

# VarioString VS-120



Model	VS-120			
<b>Electrical characteristics PV array side</b>	MPPT 1	MPPT 2	1 + 2 in parallel	1 + 2 in series
Maximum solar power recommended (@STC)	3500 W	3500 W	7000 W	7000 W
Maximum current	13 A	13 A	26 A	13 A
Maximum solar open circuit voltage	600 V	600 V	600 V	900 V
Minimum solar functional circuit voltage	200 V	200 V	200 V	400 V
Recommended MPPT voltage	250-500 V	250-500 V	250-500 V	500-750 V
<b>Electrical characteristics battery side</b>				
Maximum output current	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)	< 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	maximum 95 %, non-condensing			
Ingress protection of enclosures	IP20			
Mounting location	indoor			
<b>General data</b>				
Warranty	5 years			
ISO Certification	9001:2008 / 14001:2004			
Weight	7.5 kg			
Dimensions h/w/l [mm]	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	70 mm <sup>2</sup>			
Glands	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	•			