



Σ-Ahr PWM Controller

The charge controller is the beating heart of any solar energy system. The desire for perfection at TSS has resulted in the most solid and most efficient charge controller range for stand-alone solar energy systems. It is designed to have exceptional performance and lasts longer especially in the most harsh conditions.



Efficiency 99.75%

This reduces your overall system cost.

Ultimate Reliability

The Multi Array input eliminates a single all-or-nothing connection.

Remote Monitoring

Controller is equipped with an industry standard Modbus TCP/IP interface for easy and reliable remote monitoring.

Triple Redundancy

The analogue fall back mode kicks in should the processor ever fail. More than one voltage and temperature measurement can be incorporated for maximum reliability. Two completely independent voltage measurements are monitored against high and low voltage

Small and Large systems

A modular design allows for expansion when larger systems are required. Adapting the capacity to your requirement. No unnecessary cost for unnecessary capacity.

Creating a solid and highly efficient solar energy system to keep you going ...Always!



Technical Specifications

Typical specifications		Σ-Ahr PWM Controller		Σ-Ahr PWM Controller	
Nominal system voltage	[V]	24/48		24/48	
Solar array inputs (switched independently)	[No.]	3		3	
Max. array input current	[A]	130		130	
Max. module input voltage	[V]	90		90	
Max. continuous battery current	[A]	130		130	
Max. battery input voltage	[V]	65		65	
Nominal output current to load	[A]	2 x 45		2 x 45	
Maximum output current to load	[A]	2 x 60 (1 minute)		2 x 60 (1 minute)	
Peak output current to load	[A]	2 x 90 (10 seconds)		2 x 90 (10 seconds)	
Operating efficiency at full input and full load	[%]	99.75		99.75	
Independent load outputs	[No.]	2		2	

Typical settings (24Vdc)		Lead Acid		Nicc (19 cells)	
Load disconnect high system voltage (alarm)	[V]	30.5		31.5	
Load re-connect high voltage	[V]	28.8*		29.45	
Boost @ 25° C level	[V]	28.8*		N.A.	
Float @ 25° C level	[V]	28.2		28.5	
Low battery voltage (alarm, non-essential load disconnect)	[V]	23.6		23	
Non-essential load re-connect voltage	[V]	25		25	
Load disconnect low voltage (alarm, essential load disconnect)	[V]	23		21.85	
Essential load re-connect voltage	[V]	24.5		24.5	
Temperature compensation		-3mV / °C / cell		N.A.	

* Boost and float voltage for Lead Acid are temperature dependent

General specifications	
Model / type	Σ-Ahr PWM Controller
Operating temperature	-20° C to +85° C
Storage temperature	-30° C to +85° C
Mounting	Indoor
Dimensions (H x W X D)	16.0 x 8.0 x 14.6 cm
Unit weight	0.98 kg
Communications	Modbus TCP/IP
Approvals	CE
Standards	IEC 61000-6-2 IEC 61000-6-4 IEC 60950-1