Quattro inverter / charger 3kVA and 5kVA

(120V/60Hz) Lithium Ion battery compatible

www.victronenergy.com

Quattro
24/5000/120-100/100

Two AC inputs with integrated transfer switch

The Quattro can be connected to two independent AC sources, for example shore-side power and a generator, or two generators. The Quattro will automatically connect to the active source.

Two AC Outputs

The main output has no-break functionality. The Quattro takes over the supply to the connected loads in the event of a grid failure or when shore/generator power is disconnected. This happens so fast (less than 20 milliseconds) that computers and other electronic equipment will continue to operate without disruption.
The second output is live only when AC is available on one of the inputs of the Quattro. Loads that should not discharge the battery, like a water heater for example, can be connected to this output.

Virtually unlimited power thanks to parallel operation

Up to 10 Quattro units can operate in parallel. Ten units 48/5000/70, for example, will provide 45kW / 50kVA output power and 700 Amps charging capacity.

Three phase capability

Three units can be configured for three-phase output. But that's not all: up to 10 sets of three units can be parallel connected to provide 135kW / 150kVA inverter power and more than 2000A charging capacity.

Split phase options

Two units can be stacked to provide 120-0-120V, and additional units can be paralleled up to a total of 6 units per phase, to supply up to 30kW / 36kVA of split phase power.
Alternatively, a split phase AC source can be obtained by connecting our autotransformer (see data sheet on www.victronenergy.com) to a 'European' inverter programmed to supply 240V / 60Hz.

PowerControl – Dealing with limited generator, shore-side or grid power

The Quattro is a very powerful battery charger. It will therefore draw a lot of current from the generator or shore side supply (Up to 40A per 5kVA Quattro at 120VAC). A current limit can be set on each AC input. The Quattro will then take account of other AC loads and use whatever is spare for charging, thus preventing the generator or shore supply from being overloaded.

PowerAssist – Boosting shore or generator power

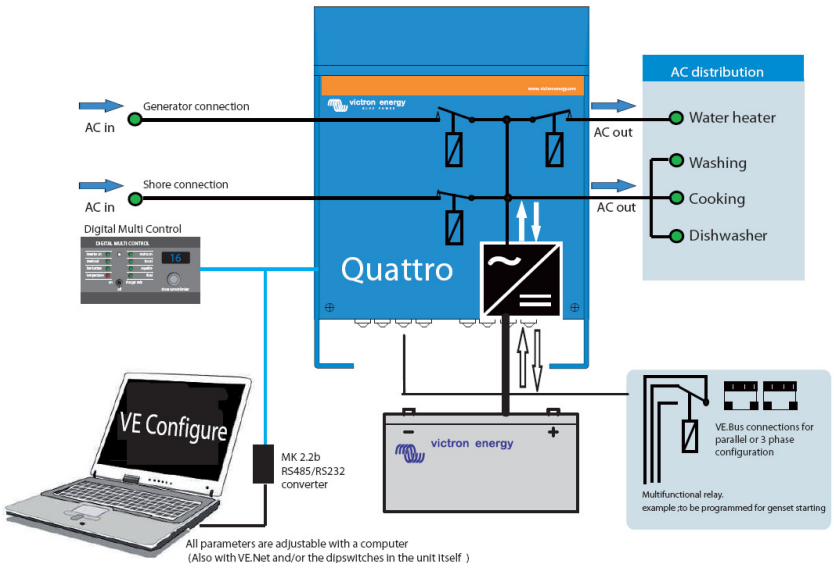
This feature takes the principle of PowerControl to a further dimension allowing the Quattro to supplement the capacity of the alternative source. Where peak power is so often required only for a limited period, the Quattro will make sure that insufficient shore or generator power is immediately compensated for by power from the battery. When the load reduces, the spare power is used to recharge the battery.

Solar energy: AC power available even during a grid failure

The Quattro can be used in off grid as well as grid connected PV and other alternative energy systems.

System configuring has never been easier

After installation, the Quattro is ready to go.
If settings have to be changed, this can be done in a matter of minutes with a new DIP switch setting procedure. Even parallel and 3-phase operation can be programmed with DIP switches: no computer needed!
Alternatively, VE.Net can be used instead of the DIP switches.
And sophisticated software (VE.Bus Quick Configure and VE.Bus System Configurator) is available to configure several new, advanced, features.



Quattro	12/5000/200-100/100 120V	24/5000/120-100/100 120V	48/3000/35-50/50 120V	48/5000/70-100/100 120V
PowerControl / PowerAssist	Yes			
Integrated Transfer switch	Yes			
AC inputs (2x)	Input voltage range: 90-140 VAC Input frequency: 45 – 65 Hz Power factor: 1			
Maximum feed through current (A)	2x100	2x100	2x50	2x100
INVERTER				
Input voltage range (V DC)	9,5 - 17	19 – 33	37,2 – 64,4	37,2 – 64,4
Output (1)	Output voltage: 120 VAC ± 2% Frequency: 60 Hz ± 0,1%			
Cont. output power at 25 °C (VA) (3)	5000	5000	3000	5000
Cont. output power at 25 °C (W)	4500	4500	2500	4500
Cont. output power at 40 °C (W)	4000	4000	2200	4000
Peak power (W)	10000	10000	6000	10000
Maximum efficiency (%)	94	94	94	95
Zero-load power (W)	25	25	15	25
Zero load power in AES mode (W)	20	20	10	20
Zero load power in Search mode (W)	5	5	5	6
CHARGER				
Charge voltage 'absorption' (V DC)	14,4	28,8	57,6	57,6
Charge voltage 'float' (V DC)	13,8	27,6	55,2	55,2
Storage mode (V DC)	13,2	26,4	52,8	52,8
Charge current house battery (A) (4)	200	120	35	70
Charge current starter battery (A)	4	4	n. a.	n. a.
Battery temperature sensor	Yes			
GENERAL				
Auxiliary output (A) (5)	50	50	32	50
Programmable relay (6)	3x	3x	3x	3x
Protection (2)	a-g			
VE.Bus communication port	For parallel and three phase operation, remote monitoring and system integration			
General purpose com. port (7)	Yes, 2x			
Remote on-off	Yes			
Common Characteristics	Operating temp.: -20 to +50 °C (0 - 120°F) Humidity (non condensing): max. 95%			
ENCLOSURE				
Common Characteristics	Material & Colour: aluminium (blue RAL 5012) Protection category: IP 21			
Battery-connection	Four M8 bolts (2 plus and 2 minus connections)			
230 V AC-connection	M6 bolts	M6 bolts	Screw terminals 13 mm² (6 AWG)	M6 bolts
Weight (kg)	75 lb 34 kg	66 lb 30 kg	42 lb 19 kg	66 lb 30 kg
Dimensions (hxwxd)	18,5 x 14,0 x 11,2 inch 470 x 350 x 280 mm	17,5 x 13,0 x 9,6 inch 444 x 328 x 240 mm	14.3x10.2x8.6 inch 362x258x218 mm	17,5 x 13,0 x 9,6 inch 444 x 328 x 240 mm
STANDARDS				
Safety	EN 60335-1, EN 60335-2-29			
Emission, Immunity	EN55014-1, EN 55014-2, EN 61000-3-3			

1) Can be adjusted to 50 Hz
2) Protection key:
a) output short circuit
b) overload
c) battery voltage too high
d) battery voltage too low
e) temperature too high
f) 120 VAC on inverter output
g) input voltage ripple too high

3) Non linear load, crest factor 3:1
4) At 25 °C ambient5) Switches off when no external AC source available
5) Switches off when no external AC source available
6) Programmable relay that can be set for general alarm, DC undervoltage or genset start/stop function
AC rating: 120V/4A
DC rating: 4A up to 35VDC, 1A up to 60VDC
7) A. o. to communicate with a Lithium Ion battery BMS

Digital Multi Control

A convenient and low cost solution for remote monitoring, with a rotary knob to set Power Control and Power Assist levels.

Blue Power Panel

Connects to a Multi or Quattro and all VE.Net devices, in particular the VE.Net Battery Controller.
Graphic display of currents and voltages.

Computer controlled operation and monitoring

Several interfaces are available:

- **MK2.2 VE.Bus to RS232 converter**
  Connects to the RS232 port of a computer (see 'A guide to VEConfigure')
- **MK2-USB VE.Bus to USB converter**
  Connects to a USB port (see 'A guide to VEConfigure')
- **VE.Net to VE.Bus converter**
  Interface to VE.Net (see VE.Net documentation)
- **VE.Bus to NMEA 2000 converter**
- **Victron Global Remote**
  The Global Remote is a modem which sends alarms, warnings and system status reports to cellular phones via text messages (SMS). It can also log data from Victron Battery Monitors, Multi's, Quattros and Inverters to a website through a GPRS connection. Access to this website is free of charge.
- **Victron Ethernet Remote**
  To connect to Ethernet.

BMV Battery Monitor

The BMV Battery Monitor features an advanced microprocessor control system combined with high resolution measuring systems for battery voltage and charge/discharge current. Besides this, the software includes complex calculation algorithms, like Peukert's formula, to exactly determine the state of charge of the battery. The BMV selectively displays battery voltage, current, consumed Ah or time to go. The monitor also stores a host of data regarding performance and use of the battery.

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