

A. MODEL SELECTION / PRELIMINARY CHECKS

Item	Checklist	Comment / Remark
A.1	Which rack rating and model number is required? (Please supply billing and interval data to Edge Electrons analysts)	
A.2	Will there be a requirement for additional dKVar racks in the future? action step: ask customer if they plan to increase the size of the plant or add new production lines. If yes, please advise and discuss this with Edge Electrons Salesperson & Billing Analyst.	
A.3	Standard or custom enclosure for the PowerSave unit? Note: Standard is the Edge Electronics supplied rack unit with termination box and optional MCCB. For Custom enclosure please contact Edge Electrons representative for approval and design specifications.	
A.4	Who is the local network energy authority for this installation in this region?	
A.5	Who is the customer's energy retailer?	
A.6	Does the customer have bulk metering installed?	
A.7	What is the customer's NMI number/s (National Meter Identifier)? Note: Please include a photo with the completed survey document returned to Edge Electronics.	
A.8	Does the customer's premises have HV or LV transformers on site? If so, please describe the number of transformers, type and rating. Note: Please include a photo with the completed survey document returned to Edge Electronics.	

Item	Checklist	Comment / Remark
A.9	<p>How many points of supply coming to the premises?</p> <p>I.E. Two sets of metering?</p>	
A.10	<p>What is the size and type of the incoming supply cables?</p> <p>Note: Please include a photo with the completed survey document returned to Edge Electronics.</p>	
A.11	<p>What is the total incoming supply of the installation rated at?</p>	
A.12	<p>Is there an Audio Frequency Load Control (AFLC) meter on the main switchboard metering? If yes, what is the frequency?</p>	
A.13	<p>Does the customer currently receive a rebate for any discounted tariffs operated via AFLC?</p>	
A.14	<p>What type of circuits are operating on AFLC tariffs? e.g. hot water, large air-conditioning, battery storage etc</p>	
A.15	<p>Has a data logger been installed to establish the power quality of the existing installation? If so, who installed the monitoring equipment and for how long?</p>	
A.16	<p>Have Edge Electron's Analysts / sales people seen the power quality data?</p>	

Item	Checklist	Comment / Remark
A.17	<p>Using either the available power quality data or a clip on ammeter, Are the 3 phase currents correctly balanced on the installation? Please measure the currents under normal / high load periods if using an ammeter.</p> <p>IMPORTANT: If power quality data is not available or it is not possible to measure the current, the balance of the currents on each phase is to be checked immediately during the commissioning of the PowerSave (The PowerSave can do this). Where necessary, advise customer to rectify the imbalance immediately. There may be a good opportunity to do this during shutdown.</p> <p>WARNING: When there is an imbalanced load detected on the installation, Edge Electronics cannot warrant the performance of the unit with respect to Power Factor until this is rectified.</p>	

B. ELECTRICAL REQUIREMENTS – SWITCHBOARD GENERAL

Item	Checklist	Comment / Remark
B.1	<p>Is there adequate surge protection or a lightning arrester installed on the main switchboard? If not, this needs to be arranged prior to final commissioning the PowerSave unit to AS/NZS 1768.</p>	
B.2	<p>Are there any other energy sources that need to be isolated during the shutdown? Examples: PV solar, batteries, backup generators, windpower, etc.</p>	

Item	Checklist	Comment / Remark
B.3	<p>What size molded case circuit breaker is required for the PowerSave unit selected?</p> <p>As a <u>general</u> starting point:</p> <p>200 dKVar requires 400A Circuit Breaker 150 dKVar requires 320A Circuit Breaker 100 dKVar requires 250A Circuit Breaker 50 dKVar requires 150A Circuit Breaker</p> <p>Note 1: For easy install EDGE have available breaker box Accessories. Pls. ask EDGE Representative for the details.</p> <p>Note 2: The Electrical Contractor is responsible for the final selection of the molded case circuit breaker, to AS/NZS 3000.</p> <p>Note 3: Please advise the size, type and model if you are intending to use HRC fuses (High Rupturing Capacity).</p>	
B.4	<p>Perform a test to determine the Prospective Short Circuit Current (PSCC) and the Prospective Earth Fault Current (PEFC). Enter the result:</p>	
B.5	<p>What is the KA rating required by the installation for the PowerSave's MCCB based on the higher PEFC & PSCC test values and existing upstream protection.</p> <p>e.g. If the PEFC is 45,000 Amps and is higher than PSCC at 39,000 Amps, select a 50KA rated breaker.</p>	
B.6	<p>Is there a <u>suitable</u> spare space on the existing main switchboard chassis (busbar) for the new circuit breaker / HRC fuses required by the PowerSave unit?</p> <p>If yes go to 24 If no go to 25</p>	
B.7	<p>Is the existing chassis rated to accept the dimensions of the new circuit breaker required?</p> <p>e.g. 400A MCCB (Molded Case Circuit Breaker) won't fit 250A rated busbars. Be mindful of MCCB (Molded Case Circuit Breaker) sizes.</p>	

Item	Checklist	Comment / Remark
B.8	<p>What is the existing brand of circuit breakers on the switchboard?</p> <p>Schneider Terasaki ABB GE Mitsubishi Eaton / Quicklag GEC OTHER (Please specify)</p>	
B.9	<p>Please provide details of the existing MCCB (if there is one available) that will be installed with installation of the PowerSave:</p>	<p>Brand _____</p> <p>Model _____</p> <p>Current Rating _____</p> <p>KA Rating _____</p> <p>Existing Breaker? Yes / No</p> <p>New Breaker Required? Yes / No</p>
B.10	<p>What are details of the compliance plate of the Switchboard where the PowerSave's MCCB (Molded Case Circuit Breaker) will be located?</p> <p>Switchboard Manufacturer Name: Phone number: Project number: Original contractor: Fault current rating: Supply current rating:</p>	
B.11	<p>If not enough physical space is available for the new MCCB (Molded Case Circuit Breaker), does the installation require either custom switchboard modification and/or a new switchboard to be custom fabricated by a switchboard builder?</p>	
B.12	<p>Edge Electronics has an optional junction box hood that can house an MCCB suitable to supply the PowerSave. This junction box allows for an MCCB, front mounted terminations and makes testing and isolation simple & safe. Will this be adequate for the installation? (Please contact Edge Electronics Representative for details)</p>	

Item	Checklist	Comment / Remark
B.14	Advise Size, Type & Rating of MCCB required (Schneider Brand)	
B.15	<p>From the previous question, If a custom fabricated switchboard or enclosure is required, because of ambient temperature, moisture, dust, filings of fibres, which switchboard manufacturer will be used to build the enclosure?</p> <p>Name: Company: Email: Phone: Mobile Phone:</p> <p>Quote Requested: Yes / No Quote Accepted: Yes / No Expected Lead Time: Approximate Delivery Date:</p>	
B.16	<p>What are the dimensions of the available space for additional switchboard?</p> <p>Next step:</p> <ol style="list-style-type: none"> 1. Note switchboard compliance plate details. 2. Prepare concept sketch of new enclosure. 3. Contact switchboard builders for a quote. 4. Advise customer that installation requires switchboard modifications. 5. Contact edge electrons sales representative to advise of expected lead time. 	
B.17	<p>Is the main switchroom or any of the rooms or areas associated with the installation locked? How will the key be obtained for the installation and any required maintenance in the future?</p> <p>Name: Company: Email: Phone: Mobile Phone:</p>	

LOCATION SELECTION - ROOM & FINAL POSITION OF PowerSave UNIT

Item	Checklist	Comment / Remark
B.18	<p>What is the intended final installed location of the PowerSave unit?</p> <p>Note: Please describe and provide photos with the completed survey document returned to Edge Electronics Representative.</p>	
B.19	<p>Does the room where the PowerSave unit will be installed have adequate ambient temperature, ventilation and / or air conditioning?</p>	
B.20	<p>Is the room where the PowerSave is being installed fire rated?</p> <p>Note 1 : Cables need to be fire rated/Halogen low smoke type. Note 2: Penetrations to be re-instated ASAP.</p>	
B.21	<p>Will the PowerSave be installed within a room which is locked? How will the key be obtained for the installation and any required maintenance?</p> <p>Name: Company: Email: Phone: Mobile Phone:</p> <p>PowerSave unit location onsite:</p>	

C. LOCATION SELECTION – HAZARDS AND GENERAL SITE CONDITIONS

Item	Checklist	Comment / Remark
C.1	<p>What is the expected ambient temperature range of the selected location for the PowerSave unit?</p>	
C.2	<p>Is there customer equipment on site that could cause an increase in ambient temperature during operation of the PowerSave? e.g. Air conditioning, Space Heaters, Boilers, Machines, Exhausts.</p>	
C.3	<p>Will any ventilation or air conditioning be required for the PowerSave?</p>	

Item	Checklist	Comment / Remark
C.4	Will the PowerSave unit be exposed to moisture and / or excessive dust?	
C.5	Is the location considered to be an explosive environment? Example: It has an atmosphere that contains conductive dust particles such as flour or grains, for example a bakery or grain storage facility.	
C.6	Is the PowerSave unit within close proximity to any water sources such as sinks, fire hoses or customer machines / materials requiring water?	
C.7	Is the selected location for the PowerSave exposed to traffic sources such as staff, customers, machinery?	

D. LOCATION SELECTION – COMMUNICATIONS MAP / AVAILABILITY

Item	Checklist	Comment / Remark
D.1	Is there an adequate Vodafone cellular signal available on the selected installed location for the PowerSave unit? Please check the signal coverage map.	
D.2	<p>If the signal appears to be adequate on the site map, is the PowerSave unit going to be installed within a basement, cool room, behind thick concrete walls, deep within the building or other obstructions that may affect the strength of the signal?</p> <p>If so, will a communications specialist be required to install an external antenna?</p> <p>If yes, provide the contact details of the contractor below:</p> <p>Name: Company: Email: Phone: Mobile Phone:</p> <p>Note: Please advise the Customer and Edge Electrons of any anticipated lead times or delays</p>	

Item	Checklist	Comment / Remark
	associated with this.	
D.3	<p>If required, what is the intended location of the external antenna?</p> <p>Note : Please provide detailed description and photos with the completed survey document returned to Edge Electrons Representative.</p>	
D.4	<p>If required, what is the size, type, brand and model number of the external antenna being installed?</p> <p>Note: Must be an approved Vodafone network antenna.</p>	
D.5	<p>Are there any other factors affecting the installation of an external antenna? E.g. will penetrations be required, adequate space and access for the antenna?</p>	
D.6	<p>Have you advised the customer and the Edge Electrons representative that an external antenna may be required?</p> <p>Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/></p>	

E. ELECTRICAL INSTALLATION REQUIREMENTS - POWER CABLING

Item	Checklist	Comment / Remark
E.1	<p>What is the approximate length of the power cables from the main switchboard to the intended final location of the new PowerSave unit?</p>	
E.2	<p>What is the appropriate cable size for the installation of the new PowerSave unit allowing for 35% capacitance rating as per AS/NZS 3000 4.10.</p> <p>strictly as a <u>general</u> guide, on short cable runs in installations with good ventilation and normal ambient temperatures :</p> <p>200kVar unit = 185mm² high flex cabling 150kVar unit = 120mm² high flex cabling 100kVar unit = 70mm² high flex cabling 50kVar unit = 50mm² high flex cabling</p>	

Item	Checklist	Comment / Remark
	<p>NOTE: Contractor <u>must</u> ensure cable selection is in accordance with AS / NZS 3008.</p>	
E.3	<p>Will the cables pass through any room that has a fire rating?</p> <p>Note 1: If yes, must select fire rated cable, and cable supports must also be fire rated. Note 2: Penetrations must be re-instated ASAP.</p>	
E.4	<p>What are the de-rating factors affecting the installation?</p> <p>for example: ambient or radiant heat, bunching of cables, distance of cable run, insulation, UV exposure</p> <p>NOTE: Contractor <u>must</u> ensure cable selection is in accordance with AS / NZS 3008.</p>	
E.5	<p>Is there enough room for all of the glands* to be installed on the existing gland plate at the main switchboard?</p> <p>NOTE: This includes glands for each of the 3 phases, neutral, earth and an appropriate corrugated conduit gland containing the CT cables (normally 32mm).</p>	
E.6	<p>What is the installation method of the cables? (check all that apply)</p> <p>cable tray cavity walls ceiling spaces conduit internal spaces within the wiring enclosures</p> <p>Please Note : Type & quantity of fixings required (Approx.)</p>	
E.7	<p>Are there any penetrations required for the cabling prior to the installation? If so, will the penetrations need to be re-instated with an appropriate fire rating after the installation has been completed?</p> <p>If yes, provide the contact details of the contractor responsible for creating the penetrations and re-instating the fire rating</p>	

Item	Checklist	Comment / Remark
	Name: Company: Email: Phone: Mobile Phone:	
E.9	Will the cables be terminated with a bottom or top entry into the PowerSave unit?	

F. ELECTRICAL INSTALLATION REQUIREMENTS - CT / ROGOWSKI CABLING

Item	Checklist	Comment / Remark
F.1	What is the approximate distance of the CT Rogowski cables from the intended final location back to the load side of the main switch? Note: Rogowski ship with 30m wire extension.	<input type="checkbox"/> 10m or less <input type="checkbox"/> 20m or less (1 x 10m extension cable) <input type="checkbox"/> 30m or less (1 x 10m extension cable) <input type="checkbox"/> other (Please contact Edge Electronics)
F.2	What is the diameter of the CT / Rogowski cable required for the installation? 12cm _____ 19cm _____	

G. SHUTDOWN FOR THE INSTALLATION OF PowerSave

Item	Checklist	Comment / Remark
G.1	Is the customer aware that a shutdown will be required for the installation of the PowerSave unit and the CT cabling?	
G.2	If the customer is aware of the shutdown, have they been advised that they will need arrange to backup all data on all computers, servers and devices prior to the shutdown for the installation of the PowerSave?	
G.3	Is there any sensitive equipment to consider such as UPS power supplies, alarms, monitoring equipment, fridges, freezers, computers, other equipment that be affected by the installation shutdown?	

Item	Checklist	Comment / Remark
G.4	Is there a backup generator that is part of the existing installation that will require additional isolation?	
G.5	Will the customer require a portable petrol or diesel generator during the shutdown for maintenance of essential services?	
G.6	What is the intended date of the shutdown?	
G.7	What is the intended length of the shutdown?	
G.8	<p>What are the customer's on site representative contact details for the shutdown?</p> <p>Name: Position: Mobile Phone: Email: 2nd Contact</p> <p>Name: Position: Mobile Phone: Email:</p>	

H. TRANSPORTATION & DELIVERY

Item	Checklist	Comment / Remark
H.1	<p>Courier contact details.</p> <p>Courier Company: Courier Name: Phone: Email: Consignment note number:</p>	
H.2	Does the courier truck tailgate lifter required for the delivery of the PowerSave by the courier?	
H.3	Does the customer have a forklift onsite and available for use with a qualified operator to meet the delivery?	

Item	Checklist	Comment / Remark
H.4	Will more than two people be required to move the unit during the delivery? (Refer to your safe manual handling procedure)	
H.5	Does the customer have a secure designated lay down area for the PowerSave unit prior to moving into final position? Are there any obstacles such as narrow corridors, doorways or equipment that will prevent moving the PowerSave rack to the laydown area?	
H.6	Does the customer have a pallet jack, forklift, suitably rated trolley & other lifting equipment on site that will have access to during delivery?	

I. MOVING THE PowerSave UNIT INTO POSITION

Item	Checklist	Comment / Remark
I.1	Will more than two people be required to move the unit during the installation? (Refer to safe manual handling procedure)	
I.2	How will the PowerSave rack be transported to the final installation position? Describe.	
I.3	Is there any other lifting equipment on site that we will have access to during the delivery?	

J. FINAL CONSIDERATIONS

Item	Checklist	Comment / Remark
J.1	Are there any other factors affecting: Model selection Standard rack or cabinet mount Fixings Penetrations Cabling - wire selection Cable support system Main switchboard	

Item	Checklist	Comment / Remark
	Adequate switchroom space Isolations Secondary energy sources Essential power supplies MCCB selection Site access Shutdown procedure Customer data backups Materials Delivery lead times External contractors Customer documentation requirements Tools Lifting equipment Transportation Storage Environmental factors Co-ordination Fire rating Communications External antenna Heat Ventilation On site fabrication	

**Contractor to provide the following;

1. Photographs required of staging area
2. Photo's access stairs, corridors, and doors
3. Photo's Switch Board / Room / NMI - Leo
4. Photo's Switchboard SLD what is this?
5. Photo's Proposed area of install
 - a) Photo's installation location (mark out location with tape...)
 - b) Photo's proposed breaker location (mark out location with tape...)
6. Photo's main buss bars showing dimensions
7. Photo' of surrounding area, all meters, including AFLC Meter if any
8. Photo's Access Hazards (if any)
9. Sketch of proposed install inclusive of cable run with description of cable trunking method i.e. conduit, duct, cable tray etc

Note1: Complete the form above and pls. send a softcopy to DkVAr.installs@edgeelectrons.com.au

Note2: there will be little to no compliance with this form for supply only units