

# VarioString Series



Model	VS-70		VS-120		
<b>Electrical characteristics PV array side</b>	MPPT	MPPT 1	MPPT 2	1 + 2 in parallel	1 + 2 in series
Maximum solar power recommended (@STC)	4200 W	3500 W	3500 W	7000 W	7000 W
Maximum current	13 A	13 A	13 A	26 A	13 A
Maximum solar open circuit voltage	600 V	600 V	600 V	600 V	900 V
Minimum solar functional circuit voltage	200 V	200 V	200 V	200 V	400 V
Recommended MPPT voltage	250-500 V	250-500 V	250-500 V	250-500 V	500-750 V
<b>Electrical characteristics battery side</b>					
Maximum output current	70 A	60 A	60 A	120 A	
Nominal battery voltages	48 V				
Operating voltage range	38 - 68 V				
Battery grounding possibility	Battery + or battery -				
<b>Performances of the device</b>					
Maximum efficiency	> 98 %				
MPPT efficiency	> 99.8 %				
Maximum stand-by self-consumption (48 V)	< 20 mA (1 W)	< 25 mA (1.25 W)			
Charging stages	4 stages: Bulk, Absorption, Float, Equalization				
Battery temperature compensation (with accessory BTS-01)	-3 mV /°C / cell (25°C ref) default value adjustable -8 to 0 mV /°C				
<b>Electronic protections</b>					
PV reverse polarity	•				
Over temperature	•				
Reverse current at night	•				
Galvanic isolation	•				
PV grounding possibility	PV +, PV -, floating				
Ground fault Protection	Programmable				
<b>Environment</b>					
Operating ambient temperature range	-20 to 55°C				
Humidity	100 %	maximum 95 %, non-condensing			
Ingress protection of enclosures, IEC/EN 60529:2001	IP54	IP20			
Mounting location	indoor				
<b>General data</b>					
Warranty	5 years				
ISO Certification	9001:2008 / 14001:2004				
Weight	5.51 kg	7.5 kg			
Dimensions h/w/l [mm]	120 / 220 / 350	133 / 322 / 466			
Solar generation connection (6mm <sup>2</sup> )	SUNCLIX™ (Phoenix Contact Tool Free)				
Parallel operation (separated PV arrays)	Up to 15 devices				
Max wire size	35 mm <sup>2</sup>	70 mm <sup>2</sup>			
Glands	M 20 x 1,5	2 x PG21			
<b>Communication</b>					
Network cabling	STUDER communication BUS				
Remote control & Communication	RCC-02/-03, Xcom-232i / Xcom-LAN / Xcom-GSM / Xcom-SMS				
Menu languages	English / French / German / Spanish				
Data logging	With RCC-02/03, Xcom-232i on SD card · One point every minute				
<b>Accordance to standards</b>					
EU declaration of conformity	<b>Low Voltage Directive (LVD) 2014/35/EU:</b> - EN 62109-1:2010  <b>Electromagnetic Compliance (EMC) Directive 2014/30/EU:</b> - EN 61000-6-2:2005, - EN 61000-6-4:2007/A1:2011				
<b>Accessories</b>					
Remote control RCC-02 or RCC-03	•				•
Module Xcom-232i	•				•
Communication sets Xcom-LAN / Xcom-GSM / Xcom-SMS	•				•
Battery Status Processor BSP	•				•
2 aux. contacts module ARM-02	•				•
Battery temp. sensor BTS-01 (3 m)	•				•
Communication cable CAB-RJ45-8-2	•				•