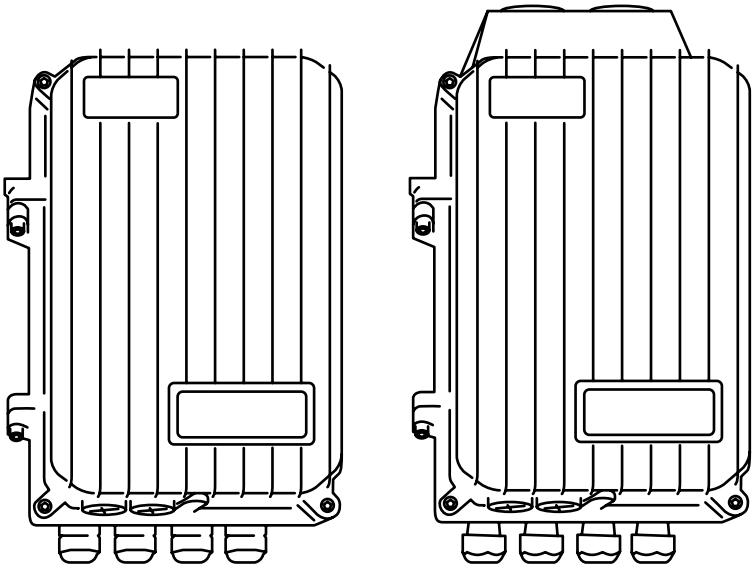
EN



variotrack

The **variotrack** MPPT solar charge controller maximizes the energy generated by charging the batteries in an optimal way. The accuracy of the Maximum Power Point Tracking (MPPT) algorithm, the high peak efficiency and low internal consumption ensure an optimal valorisation of the energy produced by the PV modules to all types of battery technology. The **variotrack** is 100% manufactured in Switzerland and has a 10-year warranty.

swiss made power

variotrack

	VT-80		
Electrical characteristics PV array side at nominal battery voltage	12 V	24 V	48 V
Maximum solar power recommended (@STC)	1250 W	2500 W	5000 W
Maximum solar open circuit voltage	75 V	150 V	
Maximum solar functional circuit voltage	75 V	145 V	
Minimum solar functional circuit voltage	Above battery voltage		
Electrical characteristics battery side			
Maximum output current	80 A		
Nominal battery voltages	Automatic / manual set to 12, 24 or 48 V		
Operating voltage range	7 - 68 V		
Performances of the device			
Tracking efficiency	> 99 %		
European weighted efficiency	> 97 %		
Maximum stand-by self-consumption (48 V)	< 25 mA (1.2 W)		
Maximum stand-by self-consumption (24 V)	< 30 mA (0.8 W)		
Maximum stand-by self-consumption (12 V)	< 35 mA (0.5 W)		
Charging stages*	4 stages: Bulk, Absorption, Floating, Equalization		
Battery temperature compensation (available with accessory BTS-01/BSP)	-3 mV / °C /cell (25°C ref) default value adjustable -8 to 0 mV / °C		
Electronic protections			
PV reverse polarity	✓		
Battery reverse polarity	✓		
Battery overvoltage	✓		
Over temperature	✓		
Reverse current at night	✓		
Environment			
Operating ambient temperature range	-20 to 55°C		
Humidity	100%		
Ingress protection of enclosures	IP54		
Mounting location	indoor, outdoor		
General data			
Weight	5.5 kg		
Dimensions h/w/l [mm]	120 / 220 / 350		
Parallel operation (separated PV arrays)	Up to 15 devices		
Max wire size	35 mm²		
Glands	M 20 × 1,5		
Communication			
Network cabling	STUDER communication BUS (included)		
Configuration	RCC-02/-03, Internal DIP switches for basic settings		
Data logging	With RCC-02/03, Xcom-232i on SD card · One point every minute		
Accordance to standards			
Conformity	Low Voltage Directive (LVD) 2014/35/EU: EN/IEC 62109-1 Electromagnetic Compliance (EMC) Directive 2014/30/EU: EN/IEC 61000-6-2, 61000-6-4		

Efficient, robust and flexible

- Easy and safe commissioning with full protection against incorrect wiring
- Rugged and durable, this device is designed to perform in harsh environmental conditions (IP54)
- High tracking efficiency >99%
- Up to 15 VarioTrack in parallel on the same communication bus (75kW)
- 4 step charger fully programmable for longer battery life
- Low self-consumption: <1W in night time mode
- Display with 7 LEDs showing status and current
- Suitable for any solar and battery system
- Optimal usage in an Xtender system with synchronized battery management

Combine with a range of accessories

- Display, programming and data logging remote control **(RCC-02/-03)**
- Communication sets **(Xcom-LAN/Xcom-GSM)**
- Communication module **(Xcom-232i/Xcom-CAN)**
- Battery temperature sensor **(BTS-01)**
- Battery Status Processor **(BSP)**
- Communication with lithium battery BMS **(Xcom-CAN)**
- 2 additional auxiliary contacts **(ARM-02)**

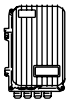
Certifications & Warranty

100% manufactured and tested in Switzerland (Europe). ISO certified factory 9001:2020/14001:2020. All our products include a 10-year warranty (5+5).

STC = Standard Test Conditions
Data may change without any notice

* Number of steps, thresholds, end current and times adjustable with the RCC-02/-03

Technical data



variotrack

	VT-40			VT-65		
Electrical characteristics PV array side at nominal battery voltage	12 V	24 V	48 V	12 V	24 V	48 V
Maximum solar power recommended (@STC)	625 W	1250 W	2500 W	1000 W	2000 W	4000 W
Maximum solar open circuit voltage	75 V	150 V		75 V	150 V	
Maximum solar functional circuit voltage	75 V	145 V		75 V	145 V	
Minimum solar functional circuit voltage	Above battery voltage					
Electrical characteristics battery side						
Maximum output current	40 A			65 A		
Nominal battery voltages	Automatic / manual set to 12, 24 or 48 V					
Operating voltage range	7 - 68 V					
Performances of the device						
Tracking efficiency	> 99 %					
European weighted efficiency	> 97 %					
Maximum stand-by self-consumption (48 V)	< 25 mA (1.2 W)					
Maximum stand-by self-consumption (24 V)	< 30 mA (0.8 W)					
Maximum stand-by self-consumption (12 V)	< 35 mA (0.5 W)					
Charging stages*	4 stages: Bulk, Absorption, Floating, Equalization					
Battery temperature compensation (available with accessory BTS-01/BSP)	-3 mV / °C /cell (25°C ref) default value adjustable -8 to 0 mV / °C					
Electronic protections						
PV reverse polarity	✓					
Battery reverse polarity	✓					
Battery overvoltage	✓					
Over temperature	✓					
Reverse current at night	✓					
Environment						
Operating ambient temperature range	-20 to 55°C					
Humidity	100%					
Ingress protection of enclosures	IP54					
Mounting location	indoor, outdoor					
General data						
Weight	3.8 kg			5.2 kg		
Dimensions h/w/l [mm]	120 / 220 / 310					
Parallel operation (separated PV arrays)	Up to 15 devices					
Max wire size	35 mm^2					
Glands	M 20 × 1,5					
Communication						
Network cabling	STUDER communication BUS (included)					
Configuration	RCC-02/-03, Internal DIP switches for basic settings					
Data logging	With RCC-02/03, Xcom-232i on SD card · One point every minute					
Accordance to standards						
Conformity	Low Voltage Directive (LVD) 2014/35/EU: EN/IEC 62109-1 Electromagnetic Compliance (EMC) Directive 2014/30/EU: EN/IEC 61000-6-2, 61000-6-4					

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