SOLATHERM

Power Control Equipment

PV DIRECT Ready

PV DC Electric Hot Water

TECHNICAL DATA

PV360R

1/52 Barnett Ave, Glynde, SA 5070
Phone 08 8337 8881
www.solatherm.com.au

ATTENTION

The Solatherm controller and water heater vessel must be installed by an authorised person and the installation must comply with all the relevant Australian Standards, local and industry regulations.

ATTENTION

This appliance 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 appliance by a person responsible for their safety.

Children should be supervised to ensure that they do not play with the appliance.

WARNING

Once installed the hot water tank is powered by TWO SOURCES of Power Supply, both sources must be isolated before working on the appliance.

Before commencement of any service work on the hot water circuit, including work that partially or completely drains the storage vessel, ensure all electrical supplies, the Photovoltaic array and AC connection have been disconnected as per the System Shutdown procedure in this manual.

PV ARRAY WARNING

When the photovoltaic array is exposed to light, it supplies a d.c. voltage to the PCE.

WARNING

The controller is only to be connected to a hot water cylinder specifically designed and configured for use with the Solatherm DC controller (P.C.E.). It is not for retrofit.

WARNING

If the equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.

CONNECTION WARNING

Solatherm Photo Voltaic Over Temperature Cut Out (PVOTC) must be installed in the power supply feed to the DC heating element.

WARNING

DANGER the operation of the PV (DC) thermal cut out indicates a possibly dangerous situation. The water heater must be inspected by a qualified person and the PV-OTC (PV thermal cut out) replaced.

WARNING

DANGER the operation of the 240V AC thermal cut out indicates a possibly dangerous situation. Do not reset the 240V AC thermal cut out until the water heater has been serviced by a qualified person.

PV ARRAY WARNING

Designed for maximum array power of 10kW. Current must not exceed 25 Amps, array design must not exceed 2 strings. Voltage must not exceed 600V
Max power should not be exceeded.

WARNING

The controller has no user serviceable parts. Opening the cover will void all warranty and may expose dangerous voltages.

Removal of the covers on the storage water vessel will expose live electrical wiring. Covers must only be removed by an authorised service person and only once dual supply power has been isolated.

ATTENTION

Ensure all glands from the control box are firmly tightened to ensure ingress protection.

ELECTRICAL WARNING

All electrical work and permanent wiring must be carried out by a qualified person and in accordance with all current relevant Australian installation standards and local authority requirements.

Means for disconnection must be incorporated in the fixed wiring in accordance with the wiring rules.

<u>All</u> electrical connections must be terminated before switching any component on. The power to the Solatherm solar control unit and water heater must NOT be switched on until the water heater is completely filled with water and all air bled from the system.

WATER CONNECTIONS FOR STORAGE VESSEL

Please ensure all plumbing installation work is carried out in accordance with AS3500 and that a non-return valve is installed in the incoming water line. Maximum inlet pressure 700kPa, minimum inlet pressure 350 kPa.

A pressure relief valve must be fitted in accordance with AS 3500, rating 850kPa 10kW. A discharge pipe must be connected to the device and be installed in a continuously downward direction and in a frost-free environment and the end must be left open to atmosphere.

DANGER

Failure to operate the relief valve easing gear at least once every six months may result in the water heater exploding. Water may drip from the discharge pipe but continuous leakage from the valve may indicate a problem with the water heater, please have your water heater serviced by a qualified person.

If the water supply pressure exceeds the rated pressure, a pressure reducing valve is to be fitted in the installation.

The water may drip from the discharge pipe of the pressure-relief device and that this pipe must be left open to the atmosphere;

The pressure-relief device is to be operated regularly to remove lime deposits and to verify that it is not blocked;

The water heater can be drained by disconnecting the water inlet.

Technical Data

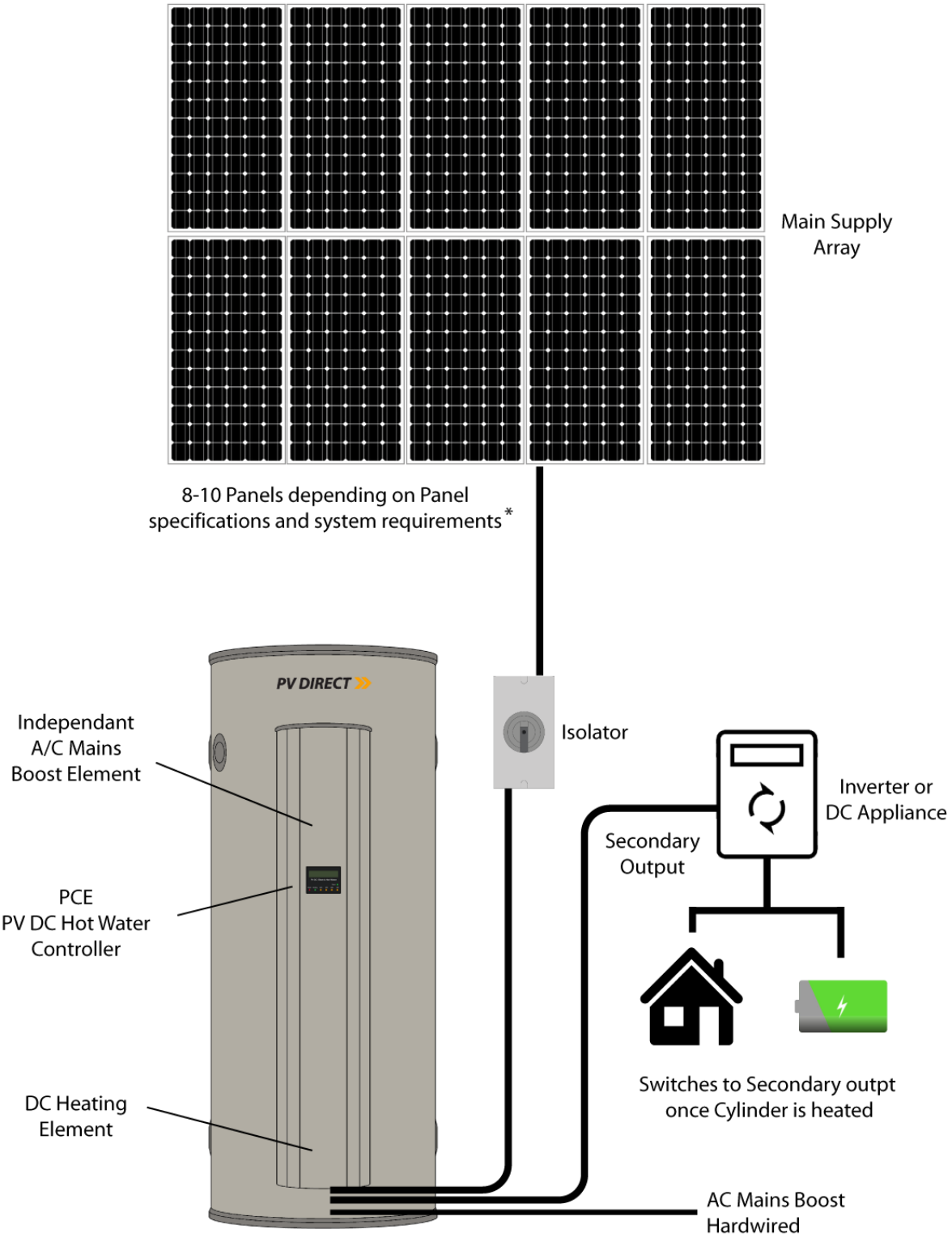
PV String Input Data			
Max. DC Input Power	10 kW	Array Strings	1 or 2
Max. DC Input Voltage	600 VDC	String Configuration	Single or Parallel
Max. Input Current	25.0 A	Input Reverse Polarity Protection	NO
Max. Output	10 kW	Max. Output Current	25.0 A
Input Fuse (Single String)	16 AMP (600V) HRC	Input Reverse Polarity Protection	No
Input Fuse (Parallel String)	25 AMP (600V) HRC	Input Over Voltage Protection	YES

General Data			
Operating Temp. Range	-20^{0}C to + 50^{0}C	Dimensions (H*W*D)	220x145x70 mm
Relative Humidity	0-100%	Protection Degree	IP65
Operating Altitude	< 4000m	Safety Regulation	IEC 62109
Cooling	Natural Convection	Pollution Degree	PD3
Weight	2.3 kg	Overvoltage Category	OVC II
Environment	Outdoor	Location Classification	Suitable for Wet areas
Environment	Outdoor	Location Classification	Suitable for Wet areas
Start-up Voltage	70V	Factory Set Shut temp	65^{0}C
Heating Start Power	250 W		
User Interface	LCD & LED Indication	Country of Manufacture	Australia

Supplied Cabling Data			
Main Array	Wired Connection		
Element Cable	3 x 4mm^2	NTC Cable	2 x 0.75mm^2
Secondary Output Cable	3 x 4mm^2	Cable Insulation	Flex PVC UV Stable
Insulation Type	Flex PVC UV Stable	Insulation Rating	0.6/1kV
Conduit	25mm OD x 19mm ID UV Stable PV Approved		

Nominal Single Panel Data			
Nom. Panel Voltage VOC	44 V Max.	Nom. Max. Power Voltage (V)	32.5 V
Short Circuit Current Isc	11.0 A Max.	Max. Power Current (A)	11.0 A

Basic System Configuration



*Depending on total power limitations or installation requirements