

Customisable DC UPS Systems

Product overview

Using the powerful USV6H Controller, a completely configurable DC UPS system can be created. The DC power is provided by our MT rectifiers in a variety of voltages and current sizes, but the USV6H Controller turns the configuration into an intelligent system.

Useful for DC systems where back up power is crucial, the solutions utilising the USV6H offer a flexible DC backup system which can be configured to suit the user's specific requirements, whilst at the same time providing programmable low battery threshold detection for protection of the batteries.

Nominal voltages available are:

- 24Vdc
- 48Vdc
- 60Vdc
- 110Vdc
- 220Vdc

Using the USV6H Controller, enables users to program numerous system variables (see list overleaf) giving complete control of the charging values, all thresholds, and full signal configuration. Variables can be changed using the basic controls on the USV6H or via the PC configuration software tool. The software makes the initial setup quicker and easier, with a simple transfer process via RS232 once the program is complete.

Applications

These power supplies are designed for a wide range of applications such as:

- Power supply for all medium to high power DC loads
- Rectifiers in DC systems with battery backup
- Telecommunication
- Industrial control systems
- Charging and buffering of stationary batteries in electrical power plants



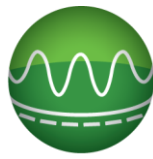
USV6H DC Controller



USV14 LCD Display

Key features

- Single and 3 Phase Input Options Available
- Multiple modules can be connected in parallel for high power or n+1 systems
- LCD Screen for value lookup and configuration (only with USV14)
- USV6H PC software for further customisable options.
- LED and alarms indicate chosen alarms on the USV14.



Thresholds

The USV6H DC Controller gives users full control over the thresholds of their system. Using either the DC Controller menu or the USV6H PC software, users can modify:

- Vmax
- Vmin
- Vwarn
- Imax
- Temperature low and high
- Battery Current

Hysteris and delay can be set on each of these thresholds to ensure the system can operate correctly with any output requirement.

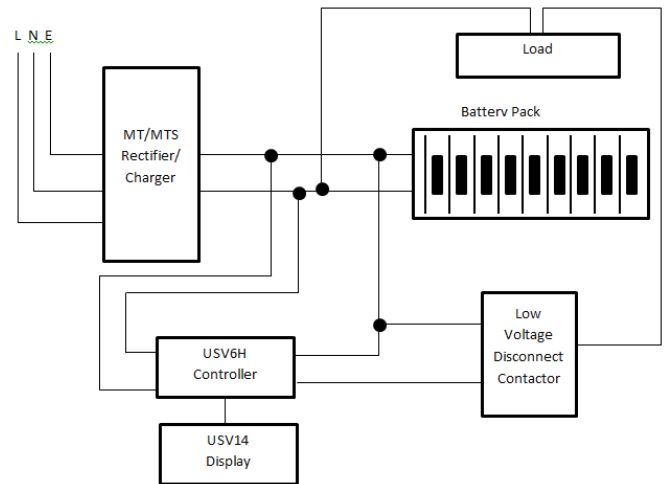
Signals

Using the USV6H PC Software, users can program each LED, alarm or relay to respond to any of the signals below:

- Output Voltage > Vmax
- Output Voltage < Vmin OR Vwarn
- Output Current > Imax
- Temperature < OR >
- Temperature Sensor Fault
- Mains Fault V< OR V>
- Insulation Fault (Earth Fault)
- Rectifier Load Limit
- Rectifier Load Distribution
- Battery Unsymmetry
- Fault for Rectifier OR USV3/4/5 OR Battery OR SBS
- Boost Charge
- Fan Operating
- CounterCell
- System Off
- Power On

With the thresholds being customisable, users can set LEDs, relays or alarms for a number of different scenarios, based on their own parameters. With the USV4, further relays can be added to increase the number of signal relays and alarms.

System



Example DC UPS System

Autonomies

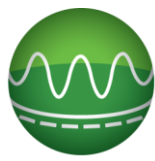
The autonomy of the DC UPS is completely customisable. Batteries can be added to give the required amount of autonomy for many situations. The table below shows example autonomy times against load current, based on our BTL batteries. For your precise requirement please discuss your requirement with one of our engineers.

	33Ah	60Ah	100Ah	200Ah
1 Hour	18A	34A	52A	114A
5 Hours	5A	9A	15A	30A
10 Hours	2A	5A	8A	16A

Accessories

The accessories below can be used for further functionality within a system.

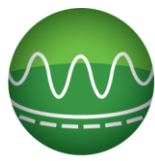
Part Number	Description
USV3	Mains Monitoring Board
USV4	Relay Board with 8 relays
USV5	Digital Inputs Board with 8 inputs
USV6H	DC Controller for MT
USV13	Alarmboard for MT Rectifiers
USV14	Display for USV6-H



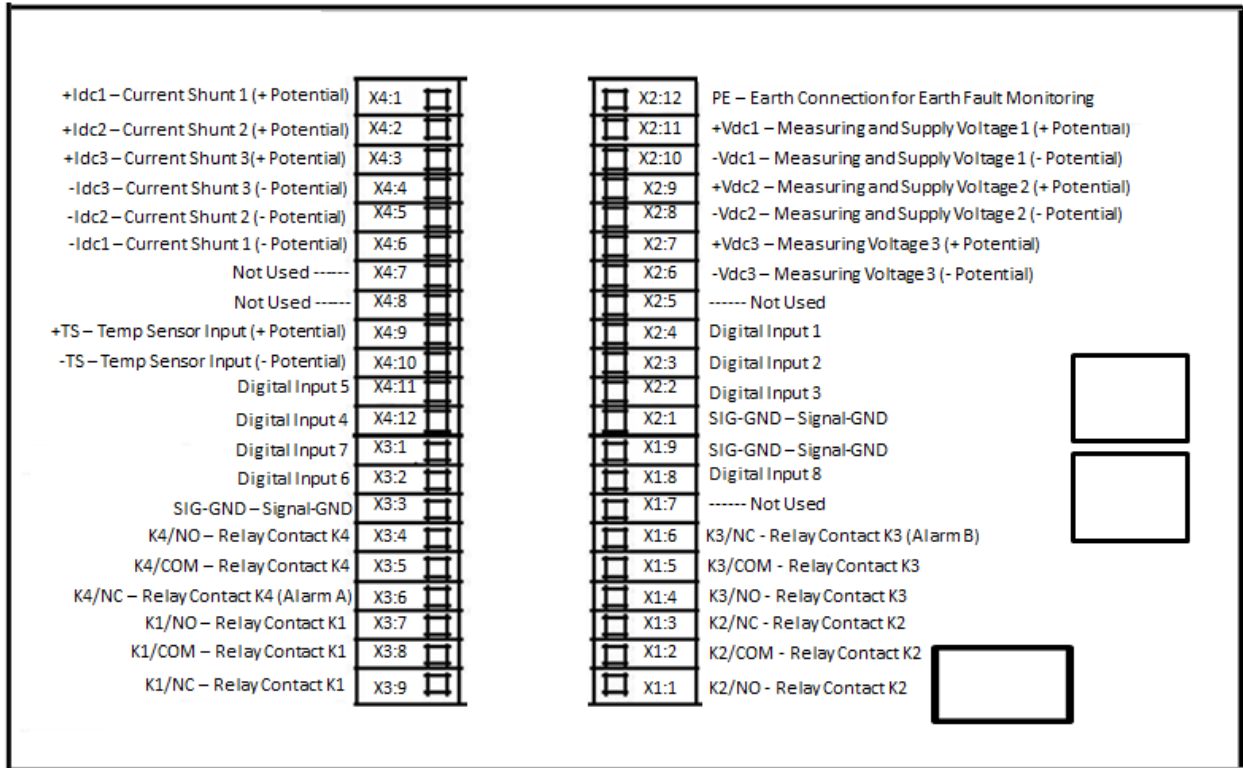
6U Rectifiers



Part Reference	I/P	O/P V	O/P I	Power	Max Power Per Rack	Max Power in parallel
MT24V/50A-AN-S	230Vac Single Phase	24Vdc	50A	1000W	3000W	31kW
MT24V/50A-AN3	400Vac Three Phase	24Vdc	50A	1000W	300W	31Kw
MT48V/50A-ANS	230Vac Single Phase	48Vdc	50A	3kW	9kW	93kW
MT48V/50A-AN3	400Vac Three Phase	48Vdc	50A	3kW	9kW	93kW
MT110V/20A-AN-S	230Vac Single Phase	110Vdc	20A	3kW	9kW	93kW
MT110V/20A-AN3	400Vac Three Phase	110Vdc	20A	3kW	9kW	93kW
MT110V/40A-AN3	400Vac Three Phase	110Vdc	40A	6kW	12kW	186kW
MT220V/10A-AN-S	230Vac Single Phase	220Vdc	10A	3kW	9kW	93kW
MT220V/10A-AN3	400Vac Three Phase	220Vdc	10A	3kW	9kW	93kW
MT220V/20A-AN3	400Vac Three Phase	220Vdc	20A	6kW	12kW	186kW



Pin Output



This diagram shows the rear view of the USV6. On the USV6 the terminals are denoted as X4, X3, X2 and X1 with writing on the side of the green terminals. Take care to ensure the unit is correctly placed before wiring the unit. To check, the USV6 front panel should be in the correct orientation.

- Vdc1 and Vdc 2 can both be used to supply the USV6 with its power supply. Ensure that the supply voltage is connected to one of these sets of terminals.
- The current shunts used with the USV6 are 60mV.
- The compatible temperature sensor type for the USV6 is the LM355 variant.
- The USV6 is programmed using the USV configurator for PC. All parameters can be changed using this software.

Please refer to the USV6 Setup guide for more information on the CAN connection.