SUPLET® Technical Specification

Controller

CAS-02

Overview

CAS-02 controller is a monitoring and controller unit designed for embedded DC power system, it can monitor the status of rectifiers, converters, battery and DC plant and then control rectifiers, converters and other components in power system.

It has LAN/RS232/RS458 interface to communicate with external parts, relay alarm output and communication output can be used as interface between user and power system.

The controller can be used in 48V and 24V power system.

Features

- LCD and keyboards in front panel
- LAN/RS232/RS485 interface, LAN: SNMP, TCP/IP
- 6 programmable relay output connection(Extend to 16)
- 6 programmable input connection(Extend to 13)
- Communicate with rectifiers or converters
- Battery management
- Alarm management

Applications

- Embedded power system
- Cabinet power system

Technical Specifications

Input

Input Voltage	19-60VDC
Input Current	<0.5A

Interface

External Communication	RS232/RS485/LAN(SNMP, TCP/IP)
Internal Communication	CAN Bus
LED	Green—System Run Yellow—System Warning Red—System Alarm
Signal Input	6 Inputs for additional requirements
Signal Output	6 Relay Alarm Contact

Alarm

Out Relays	6 Relays
System Alarm	No AC Input Fault High Output Fault Low Output Fault High Input Fault Low Input Fault Fan Fault High Ambient Temp Fault Low Ambient Temp Fault PFC Over temperature Fault DCDC Over Temperature Fault Rectifier Communication Fault EEPROM Fault Input Voltage power limit Temperature power Limit Current Share Fault Primary EEPROM Fault CAN Bus Fault Low Output Bus Voltage Fault High output bus voltage Fault Load Breaker/Fuse broken Fault Low Battery voltage Fault

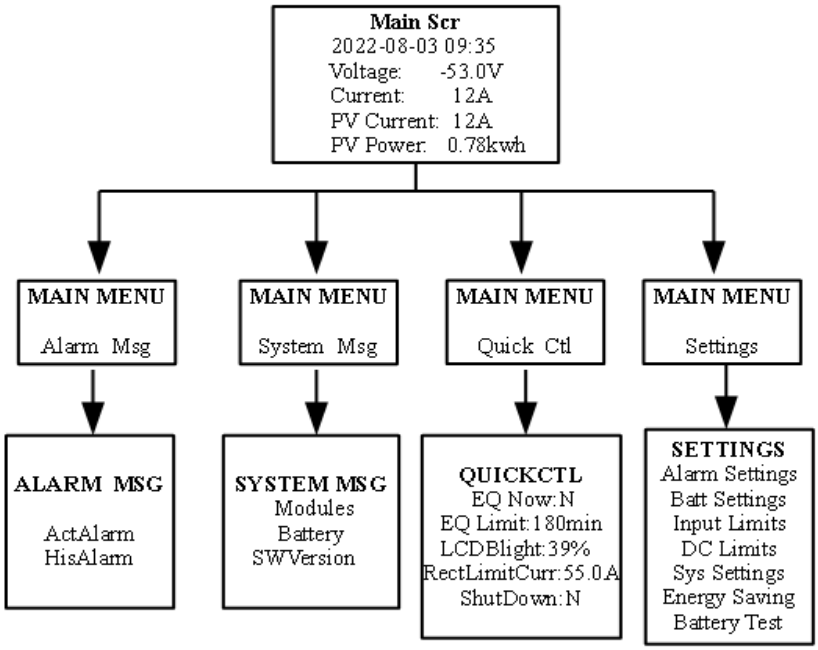
	LLVD BLVD

Battery Management

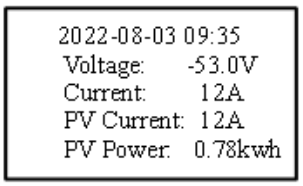
Battery Disconnection	LLVD
Float/Boost	Auto
Battery Temp Compensation	Adjust Bus voltage according to Battery Temperature 72mV/° C

Controller Menu

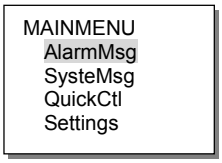
This Monitor adopts multilevel menu, you could lookup active or history alarm message, the system message, and parameter message. The interface is very easy for user. It could display in English or Chinese that you could set in the “Settings” menu, the English menu frame is as below:



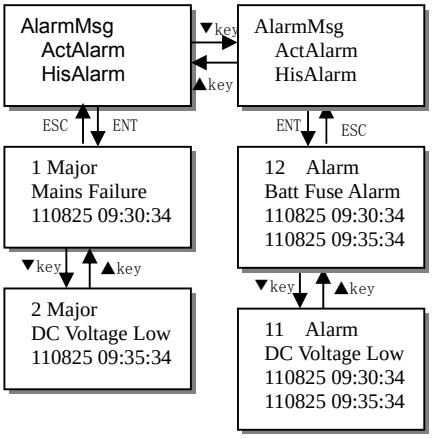
When it is power on or reset, the monitor displays the system message which is most important for user .if the system has alarm, it will display the alarm in this menu and the beep will ring. Press any key will shut down the alarm tone. In other menu, if no key be pressed in 10 minutes, it will return this menu and shut down the black light of the display module in order to save energy. The system message menu frame is as below:



- Press the “ENT” key or “ESC” key, it will enter in “MAINMENU” menu which has four items. Such as the alarm message, the system message, the parameter message, and the “QUICKCTL” menu. The main menu frame is as below:



① In the present menu, you could enter the selected message's son menu by pressing "ENT" key. It could save 64 active messages and 200 history messages. In the alarm menu, you could get the alarm type and the beginning and ending time of the alarm. The alarm menu frame is as below:



② There are 27 alarm message types in all, the detail as below:

1. Module N CurrentLimit
2. Module N DCOverVolt
3. Module N DCUnderVolt
4. Module N InOverVolt,
5. Module N InUnderVol
6. Module N Fan Fault
7. Module N AmbOverTemp
8. Module N AmbUnderTemp
9. Module N PFCOverTemp
10. Module N DCOverTemp
11. Module N NoRespond
12. Module N DCDCEEPROM
13. ModuleN Derated_In
14. Module N DeratedTmp
15. Module N Curr Share
16. Module N PFC EEPROM

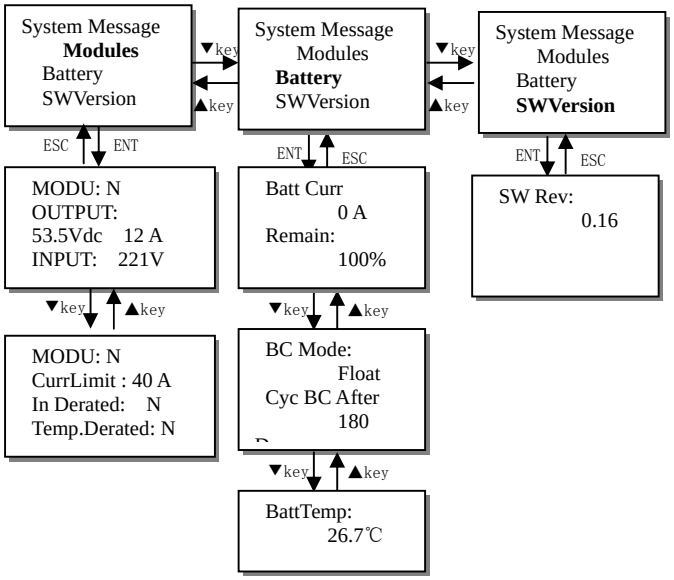
17.Module N Comm Fault
18.Input Volt Abnormal
19.Input Failure
20.Output Fault
21.Batt Over-Curr
22.Temp Fault
23.Batt CB Alarm
24.Load CB Alarm
25.LLVD
26.BLVD
27.DI1~DI13

Note:
N=1~48(the number of rectifiers or converters), If you want to return to his parent menu, press “ESC”. If there is no alarm in the system at present, it could not enter the active alarm menu.

II In the system message menu, you could look up the module message, the battery message and the software version and so on.

1. In the module menu you could look up the output current and voltage of rectifiers or converters, the current limit and so on. If the communicate between the module and the monitor fails, its address number will show different color.
2. In the battery menu you could look up the current and the capacity of the battery, the charge mode, the next EQ time, and the temperature of the battery.
3. In the software menu, you could look up the version of the system software, it is useful for the operator.

The system menu frame is as below:



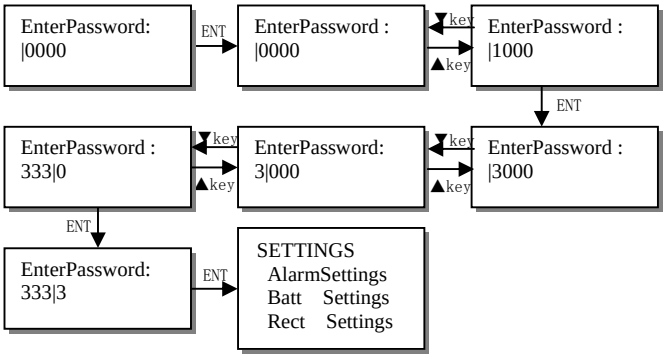
Note:

N=1~48(the address number of the module), If you want to return to his parent menu, press “ESC”. If there is no module in the system at present, it could not enter his son menu.

III In the Settings menu, you could change the value of the parameter in his son menu, such as battery parameter, alarm parameter, and module parameter. If you want to enter Settings menu, you should know the password which has three levels: the user level, the operator, and the admin level. The admin level is the highest level of all , It means if you have administer password you could get more message .The next passage introduces how to input the password in password menu, the important operation as follow:

1. Please enter in the password menu, and you could see the flashing cursor in the first letter .you could change the first number by pressing “ENT” key.
2. The selected letter could be changed by “▼” or ▲”. The range is from 0 to 9, If you get the right number you want, and press the “ENT”. Then you could move the flashing cursor by pressing “▼” or ▲”, then press “ENT” key again, you could change the other selected number.
3. When the flashing cursor in the last letter, press “ENT” key , you could enter the Settings menu if you input the right password , or else it will display invalid password ,you may try again .

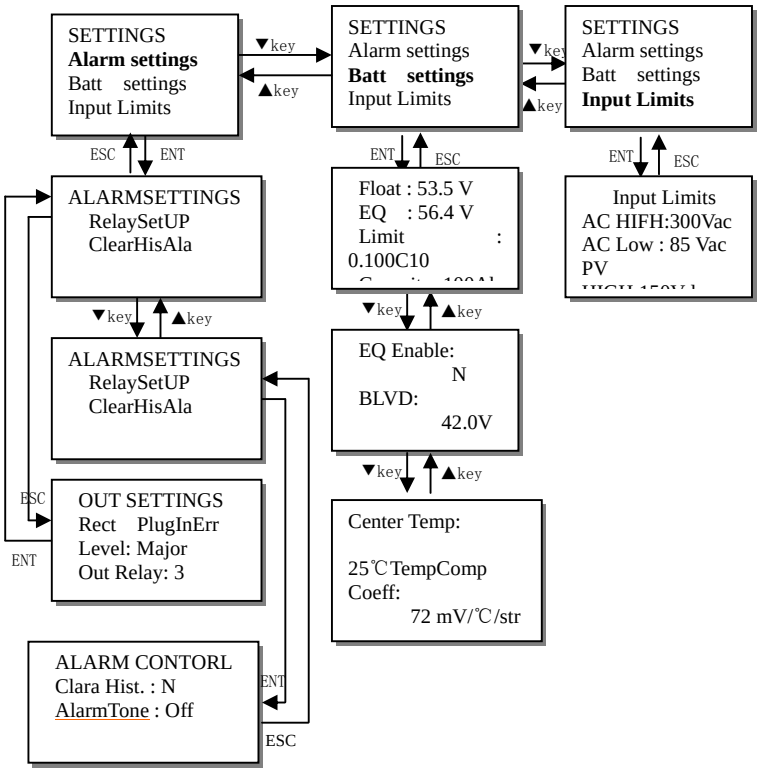
The menu frame is as below:



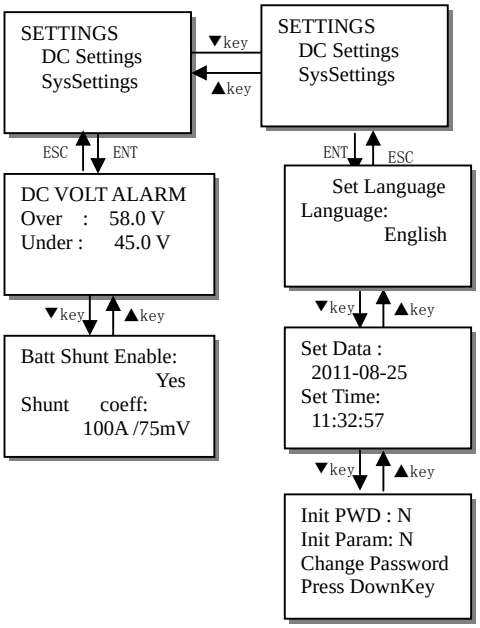
① Enter in the settings menu, you could see five items in all. Every item could be changed.

1. In alarm settings menu, you could set relay out, the next passage will introduce how to do it. Not only you could clear history alarm message, but also you can control the beep voice on or off.
2. In battery settings menu, you could change the value of the EQ and float voltage of the battery, the capacity and the shutdown voltage of the battery and so on.
3. In input limits settings menu, you can change the point of the high/low input voltage of the module.
4. In DC settings menu, you could change the over and under voltage of the output. If you are an operator or administer, you could set coefficient of the battery shunt, the load shunt is reserved in the software version.
5. In system settings menu you could set language, this software supports English and Chinese. Data and time can be changed. Not only you could use initial the password if you forget your password, but also you can change the password easily.

The menu frame is as below:



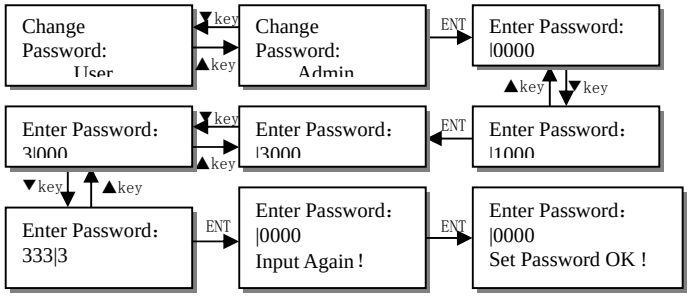
② Press "▼" then you will enter the other settings menu. The menu frame is as below:



③ In this passage, It will introduce how to change the password. The main operation as follows:

1. You should select the password level, then press “ENT” key to enter the password menu, the flashing cursor is in the first letter.
2. The letter could be selected by pressing the “ENT” key. In this status, you could change the value of the letter by pressing “▼” or ▲”. Then press “ENT” to confirm.
3. When the flashing cursor in the last letter, press the “ENT” key, you will enter the password menu again, then input the password again. If the password is same as the last password that you input .It will display “Set Password OK”. Or else it will display “Set Password failure”.

The menu frame is as below:



IV In this passage, it will introduce how to change the parameter in Settings menu.

① Take the battery parameter for example.

1. In the battery settings menu, if you want to change the float voltage. First press “ENT” key, the value will be selected. In this selected status you change the value by pressing“▼” or “▲, you will change the value between max and min.
2. If you get the value which you want, then press the “ENT” key to confirm. The flashing cursor will move to the next item if you press the “▼” or “▲.

The menu frame is as below:

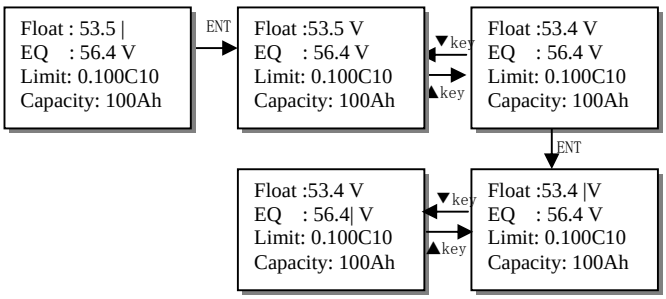
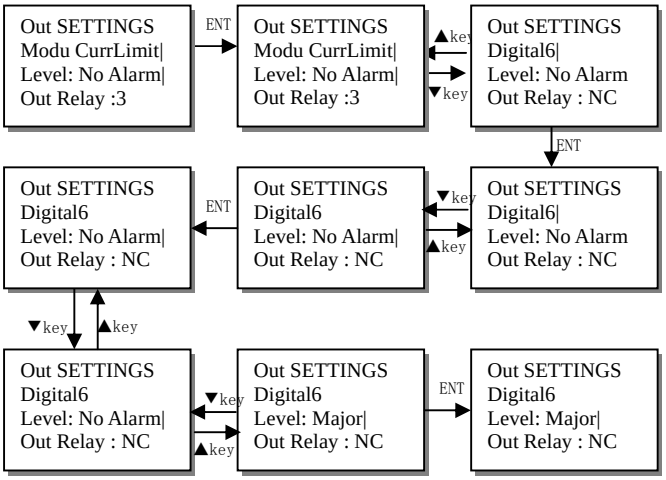


Table 1. the scale of parameters

Parameter type	default	Max	Min
OutputOverVoltage(V)	58	59	40
OutputUnderVoltage Alarm trigger (V)	45	52	40
FloatChargeVoltage(V)	53.5	58	42
EqualChargeVoltage(V)	56.4	58	42
Battery Capability(Ah)	100	1000	0
TempCompensateVoltage(mV)	72	500	0
BatteryShutVolt(V)	42.0	60	40

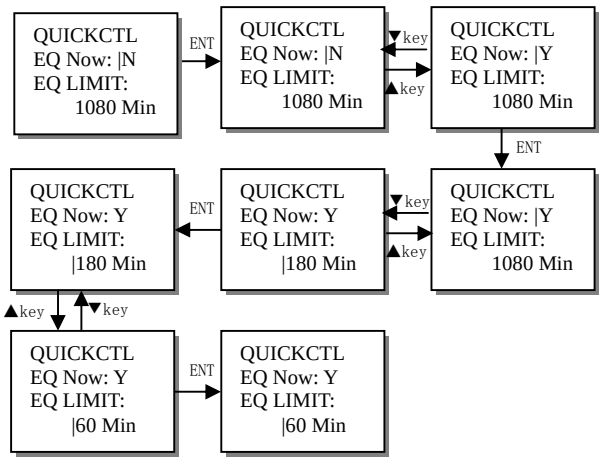
② How to setup relay output, the operation is also very simple. Every alarm could be set to output by one of the sixteen relays.

1. Press the “ENT” key, the letter with the flashing cursor will be selected, in this state you could change the item by pressing “▼”or“▲”, then press the “ENT” again to confirm. You could get other alarm type and related alarm level and relay.
2. Then press “▼”, the flashing cursor will move to next letter, you could do same steps to change the alarm level and out relay.



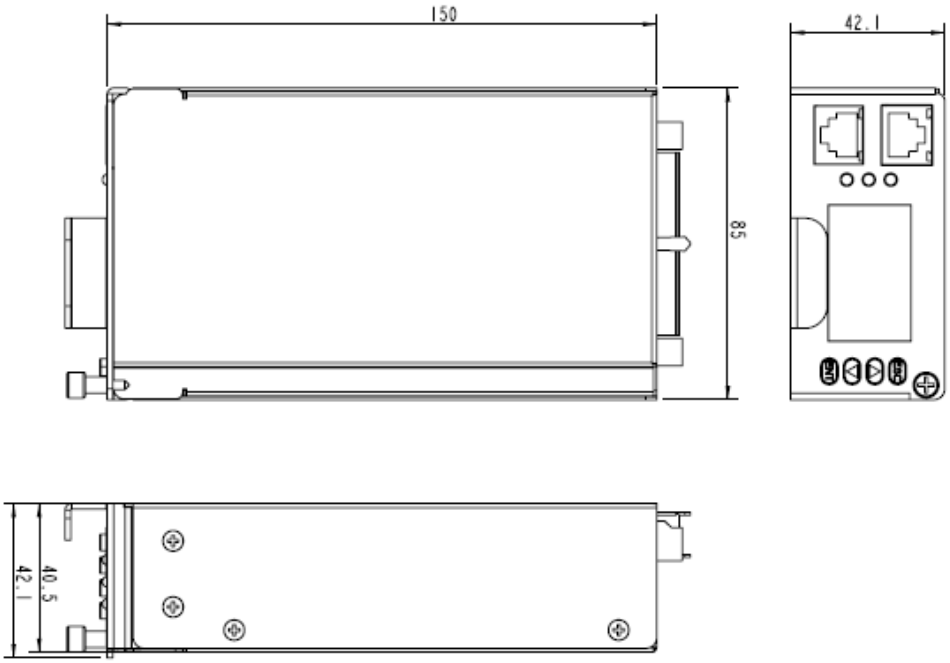
V In the last passage, it will introduce the “Quick Ctl” menu. It is a shortcut menu for user to control the battery charge mode. There are two types modes float charge mode and EQ charge mode. You could modify this item without password.

The menu frame is as below:


QUICKCTL
EQ Now: |N
EQ LIMIT:
1080 Min
ENT
QUICKCTL
EQ Now: |N
EQ LIMIT:
1080 Min
key
key
QUICKCTL
EQ Now: |Y
EQ LIMIT:
1080 Min
ENT
QUICKCTL
EQ Now: Y
EQ LIMIT:
|180 Min
ENT
QUICKCTL
EQ Now: Y
EQ LIMIT:
|180 Min
key
key
QUICKCTL
EQ Now: |Y
EQ LIMIT:
1080 Min
key
key
QUICKCTL
EQ Now: Y
EQ LIMIT:
|60 Min
ENT
QUICKCTL
EQ Now: Y
EQ LIMIT:
|60 Min

Physical Specifications

Parameter	Min	Typ	Max	Unit	Notes
Length		150		mm	
Width		85		mm	
Height		42.1		mm	
Weight		0.6		Kg	



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