

INSTALL THE WORLD'S BEST VOLTAGE OPTIMISATION TECHNOLOGY





INSTALLATION, COMMISSIONING AND OPERATION MANUAL

EE-202-0050 SINGLE PHASE SERIES



ULL-100762

I. TABLE OF CONTENTS

I. TABLE OF CONTENTS	2
II. INSTRUCTIONS AND WARNINGS	3
1. WARNINGS	3
1.1. Voltage.....	3
1.2. Safety.....	3
1.3. Location.....	3
1.4. Wiring.....	4
1.5. Edge Electrons.....	5
2. 'MUST GET' INFORMATION	6
2.1. For the customer to register their unit.....	6
2.2. Electrical contractor.....	6
2.3. Photographs/Video required.....	6
3. INSTALLATION 'MUST DO'S'	7
4. EQUIPMENT AND PACKAGING	8
4.1. Front case labelling.....	8
4.2. Dimensions.....	8
4.3. Packing list.....	9
5. INSTALLING THE EDGEIQ	10
5.1. Mounting: Indoor/outdoor use, IP54 enclosure.....	10
5.2. Wiring the EdgelQ.....	12
5.3. Conduit fitting.....	13
5.4. Power connection to main switchboard.....	14
5.5. Solar inverter current transformer (CT) connection (where applicable).....	17
5.6. Communication kit installation.....	17
6. ATTACH SAFETY LABELS	19
6.1. Place Label 1 and Label 2 on the front cover of the EdgelQ unit.....	19
7. APPENDIX A: PRODUCT INFORMATION	20
8. APPENDIX B: COMMISSIONING CHECKLIST	21
9. APPENDIX C: EDGE IQ LED STATUS INDICATORS	28



II. INSTRUCTIONS AND WARNINGS

BEFORE commencing installation or commissioning, please read completely through this manual and follow all warning statements. This manual contains important information. Failure to read and follow all instructions prior to performing the installation and operation will void the product warranty and could also cause serious personal injury, fire hazards and electric shock, which may lead to death. After installation and commissioning, this manual must be made available for future operation and maintenance.

EdgeIQ products are designed and tested to meet all applicable Australian and New Zealand safety standards (AS/NZS). Safety precautions must be observed and followed during installation and operation to: (i) Eliminate the risk of personal injury and (ii) Ensure safe installation, as with all electrical and electronic equipment.

1. WARNINGS

1.1. Voltage

Dangerous high voltages are present within the EdgeIQ unit which must be avoided and may result in death or serious injury, so installation, commissioning, service and maintenance of EdgeIQ products must *only* be performed by *trained, qualified and authorised personnel* who are licenced to all local applicable standards, certifications and regulations. Means for complete electrical isolation of the device (for safe installation, operation and maintenance) must be incorporated in accordance with the wiring standards. Do not use EdgeIQ on circuits exceeding the specified voltage.

1.2. Safety

To prevent electrical shock and/or equipment damage, securely isolate the incoming power supply to the installation at the main fuse or circuit breaker box until installation is complete. Children should be supervised to ensure that they do not play with the product. This product is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the product by a person responsible for their safety.

1.3. Location

- The EdgeIQ **must** have **MINIMUM CLEARANCE around the unit** (to ensure efficient performance) as shown in *Diagram 2: Minimum clearance location for EdgeIQ* on page 12. Fan outlets and side exhaust vents on the EdgeIQ unit must **ALWAYS** remain clear and free of obstruction
- Check the expected **ambient temperature range** of the selected location for the EdgeIQ unit
- Will the EdgeIQ unit be exposed to moisture and/or excessive dust?
- Any other visible hazards at the location?



1.4. Wiring


1.4.1. Single phase, two phase and three phase installation

This **single phase EdgeIQ unit** MUST be installed according to the *type of supply* available on the installation and whether a single phase solar inverter or single phase battery inverter is part of the installation or not.

This manual provides specific wiring instructions for installations that have a **single phase supply only**.

Note: If your installation has a **two phase supply, three phase supply or battery inverter**, we recommend you contact your Edge Electrons representative to discuss alternatives.

1.4.2. Termination to the unit internal breaker rating



IMPORTANT

The wiring installation for Termination to the Unit Internal Breaker Rating must meet the Australian and New Zealand Standards:

AS/NZS 3000 (Electrical Installations - Wiring rules)
AS/NZS 3008 (Electrical Installations - Selection of cables)

Please also refer to:

AS/NZS 3760:2010 In-service safety inspection and testing of electrical equipment
AS/NZS 4836:2011 Safe working on or near low-voltage electrical installations and equipment
AS/NZS 3017:2007 Electrical installations - Verification guidelines

- 1.4.3. **WARNING:** Do **NOT** install EdgeIQ on installations *with three phase OR two phase supply* as this can **UNBALANCE** the voltages and cause damage to the installation or appliances on the installation. **Three phase** Edge IQ is available with a 3 phase adaptor, please contact customersupport@edgeelectrons.com for further support.



1.5. Edge Electrons

WARNING

Edge Electrons manufacture component parts that can be used in a wide variety of industrial and commercial applications. The selection and application of Edge Electrons products remains the responsibility of the equipment designer or end user. Edge Electrons accepts no responsibility for how its products may be incorporated into final design. Under no circumstance should any Edge Electrons product be incorporated into any product or design as the exclusive or sole safety control, all controls should be designed to dynamically fault detect and fail safely under all circumstances. Any warning provided by Edge Electrons must be passed through to the end user. Edge Electrons offers a warranty only as to the quality of its product to conform to the catalogue specifications. No other warranty is offered. Edge Electrons assumes no liability for any personal injury, property damage, losses or claims arising out of the misapplication and non-performance.



2. 'MUST GET' INFORMATION

Electrical contractor must complete the below information and return this page to Edge Electrons at customersupport@edgeelectrons.com as soon as possible after commissioning the unit. Receipt by Edge is required to validate the Edge Electrons product warranty.

2.1. For the customer to register their unit

- a) Has the unit been commissioned with the EdgeConnected installer app?
- Apple:
<https://apps.apple.com/au/app/edgeconnected/id1465549819>
- Android:
https://play.google.com/store/apps/details?id=com.edgeconnected.installer&hl=en_AU

2.2. Electrical contractor

- a) Has the customer been informed a shutdown will be required for installation?
- b) A Certificate of Electrical Safety will be provided to the customer?
- c) Has a positive communication been established for the unit, prior to leaving customer site?
- (See *Commission Checklist – Section D* for how to check for this)

Electrical contractor details	
Name:	_____
Phone:	_____
Email:	_____
Business address:	_____

Licence number:	_____

2.3. Photographs/Video required

- a) Main switchboard internal and external, including circuit breaker panel
- b) Existing solar equipment installed
- c) Proposed and actual location of install and breaker location (Need 'before and after', including main switchboard)
- d) Photos of general hazards and/or access hazards relevant to the install – e.g. Gas outlets

Note: Should you consider a problem with the EdgeIQ unit installed, please take videos/photos to explain the issue and include in the Return Merchandise Authorisation form. **No provision of video/photo explanation of the issue is likely to impact the warranty.**



3. INSTALLATION 'MUST DO'S'

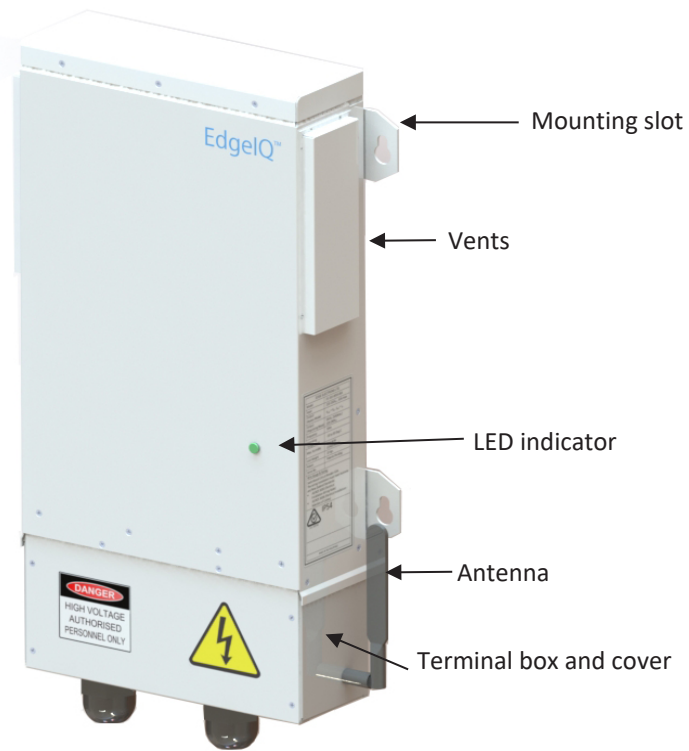
Existing sub-mains and all final sub-circuit cabling is adequate for the site (AS/NZS 3000 and AS/NZS 3008)

- ✓ Perform a **fault loop impedance test** and **earth fault loop impedance test**
- ✓ EdgelQ is ideally mounted as close to the main switchboard as possible (to not increase the impedance on the installation)
- ✓ EdgelQ is **mounted vertically** on a solid substrate **in accordance with the clearances noted in Diagram 2** Minimum clearance location for EdgelQ **with all cable entries bottom or rear entry only**
- ✓ This single phase EdgelQ unit can **only be wired/connected to a single phase installation.**
- ✓ All cabling is adequately “mechanically protected” – this means conduit and / or protective enclosure.
- ✓ All weather proof glands or conduit entries are correctly sealed.
- ✓ All power cabling is tested for continuity, polarity and insulation resistance and then terminals are correctly tightened – double-check by pulling on the wires
- ✓ The current transformer (CT) is correctly closed and connected to the AC cable supplying the solar inverter (where applicable) with the arrow of the CT pointing in the direction of the current flow
- ✓ All covers are replaced, all labels are placed where advised
- ✓ Installation is re-energised
- ✓ Perform handover to customer – including supply of Certificate of Electrical Safety
- ✓ Complete 'Must get' information (See page 6) and email to Edge Electrons (customersupport@edgeelectrons.com). Non-receipt of this information can impact the product warranty
- ✓ Site monitoring
- ✓ A 'transformer tap' change request to the customer's Distributor is undertaken by the customer when grid voltage is measured above 265V (at the customer's point of attachment).

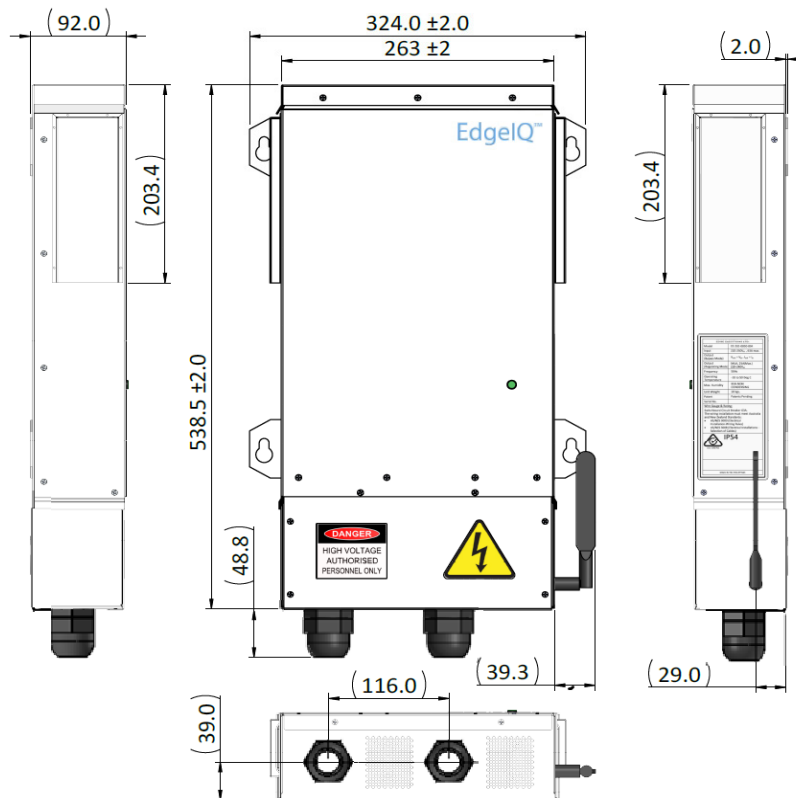


4. EQUIPMENT AND PACKAGING

4.1. Front case labelling











4.2. Dimensions



4.3. Packing list

Do not commence installation of the EdgeIQ if there is any visible breakage, loose connections and/or missing parts. Any missing or broken components from the below list must be notified to Edge Electronics *immediately* after unpacking the unit.

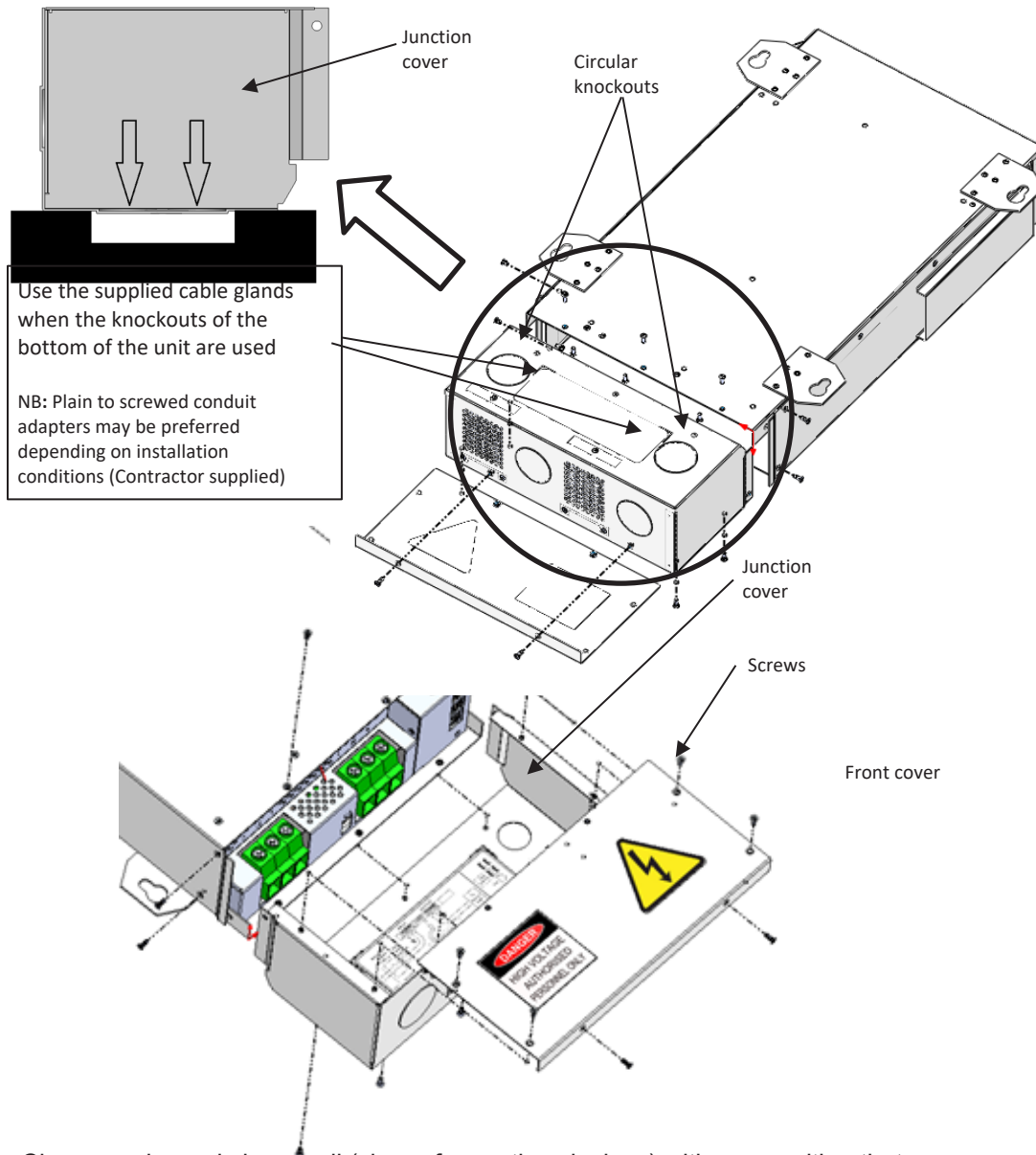
Items		Quantity
EE-202-0050 Series Single phase EdgeIQ		1 pc
1. CTSA016 current transformer (Operating up to 50 A) NB: Applicable only for the output of the solar inverter		1 pc
2. Cable glands		2 pcs
3. Installation manual		1 pc
4. Mounting screws (Alternative: Wall Anchor)		4 sets
5. Communication kit		1 pc
a. Modem and SIM (pre-installed)		1 pc
b. Antenna		1 pc
c. Antenna cable		



5. INSTALLING THE EDGEIQ

5.1. Mounting: Indoor/outdoor use, IP54 enclosure

- A. Prior to mounting the EdgeIQ onto a wall, select which side of the circular knockout to remove from your chosen cable entry for the unit. To remove the knockouts, remove the junction cover assembly as shown and carefully punch each circular knockout while supporting the EdgeIQ case on a flat rigid surface as shown.

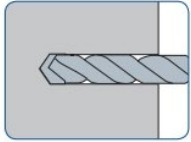


- B. Choose a dry and clean wall (clear of any other devices) with composition that can support the weight of the unit (10kg), making sure there is sufficient clearance for the conduit connections from the bottom for an upright position. The EdgeIQ is **best located in a cooler location** e.g. Garage, under an eave or a south facing wall. Like inverters, the EdgeIQ performs best out of direct solar radiation and away from other heat sources. Enclosure area is 588.3 x 324.0 x 92 mm.
- C. Position and drill four holes, 8mm diameter on wall or structure and install the mounting screws. (See *Diagram 1: Installing mounting screws*).

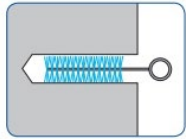
Note: The EdgelQ must have **MINIMUM CLEARANCE** around the unit (to ensure efficient performance) as shown in *Diagram 2: Minimum clearance location for EdgelQ* on page 12. Fan outlets and side exhaust vents on the EdgelQ unit must **ALWAYS** remain clear and free of obstruction

Diagram 1: Installing mounting screws

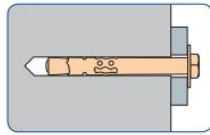
1. Drill an 8mm hole on the wall,
35mm depth



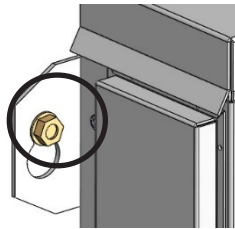
2. Remove debris with brush



3. Insert sleeve anchor



4. Tighten all 4 nuts to
recommend torque.
Concrete: 6.0Nm
Blockwork: 3.0Nm



Hole positions

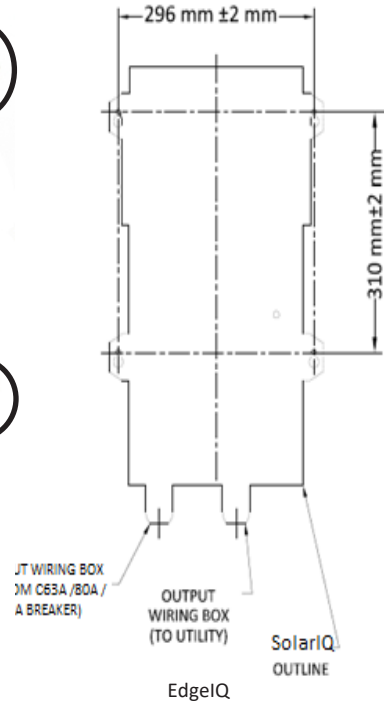
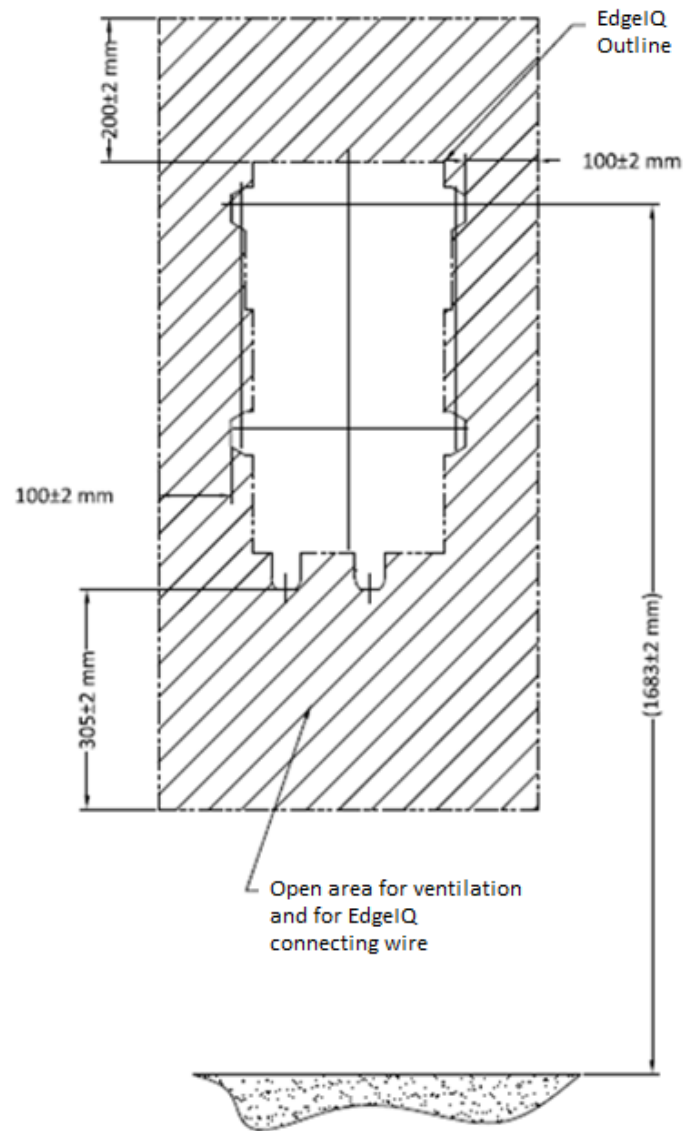


Diagram 2: Minimum clearance location for EdgeIQ



5.2. Wiring the EdgeIQ

- A. Remove the 8 screws - 6 at the front and 2 *underneath* the terminal box - to disassemble the front cover.



A diagrammatical explanation of steps B to E below is shown in Diagram 3: Wiring.

- B. Insert the corresponding wire to its cable gland.
- C. Fix the wires to the respective terminal block.
- D. On solar installations only: Connect the CT wire assembly to its biased terminal block and then install

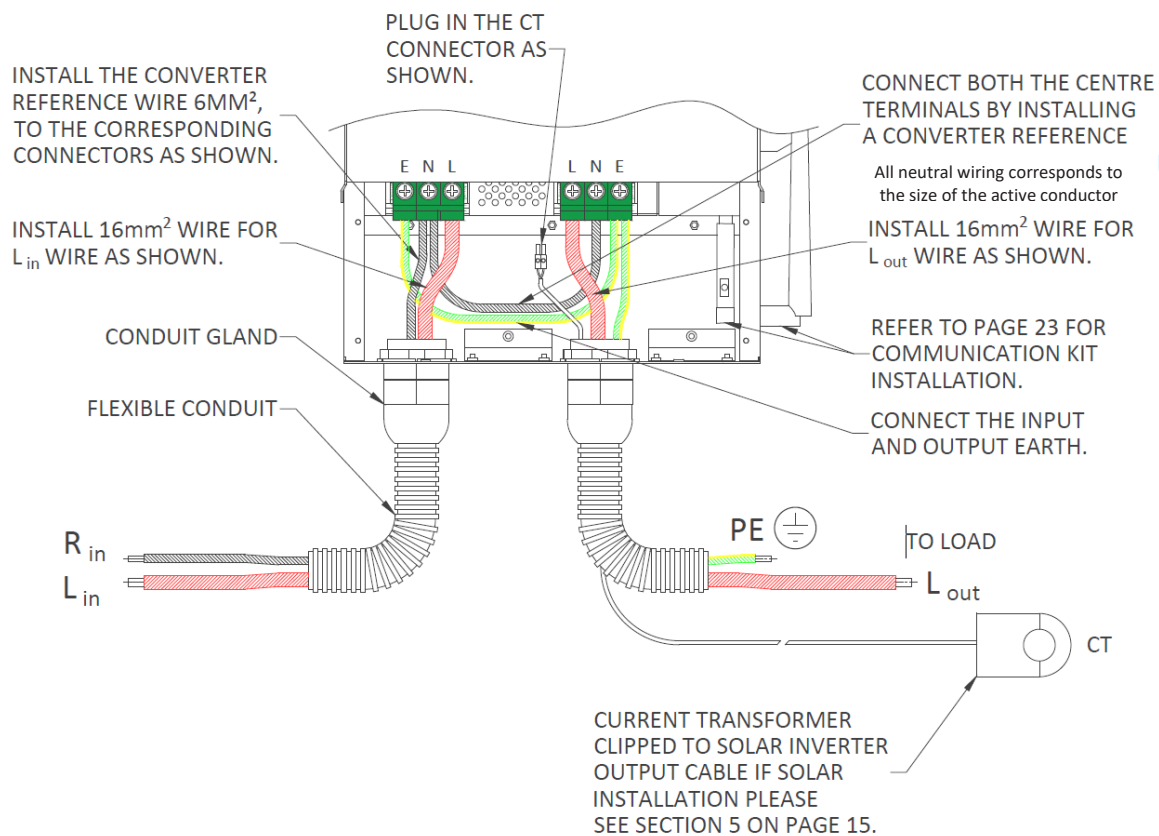
the CT clamp around the AC wire that supplies the solar inverter on the installation. This is to monitor the output of the solar inverter.

- E. Install the modem into the USB socket. (Refer to Section 6. Communication Kit Installation for instructions).

Note: Unlike active and neutral conductors, only **one** Earth wire is required for the EdgeIQ. Both may be used if required as the two visible Earth terminals are electrically connected/bonded inside the unit. If **only using one** Earth Terminal, ensure the screw is tightened on the terminal that is not in use.

Diagram 3: Wiring for Standard install, for switchboard main breaker 40/63A, see wiring diagram section 4.1 and 4.2 on page 13 and 14.

Note: For a **Non-Standard install**, for switchboard main breaker of 80/100A, appropriate *wire sizing should be installed in accordance to AS/NZS 3000 and AS/NZS 3008.*



5.3. Conduit fitting

- A. Select correct size gland or conduit adapter to the EdgeIQ. It is recommended: For standard install of 16mm² wire: Clipsal 263/32 conduit adapters with locking ring (in place of the supplied glands)
(As an alternative, the nylon glands supplied with the unit will fit the existing knockout hole on the EdgeIQ while allowing the 25mm conduit through the gland).
- B. Use a nylon push rod (or similar) to help run the cables into the conduit.
- C. Feed the cables with the nylon rod through the conduit.
- D. Release the nylon push rod and fasten gland nut or conduit adaptor locking ring onto the conduit.
- E. Run the wires into the EdgeIQ unit through the connector and then tighten the conduit socket ensuring the gland gasket is installed correctly and the gland is not threaded.
- F. The EdgeIQ must be installed after the main switch through a circuit breaker or fuse and must be wired in accordance to current AS/NZS 3000:2007(Electrical Installation – Wiring Rules) and AS/NZS 3008 (Electrical Installations – Selection of Cables)



5.4. Power connection to main switchboard

- A. Ensure the **main isolator is OFF to completely isolate the EdgeIQ Unit.**

Important: **Each** incoming power supply, along with any additional grid tie/solar power/battery and any **other** embedded generator source on the electrical installation **MUST** each be safely **isolated before commencing** the electrical wiring work

- B. Replicate the connection per the wiring diagram relevant to your installation. See Wiring Diagram 4 or Wiring Diagram 5 in section 4.1 and 4.2 below. Your relevant wiring diagram is based on whether your site has or does not have solar.
- C. Locate the supply main switch (must be circuit breaker style) in the switchboard. Use the power wires in the conduit to connect to switchboard circuit breaker.

Note: The circuit breaker can be installed **immediately after** the main switch to avoid a network disconnection / reconnection in regions that require the network or authorised contractor to isolate the supply.

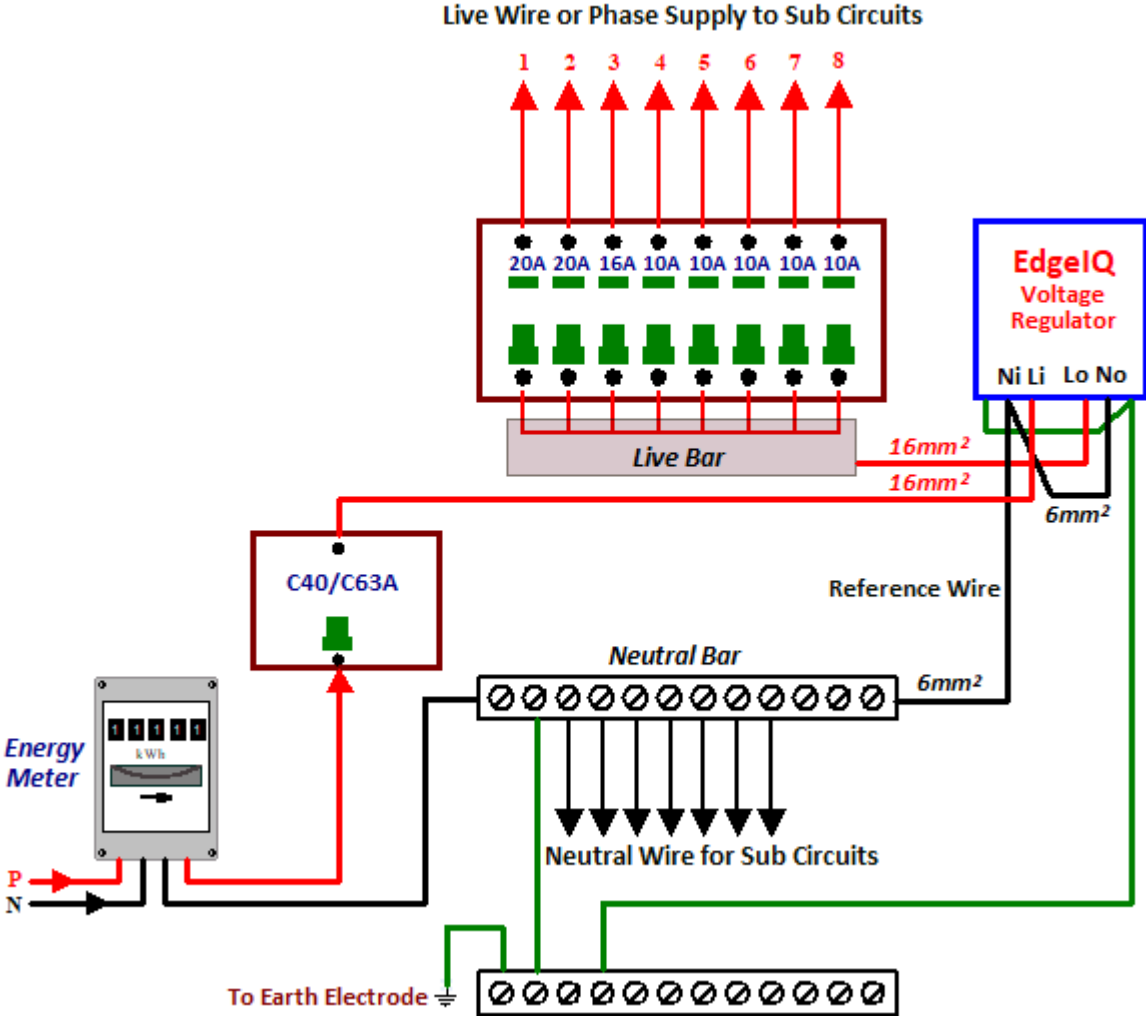
- D. Connect an earth wire from the unit to the main earth bar connection in the switchboard.
- E. Check all mechanical wiring connections are secure and making full contact. Ensure the output neutral connections are as per your relevant wiring diagram.

WARNING: Do **NOT** install EdgeIQ on installations *with three phase OR two phase supply* as this can **UNBALANCE** the voltages and cause damage to the installation or appliances on the installation. **Three phase** Edge IQ is available with a 3 phase adaptor, please contact customersupport@edgeeletrons.com for further support.

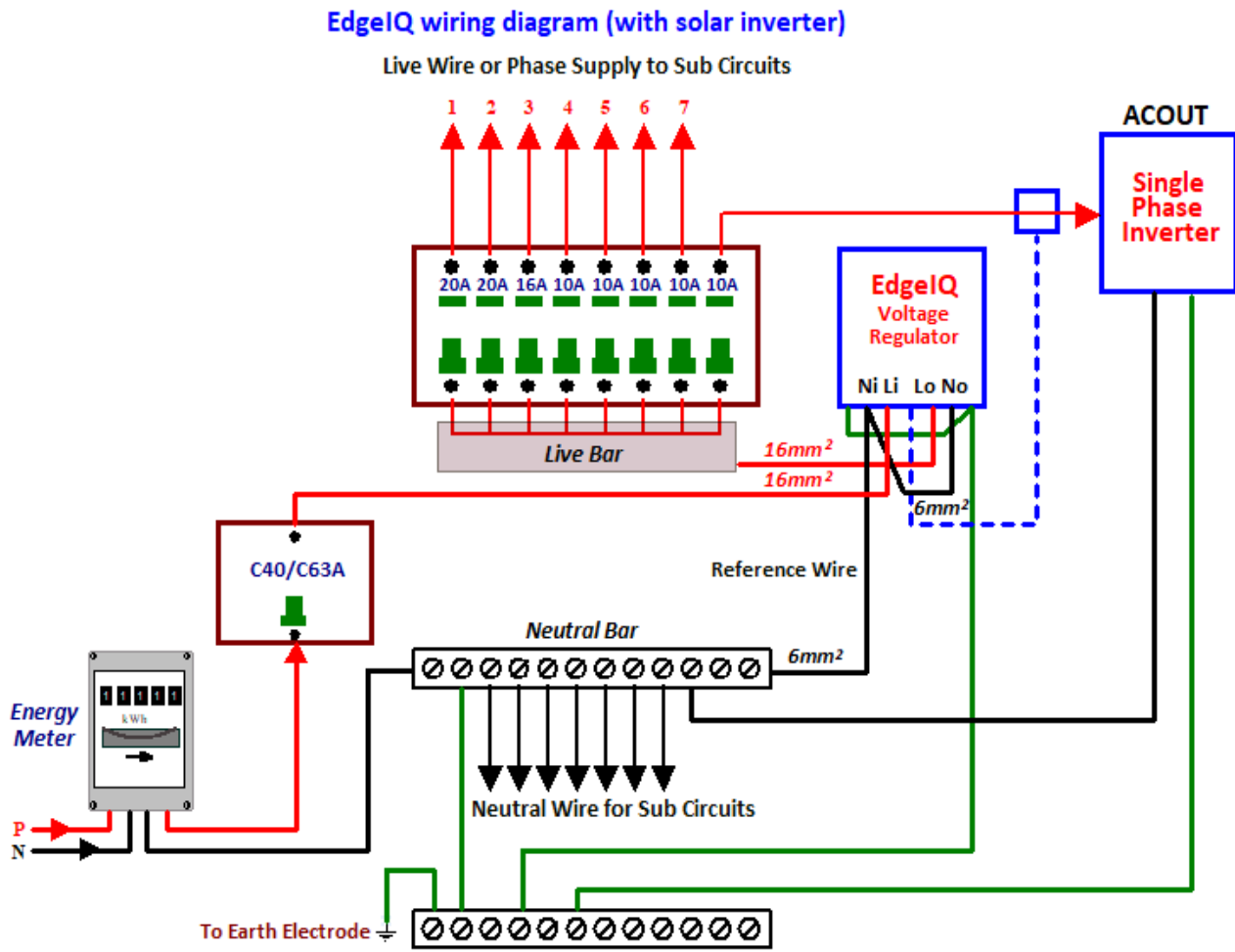


5.4.1. Diagram 4: Wiring for SINGLE phase standard installation without a Solar Inverter

EdgeIQ wiring diagram (without solar inverter)

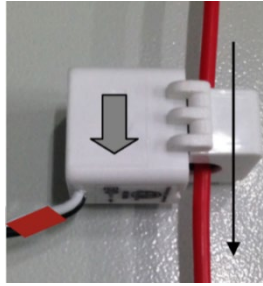


5.4.2. Diagram 5: Wiring for SINGLE phase standard installation with a Solar Inverter



5.5. Solar inverter current transformer (CT) connection (where applicable)

- Install the split core current transformer onto the AC live wire output of the solar inverter incoming to the switchboard.
- The arrow mark on each CT must be in the direction of current (pointing towards breaker box).



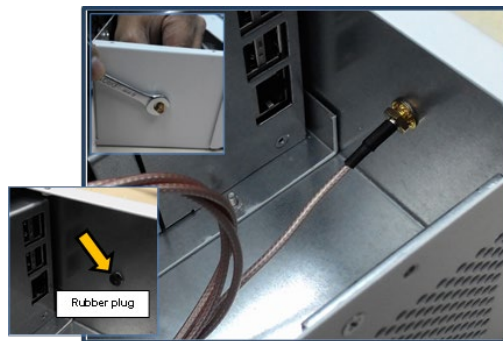
- Close CT firmly

CT Information

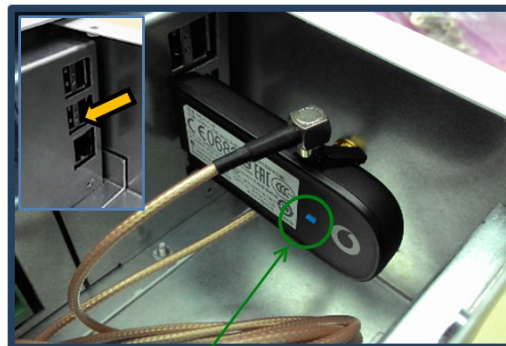
Output	: 333mV @ 50A
Dimension(mm)	: D=10.0; L=29.4;
	: W=26.4; H=41.7;
Cable type	: UL1015,0.34mm ² , 22AWG / 600V

5.6. Communication kit installation

- A. Remove the rubber plug and install the antenna cable by inserting the SMA female bulkhead through the chassis hole. Tighten the hex nut.



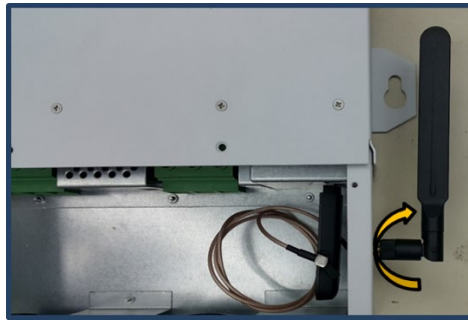
- B. Plug the dongle into the USB port (lower left side). Install the other end of the antenna cable (CRC9) into the modem antenna connector.



Modem / Comms Indicator Light



C. Install the communication antenna onto the threaded SMA connector



D. Comms indicator lights-up with power. See Table 2: Modem status LED colours to determine connection is made.

Table 2: Modem status LED colours

Green , blinking twice every 3s	The USB stick is powered on.
Green , blinking once every 3s	The USB Stick is registering with a 2G network
Blue , blinking once every 3s	The USB Stick is registering with a 3G/3G+ network
Green , solid	The USB Stick is connected to a 2G network.
Blue , solid	The USB Stick is connected to a 3G network
Cyan , solid	The USB Stick is connected to a 3G+ network.



6. ATTACH SAFETY LABELS

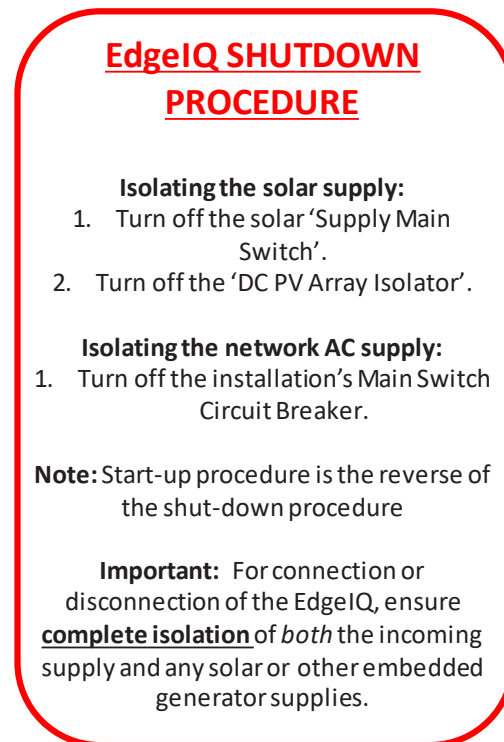
The following safety labels must be attached for all installations **with solar**, prior to commissioning the unit, to inform other electricians who attend the site after the installation of the EdgeIQ.

6.1. Place Label 1 and Label 2 on the front cover of the EdgeIQ unit

Label 1: Dual supply isolation



Label 2: Shutdown Procedure (including Dual supply isolation steps)



7. APPENDIX A: PRODUCT INFORMATION

Product Name	: EdgelQ
Product model number	: EE-202-0050 Series
Configuration	: 5KVA, Single Phase, 240 VAC
Serial number	: EE-202-0050-005-0000001 to EE-202-0050-005-9999999

Input Voltage	180 – 275VAC, 100A max.
Output (Bypass Mode)	$V_{out} = V_{in}$, $I_{out} = I_{in}$
Output (Regulating Mode)	210 – 254VAC Nominal 220VAC, 22.7A max. (V_{out} is remotely Network programmable)
VA Rating	5 kVA regulation mode, 63A bypass mode
Frequency	50 Hz
Operating temperature range	-10 to 45 °C Ambient
Ingression Grade	IP 54
Max. Humidity	95% (Non-Condensing)
Dimensions	H 539 X W 263 X D 92 mm Metal Enclosure
Recommended breaker rating	Switchboard Circuit Breaker 63A / 80A The wiring installation must meet Australia and New Zealand Standards below: <ul style="list-style-type: none"> AS/NZS 3000 (Electrical Installation- Wiring Rules) and AS/NZS 3008 (Electrical Installations – Selection of Cables)
Unit weight	10 kg
Patents	Patents pending

Table 1: Wiring installation

TERMINAL	WIRING INSTALLATION	CONNECTIONS TYPE	TORQUE (N m)
<p>Standard install: 40/63A</p> <p>Non-Standard install: 80/100A</p> <p>Switchboard Circuit Breaker</p> <p>Live, Neutral and Earth</p>	<p><i>Wiring for Standard install, for switchboard main breaker 40/63A, see wiring diagram section 4.1 and 4.2 on page 13 and 14.</i></p> <p>Note: For a Non-Standard install, for switchboard main breaker of 80/100A, appropriate wire sizing should be installed in accordance to AS/NZS 3000 and AS/NZS 3008.</p> <p>Wiring installation must meet Australia and New Zealand Standards:</p> <p>AS/NZS 3000 (Electrical Installation- Wiring Rules)</p> <p>and</p> <p>AS/NZS 3008 (Electrical Installations – Selection of Cables)</p>	<p>Terminal Block 3 Wires</p>	<p>1.2</p>
<p>Current Transformer</p>	<p>333mV @ 50A, 600V</p>	<p>2 Poles, 3.5 mm Plug in Connector</p>	<p>N.A.</p>



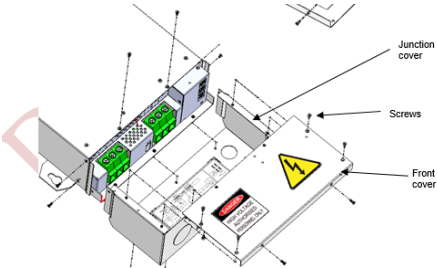
8. APPENDIX B: COMMISSIONING CHECKLIST

	Item	Checklist
A	Visual inspection	
A.1	<p>Ensure power is NOT connected to the EdgelQ unit.</p> <p><i>EdgelQ will be connected in series from the main switch circuit breaker to the installation load</i></p>	<p>Please confirm:</p> <p><u>ALL</u> energy sources have been safely ISOLATED from the EdgelQ device</p> <p>Yes <input type="radio"/></p>
A.2	<p>Cables from the main switch board to EdgelQ unit correctly marked and terminated at both ends.</p> <p><i>Ensure cables are correctly supported, mechanically protected with insulation intact with glands and lugs tightened.</i></p>	<p>Please confirm:</p> <p>Yes <input type="radio"/></p>
A.3	<p>Cables from the EdgelQ unit going back to the main switch board correctly marked and terminated at both ends.</p> <p><i>Ensure cables are correctly supported, mechanically protected with insulation intact with glands and lugs tightened.</i></p>	<p>Please confirm:</p> <p>Yes <input type="radio"/></p>
A.4	<p>The line, neutral and earth wire from the main switch board are connected properly to the EdgelQ unit?</p> <p><i>The screw holding the cable of line and neutral has been correctly torque. (torque setting: 20.4Kgf.cm minimum)</i></p>	<p>Please confirm:</p> <p>Yes <input type="radio"/></p> <p>Note: Both the input and output of the EdgelQ must have an earth connected (at the same potential)</p> <p>Note: All neutral wiring corresponds to the size of the active conductor</p>
A.5	<p>The line, neutral and earth wire from the output of the EdgelQ are properly connected to the connection on the main switch board load side?</p>	<p>Please confirm:</p> <p>Yes <input type="radio"/></p>

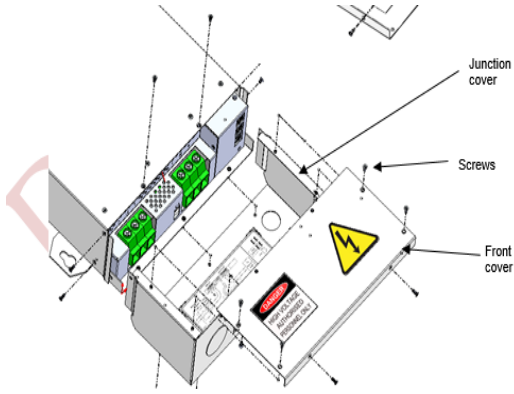


	<p><i>The screw holding the cable of line and neutral has been correctly torque. (torque setting: 20.4Kgf.cm minimum)</i></p>	<p>Note: Both the input and output of the EdgeIQ must have an earth connected (at the same potential)</p>
<p>A.6</p>	<p>M2M modem should be connected to the correct port as shown on sticker in unit</p> <p>Modem / Comms Indicator Light</p>	<p>Please tick when this step is completed:</p> <p>Yes <input type="radio"/></p> <p>Note: Port for the M2M modem (dongle) is the back left, closest to the middle of the unit</p>
<p>A.7</p>	<p>External comms antenna connected has been connected properly to M2M modem</p> <p>Modem / Comms Indicator Light</p>	<p>Please tick when this step is completed:</p> <p>Yes <input type="radio"/></p> <p>Ensure locking nut of the antenna cable and the rubber seal washer are correctly installed</p>
<p>A.8</p>	<p>Confirm that the CT is clamped to the line wire of the solar inverter line cable?</p>	<p>Please tick when this step is completed:</p> <p>Yes <input type="radio"/></p> <p>Ensure the CT <u>direction</u> is correct and cable insulation is undamaged. (Arrow is in the direction of current flow)</p>
<p>B</p>	<p>Electrical testing</p>	

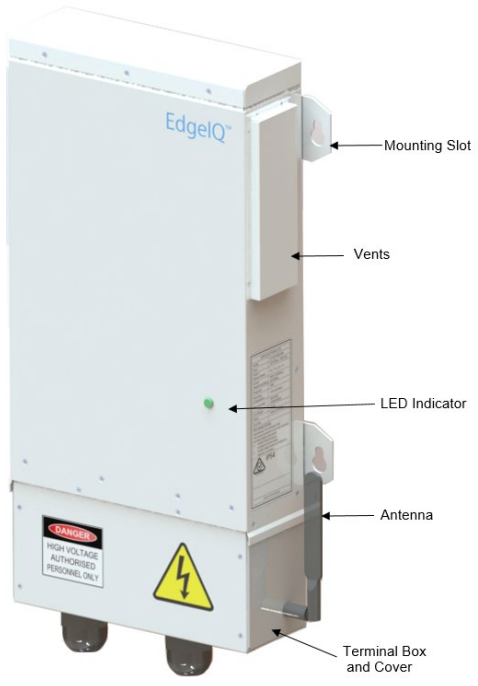


<p>B.1</p>	<p>Perform continuity test and confirm that polarity is correct for all cables</p> <p>Note: Do not close cover of the EdgelQ unit yet as further test required</p> 	<p>Please tick when this step is completed:</p> <p>Line YES <input type="radio"/></p> <p>Neutral YES <input type="radio"/></p> <p>Earth YES <input type="radio"/></p>
<p>B.2</p>	<p>Perform visual inspection:</p> <p>Check that all cables are secure and undamaged, cable support systems and cable protection are also secure and undamaged.</p>	<p>Please tick when this step is completed:</p> <p>Yes <input type="radio"/></p>
<p>B.3</p>	<p>Perform insulation resistance test on cables <u>supplying</u> EdgelQ</p> <p>Note: Disconnect wires from terminals, use 250v setting only. Reconnect wires once test has been completed.</p>	<p>Please tick when this step is completed:</p> <p>Yes <input type="radio"/></p> <p>Result Active & Neutral to Earth: _____ MΩ</p>
<p>B.4</p>	<p>Perform insulation resistance test on cables from EdgelQ <u>back</u> to switchboard</p> <p>Note: Disconnect wires from terminals, use 250v setting only. Reconnect wires once test has been completed.</p>	<p>Please tick when this step is completed:</p> <p>Yes <input type="radio"/></p> <p>Result Active & Neutral to Earth: _____ MΩ</p>
<p>B.5</p>	<p>Perform a prospective short circuit current test on the incoming mains supply (between Active and Neutral):</p> <ol style="list-style-type: none"> 1. Connect your installation testing device (e.g. Fluke 1664) to the incoming active (line side terminal of the main switch) 2. Connect second test lead to the main neutral Bar 3. On PSSC / High Current setting perform test and record result 	<p>Please tick when this step is completed:</p> <p>Yes <input type="radio"/></p> <p>Supply A – N Result: _____ Amps</p> <p>Note: Circuit breaker main switch fault rating must be rated higher than test result.</p> <p>Note: Circuit breaker as an isolator can be installed immediately after main switch to avoid a network disconnection / reconnection.</p>

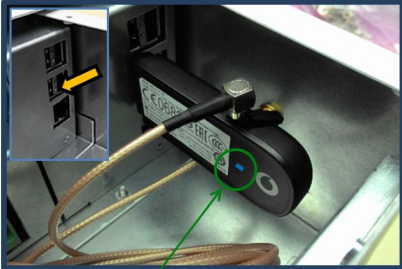


B.6	<p>With installation isolated at main switch, perform an external earth fault loop impedance test between incoming active supply (line side terminal of main switch) to the main earthing conductor:</p> <ol style="list-style-type: none"> 1. Disconnect main earthing conductor from the earth bar in the main switchboard. 2. Connect your installation testing device (e.g. Fluke 1664) to the incoming active (line side terminal of the main switch) 3. Perform external impedance test and record result. 4. Re-connect the main earthing conductor 5. With main earth re-connected to the Earth bar, perform the impedance test again to confirm that Earth is correctly connected, <p>(note: second impedance test result may be lower due to parallel earth paths being connected, meaning that your device may indicate a higher fault current)</p> 	<p>Result : _____ Ohms Ze (External impedance)</p> <p>Result : _____ Amps</p> <p>Please tick when this step is completed: Yes <input type="radio"/></p> <p>Note: Circuit breaker main switch fault rating <u>must</u> be rated higher than earth impedance test result when calculated in amps</p>
C Post power-on commissioning		
C.1	<p>Re-energise the main switch isolator supplying EdgeIQ when all electrical testing in Part B has been completed</p> 	<p>Please tick when this step is completed: Yes <input type="radio"/></p> <p>Note: Do not close the wire junction box of the EdgeIQ unit yet as you will need to test line and load voltages (live testing). Do not allow unauthorised personnel near the opened junction box cover in this condition</p>
C.2	<p>Wait 2 to 5 minutes before the Green status LED indicator presents.</p>	<p>Please tick when status LED is green: Yes <input type="radio"/></p>

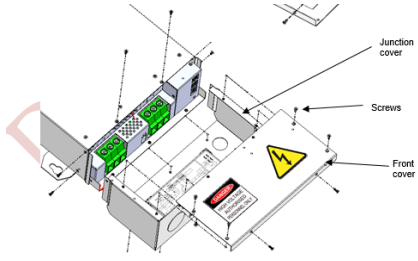


		<p>If status LED does not turn green within 5 minutes, turn-off the main isolation switch supplying the EdgelQ and return to items A1 to A5</p>
C.3	<p>With the status LED green: Measure the voltage between active and neutral on the input terminals, check the input voltage is reading between 216v – 264v?</p>	<p>Please confirm active to neutral voltage on the EdgelQ input terminals are between 216v and 264v</p> <p>Yes <input type="radio"/></p>
C.4	<p>With the status LED green: Measure the voltage between active and earth on the input terminals, check the input voltage is reading between 216v – 264v?</p>	<p>Please confirm active to earth voltage on the EdgelQ's input terminals are between 216v and 264v</p> <p>Yes <input type="radio"/></p>
C.5	<p>With the status LED green: Measure the voltage between Neutral and Earth on the input terminals of the EdgelQ confirming that the input voltage is reading between approximately zero volts</p>	<p>Please confirm that input voltage between neutral and earth is approximately zero volts:</p> <p>Yes <input type="radio"/></p>
C.6	<p>Perform an internal earth fault loop impedance test between output of the EdgelQ and the EdgelQ earthing conductor:</p> <ol style="list-style-type: none"> 1. Connect one test lead of your installation testing device (e.g. Fluke 1664) to the active output terminal of the EdgelQ 2. Connect the next test lead to the output / bridged earth terminal of the EdgelQ 3. Perform fault loop impedance test 	<p>Please tick when this step is completed:</p> <p>Yes <input type="radio"/></p> <p>Result: _____ Ohms Zs (circuit impedance)</p> <p>Note: Impedance at the output of the EdgelQ (Zs) must be lower than the maximum value of impedance for the type of cabling used.</p>
Note	<p>Completion of Steps C1 to C6 confirms the EdgelQ unit is energised but in <i>bypass mode</i> only and therefore is not yet regulating the input voltage</p>	



C.7	<p>Check the signal of the M2M.</p> <p>Solid Blue means that signal is good</p> <p>Note: This should be <u>solid blue</u> not flashing</p>  <p style="text-align: center; font-size: small;">Modem / Comms Indicator Light</p>	<p>Please tick when this step is completed:</p> <p>Yes <input type="radio"/></p> <p>If solid blue signal cannot be obtained, re-check the signal strength of the VODAFONE to the installed site. If signal is still low on Vodafone signal coverage map, consult Edge Electrons for possible solution.</p>
C.8	<p>Turn-on all circuit breakers at the main.</p> <p>Note: Only the use circuit breaker should be turned-on.</p>	<p>Please tick when this step is completed:</p> <p>Yes <input type="radio"/></p>
D	Activating customer monitoring	
D.1	<ol style="list-style-type: none"> 1. Go to www.edgeconx.com/installer-hub 2. Register to become an installer 3. Download the edgeConnected™ Installer App on your smart phone or tablet (available for Apple & Android) 4. The edgeConnected™ Installer App guides you through the steps of installation and customer onboarding 5. After completing the commissioning process through the Installer App, confirm with the customer that they have received an activation email. 	<p>Please tick when this step is completed:</p> <p>Yes <input type="radio"/></p>
D.2	<p>The customer should receive an email from hello-edgeconx@edgeelectronics.com to activate their account.</p>	<p>Please tick when this step is completed:</p> <p>Yes <input type="radio"/></p>
G	Operational testing – Confirmation of voltage regulation	
G.1	<p>With the status LED green, measure the voltage between active and neutral on the Edge IQ output, confirm that the output voltage is reading 230V</p>	<p>Please confirm Active to Neutral voltage on the Edge IQ output terminals is 230v:</p> <p>Yes <input type="radio"/></p>



G.3	With the status LED green, measure the voltage between Active and earth on the Edge IQ output, confirm that the output voltage is reading 230V	<p>Please confirm Active to Earth voltage on the Edge IQ output terminals is 230v:</p> <p>Yes <input type="radio"/></p>
G.4	With the status LED green, measure the voltage between neutral and earth on the input terminals of the Edge IQ confirming that the input voltage is reading between <u>approximately zero volts</u>	<p>Please confirm that input voltage between neutral and earth is approximately zero volts:</p> <p>Yes <input type="radio"/></p>
G.5	<p>Place the cover of the termination area and tighten screws holding the cover.</p> 	<p>Please tick when this step is completed:</p> <p>Yes <input type="radio"/></p>
G.6	<u>Provide completed checklist to the customer</u>	



9. APPENDIX C: EDGE IQ LED STATUS INDICATORS

LED Status Indicators

LED Response	EdgeIQ Status
Steady Green	EdgeIQ is online and is in regulation mode
Flashing Green	EdgeIQ is offline and is in regulation mode
Steady Red	EdgeIQ is online and is in bypass mode due to enable force bypass command. Please contact customersupport@edgeelectronics.com
Flashing Red	EdgeIQ is offline and is in bypass mode due to enable force bypass command. Please contact customersupport@edgeelectronics.com
2s Steady Green, 2s Steady Orange	EdgeIQ is online and is in bypass mode due to faults caused by external factors such as input voltage, output load, and ambient temperature. LED should go back to solid green in sometime
2s Flashing Green, 2s Flashing Orange	EdgeIQ is offline and is in bypass mode due to faults caused by external factors such as input voltage, output load, and ambient temperature. LED should go back to solid green in sometime
2s Steady Red, 2s Steady Orange	EdgeIQ is online and is in bypass mode due to faults caused by internal factors such as auxiliary supply voltage and hotspot temperature. LED should go back to solid green in sometime
2s Flashing Red, 2s Flashing Orange	EdgeIQ is offline and is in bypass mode due to faults caused by internal factors such as auxiliary supply voltage and hotspot temperature. LED should go back to solid green in sometime
2s Steady Red, 2s Steady Green	EdgeIQ is online and is in bypass mode due to faults that suggest possible hardware failure. Please contact customersupport@edgeelectronics.com
2s Flashing Red, 2s Flashing Green	EdgeIQ is offline and is in bypass mode due to faults that suggest possible hardware failure. Please contact customersupport@edgeelectronics.com
Steady Orange	EdgeIQ is offline and the comms module application is not working. Please contact customersupport@edgeelectronics.com

COMMISSIONING COMPLETE

End





CONTACT

For more information about EdgelQ, or to
get a free quote, please call 1300 334 329
or email customersupport@edgeelectronics.com

