

INSTRUCTIONS FOR INSTALLATION AND OPERATION

ERS series Firefighter Safety Switch

General Notice

1. Changes or modifications not explained/approved in this manual voids your authority to operate this equipment.
2. ASwich shall not be held responsible for any damage caused due to incorrect installation of the product and/or the misunderstanding of this manual.
3. ASwich reserves the right to make any modification to this manual or the information contained herein at any time without notice.
4. No design data such as sample pictures provided in this manual may be modified or duplicated except for the purpose of personal use.
5. To ensure the recycling of all possible materials and proper disposal treatment of components, please return the product to ASwich at end-of-life.
6. Check the system regularly (once per 3 months) on faults.

Important Safety Precautions

Components in the installations are exposed to high voltages and currents. Follow these instructions carefully in order to reduce the risk of fire or electric shock.

The following regulations and standards are considered applicable and mandatory to read prior to the installation of electrical equipment:

1. International Standards: IEC 60364-7-712 Electrical installations of buildings-Requirements for special installations or locations-Solar Photovoltaic (PV) power supply systems.
2. Local building regulations.
3. Guidelines for lightning and overvoltage protection.

Note!

1. It is essential to uphold the limits for voltage and current in all possible operating conditions. Also keep in mind the literature on correct dimensioning and sizing of cabling and components.
2. The installation of these devices may only be performed by certified technical personnel.
3. The wiring schematics of the Firefighter Safety Switch can be found at the end of this manual.
4. All the installation works should be tested in accordance with relevant local legislation at the time of installation.

Thank you for choosing ASwich Products.
Please read carefully before installation.



Intended Use of the Firefighter Safety Switch

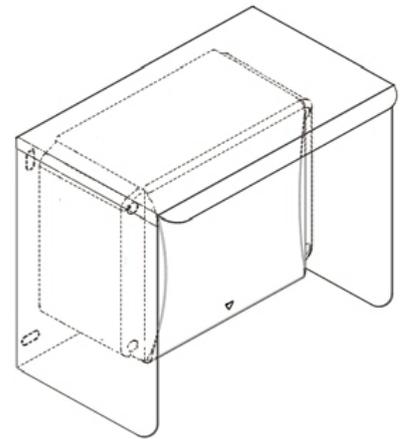
The Firefighter Safety Switch (ERS) has been especially developed as a safety device for direct current (DC) photovoltaic installations. The DC disconnect switch is used to disconnect the connected strings of the installation in case of an emergency situation. Such an emergency situation could be in case of fire.

Location of the Firefighter Safety Switch

The ERS needs to be placed as close to the solar panels as possible. Due to its enclosure, the switch is protected against external influences like dust and moisture. The whole set-up is conforms to IP65 which makes it suitable for outdoor usage when needed.

Note:

The switch enclosure may not be installed in direct sunlight or be in direct contact with (continuous) ingress water.



Normal operation:

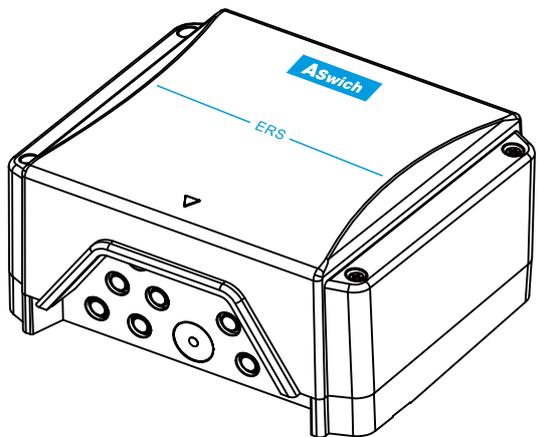
The ERS will automatically switch to the off position, breaking the DC connection between the solar panels and the inverter, after the AC power to the ERS is interrupted for longer than five seconds. The ERS will automatically switch to the on position, restoring the DC connection between the solar panels and the inverter, once the AC power to the ERS is restored longer than five seconds.

Special operation:

If the temperature inside the ERS enclosure exceeds the 100°C, the ERS will automatically switch to OFF to protect the internal components and create a safe situation. When the installation is checked and the ERS is not affected, the ERS can be switched ON again by removal and re-applying the AC voltage to the PEFS. The ERS will also automatically switch to OFF if there is an internal failure. If this occurs please try to reset the ERS by removal and re-applying the AC voltage to the ERS.

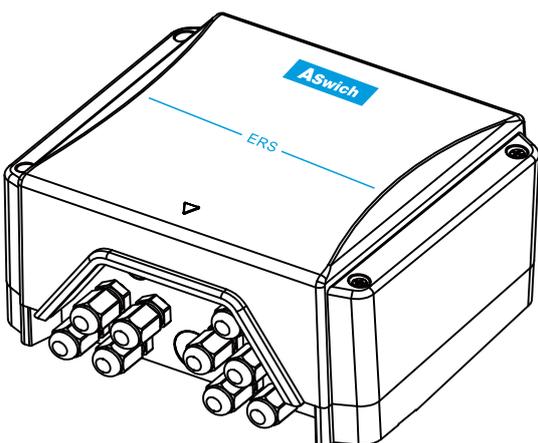
Location of the Firefighter Safety Switch

1. Kit with Knock outs, 5 x M12 (1 String) or 9 x M12 (2 Strings).

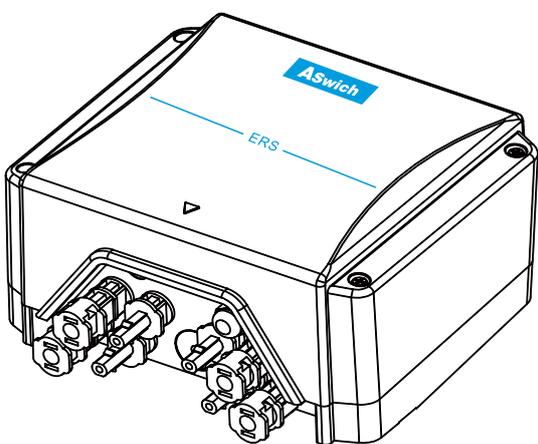


2. Kit with cable glands, 5 x M12 (1 String) or 9 x M12 (2 Strings).

Note:
The outer diameter of cable is 3mm~7.5mm



3. Kit with pre-wired 4 x BC03D connectors (1 String) or 8 x BC03D connectors (2 Strings) and 1 x M12 cable gland for AC.

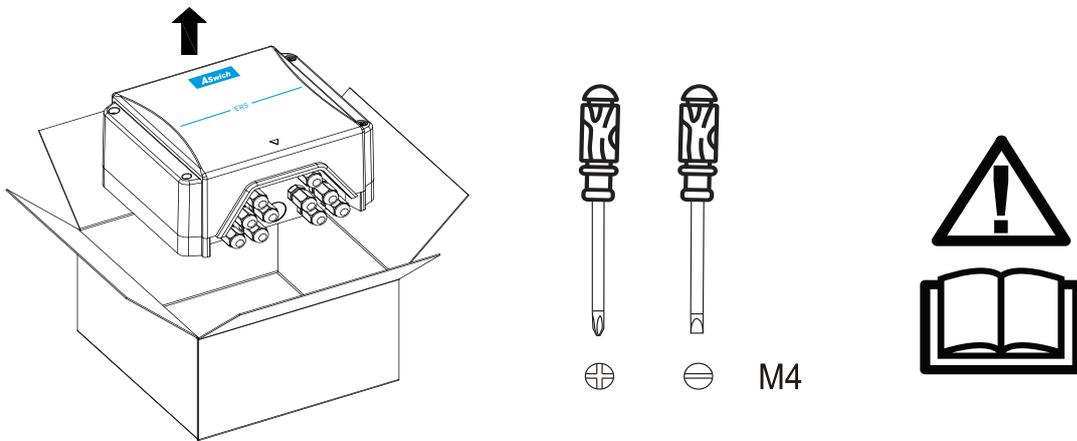


INSTALLATION

Installation Requirements

1

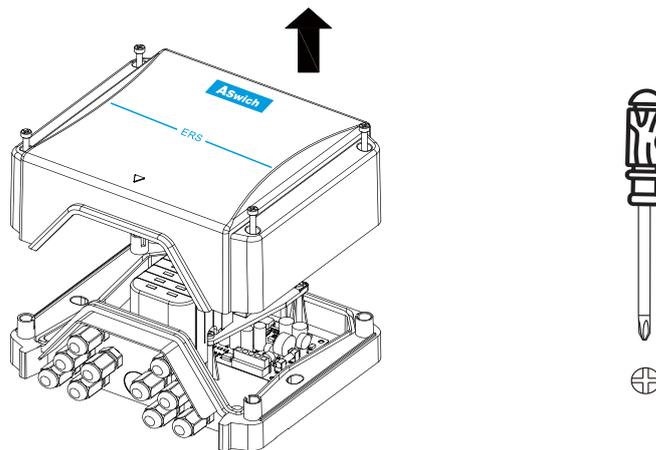
Open the box, take out ERS , read this manual, and prepare cross/straight screwdriver.



Remove the lid from the enclosure

2

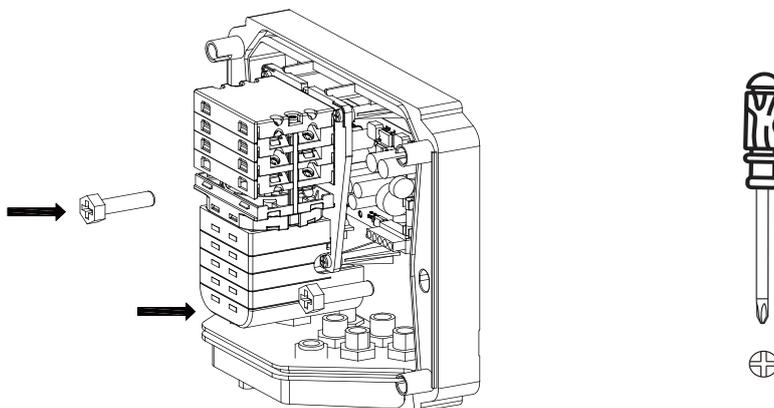
Remove the 4xM4 screws with cross screwdriver, open the lid.



Mount the switch enclosure on the wall

3

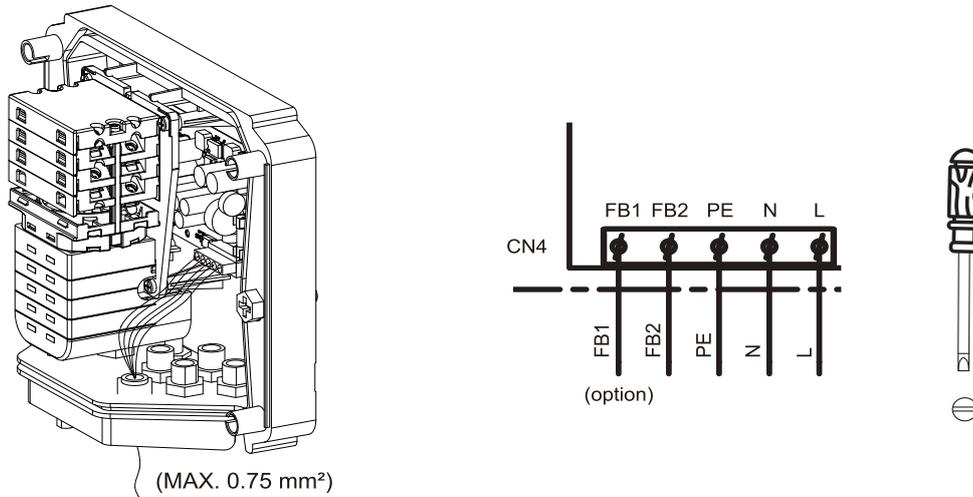
Note: The screw is M8 self-tapping screw.



INSTALLATION

Wire the power AC connection to the terminals

4

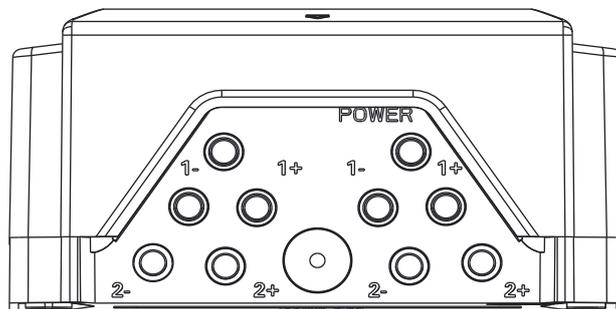


Note:

FB1, FB2 are used to remotely display the on and off states of the switch. When the switch is closed, FB1 is connected to FB2; when the switch is open, FB1 is disconnected from FB2. The voltage and the current connecting to FB1 and FB2 should be less than 60V, 400mA. The enclosure needs to add a M12 cable gland if the remote display function is needed.

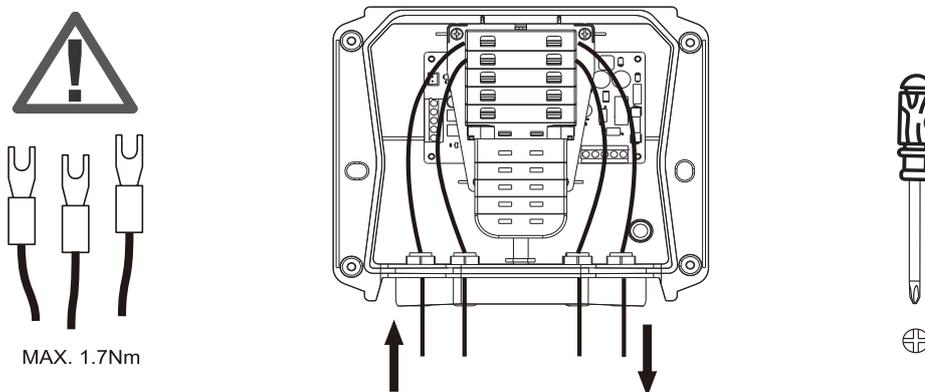
Wire the string cables to the interface

5



Note:

Please follow the marks (1+, 1-, 2+, 2-) for PV wiring. POWER is for the grid cable and connect to N, L, PE dry contacts.

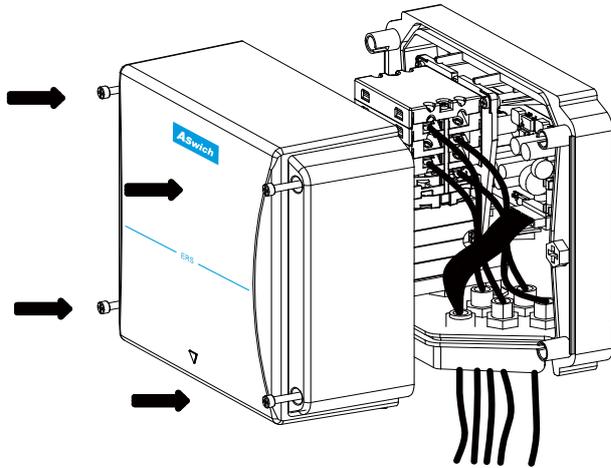


Wire the string cables (DC) to the switch.

INSTALLATION

Close the switch enclosure with cross screwdriver

6



M4(4x)-Max. 1.7Nm 

Test

7

Step 1. Activate AC power circuit. ERS switches on.

AC POWER ON



Approx.25 sec.

Step 2. Wait one minute. UPS is charging.



Approx.1 min.

Step 3. Deactivate AC power circuit. ERS will switch off in about 7 seconds. Red LED light off.

AC POWER OFF



Approx.7 sec.

Step 4. Activate AC power circuit. switches on in 8 seconds. Red LED light on.

AC POWER ON



Approx.8 sec.

Step 5. Test is completed.