

Model	VS-70	VS-120			
Electrical characteristics PV array side					
		MPPT 1	MPPT 1	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
Electrical characteristics battery side					
Maximum output current	70 A	120A (60A per MPPT)			
Nominal battery voltages	48 V				
Operating voltage range	38 - 68 V				
Battery grounding possibility	Battery + or battery -				
Performances of the device					
Maximum efficiency	>98 %				
MPPT efficiency	>99 %				
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				
Electronic protections					
PV reverse polarity	•				
Battery overvoltage	Up to max 80 V				
Over temperature	•				
Reverse current at night	•				
Galvanic isolation	•				
PV grounding possibility	PV + , PV - , floating				
Ground fault Protection	Programmable				
Environment					
Operating ambient temperature range	-20 to 55°C				
Humidity	100 %	maximum 95%, non-condensing			
Ingress protection of enclosures	IP54, IEC/EN 60529:2001	IP20			
Mounting location	indoor				
General data					
Warranty	5 years				
ISO Certification	9001:2008 / 14001:2004				
Weight	5.51 kg	7.5kg			
Dimensions h/w/l [mm]	120 / 220 / 350	133 / 322 / 466			
Solar generation connection (6mm ²)	SUNCLIX™ (Phoenix Contact Tool Free)				
Parallel operation (separated PV arrays)	Up to 15 devices				
Max wire size	35 mm ²	70 mm ²			
Glands	M 20 x 1,5	2xPG21			
Communication					
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 on SD card · One point every minute				
Accordance to standards					
CE compliant	EMC 2004/108/EC · LV 2006/95/EC · RoHS 2011/65/EU				
Safety	IEC/EN 62109-1:2010				
EMC (Electro Magnetic Compatibility)	IEC/EN 61000-6-3:2011 · IEC/EN 61000-6-1:2005				
Accessories					
Remote control RCC-02 or RCC-03	•	•			
Module X com -232i	•	•			
Internet based communication sets Xcom-LAN, Xcom-GSM	•	•			
Battery Status Processor BSP	•	•			
2 aux. contacts module ARM-02	•	•			
Cooling Module ECF-01	Included				
Battery temp. sensor BTS-01 (3 m)	•	•			
Communication cable CAB-RJ45-8-2	•	•			

Data may change without any notice