

VarioString

VS-120

Dual MPPT solar charge controller 120A/48V

Fully isolated dual MPPT inputs up to 600V_(Voc) or up to 900V_(Voc) with MPPT inputs in series

- Reduces **Balance of System costs** (Eliminates expensive wiring for parallel strings, saving wires, connectors, junction boxes, fuses, space, time, etc)
- Safe, simple and trouble free connection with SUNCLIX™ (Phoenix “tool free”) PV connector
- Fully **protected against incorrect wiring**
- Simplified safety rules by full **isolation between PV and battery** and between MPPT inputs
- **Any grounding strategy applicable** thanks to isolated MPPT inputs. Grounding system fault detection
- Fast, precise, best in class tracking algorithm bring **MPPT efficiency >99%**
- World champion for efficiency in isolated converter with **>98% conversion efficiency**
- **7kW** per unit and up to 15 units in parallel: **105kW**
- Low self-consumption: **< 1,2W in night** time mode
- 4 step charger fully programmable for longer battery life
- 9 LEDs to **monitor status and current**
- Optimal usage in an **Xtender** system with synchronized battery management
- Web access through **Xcom LAN or Xcom GSM**

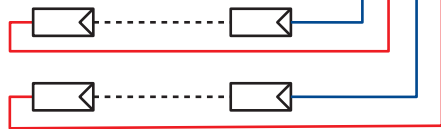


Comprehensive display, programming and data logging features with **RCC -02/-03 (opt)**

...Flexibility without compromise!

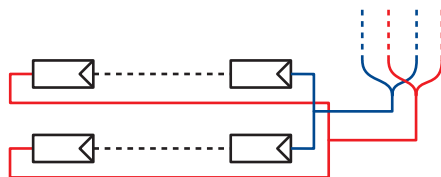
Two independant MPPT inputs each with 200 - 600Voc

Independent inputs allow independent tracking of 2 PV strings of different orientation, Voc, and/or power, which brings optimized efficiency and greater flexibility for building integration.



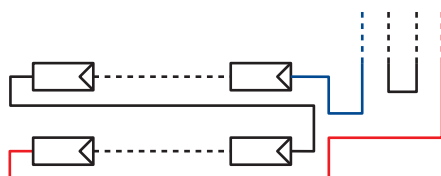
Two MPPT inputs in parallel each with 200 - 600Voc

Parallel wiring allows simplified wiring with lower voltage when strings are similar in size, power and orientation.



Two MPPT inputs in series with 400 - 900Voc

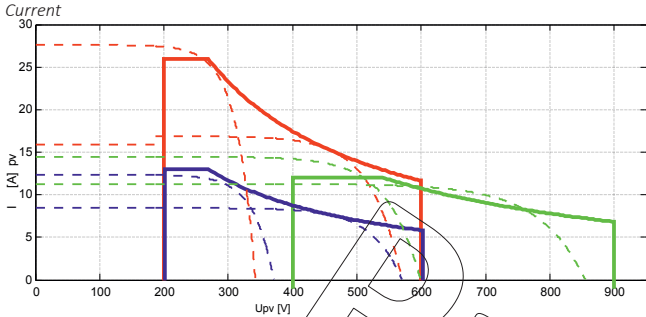
Serial wiring allows the greatest flexibility and simplest wiring with any PV module on the market when strings are the same size, power and orientation.



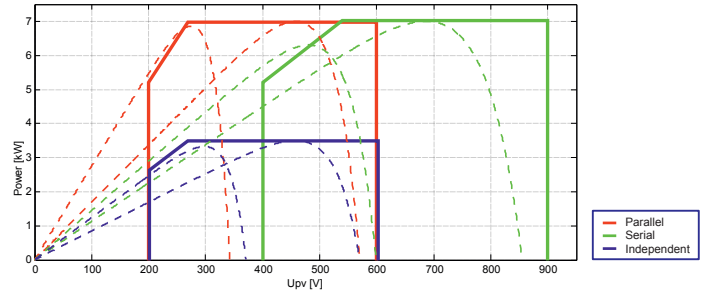


VS - 120

Operating range



Power



Technical Specifications

Performance of the device				
Galvanic isolation	yes			
Maximum efficiency	>98%			
MPPT efficiency	>99%			
PV grounding possibility	PV pos, PV neg, floating			
Ground fault protection	Programmable			
Charging stages	4 stages: Bulk, Absorption, Float, Equalization			
Battery temperature compensation (available with accessory BTS-01)	-3mV/°C/cell default value			
Stand-by self consumption (night)	25mA (1,25W)			
Electrical characteristics PV array side				
	MPPT 1	MPPT 2	1 + 2 in parallel	1 + 2 in series
Maximum solar power recommended (@STC)	3500W	3500W	7000W	7000W
Maximum current	13A	13A	26A	13A
Maximum open circuit voltage	600V	600V	600V	900V
Minimum functional circuit voltage	200V	200V	200V	400V
Recommended MPP voltage	250-500V	250-500V	250-500V	500-750V
Electrical Characteristics battery side				
Maximum output current	120A (60A/MPPT)			
Nominal battery voltage	48V			
Operating voltage range	38-68V			
Remote temperature sensor (optional)	BTS-01 or BSP 500/1200			
Battery grounding possibility	Battery pos or battery neg			
Electronic protections				
PV reverse polarity	Protected			
Over temperature	Protected			
Reverse current at night	Protected			

Environment	
Operating ambient temperature range	-20 à 55°C
Humidity	maximum 95%, non-condensing
Ingress protection of enclosure	IP20
Mounting location	Indoor
General Data	
Warranty	5 Years
Weight	7.5kg
Dimensions h/w/l [mm]	133/322/466
Solar generator connexion (6mm ²)	SUNCLIX™ (Tool free)
Max wire size (battery)	70mm ²
Glands	2xPG21
Communication	
Network cabling	Studer communication bus
Remote control and display	RCC-02/03 / Xcom-232i
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/CE * LV 2006/95/CE * RoHS 2002/95/CE
Safety	IEC/EN 62109-1:2010
EMC (Electro Magnetic Compatibility)	IEC/EN 61000-6-3:11 / IEC/EN 61000-6-12005

Comprehensive solution for hybrid systems

