



**USER MANUAL**

**POWER BREEZE PTY LTD**

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## 1. Introduction to your new system

- Equipment installed

### Photovoltaic Panels

Light energy is converted into photons into direct current electricity.

Solar Cells generate electricity when sufficient light energy falls on the surface in the form of photons. Most common types of solar cells are: Mono-crystalline, Multi-crystalline and Poly.

Location of panels is mostly fixed array – roof mounted. The angle chosen influences production and varies according to roof profile and orientation of the house to the path of the sun.

### Inverter

This critical component converts the solar energy Photovoltaic (PV) into alternate current (AC) for household use and to be fed into the grid. Your energy retailer will purchase everything you feed back into the grid. Micro inverters convert each panel's energy separately into AC and is advantageous to houses with shadowing.

These inverters are typically located in a high traffic area or close to the switchboard. The micro inverters are located on the rooftop, securely with the panels.

### AC and DC Circuit Breakers/Isolators

The function of these breakers are for system maintenance, customers choice and emergency situations.

These are possible to be switched on and off with a lever. They are usually mounted next to the inverter. In the case of micro inverters it will be placed next to the switchboard (depends on installation).

### Racking

These railing or racking systems are mounted to the roof to secure your solar panels and relevant equipment to it. These rails are designed to withstand the elements and securely hold the systems weight. Some systems are ground mounted and will still be secured to these racking systems and the racking/railing is secured to either roof or ground to installer discretion.

*The structural integrity of a roof and the point of attachment may need to be verified by a structural engineering certification and/or building approvals.*

- Dollar savings estimate

Your first solar bill:

There is a new item on this bill Renewable Energy

To understand how this works you need to understand that the credit per unit (rebate at around 9c per unit) is not the only financial benefit you are receiving.

Your meter is not able to calculate what you consume before it reaches your meter.

You can do this by using the following calculation

*E-Total – total exported = savings before rebate*

*2100 kWh – 1000 kWh = 1100 kWh*

Now you need to remember that you would have paid normal rate for what you now saved therefore

*1100 kWh x 24 cents = \$264*

So you save before rebate so you can add that to your total savings.

## 2. Warranties

- Equipment

Please note that the equipment installed have their own manufacturers warranties and this will be included under Manufacturers Documentation. Always register inverter with manufacturer directly to ensure the warranty is valid and to be able to purchase extended warranties directly. It is always important to ensure that you know what your system is comprised of and to ensure you gather the relevant knowledge about these products.

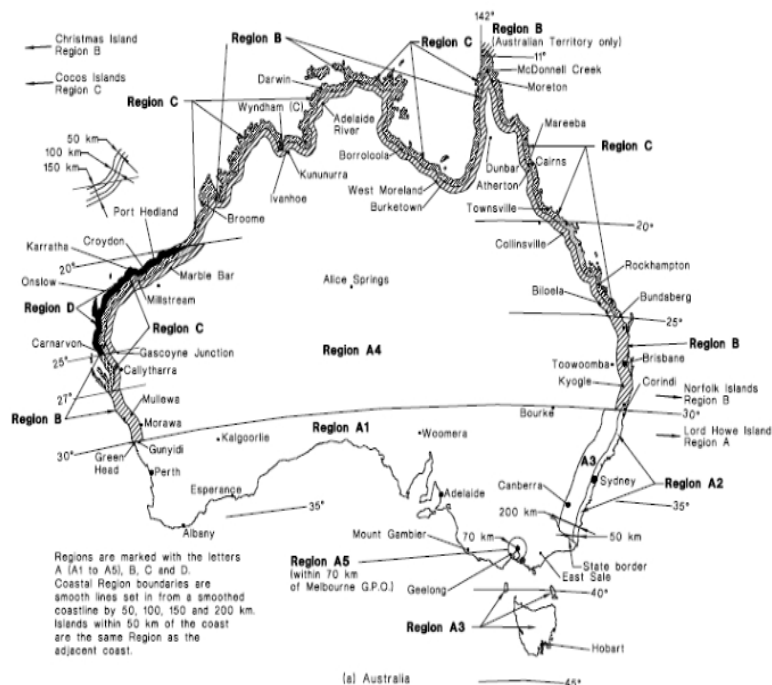
- Workmanship

We provide a five-year warranty on the installation work that has been done by Power Breeze Pty Ltd. Panels will be affected by dirt and the performance even though dust is washed away by rains we do suggest that you give it a hose down during dry seasons to ensure proper performance.

Maintenance is recommended to be booked every two years to check

- Cleaning
- Wear and Tear on all cables and switches
- Damage Check
- System performance
- Structural Integrity of mounting frame and fixings

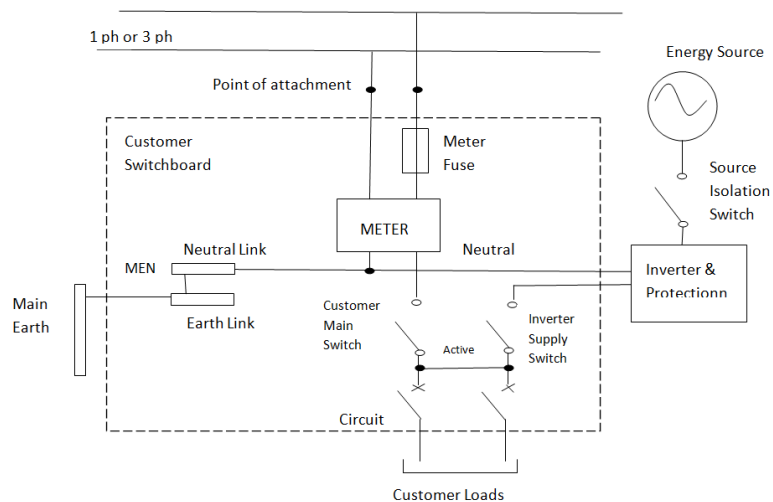
## 3. Wind Region



Perth falls under wind Region A1 as depicted in the figure above. This is what determines rails and installation equipment used by the installer.

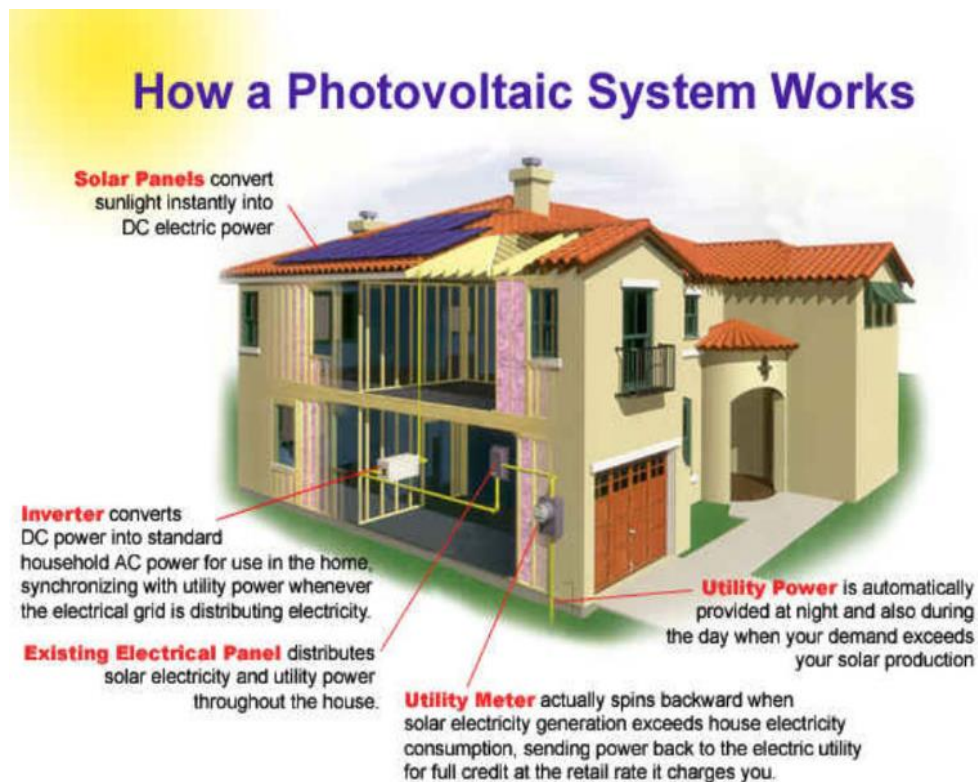


#### 4. System Connection Diagram



#### 5. Function and Operation

- How a Photovoltaic System Works



- Estimate of System average energy output

Total kW System Installed	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Average kW/h per day
1.5	8.16	8.06	7.62	6.56	5.69	5.24	5.30	5.93	6.80	7.86	8.12	8.24	6.96
1.6	8.70	8.59	8.13	6.99	6.06	5.58	5.65	6.32	7.25	8.38	8.66	8.78	7.43
1.7	9.25	9.13	8.64	7.43	6.44	5.93	6.00	6.72	7.70	8.91	9.20	9.33	7.89
1.8	9.79	9.67	9.14	7.87	6.82	6.28	6.35	7.11	8.15	9.43	9.74	9.88	8.35
1.9	10.34	10.20	9.65	8.30	7.20	6.63	6.71	7.51	8.61	9.96	10.82	10.43	8.82
2.0	10.88	10.74	10.16	8.74	7.58	6.98	7.06	7.90	9.06	10.48	10.82	10.98	9.28
2.1	11.42	11.28	10.67	9.18	7.96	7.33	7.41	8.30	9.51	11.00	11.36	11.53	9.75
2.2	11.97	11.81	11.18	9.61	8.34	7.68	7.77	8.69	9.97	11.53	11.90	12.08	10.21
2.3	12.51	12.35	11.68	10.05	8.72	8.03	8.12	9.09	10.42	12.05	12.44	12.63	10.67
2.4	13.06	12.89	12.19	10.49	9.10	8.38	8.47	9.48	10.87	12.58	12.98	13.18	11.14
2.5	13.60	13.43	12.70	10.93	9.48	8.73	8.83	9.88	11.33	13.10	13.53	13.73	11.60
2.6	14.14	13.96	13.21	11.36	9.85	9.07	9.18	10.27	11.78	13.62	14.07	14.27	12.07
2.7	14.69	14.50	13.72	11.80	10.23	9.42	9.53	10.67	12.23	14.15	14.61	14.82	12.53
2.8	15.23	15.04	14.22	12.24	10.61	9.77	9.88	11.06	12.68	14.67	15.15	15.37	12.99
2.9	15.78	15.57	14.73	12.67	10.99	10.12	10.24	11.46	13.14	15.20	15.69	15.92	13.46
3.0	16.32	16.11	15.24	13.11	11.37	10.47	10.59	11.85	13.59	15.72	16.23	16.47	13.92
3.1	16.86	16.65	15.75	13.55	11.75	10.82	10.94	12.25	14.04	16.24	16.77	17.02	14.39
3.2	17.41	17.18	16.26	13.98	12.13	11.17	11.30	12.64	14.50	16.77	17.31	17.57	14.85
3.3	17.95	17.72	16.76	14.42	12.51	11.52	11.65	13.04	14.95	17.29	17.85	18.12	15.31
3.4	18.50	18.26	17.27	14.86	12.89	11.87	12.00	13.43	15.40	17.82	18.39	18.67	15.78
3.5	19.04	18.80	17.78	15.30	13.27	12.22	12.36	13.83	15.86	18.34	18.94	19.22	16.24
3.6	19.58	19.33	18.29	15.73	13.64	12.56	12.91	14.22	16.31	18.86	19.48	19.76	16.71
3.7	20.13	19.87	18.80	16.17	14.02	12.91	13.06	14.62	16.76	19.39	20.02	20.31	17.17
3.8	20.67	20.41	19.30	16.61	14.40	13.26	13.41	15.01	17.21	19.91	20.56	20.86	17.64
3.9	21.22	20.94	19.81	17.04	14.78	13.61	13.77	15.41	17.67	20.44	21.10	21.41	18.10
4.0	21.76	21.48	20.32	17.48	15.16	13.96	14.12	15.80	18.12	20.96	21.64	21.96	18.56
4.1	22.30	22.02	20.83	19.92	15.54	14.31	14.47	16.20	18.57	21.48	22.18	22.51	19.03
4.2	22.85	22.55	21.34	18.35	15.92	14.66	14.83	16.59	19.03	22.01	22.72	23.06	19.49
4.3	23.39	23.09	21.84	18.79	16.30	15.01	15.18	16.99	19.48	22.53	23.36	23.61	19.96
4.4	23.94	23.63	22.35	19.23	16.68	15.36	15.53	17.38	19.93	23.06	23.80	24.16	20.42
4.5	24.48	24.17	22.86	19.67	17.06	15.71	15.89	17.78	20.39	23.58	24.35	24.71	20.88
4.6	25.02	24.70	23.37	20.10	17.43	16.05	16.24	18.17	20.84	24.10	24.89	25.25	21.35
4.7	25.57	25.24	23.88	20.54	17.81	16.40	16.59	18.57	21.29	24.63	25.43	25.80	21.81
4.8	26.11	25.78	24.38	20.98	18.19	16.75	16.94	18.96	21.74	25.15	25.97	26.35	22.28
4.9	26.66	26.31	24.89	21.41	18.57	17.10	17.30	19.36	22.20	25.68	26.51	26.90	22.74
5.0	27.20	26.85	25.40	21.85	18.95	17.45	17.65	19.75	22.65	26.20	27.05	27.45	23.20

\*Based on CEC GC Design Guidelines and the Australian Solar Radiation Data Handbook at True North with 30° Inclination.

AZIMUTH	INCLINATION		
	20°	30°	40°
West	-13%	-15%	-19%
East	-13%	-16%	-19%
North/West	-6%	-5%	-7%
North/East	-4%	-4%	-5%

Example
3.2kW System Installed on the North/West face @ 20°
14.85kW/h - 6% = 13.96kW/h

Site Results		
Annual Average Yield (String 1)		
Derating Factor		Result
Annual Average Yield (String 2)		
Derating Factor		Result
Total Annual Average Yield		

\*Figures based on using modules with 5% manufacturers PV Tolerance and 5% Soiling, Inverter efficiency of 93% and cable

## 6. Procedures

- Shutdown and isolation

On the face of the Inverter there will be a procedure displayed for Shutdown it is as follows:

Turn off the AC "Solar Supply Main Switch" – this is in the switchboard or the sub-board next to the inverter.

Turn off the DC "PV Array Main Switch" – next to the inverter

**DO NOT UNCLIP THE DC CONNECTORS UNDER LOAD THIS IS A SAFETY WARNING**

- Start up

This is the reverse of the Shutdown Procedure therefore

Turn on the DC "PV Array Main Switch" - next to the inverter

Turn on the AC "Solar Supply Main Switch" - in the switchboard or the sub-board next to the inverter.

**DO NOT UNCLIP THE DC CONNECTORS UNDER LOAD THIS IS A SAFETY WARNING**

- Fault Alarms

The inverter has a red light to indicate Faults, it also has a screen that lists the specific problem.

In the event that the red light is on and the inverter screen indicates the following

**Utility Loss or No AC Voltage**

Both of these readings indicate that the house has no electricity or that the AC switches are turned off.

In the event that the red light is on and the inverter screen indicates one of the following

**PV Array Fault / Earth Fault / Continuity Fault etc**

Follow the Shut down procedure and phone the installer

- Maintenance and timetable

Time	What to do
Weekly	Ensure inverter is on Ensure meter is recording export power
Monthly	Shading on panels Dust Build-up or Soiling Tree litter behind modules and framing Synergy bills for credits
Every Second Year	Maintenance check by an accredited installer

- Safety Guidelines

Any work on the system should only be done by a licensed electrical contractor.

Modifications and maintenance should also be done by a licensed electrical contractor as it is dangerous and will void warranties.

When you hose down your panels only do so early mornings as the panels are extremely hot and producing electricity.

Do not walk on modules.

Always use care when climbing on roofs as it is dangerous.

Ensure that you have personal protective equipment when attempting to do so.

**Please note that we do not recommend you climbing on the roof in any circumstance as it is**

dangerous.

## 7. Isolator Suppliers



Data according to IEC 60947-3, VDE 0660






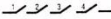
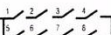
DC21B Rating								Poles in series	Number of Strings	Weight kg/pcs.	Part Number	Contact Configuration
600V	700V	800V	900V	1000V	1200V	1500V						
16A	16A	16A	13A	9A	6A	3A	2	1	0.20		SI16 PM64 2	
25A	23A	20A	16A	11A	8A	4A	2	1	0.20		SI25 PM64 2	
32A	27A	23A	20A	13A	10A	5A	2	1	0.20		SI32 PM64 2	
29A	16A	16A	13A	9A	6A	3A	2	1	0.25		SI16 PM64 2H	
45A	23A	20A	16A	11A	8A	4A	2	1	0.25		SI25 PM64 2H	
50A	27A	23A	20A	13A	10A	5A	2	1	0.25		SI32 PM64 2H	
16A	16A	16A	13A	9A	6A	3A	2	2	0.23		SI16 PM64 4	
25A	23A	20A	16A	11A	8A	4A	2	2	0.23		SI25 PM64 4	
32A	27A	23A	20A	13A	10A	5A	2	2	0.23		SI32 PM64 4	
16A	16A	16A	16A	16A	16A	16A	4	1	0.24		SI16 PM64 4S	
25A	25A	25A	25A	25A	25A	20A	4	1	0.24		SI25 PM64 4S	
32A	32A	32A	32A	32A	32A	23A	4	1	0.24		SI32 PM64 4S	
16A	16A	16A	16A	16A	16A	16A	4	1	0.24		SI16 PM64 4T	
25A	25A	25A	25A	25A	25A	20A	4	1	0.24		SI25 PM64 4T	
32A	32A	32A	32A	32A	32A	23A	4	1	0.24		SI32 PM48 4T	
16A	16A	16A	16A	16A	16A	16A	4	1	0.24		SI16 PM64 4B	
25A	25A	25A	25A	25A	25A	20A	4	1	0.24		SI25 PM64 4B	
32A	32A	32A	32A	32A	32A	23A	4	1	0.24		SI32 PM64 4B	
16A	16A	16A	13A	9A	6A	3A	2	3	0.36		SI16 PM64 6	
25A	23A	20A	16A	11A	8A	4A	2	3	0.36		SI25 PM64 6	
32A	27A	23A	20A	13A	10A	5A	2	3	0.36		SI32 PM64 6	
16A	16A	16A	13A	9A	6A	3A	2	4	0.41		SI16 PM64 8	
25A	23A	20A	16A	11A	8A	4A	2	4	0.41		SI25 PM64 8	
32A	27A	23A	20A	13A	10A	5A	2	4	0.41		SI32 PM64 8	
29A	29A	29A	29A	29A	29A	16A	8	1	0.46		SI16 PM64 4H	
45A	45A	45A	45A	45A	45A	20A	8	1	0.46		SI25 PM64 4H	
58A	58A	58A	58A	58A	50A	23A	8	1	0.46		SI32 PM64 4H	





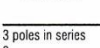
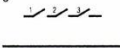
# Technical Data




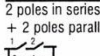

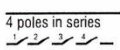
Data according to IEC 60947-3, VDE 0660



Main Contacts		Unit	SI16	SI25	SI32		
Rated thermal current $I_{th}$		A	16	25	32		
Rated insulation voltage $U_i$ <sup>1)</sup>		V	1000	1000	1000		
Rated insulation voltage $U_i$ <sup>2)</sup>		V	1500	1500	1500		
Distance of contacts (per pole)		mm	8	8	8		
Rated operational current $I_n$ DC21B							
DC21B L/R = 1ms	<div>1 pole</div> 	500V	A	9	11	13	
		600V	A	6	8	10	
		800V	A	3	4	5	
		1000V	A	1.5	2	2.5	
	<div>2 Pole in series</div> <div>2</div> 	500V	A	16	25	32	
		600V	A	16	25	32	
		700V	A	16	23	27	
		800V	A	16	20	23	
		900V	A	13	16	20	
		1000V	A	9	11	13	
		1200V	A	6	8	10	
		1500V	A	3	4	5	
		<div>2 poles in series</div> <div>+ 2 poles parallel</div> <div>2H</div> 	500V	A	29	45	58
			600V	A	29	45	50
			700V	A	16	23	27
			800V	A	16	20	23
	900V		A	13	16	20	
	1000V		A	9	11	13	
	1200V		A	6	8	10	
	1500V		A	3	4	5	
	<div>3 poles in series</div> 	500V	A	16	25	32	
		600V	A	16	25	32	
		700V	A	16	25	32	
		800V	A	16	25	32	
		900V	A	16	25	32	
		1000V	A	16	25	32	
		1200V	A	12	14	16	
		1500V	A	9	11	13	
		<div>3 poles in series</div> <div>+ 2 poles parallel</div> <div>3H</div> 	500V	A	29	(45)	(58)
			600V	A	29	(45)	(50)
			700V	A	29	(38)	(45)
			800V	A	29	(38)	(45)
	900V		A	29	(38)	(45)	
	1000V		A	29	(38)	(45)	
	1200V		A	12	14	16	
	1500V		A	9	11	13	
	<div>4 poles in series</div> <div>4</div> 		500V	A	16	25	32
			600V	A	16	25	32
			700V	A	16	25	32
			800V	A	16	25	32
		900V	A	16	25	32	
		1000V	A	16	25	32	
		1200V	A	16	25	32	
		1500V	A	16	20	23	
		<div>4 poles in series</div> <div>+ 2 poles parallel</div> <div>4H</div> 	500V	A	29	45	58
			600V	A	29	45	58
			700V	A	29	45	58
			800V	A	29	45	58
	900V		A	29	45	58	
	1000V		A	29	45	58	
	1200V		A	29	45	50	
	1500V		A	16	20	23	
Rated operational current $I_n$ AC21B							
2.4	$U_n$ max. 440V		A	16	25	32	
2H	$U_n$ max. 440V		A	29	45	58	

1) Suitable at 1000V for: earthed-neutral systems, overvoltage category I to III, pollution degree 3 (standard-industry); Uimp = 8kV  
2) Suitable at 1000V for: earthed-neutral systems, overvoltage category I to III, pollution degree 2 (min. IP55); Uimp = 8kV.

Main Contacts		Unit	SI16	SI25	SI32	
Rated operational current I <sub>e</sub> DC22B						
L/R = 2.5ms		500V	A	1	1.25	1.5
		600V	A	0.5	0.75	1
		800V	A	0.3	0.4	0.5
		1000V	A	0.15	0.2	0.25
		500V	A	7	8	9
		600V	A	5.5	6	6.5
		800V	A	2	2.5	3
		1000V	A	1	1.5	2
		500V	A	16	25	27
		600V	A	16	23	25
		800V	A	6.5	7	7.5
		1000V	A	5.5	6	6.5
		500V	A	16	25	32
		600V	A	16	25	27.5
		800V	A	11.5	12	12.5
		1000V	A	8	9	10
Rated conditional short-circuit current		kA <sub>eff</sub>	5	5	5	
Max. fuse size gI (pG)		A	40	63	80	
Mechanical Life		x10 <sup>3</sup>	10	10	10	
Rated short-time withstand current (1s) I <sub>cw</sub>		2, 4, 6, 8	800	900	1000	
withstand current (1s)		2H, 3H, 4H	1300	1500	1700	
Short circuit making capacity I <sub>cw</sub>		2, 4, 6, 8	800	900	1000	
making capacity		2H, 3H, 4H	1300	1500	1700	
Maximum cable cross sections		(inc. jumper SIV-B1)				
Solid or stranded		mm <sup>2</sup>	4 - 16	4 - 16	4 - 16	
Flexible		mm <sup>2</sup>	4 - 10	4 - 10	4 - 10	
Flexible (+ multicore cable end)		mm <sup>2</sup>	4 - 10	4 - 10	4 - 10	
Size of terminal screw			M4 Pz2	M4 Pz2	M4 Pz2	
Tightening torque		Nm	1.2 - 1.8	1.2 - 1.8	1.2 - 1.8	
Maximum ambient temperature						
Operation		Open	°C	-40 to + 65 (de-rating for +70 = 32A to 30A, 25A to 24A, 16A to 15A)		
		Enclosed	°C	-40 to + 45		
Storage			°C	-50 to + 90		
Power loss per switch at I <sub>e max</sub> DC21B						
2		W	2	5	8	
4		W	4	10	16	
6		W	6	15	24	
8		W	8	20	32	
2H		W	3.5	8.5	14	
3H		W	5.5	13	21	
4H		W	7	17	28	

Main Contacts		Unit	SI16	SI25	SI32	
Ampere-Rating uL						
		350V	A	4	5	6
		500V	A	4	5	6
		600V	A	4	5	6
		350V	A	16	20	25
		500V	A	16	20	25
		600V	A	16	20	25
		350V	A	29	45	58
		500V	A	29	38	40
		600V	A	21	23	25
		350V	A	16	25	32
		500V	A	16	25	32
		600V	A	16	25	32
		350V	A	16	25	32
		500V	A	16	25	32
		600V	A	16	25	32
		350V	A	16	25	32
		500V	A	16	25	32
		600V	A	16	25	32
Fuse size (RK5)		Industrial Control Switch				
5kA / 600V		A	40	60	80	
Maximum cable cross sections (incl. jumper SIV-B1)						
Solid or stranded		AWG	12 - 10	12 - 10	12 - 10	
Flexible		AWG	12 - 6	12 - 6	12 - 6	
Flexible (+ multicore cable end)		AWG	12 - 6	12 - 6	12 - 6	
Size of terminal screw			M4 Pz2	M4 Pz2	M4 Pz2	
Tightening torque		lb.inch	11 - 16	11 - 16	11 - 16	

Data acc. to UL508 e US File E146487, Category no.: NRNT2, NRNT8



#### Parameter

##### Electrical Characteristics

Type	BYH-32	BYH-32BC4
Function	Isolator, Control	
Comply with	IEC60947-3	
Pole	4P	
Max Rated Current	32A	
Rated Working Voltage	Ue	1000V DC
Rated Current	In	32A
Rated Insulated Voltage	Ui	1000V DC
Rated Impulsed Voltage	Uimp	8KV
Service Life/Cycle Operation		
Mechanical	20000	
Electrical	2000	
Installation Environment		
Ingress Protection	IP66	
Storage Temperature	-40°C~+85°C	

#### Dimensions(mm)&Wiring Diagram

##### Electrical Characteristics

Type	BYH-32	BYH-32BC4
Function	Isolator, Control	
Comply with	IEC60947-3	
Pole	4P	
Max Rated Current	32A	
Rated Working Voltage	Ue	1000V DC
Rated Current	In	32A

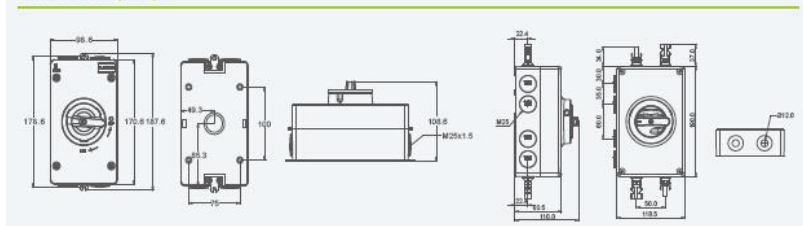
Rated Insulated Voltage	Ui	1000V DC
Rated Impulsed Voltage	Uimp	8KV
Service Life/Cycle Operation		
Mechanical		20000
Electrical		2000
Installation Environment		
Ingress Protection		IP66
Storage Temperature		-40°C~+85°C

Wiring Diagram								
Contacts wiring diagram	500V	600V	800V	1000V	Poles in series	Number of Strings	Type Number	Weight kg/PCS
	16A	16A	16A	9A	2	1	BYH-16PE2	0.65
	25A	25A	20A	11A	2	1	BYH-25PE2	0.65
	32A	32A	23A	13A	2	1	BYH-32PE2	0.65
	25A	25A	16A	9A	2	1	BYH-16PE2H	0.71
	45A	45A	20A	11A	2	1	BYH-25PE2H	0.71
	56A	50A	23A	13A	2	1	BYH-32PE2H	0.71
	16A	16A	16A	9A	2	2	BYH-16PE4	0.68
	25A	25A	20A	11A	2	2	BYH-25PE4	0.68
	32A	32A	23A	13A	2	2	BYH-32PE4	0.68
	16A	16A	16A	16A	4	1	BYH-16PE4S	0.69
	25A	25A	25A	25A	4	1	BYH-25PE4S	0.69
	32A	32A	32A	32A	4	1	BYH-32PE4S	0.69
	16A	16A	16A	16A	4	1	BYH-16PE4B	0.69
	25A	25A	25A	25A	4	1	BYH-25PE4B	0.69
	32A	32A	32A	32A	4	1	BYH-32PE4B	0.69
	16A	16A	16A	16A	4	1	BYH-16PE4T	0.69
	25A	25A	25A	25A	4	1	BYH-25PE4T	0.69
	32A	32A	32A	32A	4	1	BYH-32PE4T	0.69

### Switching Configurations

Type	2-pole	2-pole 4 Parallel Poles	4-pole	4-pole with Input on top Output bottom	4-pole with Input and Output bottom	4-pole with Input and Output on top
BYH-16	2	2H	4	4S	4B	4T
BYH-25	2	2H	4	4S	4B	4T
BYH-32	2	2H	4	4S	4B	4T
Contacts Wiring graph						
Switching example						

### Dimensions(mm)





## 8. Racking Certification



Our Ref: 30451

June 2020

Power Breeze Pty. Ltd.

### **Power Breeze Flush Roof Mounting System for use within Australia - CAPRAL RAIL**

Dome Consulting (Aust) Pty Ltd have carried out a structural design check of the Power Breeze Pty. Ltd. Flush Roof Mounting System for use in Australia. The design check has been based on the information provided by Power Breeze Pty. Ltd.

#### **Australian Standards**

AS 1170. 2011 – Structural Design Actions

Part 0 – General Principles

Part 1 – Permanent imposed and other actions

Part 2 – Wind Actions

Part 3 – Snow and Ice Actions

AS 1664.1 – Aluminium structures - Limit state design

#### **Following design criteria has been used for the structural verification**

Wind Region A, B, C, D

Wind Terrain Category 2 & 3

Wind average recurrence interval of 100 years

Maximum Building height 20 m

Max. Solar Panel Dimensions 2000×1000

The design and documentation has determined that all supporting componentry in the above mentioned documentation was found to be acceptable.

**Refer to attached summary table for interface spacing.**

Construction is to be carried out strictly in accordance with the manufacturers instructions. This work was designed in accordance with the provisions of Australian Building Regulations and in accordance with sound, widely accepted engineering principles

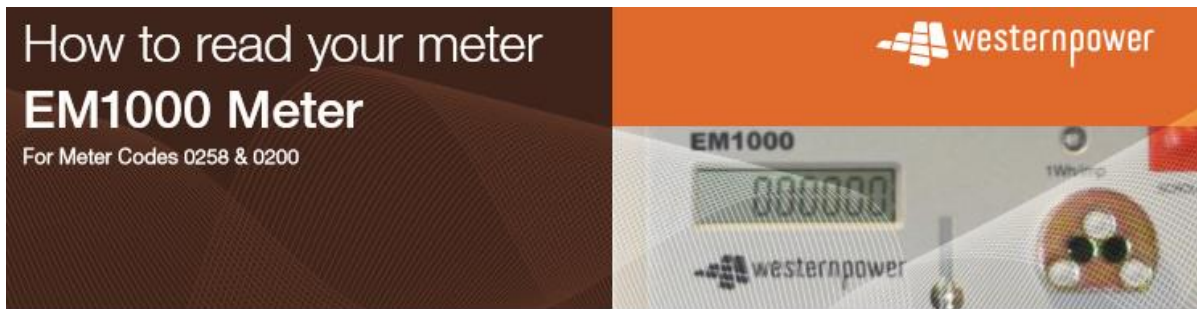
Yours faithfully,

FOR & ON BEHALF OF DOME CONSULTING PTY LTD

Robert Cilia  
BE (Civil) RBP RPEQ TBP

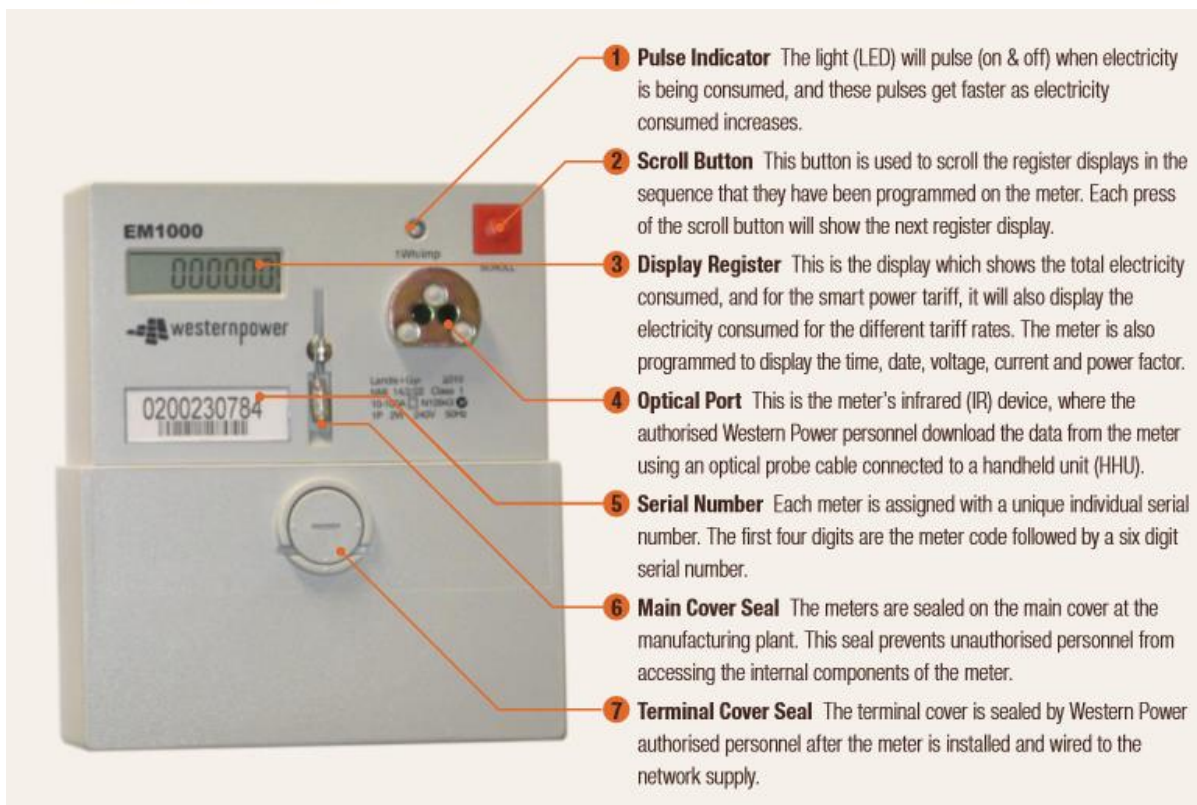
Power Breeze Pty Ltd  
ABN 60601177164  
EC011339

## 9. Wester Power – How to read your Meter



The EM1000 is Western Power's standard electronic accumulation meter for residential properties with a single phase installation (up to 100 amperes) and has the following features:

- LCD for easy viewing of recorded electricity consumption
- Programmable for all time and time of use (TOU) tariffs
- Programmable for bi-directional energy measurement
- Capable of storing interval data



As the standard single-phase meter, it comes with a default program suitable for A1 and SM1 tariffs. To prevent confusion caused by meter manufacturer programs referring to import and export from the distribution network's perspective, Western Power has ceased the use of the import/export terminology. Therefore, consumed/consumption means delivered by the network to the customer, and generated/generation means received by the network from the customer. As such;

#### A. Meters programmed for consumption only- all time (A1) and/or time of use Smart Power (SM1)

- The meter default display is the 'total kWh consumed', which is used for A1 tariff readings. This is the default display unless the scroll button is pressed.
- The readings for SM1 tariff may be viewed by scrolling through the display selection using the scroll button.
- For each press of the button, the display scrolls/moves to the next one.
- The display sequence and corresponding information are listed below;

Description	Channel	Rate	Meter Display
Total KWh Consumed	7		00 1943
KWh Consumed Rate A (Peak)	10	A	000487
KWh Consumed Rate C (Off Peak)	20	C	000759
KWh Consumed Rate B (Weekday Shoulder)	30	B	000384
KWh Consumed Rate D (Weekend Shoulder)	40	D	000312
Voltage			U 2349
Current			A 0.1
Power Factor			PF -0.00
Display Test			AB CD 88888888
Time			11 04
Date			080806
Reverse Energy			-ENER94

#### B. Meters programmed for consumption and generation for renewable energy systems - all time (A1) and/or time of use smart power (SM1)

- The kWh consumed is energy taken from the network, and the kWh generated is the energy received by the network.
- The meter default display is the 'total kWh consumed', which is used for A1 tariff readings. This is the default display unless the scroll button is pressed.
- The readings for SM1 tariff may be viewed by scrolling through the display selection using the scroll button.
- For each press on the button, the display scrolls/moves to the next one.
- The generated values come with minus (-) signs.
- The value for the WA Net Feed-In Tariff is total kWh generated.
- The display sequence and corresponding information are listed below;

Description	Channel	Rate	Meter Display
Total KWh Consumed	7		00 1943
KWh Consumed Rate A (Peak)	10	A	000487
KWh Consumed Rate C (Off Peak)	20	C	000759
KWh Consumed Rate B (Weekday Shoulder)	30	B	000384
KWh Consumed Rate D (Weekend Shoulder)	40	D	000312
Total KWh Generated	47	-	-000000
KWh Generated Rate A (Peak)	50	A-	-000000
KWh Generated Rate C (Off Peak)	60	C-	-000000
KWh Generated Rate B (Weekday Shoulder)	70	B-	-000000
KWh Generated Rate D (Weekend Shoulder)	80	D-	-000000
Voltage			U 2349
Current			A 0.1
Power Factor			PF -0.00
Display Test			AB CD 88888888
Time			11 04
Date			080806
Reverse Energy			-ENER94



# How to read your meter

## Dial meter

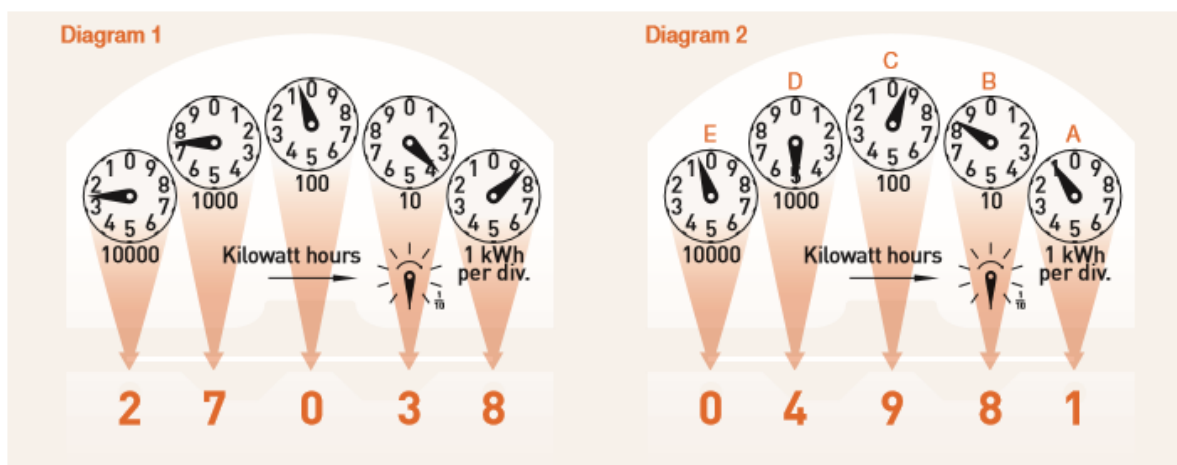


As a self read customer, it is important that you understand how you read your meter. Entering the correct information, when providing Western Power with your meter reading, will ensure that you are billed accurately.

### Your meter is a dial meter.

Clock-face dial meters have four, five or six dials, which alternate in direction. To read these meters:

- stand directly in front of the meter
- starting from the right, read each dial and write down the figures
- when a dial hand points between two numbers, write down the lower of the two
- if the hand points between 0 and 1 write down 0, but if the hand points between 0 and 9, write down 9



For example, the reading in diagram 1 is 2-7-0-3-8, that is, 27,038 kilowatt hours (units).

- when a dial hand appears to be exactly on a number as on dial (D) in diagram 2, look at dial (C) to the right
- if the hand on dial (C) has not passed 0, the number 5 has not actually been reached on dial (D) and the reading on that dial is the next lower number, 4
- the reading in diagram 2 is 0-4-9-8-1. That is 4,981 kilowatt hours (units)

For any queries please contact Western Power on 13 10 87 or visit [westernpower.com.au](http://westernpower.com.au)



## 10. Company Details

- Power Breeze Pty Ltd
- ABN 6061177164
- Contact Details  
Landline 08 9497 1290  
Estiaan Cronjé 041 568 0354 / [estiaan@powerbreezeptyltd.com.au](mailto:estiaan@powerbreezeptyltd.com.au)  
Juan Snyman 040 790 6630 / [juan.snyman@yahoo.com](mailto:juan.snyman@yahoo.com)  
Barbara Cronje 0400 779 027 / [sales@powerbreezeptyltd.com.au](mailto:sales@powerbreezeptyltd.com.au)  
Cindy Snyman 0498 018 122 / [schedule.solar@gmail.com](mailto:schedule.solar@gmail.com)
- Address  
776 Rowley Rd, Forrestdale 6112

## 11. Installer Declaration

All Installation are conducted by a Clean Energy Council Accredited Electricians.  
This installation is compliant to the guidelines specified in the AS/NZS:5033-2012 Clause 2.2

## 12. System Maintenance Log

Company Name	Date	Licence No.

### 13. Customer Notes

[illegible]