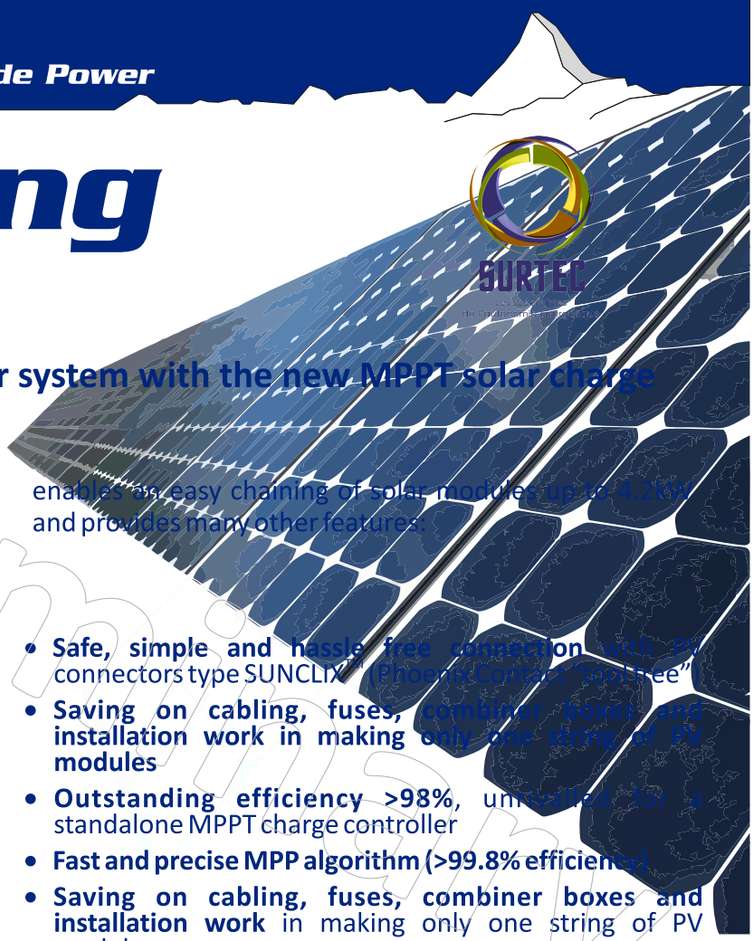
...Swiss made Power

VarioString

VS-70



Reduce the installation costs of your solar system with the new MPPT solar charge controller of the VarioString *VS-70*.

The charge controller ***VS-70*** offers an input PV voltage from 200 to 600V, totally isolated from the battery (48V), and supplies a charge current of 70A. It enables an easy chaining of solar modules up to 4.2kW and provides many other features.

- **Safe, simple and hassle free connection** with PV connectors type SUNCLIX (Phoenix Contact "tool free")
- **Saving on cabling, fuses, combiner boxes and installation work** in making only one string of PV modules
- **Outstanding efficiency >98%**, unrivalled for a standalone MPPT charge controller
- **Fast and precise MPP algorithm (>99.8% efficiency)**
- **Saving on cabling, fuses, combiner boxes and installation work** in making only one string of PV modules
- **Losses in cables significantly reduced**
- **Full isolation between battery and PV generator** giving total freedom in choosing either earthing system
- The **VarioString *VS-70*** ensures a perfect charge of the battery and an charge efficiency higher than with AC coupled systems (via grid inverters) and for a lower cost while keeping all advantages of a high voltage PV string
- **Connection to Studer CAN bus** assuring a synchronized operation with all products of the **Xtender** family and an access to its communication accessories, settings and datalogger (**RCC-02/-03, Xcom-LAN/GSM/SMS** etc.)
- 2 auxiliary relays programmable with the accessory **ARM-02**
- Command entry by dry contact for an external control of the function ON/OFF
- Fully programmable with the remote control **RCC-02/-03** and/or the new communication accessory **Xcom-SMS**, or with internet-based communication tools **Xcom-LAN** and **Xcom-GSM**

...Simple, robust and performing...

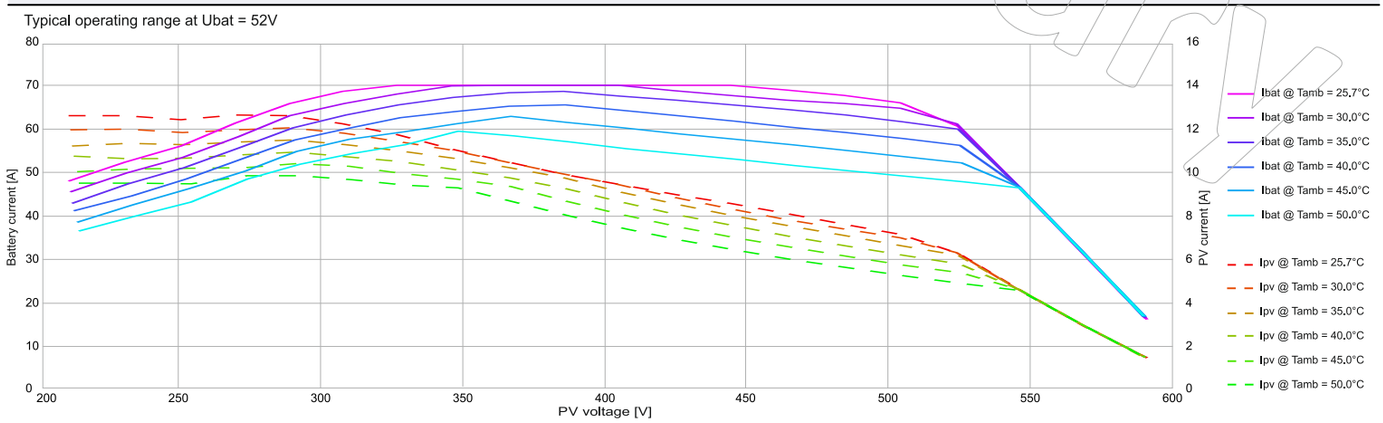
VS-70

Technical Specifications

Performance of the device	
Galvanic isolation	✓
Maximum conversion efficiency	>98%
MPPT efficiency	>99.8%
PV grounding possibility	PV +, PV -, floating
Ground fault detection	Programmable
Charging stages	4 stages: Bulk, Absorption, Float, Equalization
Battery temperature compensation (available with accessory BTS-01)	-3mV/°C/cell default value adjustable -8 to 0mV/°C
Stand-by self-consumption (night)	20mA / 1W
Electrical characteristics PV array side	
Maximum solar power recommended (@STC)	4200W
Maximum current (Isc)	13A
Maximum open circuit voltage (Voc)	600V
Minimum functional circuit voltage	200V
Recommended MPPT voltage	250-500V
Electrical Characteristics battery side	
Maximum output current	70A
Nominal battery voltage	48V
Operating voltage range	38-68V
Remote temperature sensor (opt.)	BTS-01 or BSP 500/1200
Battery grounding possibility	Batt +, Batt -, floating
Electronic protections	
PV reverse polarity	✓
Over temperature	✓
Reverse current at night	✓

Environment	
Operating ambient temperature range	-20 to 55°C
Humidity	maximum 95%, non-condensing
Ingress protection of enclosure	IP54
Mounting location	Indoor
General Data	
Warranty	5 years
ISO Certification	9001:2008 / 14001:2004
Weight	5.51kg
Dimensions h/w/l [mm]	120/220/350
Solar generator connection (6mm²)	SUNCLIX™ (Tool free) 1 paire supplied with unit
Max wire size (battery)	35mm²
Glands (battery)	M20 x 1.5
Communication	
Network cabling	Studer communication bus
Remote control and display	RCC-02/-03
Communication module	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/CE
Safety	IEC/EN 62109 - 1:2010
EMC (Electro Magnetic Compatibility)	IEC/EN 61000-6-3:11 - IEC/EN 61000-6-12005

Operating range



VarioString + Xtender: an optimal solution for hybrid systems