



Σ-Ahr Controller

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



Efficiency 99.75%

This reduces your overall system cost.

Ultimate reliability

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

Battery management

By providing a constant float charge the controller reduces the number of cycles increasing the lifetime of your batteries.

Fallback mode (redundant operation)

The analogue fallback-mode kicks in should the processor ever fail. This prevents downtime & increases your ROI.

Optimized for multiple battery types

Programmable for all types of battery chemistries to provide the best charge regime available. This results in higher performance and longer lifetime of your batteries.

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 Controller		Σ -Ahr Extension	
Max. system voltage	[V]	75 Vdc		75 Vdc	
Solar array inputs (switched independently)	[no]	3 separate solar inputs		3 separate solar inputs	
Max. array input current	[A]	130 Adc (divided over 3 inputs)		130 Adc (divided over 3 inputs)	
Maximum module input voltage	[V]	90 Vdc		90 Vdc	
Max. continuous battery current	[A]	130 Adc		130 Adc	
Maximum battery input voltage	[V]	65 Vdc		65 Vdc	
Nominal output current to load	[A]	2 x 45 Adc (total 90 Adc)		2 x 45 Adc (total 90 Adc)	
Maximum output current to load	[A]	2 x 60 Adc (1 min.)		2 x 60 Adc (1 min.)	
Peak output current to load	[A]	2 x 90 Adc (10 sec)		2 x 90 Adc (10 sec)	
Operating efficiency at full input and full load		99.75 %		99.75 %	
Load outputs	[no]	2 separate electronically switched outputs		2 separate electronically switched outputs	
Typical settings (24 Vdc)		Lead Acid	NiCd (19 cells)	Lead Acid	NiCd (19 cells)
Load disconnect high voltage (alarm)	[V]	30.5	31.5	30.5	31.5
Load re-connect high voltage	[V]	28.8*	29.45	28.8*	29.45
Boost @ 25 °C level	[V]	28.8*	N.A.	28.8*	N.A.
Float @ 25 °C level	[V]	28.2	28.5	28.2	29.45
Low battery voltage (alarm, non-essential load disconnect)	[V]	23.6	23.0	23.6	23.0
Non-essential load re-connect voltage	[V]	25.0	25.0	25.0	25.0
Load disconnect low voltage (alarm, essential load disconnect)	[V]	23.0	21.85	23.0	21.85
Essential load re-connect voltage	[V]	24.5	24.5	24.5	24.5
Temperature compensation		-3mV / °C / cell	N.A.	-3mV / °C / cell	N.A.

* Boost and float voltage for Lead Acid are temperature dependent.

General specifications	
Model / type	Σ -Ahr Controller / Σ -Ahr Extension
Full 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
Communication	TCP/IP Modbus
Approvals	CE
<i>All metering data from the Σ-Ahr Controller and Σ-Ahr Extension is transferred through the Σ-Ahr Controller.</i>	IEC 61000-6-2
	IEC 61000-6-4
	IEC 60950-1

This datasheet is not legally binding. Actual specifications and /or product features may vary. TSS4U reserves the right to make changes to specifications without notice.
Caution: Read the safety and installation instructions before using the product. The currently valid warranty/guarantee declaration and the general delivery terms and conditions are part of this datasheet.
Further details can be found on our websites (www.tss4u.nl).

You'll keep going
when others fail