



山特电子（深圳）有限公司
SANTAK ELECTRONIC (SHEN ZHEN) CO., LTD

山特 A UPS RS232 通信协议

PROTOCOL V1.0

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一、 Hardware :

BAUD RATE 2400 bps
DATA LENGTH..... 8bits
STOP BIT..... 1bits
PARITY..... NONE

二、 Commands

1. Status inquiry 2 with module address command (for A-series):

Computer: Q2,XX<cr>

UPS:

(XX MMM.M MMM.M MMM.M NNN.N PPP.P PPP.P PPP.P QQQ QQQ QQQ RR.R SSS.S TT.T
b7b6b5b4b3b2b1b0 ttt.t CCC BB ff ff ff wwwwww YO <cr>

Module Address XX

(UPS ID): X is an integer number ranging from 0 to 9.

Input Voltage: MMM.M

M is an integer number 0 to 9. The Unit is Volt.

Three Phases will represent Phase R-S-T in sequence

I/P fault voltage: NNN.N

N is an integer number 0 to 9. The Unit is Volt.

Output Voltage: PPP.P

P is an integer number 0 to 9. The Unit is Volt.

Three Phases will represent Phase R-S-T in sequence

Output Current: QQQ

QQQ is an integer number 0 to 9, represent absolute value of output current.

The Unit is A.

Three Phases will represent Phase R-S-T in sequence

I/P frequency: RR.R

R is an integer number ranging from 0 to 9. The unit is Hz.

Battery voltage: SSS.S

S is an integer number ranging from 0 to 9.

Temperature: TT.T

T is an integer number ranging from 0 to 9. The unit is degree of centigrade.

UPS Status: <b7b6b5b4b3b2b1b0>.

Where <bn> is a binary number „0“ or „1“.

UPS status :



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byte	Description
7	1 : Utility Fail (Immediate)
6	1 : Battery Low
5	1 : Bypass/Boost Active
4	1 : UPS Failed
3	1 : UPS Type is Standby (0 is On_line)
2	1 : Test in Progress
1	1 : Shutdown Active
0	Reserved (always 0)

Estimated Runtime: **ttt.tt**

Estimated Runtime / Remaining Battery Backup time in ttt minutes and .tt seconds. These values will be defined by the S-Series UPS-Processor with High accuracy. In comparison to the existing PowerProtect interfacing the P-Series there will be no internal algorithm necessary !

Charge in Status in %: **CCC**

Reserved in ARRAY UPS.

Status of Battery test : **BB**

00: idle 01: processing 02: result : no failure 03: result : failure/warning

Fault code: **Ff**

This is not for users.

Warnings: **Wwwwwwww**

This not for the users.

Three phase/Single phase line in **Y**

Where Y is a binary number „0“ or „1“.

Y = 1, three phase

Y = 0, single phase

Lcd Display Output

Voltage Line or Phase: **O**

Always phase voltage ('0') in ARRAY UPS.

Stop Byte: **<cr>**

Total length (with stop byte) : 121 bytes

2. KW and KVA command:

Computer:

WA ,XX<cr>

Slave Address (UPS ID):

XX



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X is an integer number ranging from 0 to 9.

UPS:

(XX WWW.W WWW.W WWW.W VVV.V VVV.V VVV.V TTT.T SSS.S AAA.A AAA.A AAA.A QQQ
b7b6b5b4b3b2b1b0 <cr>

Output power: WWW.W

W is an integer number 0 to 9. The Unit is kW. R phase
Three Phases will represent Phase R-S-T in sequence

Output complex power: VVV.V

V is an integer number 0 to 9. The Unit is kVA. R phase
Three Phases will represent Phase R-S-T in sequence

Total power: TTT.T

T is an integer number 0 to 9. The Unit is KW. Include of three phase R,S,&T real power.

Total complex power: SSS.S

S is an integer number 0 to 9. The unit is KVA. Include of three phase R,S,&T complex power.

Output current: AAA.A

A is an integer number 0 to 9. The unit is A. R phase
Three Phases will represent Phase R-S-T in sequence

O/P load: QQQ

QQQ is maximum of W% or VA%. VA% is a percent of maximum VA. W% is a percent of maximum real power.

UPS Status: b7b6b5b4b3b2b1b0

Stop Byte: The same of Q1 UPS status :
<cr>

Total length (with stop byte) : 83 bytes

3. Shutdown command

Computer: S<n><cr>

UPS: Shut down UPS output off in <n> minutes.

The UPS output will be off in <n> minutes, even if the utility is present.

But if the battery under occur before <n> minutes, the output is turned off immediately.

After UPS shut down, the controller of UPS monitors the utility. If the utility is there, the UPS will wait for 10 seconds and connect the utility to output.

<n> is a number ranging from .2, .3, ..., 01, 02, ..., to 10.

For example: S.3<cr> --- shut output off in (.3) minutes