SANTAK
山特电子(深圳)有限公司

山特 梦幻城堡C6~20KS UPS RS232通讯协议

PROTOCOL COMMAND

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一． 硬件 Hardware:

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

二、命令
Commands :

Q1	Q1,XX	Status inquiry 1
WA	WA,XX	KW and KVA
S<n>	S<n>,XX	Shutdown

Command

Q1<cr>

Response

(MMM.M NNN.N PPP.P QQQ RR.R S.SS TT.T b7b6b5b4b3b2b1b0<cr>

I/P voltage: MMM.M
M is an integer number ranging from 0 to 9. The unit is Volt. R Phase.
(000.0～999.9)V。
I/P fault voltage: NNN.N
N is an integer number ranging from 0 to 9. The unit is Volt. R,S,T Phase possible.
（000.0～999.9）V。
O/P voltage: PPP.P
P is an integer number ranging from 0 to 9. The unit is Volt. R Phase.
（000.0～999.9）V。
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.
（000～999）%
I/P frequency: RR.R
R is an integer number ranging from 0 to 9. The unit is Hz.
（00.0～99.9）Hz
Battery cell voltage: S.SS
S is an integer number ranging from 0 to 9. For on-line units battery voltage/cell is provided in the form S.SS. For standby units actual battery voltage is provided in the form SS.S. UPS type in UPS status will determine which reading was obtained.
（0.00～9.99）V/cell
Temperature: TT.T
T is an integer number ranging from 0 to 9. The unit is degree of centigrade.
（00.0～99.9）℃
UPS Status: b7b6b5b4b3b2b1b0

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

Bit	Description	注释
7	1 : Utility Fail (Immediate)	1：Line Loss
6	1 : Battery Low	
5	1 : Bypass/Boost Active	1：bypass active
4	1 : UPS Failed	QF 命令中列出的故障
3	1 : UPS Type is Standby (0 is On_line)	
2	1 : Test in Progress	
1	1 : Shutdown Active	1：RemoteOn 标志为 1
0	Reserved (always 0) **(Extendable)**	

The binary code is modified to 8 bytes ASCII code for avoiding the binary code confused with ASCII control code.
Between each data stream add one space for the data separation.

Example:
Computer: Q1<cr>
UPS: (208.4 140.0 208.4 034 59.9 2.05 35.0 00110000<cr>

Means: I/P voltage is 208.4 V.
I/P fault voltage is 140.0 V.
O/P voltage is 208.4 V
O/P load is 34%.
I/P frequency is 59.9 Hz
Battery voltage is 2.05 V.
Temperature is 35.0 degrees of centigrade.
UPS type is on-line, UPS failed, Bypass active, and shutdown not active.

WA<cr>

Response

(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>

输出功率： WWW.W

W 是十进制的整数，范围从 0 － 9。 单位是 KW.
在单相系统中，只有 R 相是有效的，S 和 T 相总是 0。
在三相系统中，按顺序代表 R、S、T 相的值。

输出视在功率： VVV.V

V 是十进制的整数，范围从 0 － 9。 单位是 KVA.
在单相系统中，只有 R 相是有效的，S 和 T 相总是 0。
在三相系统中，按顺序代表 R、S、T 相的值。

总功率： TTT. T

T 是十进制的整数，范围从 0 - 9。 单位是 KW.

3 Phase system, Include of three phase R,S,&T real power.

总视在功率: SSS.S

S 是十进制的整数，范围从 0 - 9。 单位是 KVA.

3 Phase system, Include of three phase R,S,&T complex power.

输出电流: AAA.A

A 是十进制的整数，范围从 0 - 9。 单位是 A.

在单相系统中，只有 R 相是有效的，S 和 T 相总是 0。

在三相系统中，按顺序代表 R、S、T 相的值。

输出负载百分比: QQQ

QQQ 是 W% 或 VA%的最大值。 VA% 是 VA 的最大值的百分比。 W% 是有用功率的最大值的百分比。

UPS Status:b7b6b5b4b3b2b1b0

The same of Q1 UPS status

S<nn><cr>

Additional Field Descriptions:

Shutdown delay time: nn

<nn> is a number ranging from .1 to 10. Unit is minute

UPS Action/Response:

If the UPS mode is “Line mode” or “Converter mode” or “ECO mode” or “battery mode” or “battery test mode”, UPS response ACK<cr> and the UPS output will be off in <nn> minutes, or else UPS response NAK<cr>.

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

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

See Appendix-04 for the detail.

If the UPS receive S<xx>/S<xx>R<yyyy> before <nn> minutes, the UPS output will be off in<xx> minutes.

See Appendix-05 and Appendix-06 for the detail.

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.

<nn> is a number ranging from. .1,…, 01, 02,..., to 10.

For example : S03<cr> --- shut output off in 3 minutes