

String Calculator

("String-Calculator.morningstarcorp.com")
Results for aleo-solar X63 333 Premium

TriStar TS-MPPT-30, -45, -60 (150V, 30A, 45A, 60A)
max. PV-Leerlaufspannung Voc = 150 V

Morningstar Product: TriStar-MPPT-30

System Information

Minimum Battery Voltage	40.00	Vdc
Maximum Battery Voltage	55.00	Vdc
Record Low Temperature	-10.0	°C
Record High Temperature	20.0	°C

Configuration

3 Modules in Series Per String
3 Strings in Parallel
2997 Watts Total
<p>Significant Over-sizing (>30% above Max. Nominal Solar Power) for this configuration. Controller output current will be limited and may reduce power harvest significantly below Maximum Power Point levels. Full output of array will likely often not be realized. No risk of damage to controller in this configuration. Using an over-sized PV array in very hot climates may reduce the life expectancy of the controller to some degree. Custom programming for reduced max. battery current can be used to reduce internal over-heating.</p> <p>Click here for more information</p>

PV Module Specifications

Module Name	Custom -	
Pmax	333.00	W
Voc	40.80	V
Isc	10.44	A
Vmp	33.40	V
Imp	9.97	A
Voc coefficient	-0.118	%/°C
NOCT	20.0	°C

Array Information

Minimum Voc (average high temp.)	123.12	
Max. Operating Voc (record low temp.)	127.47	
Max. Voc (record low Temp., morning)	127.47 < 150	Max. Vin
Minimum Vmp (average high temp.)	100.92 > 55.00	Vb Max.
Maximum Vmp (record low temp.)	105.27	
Isc (STC)	31.32	

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<http://string-calculator.morningstarcorp.com/#custom=1&p...>

Imp (STC)	29.91
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Quelle:

- <http://string-calculator.morningstarcorp.com/#custom=1&pmax=333&voc=40.8&vmp=33.4&isc=10.44&imp=9.97&noct=20&tcvoc=-0.11831999999999998&tcvmp=-0.11831999999999998&tcisc=0.0204&tcimp=0.0204&coefunit=%25V&product=0&vmin=40&vmax=55&tmin=-10&tmax=20&tminunits=c&tmaxunits=c&preview=1&stringnum=3&modulenum=3>
- file:///Users/msteenken/Jochen/Jochen_Contents/Webs-/acamedia.info/sciences/residence/details/salzwasserbatterie/victron/MPPT/String_Calculator/TriStar-30.pdf

String Sizing Tool Calculation results

PV Module: Custom -
Morningstar Product: TriStar-60

System Information

Minimum Battery Voltage	40.00	Vdc
Maximum Battery Voltage	55.00	Vdc
Record Low Temperature	-10.0	°C
Record High Temperature	20.0	°C

Configuration

2 Modules in Series Per String
6 Strings in Parallel
3996 Watts Total

Optimal Configuration. Please note that undersized configurations are categorized as optimal which might not be considered as optimal from a cost perspective.

PV Module Specifications

Module Name	Custom -	
Pmax	333.00	W
Voc	40.80	V
Isc	10.44	A
Vmp	33.40	V
Imp	9.97	A
Voc coefficient	-0.118	%V/°C
NOCT	20.0	°C

Array Information

Minimum Voc (average high temp.)	82.08		
Max. Operating Voc (record low temp.)	84.98		
Max. Voc (record low Temp., morning)	84.98	<	125 Max. Vin
Minimum Vmp (average high temp.)	67.28	>	55.00 Vb Max.
Maximum Vmp (record low temp.)	70.18		
Isc (STC)	62.64		
Imp (STC)	59.82		

Morningstar Product Specifications

Product Name	TriStar-60
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Quellen:

- <http://string-calculator.morningstarcorp.com/#custom=1&pmax=333&voc=40.8&vmp=33.4&isc=10.44&imp=9.97&noct=20&tcvoc=-0.29&tcvmp=-0.29&tcisc=0.05&tcimp=0.05&coefunit=%25V&product=4&vmin=40&vmax=55&tmin=-10&tmax=20&tminunits=c&tmaxunits=c>
- file:///Users/msteenken/Jochen/Jochen_Contents/Webs-/acamedia.info/sciences/residence/details/salzwasserbatterie/victron/MPPT/String_Calculator/Tristar-60.pdf

TriStar MPPT-600-60 (600V, 60A)

Morningstar String Calculator

String Sizing Tool Calculation results

PV Module: Custom -
Morningstar Product: TriStar-MPPT-60-600V

System Information

Minimum Battery Voltage	40.00	Vdc
Maximum Battery Voltage	55.00	Vdc
Record Low Temperature	-10.0	°C
Record High Temperature	20.0	°C

Configuration

5 Modules in Series Per String
1 Strings in Parallel
1665 Watts Total

Optimal Configuration. Please note that undersized configurations are categorized as optimal which might not be considered as optimal from a cost perspective.

PV Module Specifications

Module Name	Custom -	
Pmax	333.00	W
Voc	40.80	V
Isc	10.44	A
Vmp	33.40	V
Imp	9.97	A
Voc coefficient	-0.118	%V/°C
NOCT	20.0	°C

Array Information

Minimum Voc (average high temp.)	205.21		
Max. Operating Voc (record low temp.)	212.45		
Max. Voc (record low Temp., morning)	212.45	<	600 Max. Vin
Minimum Vmp (average high temp.)	168.21	>	55.00 Vb Max.
Maximum Vmp (record low temp.)	175.45		
Isc (STC)	10.44		
Imp (STC)	9.97		

Quelle: file:///Users/msteenken/Jochen/Jochen_Contents/Webs-/acamedia.info/sciences/residence/details/salzwasserbatterie/victron/MPPT/String_Calculator/TS-MPPT-60-600V.pdf

Results for Aleo Solar - X59 Supercharged 300W X59L300

Morningstar Product: TriStar-MPPT-60-600V

<http://string-calculator.morningstarcorp.com/#manufacturer=65&module=1953&product=33&vmin=40&vmax=54&tmin=-5&tmax=40&tminunits=c&tmaxunits=c>

TRISTAR MPPT™ 600V-LADEREGLER

<p>Optionen</p> <ul style="list-style-type: none">- TriStar 600V-Messgerät (TS-M-2-600V)- Fernbedientes TriStar-Messgerät (TS-RM-2)- MeterHub (HUB-1)- Relaisreiber (RD-1) <p>Modelle:</p> <ul style="list-style-type: none">- Standard: TS-MPPT-60A-600V-48v- Mit Trenneinheit: TS-MPPT-60-600V-48-DB <p>Lieferumfang:</p> <ul style="list-style-type: none">- 600-V-PV-Trennschalter- Batterieunterbrecher- Vorverdrahtete Eingangs-/Ausgangs-Busleisten <p>1.455,81 € inkl. 19% MwSt., zzgl. Versandkosten & Mindermengenzuschlag</p>	<ul style="list-style-type: none">- Configuration- 11 Modules in Series Per String- 1 Strings in Parallel- 3300 Watts Total-- Optimal Configuration. Please note that undersized configurations are categorized as optimal which might not be considered as optimal from a cost perspective.-- PV Module Specifications- Module Name Aleo Solar GmbH - X59 Supercharged 300W X59L300- Pmax 300.00 W- Voc 39.60 V- Isc 9.85 A- Vmp 32.40 V- Imp 9.34 A- Voc coefficient -0.290 %/°C- NOCT 47.0 °C-- Array Information- Minimum Voc (average high temp.) 382.54- Max. Operating Voc (record low temp.) 439.39- Max. Voc (record low Temp., morning) 473.50 < 600 Max. Vin- Minimum Vmp (average high temp.) 303.34 > 54.00 Vb Max.- Maximum Vmp (record low temp.) 360.19- Isc (STC) 9.85- Imp (STC) 9.34
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