage and frequency operating range once it receives a Power Reduction Interface (PRI) signal indicating that grid power is unavailable ("Alternative Power Source mode"). When the grid power is restored, the inverter automatically reverts to its default country setting, which includes the original Voltage and frequency operating range.

Figure 29, shows an Example of Alternative Power Source System.

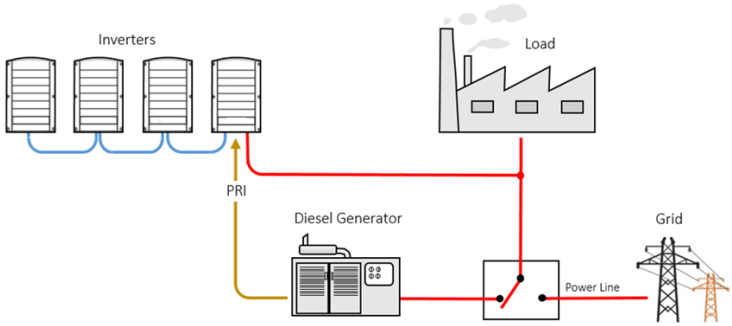


Figure 29: Example of Alternative Power Source System

The Power reduction Interface (PRI) terminal block on the communication board (See*Figure 30*) is used signaling the inverter to switch to Alternative Power Source mode.

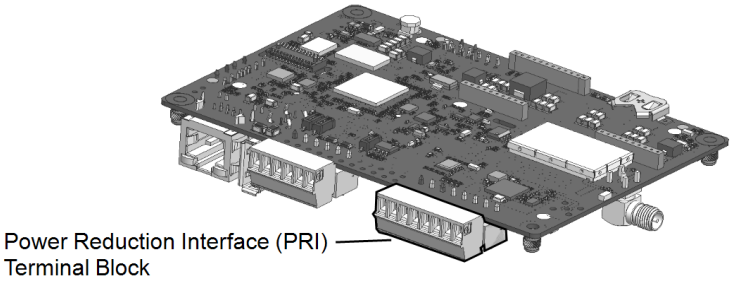


Figure 30: PRI Terminal Block Location on the Communication Board of the Inverter

For detailed connection and configuration of the inverter in alternative power source mode, refer to: https://www.solaredge.com/sites/default/files/se-inverter-support-of-voltage-sources.pdf

Appendix A: Errors and Troubleshooting

This chapter describes general system problems, and how to troubleshoot them. For further assistance, contact SolarEdge Support.

Identifying Errors

Errors may be indicated in various system interfaces: On the inverter bottom panel, a red LED indicates an error. In the monitoring platform and SetApp, errors are displayed with codes.

For more information on the codes displayed for error and warning messages, refer to http://www.solaredge.com/sites/default/files/se-inverter-installation-guide-error-codes.pdf. This document describes errors that appear in SetApp, monitoring platform, and LCD (for inverters with LCD). To identify the error types, use the methods described below.

→ To identify the error type using the inverter LEDs:

1. Move the ON/OFF/P switch to **P** position for **2 seconds** and release it.
2. Observe the LED lights and use the following table to identity the error type. For more information, refer to https://www.solaredge.com/leds.

Error type	LED color and state		
	Red	Green	Blue
Arc detected	ON	OFF	OFF
Isolation or RCD problem	Blinking	OFF	OFF
Grid error	OFF	ON	OFF
High temperature	OFF	Blinking	OFF
Pairing failed	OFF	OFF	ON
Other issue	OFF	OFF	Blinking

→ To identify the error type using the monitoring platform:

1. Open the site dashboard and click the **Layout** icon.
2. Right-click the inverter and select **Info** from the menu. The inverter details window is displayed.
3. Click the **Errors** tab. The list is displayed.

Troubleshooting Communication

Troubleshooting Ethernet (LAN) Communication

The possible errors and their troubleshooting are detailed in the following table:

Error Message	Possible Cause and Troubleshooting
LAN cable disconnected	Physical connection fault. Check the cable pin-out assignment and cable connection.
No DHCP	IP settings issue. Check the router and inverter configuration. Consult your network IT.
Configure Static IP or set to DHCP	
Gateway not responding	Ping to router failed. Check the physical connection to the switch/ router. Check that the link LED at the router /switch is lit (indicating phy-link). If OK - contact your network IT, otherwise replace the cable or change it from cross to straight connection.
No Internet connection	Ping to google.com failed. Connect a laptop and check for internet connection. If internet access is unavailable, contact your IT admin or your internet provider. For Wi-Fi networks, ensure that user-name and password are as defined in the internet provider AP/ router.

Troubleshooting RS485 Communication

- If the message **RS485 Leader Not Found** appears in the Status screen, check the connections to the leader device and fix if required.
- If after follower detection the number of followers displayed for the leader under **RS485-1** > **Follower Detect** is lower than the actual number of followers, refer to the following application note to identify missing followers and troubleshoot connectivity problems:
  https://www.solaredge.com/sites/default/files/troubleshooting_undetected_RS485_devices.pdf

Additional Troubleshooting

1. Check that the modem or hub/router is functioning properly.
2. Check that the connection to the internal connector on the communication board is properly done.
3. Check that the selected communication option is properly configured.
4. Use a method independent of the SolarEdge device to check whether the network and modem are operating properly. For example, connect a laptop to the Ethernet router and connect to the Internet.
5. Check whether a firewall or another type of network filter is blocking communication.

Power Optimizer Troubleshooting

Malfunction	Possible Cause and Corrective Action
Pairing failed	Power optimizers are shaded. If you connected the inverter to the monitoring platform, retry pairing remotely (during sunlight). Make sure to leave the inverter ON/OFF/P switch ON and that S_OK appears in the status screen.
String voltage is 0V	Power optimizer (s) output is disconnected. Connect all power optimizer outputs.
String voltage not 0V but lower than number of optimizers	Power optimizer(s) not connected in the string. Connect all power optimizers.
	Panel(s) not connected properly to power optimizer inputs (not applicable to smart modules). Connect the modules to the optimizer inputs.
	String reverse polarity. Check string polarity using a voltmeter and correct if needed.

Malfunction	Possible Cause and Corrective Action
String voltage is higher than number of optimizers WARNING! If the measured voltage is too high, the installation may not have a safe low voltage. PROCEED WITH CARE! A deviation of ±1% per string is reasonable.	Extra power optimizer(s) connected in the string (not applicable to smart modules). Check if an extra power optimizer is connected in the string. If not – proceed to next solution.
	A module is connected directly to the string, without a power optimizer (not applicable to smart modules). Verify that only power optimizers are connected in the string and that no module outputs are connected without a power optimizer. If the problem persists, proceed to the next step.
	Power optimizer(s) malfunction. 1. Disconnect the wires connecting the power optimizers in the string. 2. Measure the output voltage of each power optimizer to locate the power optimizer that does not output 1V safety voltage. If a malfunctioning power optimizeris located, check its connections, polarity, module, and voltage. 3. Contact SolarEdge Support. Do not continue before finding the problem and replacing the malfunctioning power optimizer. If a malfunction cannot be bypassed or resolved, skip the malfunctioning power optimizer, thus connecting a shorter string.

Appendix B: Adding Optional Components

RS485 Surge Protection Device (SPD) Plug-in

The RS485 SPD is used for protecting RS485 communication lines against electrical surges such as litghtning. The RS485 SPD is installed as a plug-in device directly on the RS485 connector of the communication board inside the Tree Phase inverter and does not requires to redo any RS485 wiring.

For installation and configuration of RS485 SPD, refer to:https://www.solaredge.com/sites/default/files/se-dual-channel-rs485-for-3ph-with-setapp-installation-guide.pdf

AC Surge Protection Device (SPD)

The AC SPD is a device designed to protect the inverter from Voltage spikes and surge attempts forming on the AC grid lines. The SPD limits the Voltage supplied to the inverter by either blocking or shorting to ground Voltages above a safe threshold. The SPD is installed inside the inverter and communicates with the SolarEdge Monitoring platform for reporting surge protection events and faults.

For installation and configuration of AC SPD, refer to:
https://www.solaredge.com/sites/default/files/se-ac-surge-protection-device-installation-guide.pdf

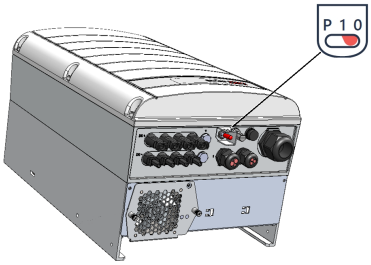
Appendix C: SafeDC™

The SolarEdge inverters are certified for compliance with the following standards as disconnection devices for PV generators, meaning that they can replace a DC disconnect:

- IEC 60947-3:1999 + Corrigendum: 1999 + A1:2001 + Corrigendum 1:2001 + A2:2005;
- DIN EN 60947-3
- VDE 0660-107:2006-03
- IEC 60364-7-712:2002-05
- DIN VDE 0100-712:2006-06.

In compliance with these standards, follow the instructions below to disconnect DC power:

1. Move the inverter P/ON/OFF switch to OFF (0) and wait 5 minutes for the capacitors to discharge.



2. Disconnect the AC to the inverter by turning OFF the circuit breakers on the distribution panel.

Appendix D: Mechanical Specifications

Dimensions of Three Phase Inverter

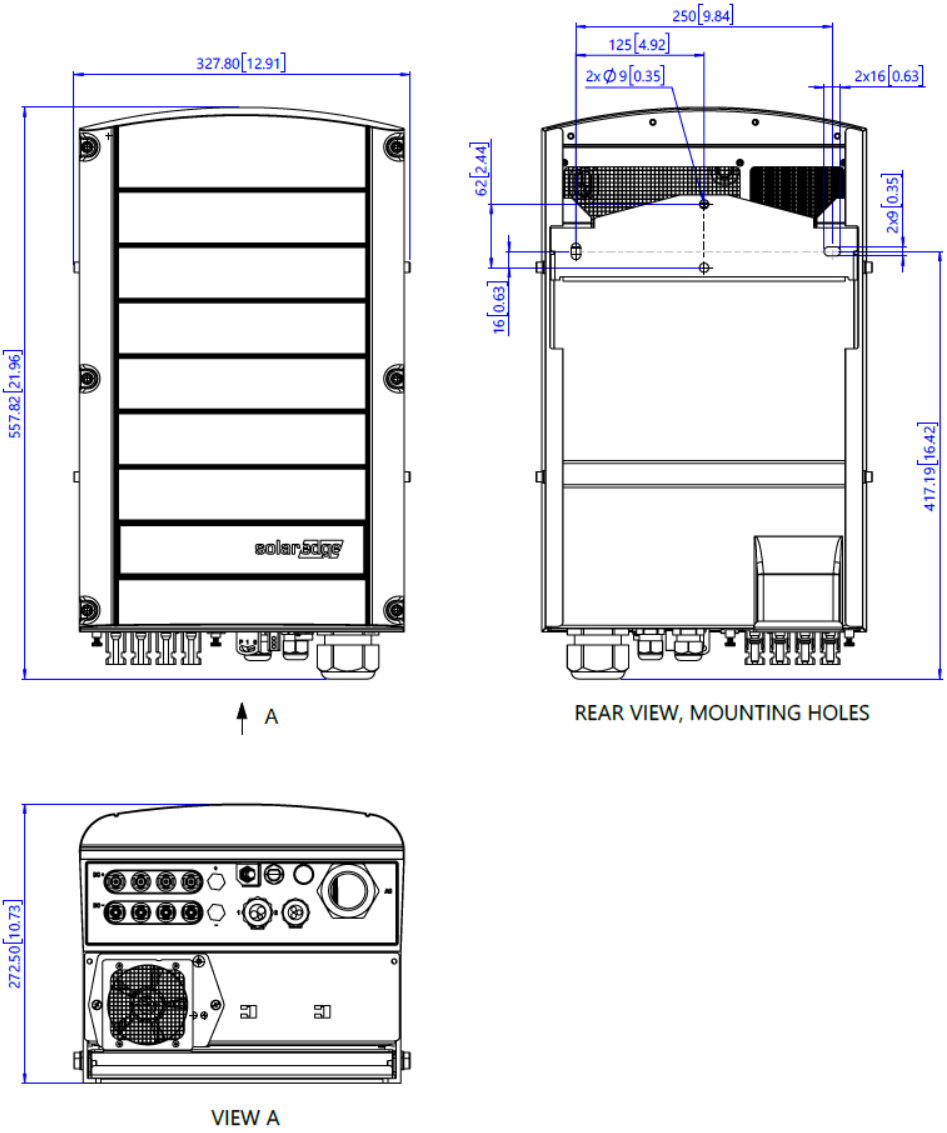


Figure 31: Dimensions of Three Phase Inverter

Dimensions of Three Phase Inverter with DC Safety Unit

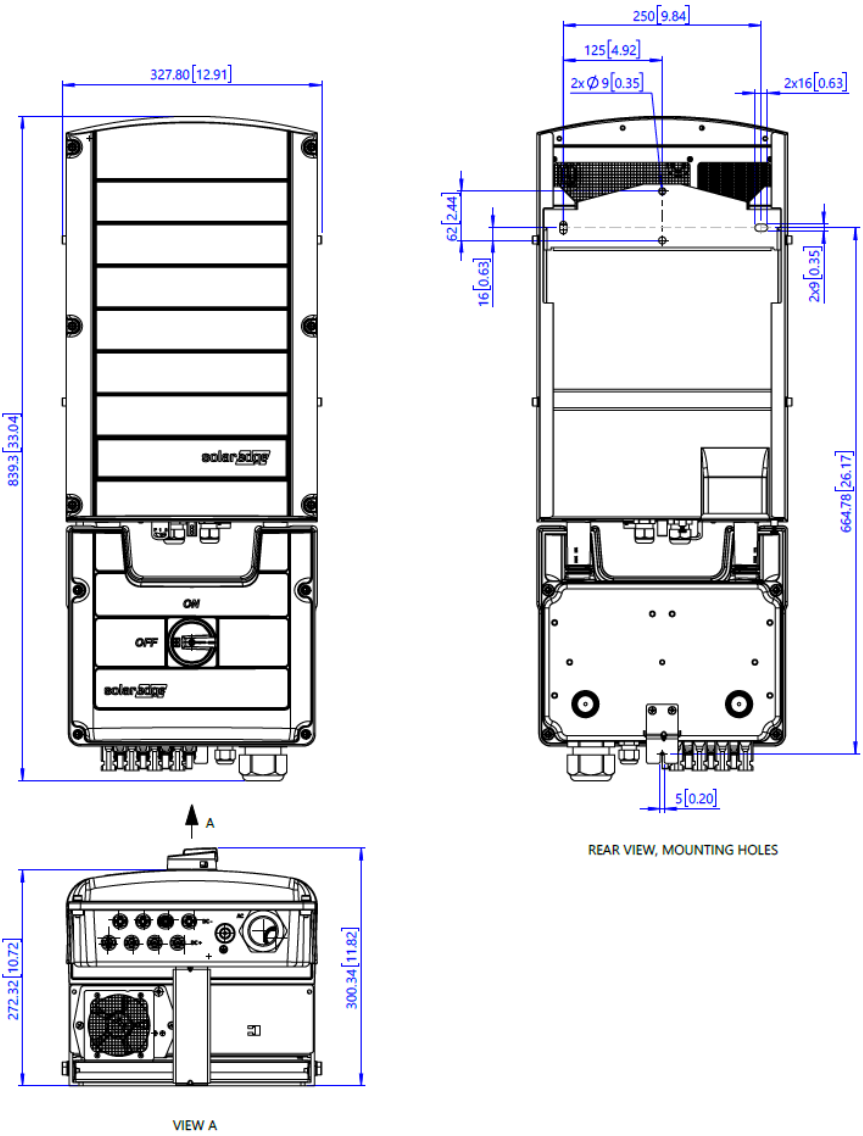


Figure 32: Dimensions of Three Phase Inverter with DC Safety Unit

Dimensions of Inverter Mounting Bracket

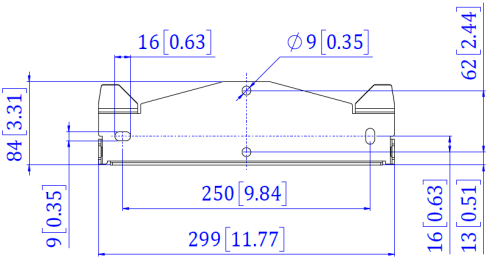


Figure 33: Dimensions of Inverter mounting bracket

Technical Specifications - Three Phase Inverters for Europe & APAC for 220/380V, and 230/400V Grids

SE25K, SE27.6K, SE30K, SE33.3K

	SE25K	SE27.6K	SE30K	SE33.3K	Unit
Applicable to inverters with part numbers	SEXXK-XXX0IXXXX				
Output					
Rated AC Active Output Power	25000(1)	27600	29990	33300	W
Maximum AC apparent Output Power	25000 (1)	27600	29990	33300	VA
AC Output Line Connections	3W + PE, 4W + PE				
AC Output Voltage - Line to Line / Line to Neutral (Nominal)	380 / 220 ; 400 / 230				Vac
AC Output Voltage - Line to line / Line to Neutral	304 - 437 / 176 - 253 ; 320 - 460 /184 - 264.5				Vac
AC Frequency	50/60 ± 5%				Hz
Maximum Continuous Output Current (per phase)	36.25	40	43.5	48.25	A
Maximum continuous overcurrent protection	36.25	40	43.5	48.25	A
Residual current detector / Residual Current step detector	100 / 30				mA
Grid Supported – three phase	WYE: TN-C, TN-S, TN-C-S, TT, IT; Delta: IT				
Inrush current AC (Peak/Duration)	3.6 / 20				Aac (rms) / ms
Maximum output fault current	54.45	58.55	66.4	47.1	A
Power Factor Range	+/- 0.8 to 1				
Maximum residual output current	100				mA
Total Harmonic Distortion	≤ 3%				
Protective class	Class I				
Utility Monitoring, Islanding Protection, Configurable Power Factor, Country Configurable Thresholds	Yes				

(1) 24.99kVA in the UK

	SE25K	SE27.6K	SE30K	SE33.3K	Unit
Applicable to inverters with part numbers	SEXXK-XXX0IXXXX				
Overvoltage category	III				
Input					
Maximum DC Power (Module STC)	37500	41400	45000	50000	W
Transformer-less	Yes				
Maximum Input Voltage DC+ to DC-	1000				Vdc
Nominal Input Voltage DC+ to DC-	750				Vdc
Maximum Input Current	36.25	40	43.5	48.25	Adc
Maximum back-feed current	0				Adc
Reverse-Polarity Protection	Yes				
Ground-fault Isolation Detection	167kΩ Sensitivity[1]				
Overvoltage Category	II				
Maximum Inverter Efficiency	98.3				%
European Weighted Efficiency	98				%
Night-time Power Consumption	< 4				W

[1] Where permitted by local regulations

	SE25K	SE27.6K	SE30K	SE33.3K	Unit
Applicable to inverters with part numbers	SEXXK-XXX0IXXXX				
Additional Features					
Supported Communication Interfaces	2 x RS485, Ethernet, Wi-Fi (requires an optional antenna), Cellular (optional)				
Inverter Commissioning	With the SetApp mobile application using built-in Wi-Fi station for local connection				
RS485 Surge Protection	Optional				
Smart Energy Management	Export Limitation				
Arc Fault Protection	Integrated, user configurable (according to UL1699B)				
Rapid Shutdown	Optional[1] (Automatic upon AC grid disconnect)				
AC, DC Surge Protection	Type II, field replaceable, Integrated/Optional (model dependent)				
Maximum Operating Altitude without De-rating	2000				m
DC Safety Unit (optional)					
2-pole Disconnection	1000V / 40A		1000V / 48.25A		
DC Fuses (model dependent)	Optional, 25A				A
Compliance	UTE-C15-712-1				
Standard Compliance					
Safety	IEC-62109, AS3100				
Grid Connection Standards[2]	VDE-AR-N-4105,AS-4777,EN50438, CEI-021, VDE 0126-1-1,CEI-016, EN50549-1,EN50549-2,VDE-AR-N-4110,TOR Erzeuger Typ A,G99, G99(NI),VFR 2019				
Emissions	IEC61000-6-2, IEC61000-6-3 Class A, IEC61000-3-11, IEC61000-3-12				
WEEE,RoHS	Yes				
Installation Specifications					

[1] Inverter with rapid shutdown part number: SExxK-xxRxxxxxx

[2] For all standards refer to the certifications category in http://www.solaredge.com/groups/support/downloads.

	SE25K	SE27.6K	SE30K	SE33.3K	Unit
Applicable to inverters with part numbers	SEXXK-XXX0IXXXX				
AC output of Inverter: Gland Cable Diameter Line wire cross section PE cross section	19 - 28 mm 4 - 16 mm^2 4 - 16 mm^2				
AC output of DC Safety Unit: Cable diameter of AC gland Cable diameter of PE gland Cross section of line wire Cross section of PE wire	19 - 28 mm (model dependent) 5 -10 mm 4 - 16 mm^2 4 - 16 mm^2				
DC Input(1)	4 MC4 pairs				
DC Input with DC Safety Unit(2)	Configuration 1: 4 MC4 pairs Configuration 2: 4 Strings: Gland cable diameter 5 - 10 mm Wire cross section 2.5 - 16mm^2				
Dimensions (HxWxD)	558 x 328 x 273				mm
Dimensions with Safety Unit (HxWxD)	839 x 328 x 300				mm
Weight	32				kg
Weight with Safety Unit	36.5				kg
Operating Temperature Range(3)	-40 - +60				°C
Operating humidity	< 95				%
Cooling	Fan (user replaceable)				
Noise	< 62				dBA
Protection Rating/ Environmental category	IP65				
Pollution degree classification (inside/ outside)	2/3				
Mounting bracket	Mounting Bracket provided				

(1) Only MC4 connectors manufactured by Stäubli are approved for use

(2) Only MC4 connectors manufactured by Stäubli are approved for use

(3) See Temperature de-rating - Technical Note at:

https://www.solaredge.com/sites/default/files/se-temperature-derating-note.pdf

Three Phase Inverter for the 277/480V Grid - SE33.3K, SE40K

	SE33.3K	SE40K	Unit
Applicable to inverters with part numbers	SEXXK-XXX8IXXXX		
Output			
Rated AC Active Output Power	33300	40000	W
Maximum Apparent AC Power Output	33300	40000	VA
AC Output Line Connections	3W + PE, 4W + PE		
AC Output Voltage - Line to Line / Line to Neutral (Nominal)	480 / 277		Vac
AC Output Voltage - Line to Neutral Range	244-305		Vac
AC Frequency	50/60 ± 5%		Hz
Maximum Continuous Output Current (per Phase)	40	48.25	A
Maximum continuous overcurrent protection	40	48.25	A
Residual current detector / Residual Current step detector	100 / 30		mA
Grid supported – three phase	WYE: TN-C, TN-S, TN-C-S, TT; IT Delta: IT		
Inrush current AC (Peak/Duration)	5.2 / 20		Aac(rms) / ms
Maximum output fault current	58.55	47.1	A
Power Factor Range	+/-0.8 to 1		
Maximum residual output current	100		mA
Total Harmonic Distortion	≤ 3%		
Protective class	Class I		
Utility Monitoring, Islanding Protection, Configurable Power Factor, Country Configurable Thresholds	Yes		
Overvoltage category	III		

	SE33.3K	SE40K	Unit
Applicable to inverters with part numbers	SEXXK-XXX8IXXXX		
Input			
Maximum DC Power (Module STC)	50000	60000	W
Transformer-less	Yes		
Maximum Input Voltage DC+ to DC-	1000		Vdc
Nominal Input Voltage DC+ to DC-	850		Vdc
Maximum Input Current	40	48.25	Adc
Reverse-Polarity Protection	Yes		
Ground-Fault Isolation Detection	167kΩ Sensitivity(1)		
Overvoltage category	II		
Maximum Inverter Efficiency	98.1		%
European Weighted Efficiency	98		%
Nighttime Power Consumption	< 4		W
Additional Features			
Supported Communication Interfaces	2 x RS485, Ethernet, Wi-Fi (requires an optional antenna), Cellular (optional)		
Inverter Commissioning	With the SetApp mobile application using built in Wi-Fi access point for local connection		
RS485 Surge Protection	Optional		
Smart Energy Management	Export Limitation		
Arc Fault Protection	Integrated, User Configurable (According to UL1699B)		
Rapid Shutdown	Optional(2) (Automatic upon AC Grid Disconnect)		
AC, DC Surge Protection (model dependent)	Type II, field replaceable, Integrated/Optional		
Maximum Operating Altitude Without De-rating	2000		m
DC Safety Unit (Optional)			
2-pole Disconnection	1000V / 40A	1000V / 48.25A	

(1) Where permitted by local regulations

(2) Inverter with rapid shutdown part number: SEXXK-xxRxxxxxxx

	SE33.3K	SE40K	Unit
Applicable to inverters with part numbers	SEXXK-XXX8IXXXX		
DC Fuses (model dependent)	25 ,Optional		A
Compliance	UTE-C15-712-1		
Standard Compliance			
Safety	IEC-62109, AS3100		
Grid Connection Standards(1)	VDE-AR-N-4105,AS-4777,EN50438, CEI-021, VDE 0126-1-1,CEI-016, EN50549-1,EN50549-2,VDE-AR-N-4110,TOR Erzeuger Typ A,G99, G99 (NI),VFR 2019		
Emissions	IEC61000-6-2, IEC61000-6-3 Class A, IEC61000-3-11, IEC61000-3-12		
WEEE,RoHS	Yes		
Iinstallation Specifications			
AC output of Inverter:			
Gland Cable Diameter	19 - 28 mm		
Line wire cross section	4 - 16 mm^2		
PE cross section	4 - 16 mm^2		
AC output of DC Safety Unit:			
Cable diameter of AC gland	19 - 28 mm (model dependent)		
Cable diameter of PE gland	5 - 10 mm		
Cross section of line wire	4 - 16 mm^2		
Cross section of PE wire	4 - 16 mm^2		
DC Input(2)	4 MC4 pairs		
DC Input with Safety Unit(2)	Configuration 1: 4 MC4 pairs Configuration 2: 4 Strings: Gland cable diameter 5 - 10 mm Wire cross section 2.5 - 16mm^2		
Dimensions (HxWxD)	558 x 328 x 273		mm

(1)For all standards refer to Certifications category in Downloads page:

http://www.solaredge.com/groups/support/downloads

(2)Only MC4 connectors manufactured by Stäubli are approved for use

	SE33.3K	SE40K	Unit
Applicable to inverters with part numbers	SEXXK-XXX8IXXXX		
Dimensions with Safety Unit (HxWxD)	839 x 328 x 300		mm
Weight	32		kg
Weight with Safety Unit	36.5		kg
Operating Temperature Range (1)	-40 to +60		˚C
Cooling	Fan (user replaceable)		
Noise	< 62		dBA
Protection rating / Environmental category	IP65		
Pollution degree classification (inside / outside)	2/3		
Mounting bracket	Mounting Bracket Provided		

Average Short Circuit Current During Fault(2)			
Inverter Model	**Ip**	**Ik''**	**Ik**
SE25K (400 L-L)	54.45	38.5	37
SE27.6K (400 L-L)	58.55	42.55	40.9
SE30.K (400 L-L)	66.4	47	44.3
SE33.3K (400 L-L)	71.1	50.95	48.7
SE33.3K (480 L-L)	58.55	42.55	40.9
SE40K (480 L-L)	71.1	50.95	48.7

(1) See Temperature de-rating - Technical Note at:
https://www.solaredge.com/sites/default/files/se-temperature-derating-note.pdf

(2) Ip: Short-circuit peak current, in amplitude
Ik'': Initial symmetrical short-circuit current , in RMS
Ik: Short-circuit steady state current, in RMS

Support Contact Information

If you have technical problems concerning SolarEdge products, please contact us:

https://www.solaredge.com/service/support

Before contact, make sure to have the following information at hand:

- Model and serial number of the product in question.
- The error indicated on the product SetApp mobile application or on the monitoring platform or by the LEDs, if there is such an indication.
- System configuration information, including the type and number of modules connected and the number and length of strings.
- The communication method to the SolarEdge server, if the site is connected.
- The product's software version as it appears in the status screen.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