

# PLW

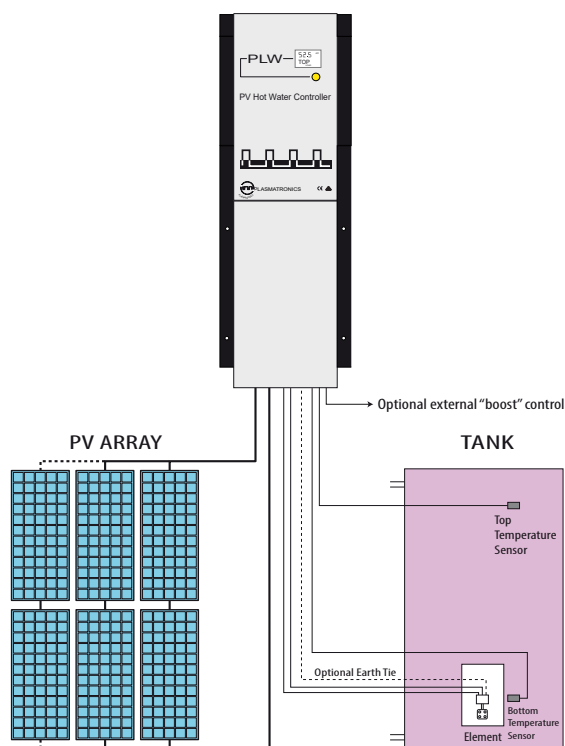
## PV Solar Hot Water Controller

### Introduction

The PLW is an MPPT controller for off grid PV solar, hot water and grid boosted systems. PV hot water solves many difficult installation problems and can perform better than thermal solar hot water under many conditions. The PLW comes as a complete kit which includes a solar isolator, a low voltage heating element, two temperature sensors and a pre wired mechanical safety thermostat.

The PLW takes information from two temperature sensors and displays it to the user. This information is also used to control the maximum tank temperature (thermostat function). The resulting system does not need boosting from other energy sources if an adequately sized PV Array is installed.

The controller works with 60 cell and 72 cell panels.



### Features

- No frost protection devices or pumps to fail.
- No roof reinforcement needed.
- No battery required.
- Flexible: place tank near point of use and panels where convenient.
- Approved to the IEC62109-1:2010 safety standard

... See next page for technical data



PLASMATRONICS PTY LTD  
SOLAR CHARGE CONTROLLERS  
ABN 98 073 758 497

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## PLW Technical Data

Maximum Input DC power	5000	W
Minimum Input DC operating voltage	27	V
MPPT Voltage range	27-75	V
Input start-up Voltage	27	V
Maximum MPPT short circuit current	80	A
Nominal Array Voltage	48	V
Maximum Solar Array Voc	100	V
Maximum average load (element) current	30	A
Maximum average solar current	30	A
Load (element) resistance	2.5	Ohm
Maximum Voltage between the 'Boost' relay terminals	85	V
Maximum wire size for boost relay terminals	2.5	mm <sup>2</sup>
Maximum boost relay contact current	300	mA
PLW operating ambient temperature range	-20 to +50	°C
Temperature sensor operating range	0 to 100	°C
Maximum ambient temperature without derating	50	°C
Humidity range (non condensing)	5-95	%
Maximum storage temperature	70	°C
Meter accuracy	< +/-2% FSD + 2 digits	
Efficiency (48V array 25A solar)	99	%
Maximum wire size for Solar connection	35	mm <sup>2</sup>
Minimum wire size for Solar connection	6	mm <sup>2</sup>
Maximum wire size for Load connection	16	mm <sup>2</sup>
Minimum wire size for Load connection	6	mm <sup>2</sup>
Earth terminal wire size	6	mm <sup>2</sup>
Recomended terminal torque	5	Nm
Maximum Altitude	2000	m
PLW size	520H x 175W x 90D	mm
Shipping box approximate size	535 x 190 x 185	mm
Shipping box approximate weight	5.8	kg
IP Rating	20	
Overvoltage category	2	
Maxiumum pollution degree	3	
Country of manufacture	Australia	
Series name	PL Series	
Standard approval and certification	IEC62109-1:2010	



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