

Installation Manual

PGK SE030 and SE042 Series
1000v, 1200v and 1500v Isolators



This instruction manual is not to be copied wholly or partially or re-arranged in any way. The unauthorized reproduction of this manual is also prohibited.

Congratulations on the purchase of another PGK product. We pride ourselves in selling high quality products manufactured to the highest standards of performance and safety.

Please read this instruction manual carefully before installation, paying particular attention to the difference in specifications between the 1000v model and 1200v model. Use this manual as a guide only for installation, as rules governing Solar Installations change frequently.

manual located on the CEC website www.solaraccreditation.com.au to ensure compliance to the standards set out in these guidelines.

Failure to follow this procedure may void the warranty.

If you have any doubt regarding the functionality, application or installation of this unit, please contact the CEC for guidance and clarification.

Also refer to the **Specification Sheets**, which gives you the voltage range of the isolator models as well as other details pertinent to the installation and use of the item.

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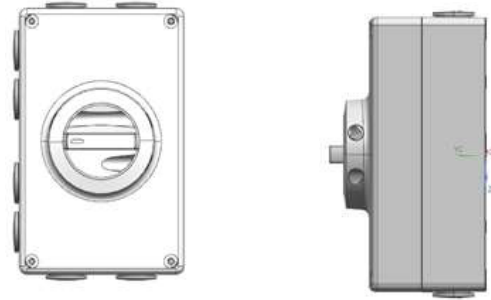
Caution:

The upper casing can only be removed when the Isolator Switch is in the OFF position. Do not attempt to force the remove the upper casing when the switch is in the ON position as it may damage the unit and void the warranty.

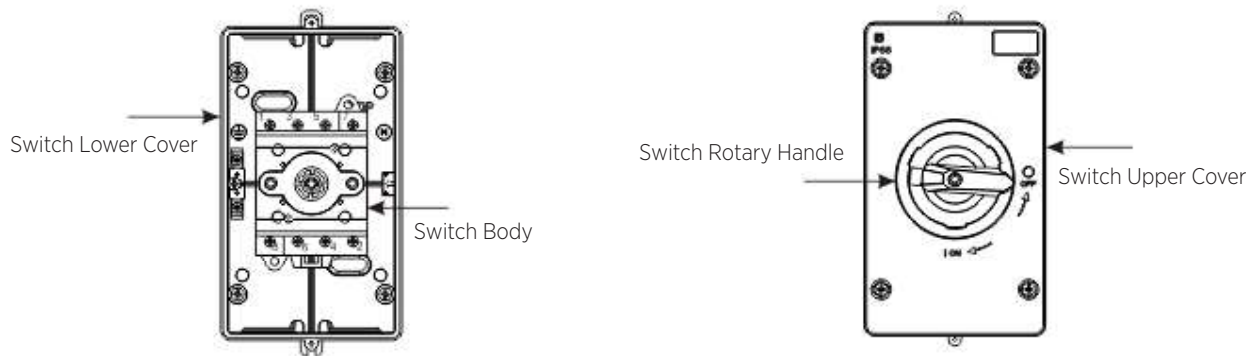
This isolator is suitable for both vertical (switch facing front) and horizontal (switch facing side) installation.

All installation and wiring in this manual must be undertaken by a licensed electrician.

This isolator is rated IP66. (IP66 Enclosure - IP rated as "dust tight" and protected against heavy seas or powerful jets of water.) It must be installed responsibly to ensure this IP66 rating is maintained.



1. Check contents of package before installation



Contents of Package

- Main Isolator Unit
 - 1x Lower Bracket
 - 3X Jumpers
 - 4X Screws
 - 4X Capping Plugs
 - 1x Upper Bracket
 - 4X Sealing plugs pre-installed on top and bottom of unit and can be discarded after installation
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Turn the switch a few times to ensure it locks in place, before installation.

When installed externally, where possible, try to position the unit where it is not exposed directly to the elements. Please observe the operating temperature range of the unit.

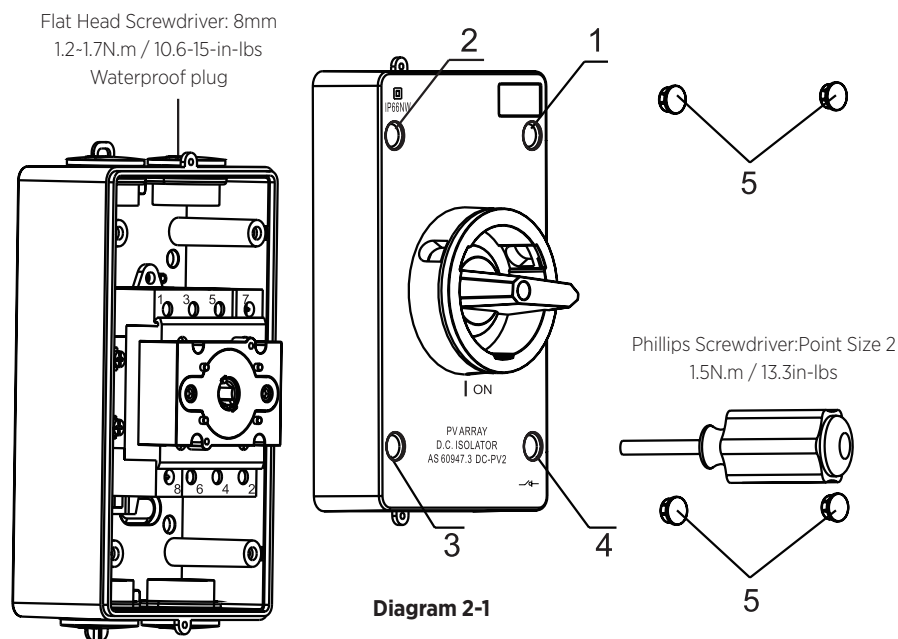
Operating temperature range: -25°C ~ 80°C
Operating humidity range : 0 ~ 99%

It is recommended that after installation inspect the isolator once every 3 years to ensure it is in good working order.

2. Installation and Adjustment

Please notice that the isolator wiring comply with the wiring requirements of AS/NSZ 3000

2-1 Use a Philip screwdriver **No.2**, and open the top cover by taking out 1, 3, 2, 4s screw in sequence. (start with top right, move to top left, then bottom left and finally bottom right) Refer to **Diagram 2-1**.



1. Be sure number (1, 3, 5, 7) on switch body and "IP66NW" on cover are not inverted.
2. Rotate handle to the "OFF" position and locate shaft into switch body.
3. Tighten screw with 1.2 N.m in order of 1, 3, 2, 4
4. Tighten Screw with 1.5N.m in order of 1, 3, 2, 4
5. Tighten Each Waterproof plug
6. Make sure that number 5 is assembled on the cover.

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2-2 Choose the proper wiring type according to the voltage and current required (Please refer to respective data sheets for **1000V DC Isolator 32A** and **1200V DC Isolator 32A** available at www.pgkdistribution.com.au).

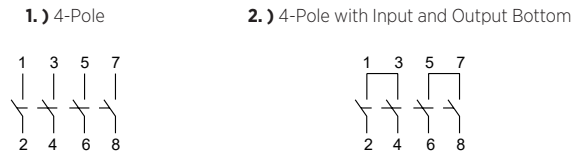


Diagram 2-2

2-2 For example, diagram 2.4 below is how the wiring should be completed for No. 2 example in diagram 2-2.

2-2-1 Inner wiring installation.

1. Select two jumpers from the accessories, insert them into **"1,3"** and **"5,7"** terminals on the switch body respectively, then tighten the screws. Please refer to **Diagram 2-4** to ensure the jumpers are wired correctly.
2. Insert the cable into **"2,4,6,8"** terminals respectively and tighten the screws.
3. **Figure 1** Shows the correct wiring.

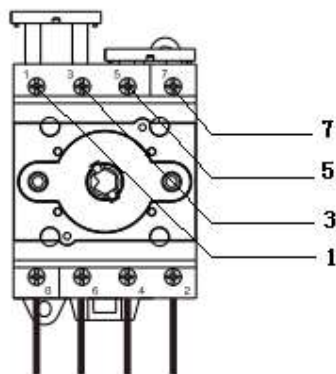


Diagram 2-3

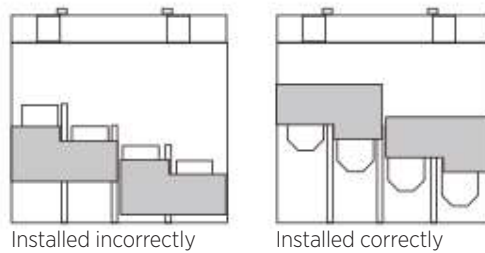


Diagram 2-4

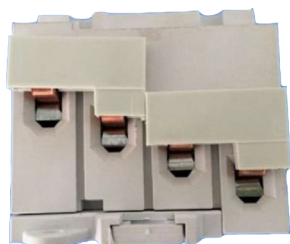


Figure 1

2-2-2 Inner wiring installation.

2-2-2-1 Using customer self prepared flexible pipe

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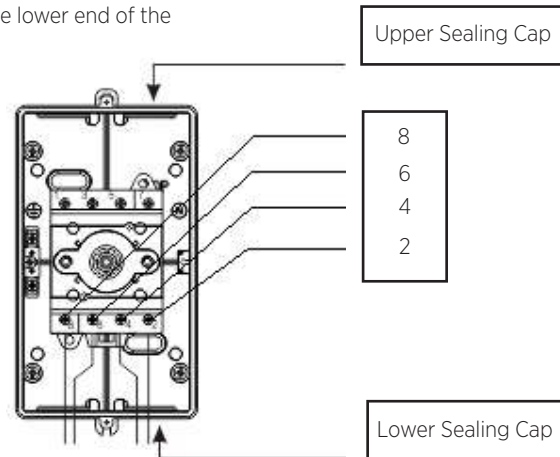


Refer to **Diagram 2-5**, open the lower sealing cap; cables which are connected to **terminals "2 and 4"** must go through the hole on the right; cables which connected the **terminals "6 and 8"** must go through the hole on the left.

Ensure the flexible pipe connecting device is sealed properly to the isolator to maintain the IP66 requirements.

Please make sure the conduit entry points should be on the lower end of the enclosure - either underneath or facing down the roof.

Diagram 2-5



2.3.2.2 Using MC4 connector

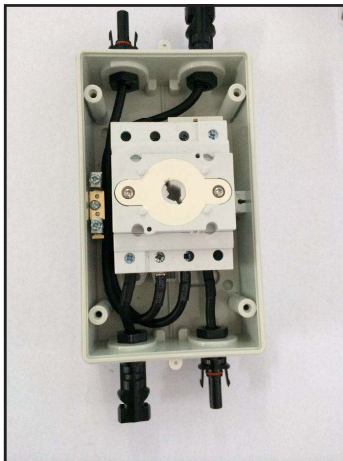
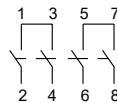


Figure 2

Taking The **4 Pole with Input and output bottom** wiring type as example.



Refer to **Figure 2**

- The cable connected to **terminal 2** must go through **bottom right**.
- The cable connected to **terminal 4** must go through **top right**.
- The cable connected to **terminal 6** must go through **top left**.
- The cable connected to **terminal 8** must go through **bottom left**.

For other MC4 wiring options, please refer to the **Wiring Method** examples on pages 9 and 10.

All MC4 connectors must be installed properly and make sure they are sealed properly with isolator in order to maintain IP66.



Please note:

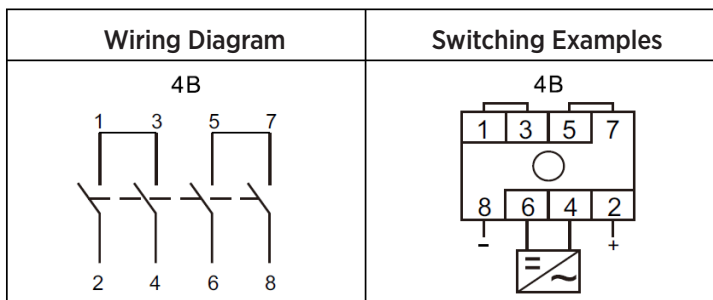
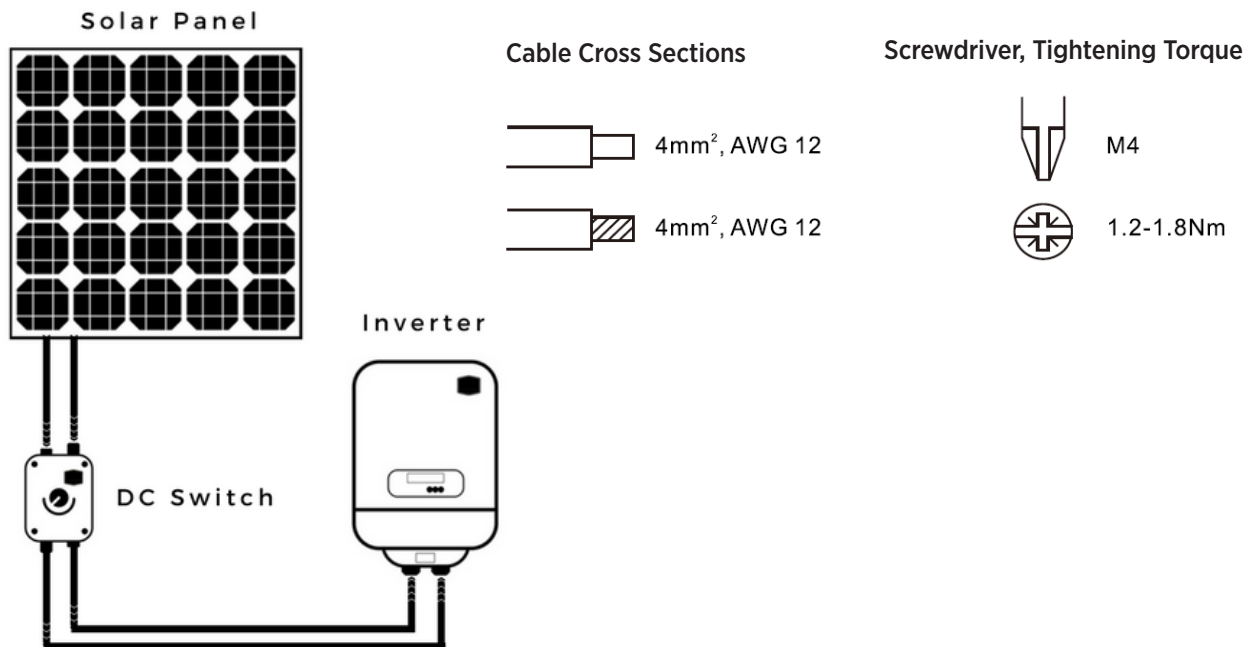
With the **SE042 series** below have been pre-tightened in the factory and water ingress tested. It is advised to double check this **prior to installation**.

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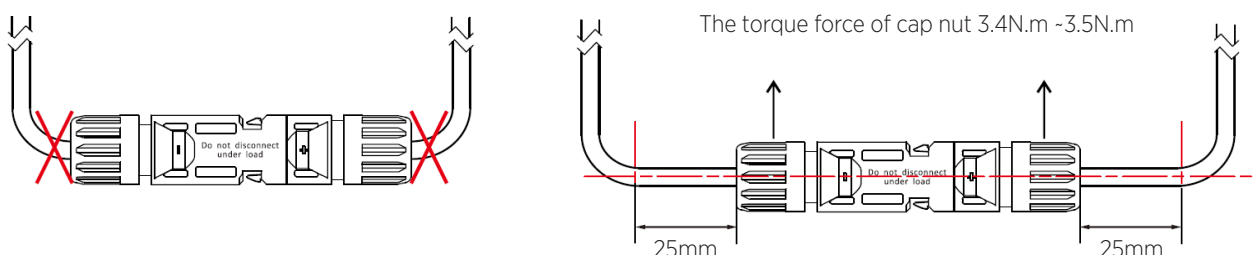
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Instruction for Isolator with Genuine MC4



Wiring Requirement for Genuine MC4



Note:

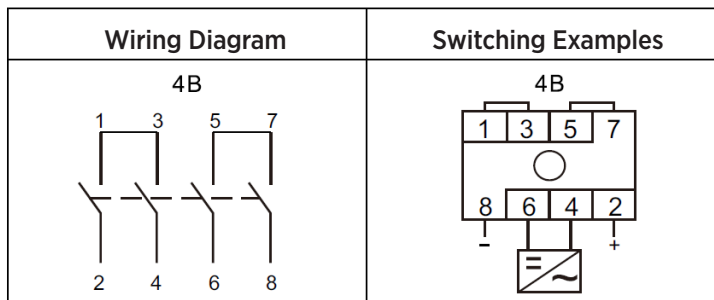
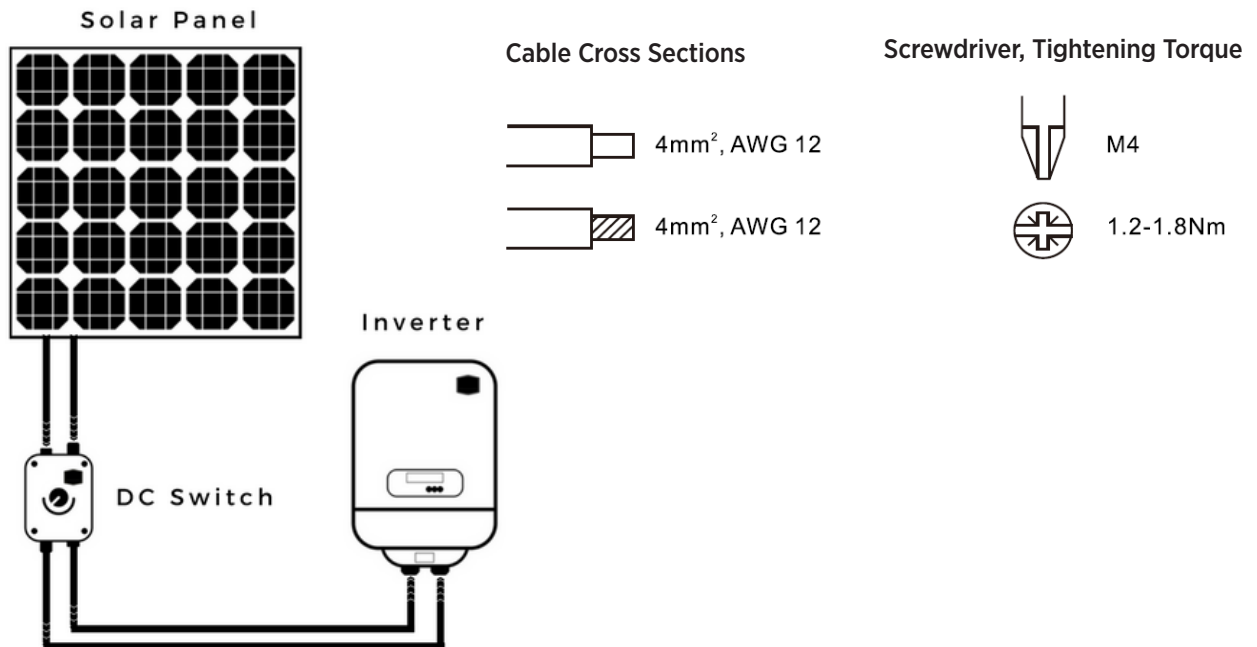
All MC4 Connections must be installed and sealed properly with isolator in order to maintain IP66

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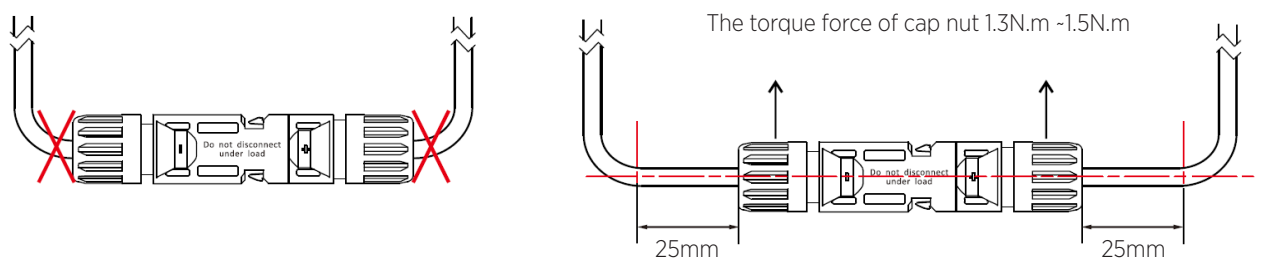
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Instruction for Isolator with Common MC4



Wiring Requirement for Common MC4



Note:

All MC4 Connections must be installed and sealed properly with isolator in order to maintain IP66

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2.4 Installation

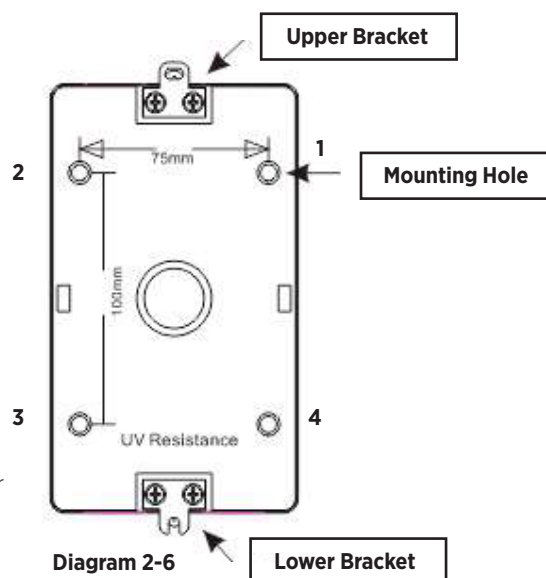
Isolator shall be installed so that it is easily accessible for inspection, maintenance or repairs without necessitating the dismantling of structural parts, cupboards, benches or the like.)

- **For indoor installation only.** Select a suitable surface to install the unit i.e. plasterboard surface or brick wall (to prevent electrical shock, ensure there is no electrical wiring, gas or water pipes behind the wall where you are going to affix the unit.)

Option 1: Drill through the four mounting holes in Diagram 2-6, affix the lower casing and switch body to the mounting wall. Then affix the upper cover and tighten crews securely in "1,3,2,4" sequence.

Please make sure all mounting holes should be sealed with silicone to ensure moisture does not get into the casing and to maintain the IP66 rating.

Option 2: Affix to the mounting wall or rail using the upper and lower bracket only.



- **For outdoor installation only.** Select a suitable surface and affix using the upper and lower brackets only. (Using the mounting holes on the back of the unit for outdoor installation will affect the IP66 rating and void the warranty).

It is mandatory for an isolator to be installed adjacent to the array for LV systems. This is to enable safe disconnection of the array and isolation of the PV array cable.

The roof mounted isolator should be mounted so that the switch is in a sideways position (as figures below).

Roof Top Isolator

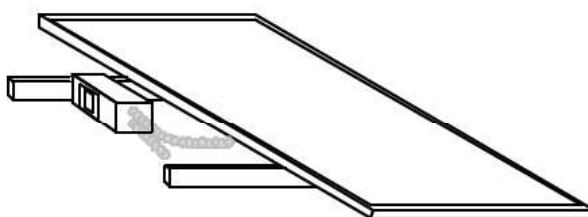


Diagram 2-7

After the isolator is affixed to the desired location to ensure the screw cover caps are placed over the screws to seal the unit properly.

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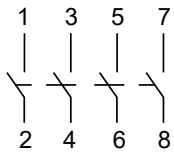
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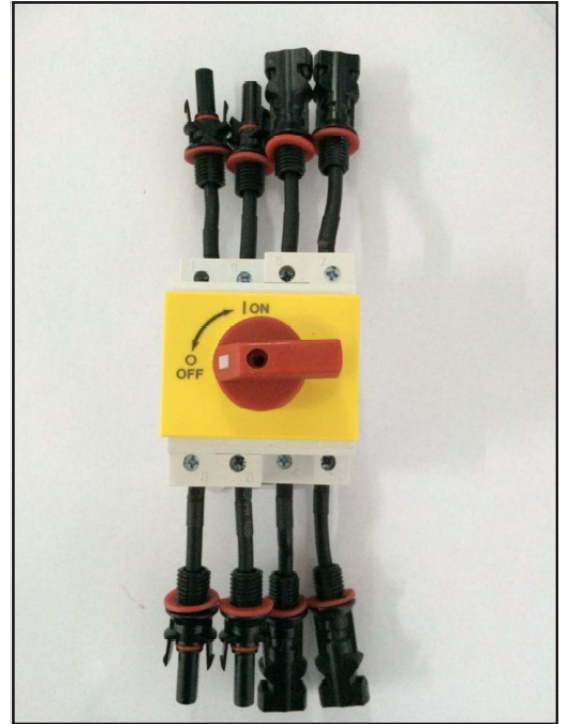
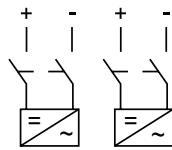
3. Examples of Different Wiring Method

Contact Configuration 1

Contact Configuration

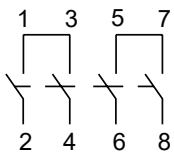


Switching Example

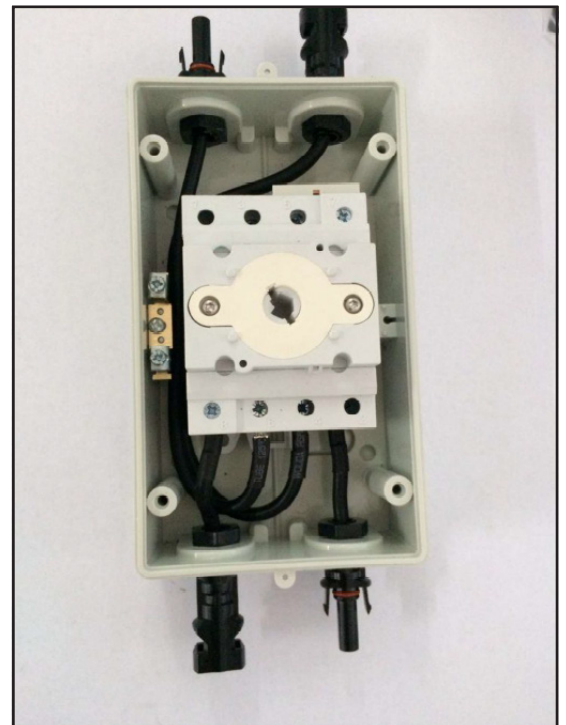
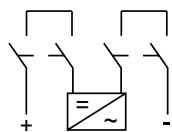


Contact Configuration 2

Contact Configuration



Switching Example



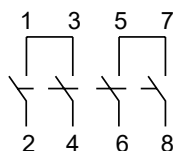
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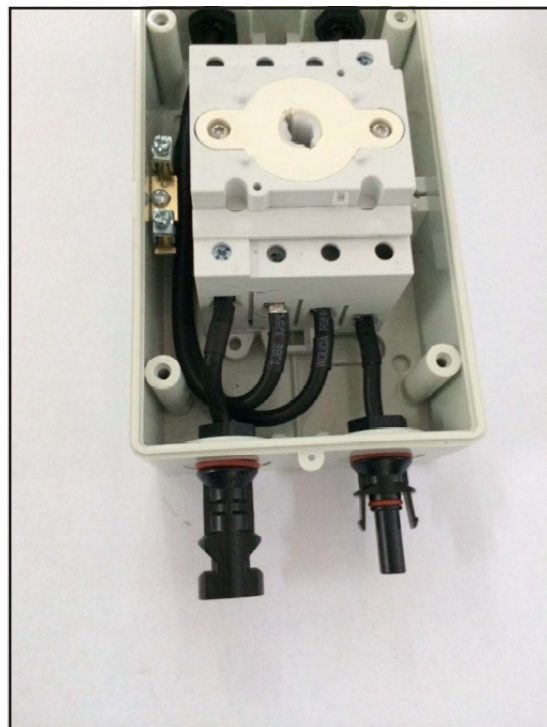
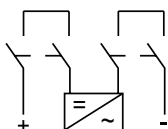


Contact Configuration 2-1

Contact Configuration

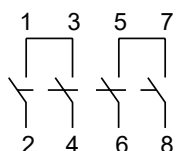


Switching Example

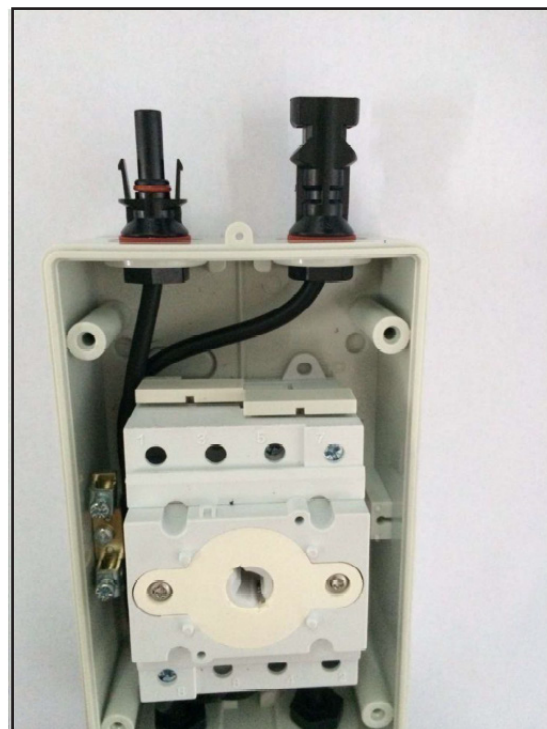
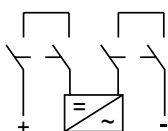


Contact Configuration 2-2

Contact Configuration



Switching Example



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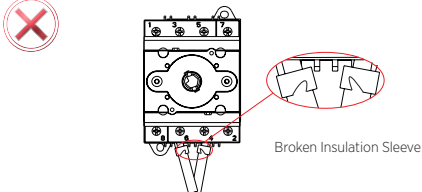
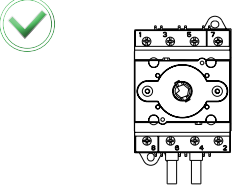
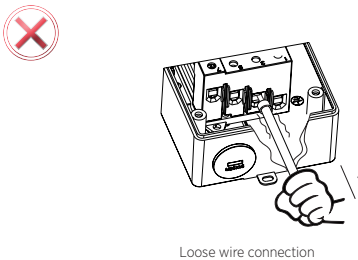
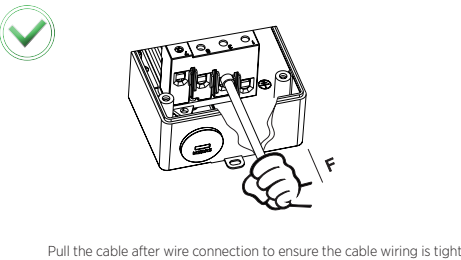
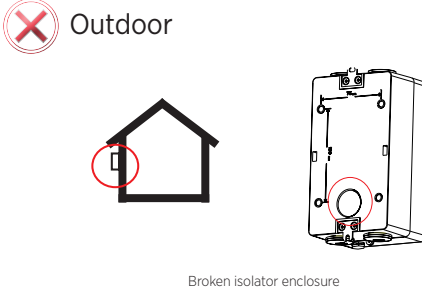
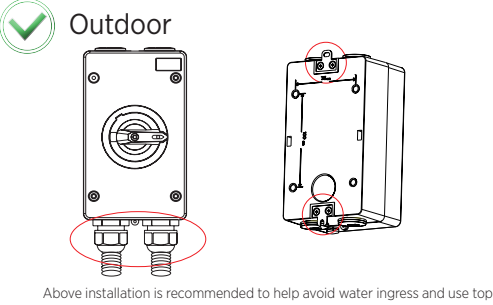

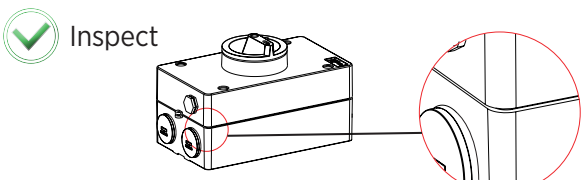
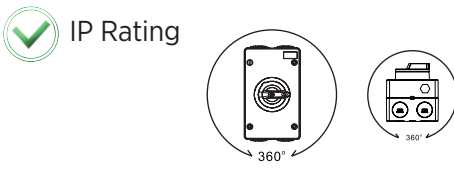
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*Please read the Manual before Installation to avoid voiding the Isolator Warranty.
Incorrect Installation may cause damage to the DC Isolator.*

Incorrect Installation

Correct Installation

 <p>Broken Insulation Sleeve</p>	 <p>No bare copper wire exposed under Insulation Sleeve</p>
 <p>Loose wire connection</p>	 <p>Pull the cable after wire connection to ensure the cable wiring is tight</p>
 <p>Broken isolator enclosure</p>	 <p>Above installation is recommended to help avoid water ingress and use top and bottom gasket to fix the isolator</p>
 <p>Indoor</p>	<p>Please ensure the isolator is installed to maintain the IP66NW rating even for indoor installation</p>
 <p>Inspect</p>	<p>After tightening the screws of the isolator cover, check the gap between the top cover and the base. Keep the 4 sides of the Isolator on the same level to maintain the IP66NW rating.</p>
 <p>IP Rating</p>	<p>The DC Isolator can be installed in any direction. Install properly to maintain the IP66NW rating.</p>

Please Note:

Please consult with your Electrician/Engineer to ensure suitability for the intended application and installation.

PGK Distribution takes every precaution to ensure the information in this publication is correct but accepts no liability of any kind and reserves the right to change any detail in this catalogue without notification.

PGK Distribution

VIC Main Office
8 Mohr St Tullamarine, Vic 3043
T: 1300 PGK SOL