



UPS protocol

Hardware requirement 硬件要求

BAUD RATE: 2400 bps

DATA LENGTH: 8 bits

STOP BIT: 1 bits

PARITY: NONE

1 Query Command Q1

Computer : Q1<cr>

UPS: UPS status data stream , such as MMM.MNNN.NPPP.PQQRR.RS.SST.TU<cr>

UPS status data stream :

(a) Start byte : (

(b) I/P voltage : MMM.M

M is an integer number ranging from 0 to 9.

The unit is Volt.

(c) I/P fault voltage : NNN.N

N is an integer number ranging from 0 to 9.

The unit is Volt.

** For ON LINE UPS **

Its purpose is to identify a short duration utility fail which cause ON line UPS to go to Battery mode. If this occurs input voltage will appear normal at query prior to fail and will still appear normal at next query. The I/P fault voltage will hold utility fail voltage till next query. After query, the I/P voltage will be same as I/P voltage until next utility fail occurs.

(d) O/P voltage : PPP.P

P is an integer number ranging from 0 to 9.

The unit is Volt.

(e) O/P load : QQQ

For Off-line UPS:

QQQ is a percent of maximum VA, not an absolute value.

For On-line UPS:



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

W% is a percent of maximum real power.

(f) I/P frequency : RR.R

R is an integer number ranging from 0 to 9.

The unit is HZ.

(g) Battery voltage: SS.S or 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.

(h) Temperature : TT.T

T is an integer number ranging from 0 to 9.

The unit is degree of centigrade.

(i) UPS Status : <U>

<U> is one byte of binary information such as <b7b6b5b4b3b2b1b0>.

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

UPS status :

Remarks

- Bit7 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)

(j) Stop Byte: <cr>

2 Query Command Q4

Computer : Q4<cr>

UPS: UPS status data stream , such as HHH.H LLL.L NNN.N PPP.P QQQ QQQ RR. R KKK VVV SS.S TT.T <cr>

UPS status data stream :

- (a) Start byte : (
- (b) Input maximum voltage: HHH.H
- (c) Input minimum voltage: LLL.L
- (d) input fault voltage: NNN.N
- (e) Output voltage: PPP.P
- (f) Output current percentage : QQQ
- (g) Loadpercent QQQ
- (h) Input frequency: RR.R



Positive BUS volt KKK
Negative BUS voltage: VVV
Battery voltage SS.S
Temperature TT.T (90' --> 860)

Utility fail A
Battery low B
Bypass/Boost Active C
UPS Failed D
Test in progress E
Shutdown Active F
Site Fault G
EPROM fail H
Test passed - Result :OK I
Test passed - Result :Failed J
Test not Possible or Inhibited K
Test Status Unknown L
UPS normal mode M
UPS 110% overload N

3 SET UPS inout

Computer : VS?<cr>
UPS: (220 note: return the set voltage.

Computer : V220<cr>
UPS: ACK note: Setting in bypass mode

Computer : V230<cr>
UPS: ACK note: Setting in bypass mode

Computer : V240<cr>
UPS: ACK note: Setting in bypass mode

Computer : V200<cr>
UPS: ACK note: Setting in bypass mode

Computer : V208<cr>
UPS: ACK note: Setting in bypass mode



4 Frequency setting.

In bypass mode setting, a

FS? query 50/ 60/00
FS50 setting 50Hz
FS60 setting 60Hz
FS00 setting Atuo

5 Output Powerfactor

SG?

SG07 0.7PF
SG08 0.8PF
SG10 1.0PF

6 Line Input Frequeny Set.

In bypass mode setting, a

SL? Check line freq range
SLMM.M NN.N MM.M low freq point NN.N high freq point

7 关机命令 :

Computer : S<n><cr>

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

(a) The UPS output will be off in <n> minutes, evenif the utility is present.
(b) But if the battery under occur before <n> minutes, the output is turned off immediately. (c) After UPS shut down, the controller of UPS monitors the utility. If the utility is there, the UPS

will waiting for 10 seconds and connect the utility to output.

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

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



8 旁路设置命令：

Computer : BO0<n><cr> cancel bypass

UPS: ACK

Computer : BO1<n><cr> enable bypass

UPS: ACK