**P38协议** ....................................................................................................................................... ..... 2

1. **告警列表**................................................................................................................................. 2
2. **功能设置（查询应用实例1）** ............................................................................................. 3
3. **功能支持列表** ........................................................................................................................ 4
4. **控制项（查询应用实例2**） ................................................................................................. 4
5. **The result of control**............................................................................................................... 5
6. **设置参数默认值**...................................................................................................................... 5
7. **UPS 工作状态**........................................................................................................................ 5
8. **UPS 电池信息(sys or rack info inquiry addr)** .................................................................... 6

**9.温度查询**................................................................................................................................... 7

1. **三相负载查询** ...................................................................................................................... 7
2. **Load level inquiry** .............................................................................................................. 7
3. **旁路三相信息**..................................................................................................................... 7 **14. UPS 工作模式** .................................................................................................................. 8 **15. UPS故障信息**................................................................................................................. 8 **16. Loss point**........................................................................................................................... 8

**19. 参数设置成功或失败**......................................................................................................... 8 **20. 远程关机并测试**............................................................................................................. 9 **21. CPU 信息** ......................................................................................................................... 9

**22. UPS 型号和额定信息** ......................................................................................................... 9 **Note** ................................................................................................................................................... 10 1. Note1 ............................................................................................................................................. 10 2. Note2 ............................................................................................................................................. 10 3. Note3 ............................................................................................................................................. 11

**应用实例**.......................................................................................................................................... 13

**1. 启用或禁用声音警报**............................................................................................................. 13

**2. 设置蜂鸣器静默.**.................................................................................................................... 13

**3. 设置控制参数为默认值** ......................................................................................................... 13

1. **获取输入电压** .......................................................................................................................... 13
2. **输出接口状态**................................................................................ .......................................... 13
3. **远程关机**UPS .......................................................................................................................... 14 **7. 关闭UPS并且稍后自动重启**................................................................................................14

**8. 设置参数项** .............................................................................................................................. 14

|  |
| --- |
|  |

：unused

**P38 协议**

# 1. 告警列表

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Hex | Dec | Size | | | Conten | | | | | | | | | | | | | t | | | | | | | | Bit value | | | type | | |
| 0x0000 | 0 | bit15 | | | Battery open | | | | | | | | | | | | |  | | | | | | | | 0:FALSE/1:TRUE | | | Read only | | |
| bit14 | | | IP 中性线丢失 | | | | | | | | | | | | |  | | | | | | | | 0:FALSE/1:TRUE | | | Read only | | |
|  | bit13 |  |  | IP 站点故障 |  | | | | | | | | | | |  | | | | | | | |  | 0:FALSE/1:TRUE |  |  | Read only |  |
| bit12 | | | 市电相位异常 | | | | | | | | | | | | |  | | | | | | | | 0:FALSE/1:TRUE | | | Read only | | |
| bit11 | | | 旁路相位异常 | | | | | | | | | | | | |  | | | | | | | | 0:FALSE/1:TRUE | | | Read only | | |
|  | bit10 |  |  | 旁频率不稳定 | | | | | | | | | |  | |  | | | | | | | |  | 0:FALSE/1:TRUE |  |  | Read only |  |
| bit9 | | | 电池过度充电 | | | | | | | | | | | | |  | | | | | | | | 0:FALSE/1:TRUE | | | Read only | | |
| bit8 | | | 电池电量低 | | | | | | | | | | | | |  | | | | | | | | 0:FALSE/1:TRUE | | | Read only | | |
| bit7 | | | 过载告警 | | | | | | | | | | | | |  | | | | | | | | 0:FALSE/1:TRUE | | | Read only | | |
| bit6 | | | 风扇锁告警 | | | | | | | | | | | | |  | | | | | | | | 0:FALSE/1:TRUE | | | Read only | | |
| bit5 | | | EPO使能 | | | | | | | | | | | | |  | | | | | | | | 0:FALSE/1:TRUE | | | Read only | | |
|  | bit4 |  |  | 开机异常 | | | |  | | | | | | | |  | | | | | | | |  | 0:FALSE/1:TRUE |  |  | Read only |  |
| bit3 | | | 过温 | | | | | | | | | | | | |  | | | | | | | | 0:FALSE/1:TRUE | | | Read only | | |
| bit2 | | | 充电器失效 | | | | | | | | | | | | |  | | | | | | | | 0:FALSE/1:TRUE | | | Read only | | |
|  | bit1 |  |  | 远程关机 | | | | |  | | | | | | |  | | | | | | | |  | 0:FALSE/1:TRUE |  |  | Read only |  |
|  | bit0 |  |  | L1 1P 保险丝故障 | |  | | | | | | | | | |  | | | | | | | |  | 0:FALSE/1:TRUE |  |  | Read only |  |
| 0x0001 | 1 |  | bit15 |  |  | L2 IP保险丝故障 | |  | | | | | | | | | |  | | | | | | | |  | 0:FALSE/1:TRUE |  |  | Read only |  |
|  | bit14 |  |  | L3 IP 保险丝故障 | |  | | | | | | | | | |  | | | | | | | |  | 0:FALSE/1:TRUE |  |  | Read only |  |
|  | bit13 |  |  | L1 PFC positive error | | | | | | |  | | | | |  | | | | | | | |  | 0:FALSE/1:TRUE |  |  | Read only |  |
|  | bit12 |  |  | L1 PFC negat ive error | | | | | | |  | | | | |  | | | | | | | |  | 0:FALSE/1:TRUE |  |  | Read only |  |
|  | bit11 |  |  | L2 PFC positive error | | | | | | |  | | | | |  | | | | | | | |  | 0:FALSE/1:TRUE |  |  | Read only |  |
|  | bit10 |  |  | L2 PFC negat ive error | | | | | | |  | | | | |  | | | | | | | |  | 0:FALSE/1:TRUE |  |  | Read only |  |
|  | bit9 |  |  | L3 PFC positive error | | | | | | |  | | | | |  | | | | | | | |  | 0:FALSE/1:TRUE |  |  | Read only |  |
|  | bit8 |  |  | L3 PFC negat ive error | | | | | | |  | | | | |  | | | | | | | |  | 0:FALSE/1:TRUE |  |  | Read only |  |
|  | bit7 |  |  | CAN 通信错误 | | | | | | | | | |  | |  | | | | | | | |  | 0:FALSE/1:TRUE |  |  | Read only |  |
|  | bit6 |  |  | 同步线路异常 | | | | | | | | | |  | |  | | | | | | | |  | 0:FALSE/1:TRUE |  |  | Read only |  |
|  | bit5 |  |  | 同步脉冲误差 | | | | | | | | | | |  |  | | | | | | | |  | 0:FALSE/1:TRUE |  |  | Read only |  |
|  | bit4 |  |  | 主机线路错误 | |  | | | | | | | | | |  | | | | | | | |  | 0:FALSE/1:TRUE |  |  | Read only |  |
|  | bit3 |  |  | 公柱连接告警 | | | | | | |  | | | | |  | | | | | | | |  | 0:FALSE/1:TRUE |  |  | Read only |  |
|  | bit2 |  |  | 母柱连接告警 | | | | | | | | |  | | |  | | | | | | | |  | 0:FALSE/1:TRUE |  |  | Read only |  |
|  | bit1 |  |  | 并机线路连接异常 | | | | | | | | | | | |  | | | | | | | |  | 0:FALSE/1:TRUE |  |  | Read only |  |
|  | bit0 |  |  | Battery connect differen t | | | | | | | | |  | | |  | | | | | | | |  | 0:FALSE/1:TRUE |  |  | Read only |  |
|  |  | bit15 | | | Line connect different | | | | | | | | | | | | |  | | | | | | | | 0:FALSE/1:TRUE | | | Read only | | |
| 0x0002 | 2 | bit14 | | | Bypass connect different | | | | | | | | | | | | | | | | | | | | | 0:FALSE/1:TRUE | |  | Read only | | |
|  | bit13 |  |  | Mode type different | | | | | |  | | | | | | | | | | | | | |  | 0:FALSE/1:TRUE |  |  | Read only |  |
|  | bit12 |  |  | Parallel inverter voltage setting different | | | | | | | | | | | | | | | |  | | | |  | 0:FALSE/1:TRUE |  |  | Read only |  |
|  | bit11 |  |  | Parallel output frequency setting different | | | | | | | | | | | | | | | | |  | | |  | 0:FALSE/1:TRUE |  |  | Read only |  |
|  | bit10 |  |  | Battery cell over charge | | | | | | | |  | | | | | | | | | | | |  | 0:FALSE/1:TRUE |  |  | Read only |  |
|  | bit9 |  |  | Parallel output parallel setting different | | | | | | | | | | | | | | |  | | | | |  | 0:FALSE/1:TRUE |  |  | Read only |  |
|  | bit8 |  |  | Parallel output phase se tting different | | | | | | | | | | | | | |  | | | | | |  | 0:FALSE/1:TRUE |  |  | Read only |  |
|  | bit7 |  |  | Parallel Bypass Forbid den setting different | | | | | | | | | | | | | | | | |  | | |  | 0:FALSE/1:TRUE |  |  | Read only |  |
|  | bit6 |  |  | Parallel Converter Enable setting different | | | | | | | | | | | | | | | | |  | | |  | 0:FALSE/1:TRUE |  |  | Read only |  |
|  | bit5 |  |  | Parallel Bypass Freq Hi gh loss setting different | | | | | | | | | | | | | | | | | | |  |  | 0:FALSE/1:TRUE |  |  | Read only |  |
|  | bit4 |  |  | Parallel Bypass Freq Low loss setting different | | | | | | | | | | | | | | | | | | |  |  | 0:FALSE/1:TRUE |  |  | Read only |  |
|  | bit3 |  |  | Parallel Bypass Volt High loss setting different | | | | | | | | | | | | | | | | | | |  |  | 0:FALSE/1:TRUE |  |  | Read only |  |
|  | bit2 |  |  | Parallel Bypass Volt Low Loss setting different | | | | | | | | | | | | | | | | | | |  |  | 0:FALSE/1:TRUE |  |  | Read only |  |
|  | bit1 |  |  | Parallel Line Freq High Loss setting different | | | | | | | | | | | | | | | | | |  | |  | 0:FALSE/1:TRUE |  |  | Read only |  |
|  | bit0 |  |  | Parallel Line Freq Low Loss setting different | | | | | | | | | | | | | | | | | |  | |  | 0:FALSE/1:TRUE |  |  | Read only |  |
| 0x0003 | 3 |  | bit15 |  |  | Parallel Line Volt High Loss setting different | | | | | | | | | | | | | | | | | |  | |  | 0:FALSE/1:TRUE |  |  | Read only |  |
|  | bit14 |  |  | Parallel Line Volt Low Loss setting different | | | | | | | | | | | | | | | | | |  | |  | 0:FALSE/1:TRUE |  |  | Read only |  |
| bit13 | | | 30分钟内过载3次锁定旁路 | | | | | | | | | | | | | | | | | | | | | 0:FALSE/1:TRUE | |  | Read only | | |
| bit12 | | | 三相交流输入电流不平衡告警 | | | | | | | | | | | | | | | | | | | | | 0:FALSE/1:TRUE | |  | Read only | | |
|  | bit11 |  |  | 电池相位缺失 | | | |  | | | | | | | | | | | | | | | |  | 0:FALSE/1:TRUE |  |  | Read only |  |
| bit1 0 | | | 逆变器电流不平衡 | | | | | | | | | | | | | | | | | | | | | 0:FALSE/1:TRUE | |  | Read only | | |
|  | bit9 |  |  | P1 cut off pre-alarm | | | | | |  | | | | | | | | | | | | | |  | 0:FALSE/1:TRUE |  |  | Read only |  |
| bit8 | | | 电池更换告警 | | | | | | | | | | | | | | | | | | | | | 0:FALSE/1:TRUE | |  | Read only | | |
|  | bit7 |  |  | 输入相位错误告警 | | | | | | | | | | | | |  | | | | | | |  | 0:FALSE/1:TRUE |  |  | Read only |  |
| bit6 | | | Cover of maintain switch is open | | | | | | | | | | | | | | | | | | | | | 0:FALSE/1:TRUE | |  | Read only | | |
|  | bit5 |  |  | 相位自动调整失败 | | | | | | | | |  | | | | | | | | | | |  | 0:FALSE/1:TRUE |  |  | Read only |  |
| bit4 | | | Utility extremely unbalanced | | | | | | | | | | | | | | | | | | | | | 0:FALSE/1:TRUE | |  | Read only | | |
| bit3 | | | 旁路不稳定 | | | | | | | | | | | | | | | | | | | | | 0:FALSE/1:TRUE | |  | Read only | | |
|  | bit2 |  |  | 并机保护警告 | | | | | | | |  | | | | | | | | | | | |  | 0:FALSE/1:TRUE |  |  | Read only |  |
|  | bit1 |  |  | 放电过度 | | | |  | | | | | | | | | | | | | | | |  | 0:FALSE/1:TRUE |  |  | Read only |  |
|  | bit0 |  |  | 电池电量过高 | | |  | | | | | | | | | | | | | | | | |  | 0:FALSE/1:TRUE |  |  | Read only |  |
| 0x0004 | 4 |  | bit15 |  |  | 电池电量过低 | | |  | | | | | | | | | | | | | | | | |  | 0:FALSE/1:TRUE |  |  | Read only |  |
| bit14 | | | 电池电压高 | | | | | | | | | | | | | | | | | | | | | 0:FALSE/1:TRUE | |  | Read only | | |
| bit13 | | | 电池电压不平衡 | | | | | | | | | | | | | | | | | | | | | 0:FALSE/1:TRUE | |  | Read only | | |
| bit12 | | | 充电器短路 | | | | | | | | | | | | | | | | | | | | | 0:FALSE/1:TRUE | |  | Read only | | |

# 2. 功能设置（look for Application example 1）

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Hex | Dec | Size | Content | Bit value | Register value | type |
|  |  | bit15 | 启用/禁用声音警报 | 0:FALSE/1:TRUE | E:8000/D:7FFF | Read/Write |
| 0x00  06 | 6 | bit14 | 启用/禁用声音警报 | 0:FALSE/1:TRUE | E:4000/D:BFFF | Read/Write |
| bit13 | 启用/禁用电池放电状态检测 | 0:FALSE/1:TRUE | E:2000/D:DFFF | Read/Write |
| bit12 | 启用/禁用高功率模式  （ECO 模式） | 0:FALSE/1:TRUE | E:1000/D:EFFF | Read/Write |
| bit11 | 启用/禁用禁止旁路 | 0:FALSE/1:TRUE | E:800/D:F7FF | Read/Write |
| bit10 | 启用/禁用逆变器短路清除功能 | 0:FALSE/1:TRUE | E:400/D:FBFF | Read/Write |
| bit9 | UPS关闭时 启用/禁用旁路（bps启用/禁用） | 0:FALSE/1:TRUE | E:200/D:FDFF | Read/Write |
| bit8 | 启用/禁用旁路声音警告 | 0:FALSE/1:TRUE | E:100/D:FEFF | Read/Write |
| bit7 | 启用/禁用自动重启 | 0:FALSE/1:TRUE | E:80/D:FF7F | Read/Write |
| bit6 | 启用/禁用电池深度放电保护 | 0:FALSE/1:TRUE | E:40/D:FFBF | Read/Write |
| bit5 | 启用/禁用电池低电量保护（如果禁用，电池放电至6V） | 0:FALSE/1:TRUE | E:20/D:FFDF | Read/Write |
| bit4 | 启用/禁用整流器模式 | 0:FALSE/1:TRUE | E:10/D:FFEF | Read/Write |
| bit3 | 启用/禁用电池周期检测检测 | 0:FALSE/1:TRUE | E:8/D:FFF7 | Read/Write |
| bit2 |  | 0:FALSE/1:TRUE | E:4/D:FFFB | Read/Write |
| bit1 | 启用/禁用 电池按时间停止测试 | 0:FALSE/1:TRUE | E:2/D:FFFD | Read/Write |
| bit0 | 启用/禁用 电池按电压停止测试 |  | E:1/D:FFFE | Read/Write |
| 0x0007 | 7 | bit15 | 启用/禁用频率自动检测 | 0:FALSE/1:TRUE | E:8000/D:7FFF | Read/Write |
| bit14 | 启用/禁用电池自动检测功能 | 0:FALSE/1:TRUE | E:4000/D:BFFF | Read/Write |
| bit13 | 启用/禁用警告时静音 | 0:FALSE/1:TRUE | E:2000/D:DFFF | Read/Write |
| bit12 | 启用/禁用故障时禁用 | 0:FALSE/1:TRUE | E:1000/D:EFFF | Read/Write |
| bit11 | 启用/禁用所有模式静音 | 0:FALSE/1:TRUE | E:0800/D:F7FF | Read/Write |
|  | bit0 - b10 =预留 |  |  |  |

# 3. 功能支持列表

--

# 4. 控制项（look for Application example 2）

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Hex | Dec | Size | Content | Bit value | Register value | Type |
| 0x001A | 26 | bit15 | bit15=蜂鸣器静音 | 0:FALSE/1:TRUE | Y:8000/N:7FFF | Read/Write |
|  |  | bit14 | bit14=蜂鸣器打开 | 0:FALSE/1:TRUE | Y:4000/N:BFFF | Read/Write |
| bit13 | bit13=测试直到电池电量不足 | 0:FALSE/1:TRUE | Y:2000/N:DFFF | Read/Write |
| bit12 | bit12=远程关闭UPS | 0:FALSE/1:TRUE | Y:1000/N:EFFF | Read/Write |
| bit11 | bit11=远程打开UPS | 0:FALSE/1:TRUE | Y:800/N:F7FF | Read/Write |
| bit10 | bit10=取消关机 | 0:FALSE/1:TRUE | Y:400/N:FBFF | Read/Write |
| bit9 | bit9=取消检测 | 0:FALSE/1:TRUE | Y:200/N:FDFF | Read/Write |
| bit8 | bit8=10秒测试 | 0:FALSE/1:TRUE | Y:100/N:FEFF | Read/Write |
| bit7 | bit7= 预留 |  |  |  |
| bit6 | bit6 =预留 |  |  |  |
| bit5 | bit5=预留 |  |  |  |
| bit4 | bit4 =预留 |  |  |  |
|  | b3-b0 =预留 |  |  |  |

# 5. The result of control

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Hex | Dec | Size | Content | Bit value | Type |
| 0x0025 | 37 | bit15 | bit15=标志：蜂鸣器静音 | 0:FAIL/1:SUCCESS | Read/Write |
| bit14 | bit14=标志：蜂鸣器打开 | 0:FAIL/1:SUCCESS | Read/Write |
| bit13 | bit13=标志：测试知道电池电量不足 | 0:FAIL/1:SUCCESS | Read/Write |
| bit12 | bit12=标志：远程关闭UPS | 0:FAIL/1:SUCCESS | Read/Write |
| bit11 | bit11=标志：远程打开UPS | 0:FAIL/1:SUCCESS | Read/Write |
| bit10 | bit10=标志：取消关机 | 0:FAIL/1:SUCCESS | Read/Write |
| bit9 | bit9=标志：取消检测 | 0:FAIL/1:SUCCESS | Read/Write |
| bit8 | bit8=标志：10秒测试 | 0:FAIL/1:SUCCESS | Read/Write |
| bit7 | bit7= 预留 | 0:FAIL/1:SUCCESS | Read/Write |
| bit6 | bit6 =预留n | 0:FAIL/1:SUCCESS | Read/Write |
| bit5 | bit5= 预留 | 0:FAIL/1:SUCCESS | Read/Write |
| bit4 | bit4 = 预留 | 0:FAIL/1:SUCCESS | Read/Write |
|  | b3-b0 = 预留 | 0:FAIL/2:SUCCESS | Read/Write |

# 6. 设置参数默认值

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Hex | Dec | Size | Content | Bit value | Type |
| 0x0030 | 48 | bit15 | bit15=设置控制参数为默认值 | 0: FAIL/1:SUCCES  S | Read/Write |
|  | b14-b0 = 预留 |  |  |
| 0x003B | 59 | bit15 | bit15=标志：设置控制参数为默认值 | 0: FAIL/1:SUCCES  S | Read |
|  | b14-b0 = 预留 |  |  |

# 7. UPS 工作状态

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Hex | Dec | Size | Content | units | Type |
| 0x031E | 798 | 1 | R 输入电压 | 0.1V | Read only |
| 0x031F | 799 | 1 | S输入电压 | 0.1V | Read only |
| 0x0320 | 800 | 1 | T输入电压 | 0.1V | Read only |
| 0x0321 | 801 | 1 | 输入频率 | 0.1Hz | Read only |
| 0x0322 | 802 | 1 | R 输出电压 | 0.1V | Read only |
| 0x0323 | 803 | 1 | S输出电压 | 0.1V | Read only |
| 0x0324 | 804 | 1 | T输出电压 | 0.1V | Read only |
| 0x0325 | 805 | 1 | 输出频率 | 0.1Hz | Read only |
| 0x0326 | 806 | 1 | R 输出电流 | 0.1A | Read only |
| 0x0327 | 807 | 1 | S 输出电流 | 0.1A | Read only |
| 0x0328 | 808 | 1 | T 输出电流 | 0.1A | Read only |
| 0x0329 | 809 | 1 | R 输出负载百分比 | 0.1% | Read only |
| 0x032A | 810 | 1 | S输出负载百分比 | 0.1% | Read only |
| 0x032B | 811 | 1 | T输出负载百分比 | 0.1% | Read only |
| 0x00AF | 175 | 1 | 总输出负载百分比 | 0.1% | Read only |
| 0x032C | 812 | 1 | P 电池电压 | 0.1V | Read only |
| 0x032D | 813 | 1 | N 电池电压 | 0.1V | Read only |
| 0x032E | 814 | 1 | Max Temperature of the detecting pointers | 0.1C | Read only |
| 0x032F | 815 | 1 | 状态 | Note1 | Read only |

# 8. UPS 电池信息 (sys or rack info inquiry addr)

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 0x00BC | | | 188 | | | 1 | | | P 电池电压 | 0.1V | Read only | | |
| 0x00BD | | | 189 | | | 1 | | | P 电池充电电流 |  | Read only | | |
| 0x00BE | | | 190 | | | 1 | | | P 电池放电电流 | Ah | Read only | | |
| 0x00BF | | | 191 | | | 1 | | | 电池容量 | % | Read only | | |
| 0x00C0 | | | 192 | | | 1 | | | 电池剩余时间(分钟) | minutes | Read only | | |
| 0x00C1 | | | 193 | | | 1 | | | N 电池电压 | 0.1V | Read only | | |
| 0x00C2 | | | 194 | | | 1 | | | N 电池充电电流 |  | Read only | | |
| 0x00C3 | | | 195 | | | 1 | | | N 电池放电电流 | Ah | Read only | | |
| 0x00C4 | | | 196 | | | 1 | | | -- | % | Read only | | |
| 0x00C5 | | | 197 | | | 1 | | | -- | minutes | Read only | | |
| 0x02ED | | | 749 | | | 1 | | | 电池模式工作时间 | min | Read only | | |
| 0x0307 | | | 775 | | | 1 | | | Battery AH Number | AH | Read only | | |
| 0x0318 | | | 792 | | | 1 | | | -- | 0.01A | Read only | | |
| 0x0319 | | | 793 | | | 1 | | | -- | 0.01A | Read only | | |
| 0x0364 | | | 868 | | | 1 | | | 电池关闭电压 | 0.1V | Read/Write | | |
| 0x036A | |  | 874 | |  | 1 | |  | 电池低电压 | 0.1V | Read/Write | | |
|  | 0x048D |  |  | 1165 |  |  | 1 |  | battery cell number |  |  | Read only |  |
| 0x05B0 | |  | 1456 | |  | 1 | |  | 电池高电压 | 0.1V | Read/Write | | |
| 0x05B1 | |  | 1457 | |  | 1 | |  | 电池最大充电电流 | 0.1A | Read only | | |
| 0x05D5 | |  | 1493 | |  | 1 | |  | 电池组电压 | 0.1V | Read only | | |

# 9.温度查询

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 0x00CC | 204 | 1 | 散热片温度1 | ℃ | Read only |
| 0x00CD | 205 | 1 | 散热片温度2 | ℃ | Read only |
| 0x00CE | 206 | 1 | 机框温度 | ℃ | Read only |
| 0x00CF | 207 | 1 | 电池温度 | ℃ | Read only |

# 10. 三相负载查询

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 0x00DD | 221 | 1 | R 相位负载 | 0.1% | Read only |
| 0x00FC | 252 | 1 | S 相位负载 | 0.1% | Read only |
| 0x00FD | 253 | 1 | T 相位负载 | 0.1% | Read only |
| 0x00FE | 254 | 1 | 整体负载 | 0.1% | Read only |

# 11. Load level inquiry

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 0x00B7 | 183 | 1 | Total Watt percent 有功功率百分比 | 0.1% | Read only |
| 0x00B8 | 184 | 1 | Total VA percent 视在功率百分比 | 0.1% | Read only |
| 0x030C | 780 | 1 | Load VA R |  | Read only |
| 0x030D | 781 | 1 | Load VA S |  | Read only |
| 0x030E | 782 | 1 | Load VA T |  | Read only |
| 0x030F | 783 | 1 | Load Watt R |  | Read only |
| 0x0310 | 784 | 1 | Load Watt S |  | Read only |
| 0x0311 | 785 | 1 | Load Watt T |  | Read only |
| 0x0312 | 786 | 1 | R Watt percent | 0.1% | Read only |
| 0x0313 | 787 | 1 | S Watt percent | 0.1% | Read only |
| 0x0314 | 788 | 1 | T Watt percent | 0.1% | Read only |
| 0x0315 | 789 | 1 | R VA percent R视在功率 | 0.1% | Read only |
| 0x0316 | 790 | 1 | S VA percent S 视在功率 | 0.1% | Read only |
| 0x0317 | 791 | 1 | T VA percent T视在功率 | 0.1% | Read only |

# 12. 旁路三相信息

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 0x011A | 282 | 1 | R 旁路电压 | 0.1V | Read only |
| 0x011B | 283 | 1 | S 旁路电压 | 0.1V | Read only |
| 0x011C | 284 | 1 | T旁路电压 | 0.1V | Read only |
| 0x011D | 285 | 1 | R 旁路电流 | 0.1A | Read only |
| 0x011E | 286 | 1 | S旁路电流 | 0.1A | Read only |
| 0x011F | 287 | 1 | T旁路电流 | 0.1A | Read only |
| 0x0123 | 291 | 1 | 旁路频率 | 0.1Hz | Read only |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 0x00D0 | 208 | 1 | UPS查询模式 | Note2 | Read only |

# 14. UPS 工作模式

# 15.UPS故障信息

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 0x02A3 | 675 | 1 | Fault kind ASC | Note3 | Read only |

# 16. Loss point

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Hex | Dec | Size | Content | Units | Type |
| 0x034A | 842 | 1 | 市电电压高 | V | Read only |
| 0x034B | 843 | 1 | 市电电压低 | V | Read only |
| 0x034C | 844 | 1 | 市电频率高 | 0.1Hz | Read only |
| 0x034D | 845 | 1 | 市电频率低 | 0.1Hz | Read only |
| 0x034E | 846 | 1 | 旁路频率高 | V | Read/Write |
| 0x034F | 847 | 1 | 旁路频率低 | V | Read/Write |
| 0x0350 | 848 | 1 | 旁路电压高 | 0.1Hz | Read/Write |
| 0x0351 | 849 | 1 | 旁路电压低 | 0.1Hz | Read/Write |
| 0x0352 | 850 | 1 | ECO 电压高 | V | Read/Write |
| 0x0353 | 851 | 1 | ECO 电压低 | V | Read/Write |
| 0x0354 | 852 | 1 | ECO 频率高 | 0.1Hz | Read/Write |
| 0x0355 | 853 | 1 | ECO 频率低 | 0.1Hz | Read/Write |

# 19. 参数设置成功或失败

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Hex | Dec | Size | Content | Bit value | type |
| 0x0384 | 900 | Bit15 | 标志：旁路频率高 | 0:FALSE/1:TRUE | Read only |
| Bit14 | 标志：旁路频率低 | 0:FALSE/1:TRUE | Read only |
| Bit13 | 标志：旁路电压高 | 0:FALSE/1:TRUE | Read only |
| Bit12 | 标志：旁路电压低 | 0:FALSE/1:TRUE | Read only |
| Bit11 | 标志：ECO电压高 | 0:FALSE/1:TRUE | Read only |
| Bit10 | 标志：ECO电压低 | 0:FALSE/1:TRUE | Read only |
| Bit9 | 标志：ECO频率高 | 0:FALSE/1:TRUE | Read only |
| Bit8 | 频率：ECO频率低 | 0:FALSE/1:TRUE | Read only |
|  |  | Bit7 | 标志: 电池关闭电压 | 0:FALSE/1:TRUE | Read only |
| Bit6 | 标志: 电池低电压 | 0:FALSE/1:TRUE | Read only |
| Bit5 | 标志: 电池高电压 | 0:FALSE/1:TRUE | Read only |

# 20. 远程关机和测试

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Hex | |  | Dec | | | Size | | | Content | | | Units/Bit value | | | Type | | |
| 0x03A B | |  | 939 | | | 1 | | | 关机 | | | minutes(ASCII) | | | Read/Write | | |
| 0x03A C | |  | 940 | | | 1 | | | 指定时间测试 | | | minutes(ASCII) | | | Read/Write | | |
|  | 0x03AD |  |  | 941 |  |  | 1 |  |  | 关机和恢复(N) |  |  | minutes(ASCII) |  |  | Read/Write |  |
| 0x03A E | |  | 942 | | | 2 | | | 关机和恢复(M) | | | minutes(ASCII) | | | Read/Write | | |
| 0x03D A | |  | 986 | | | bit15 | | | B15=flag:关机 | | | 0:FAIL/1:SUCCESS | | | Read only | | |
| bit14 | | | B14=flag:指定时间测试 | | | 0:FAIL/1:SUCCESS | | | Read only | | |
| bit13 | | | B13=flag:关机和恢复 | | | 0:FAIL/1:SUCCESS | | | Read only | | |
|  | | | b12-b0=预留 | | |  | | |  | | |

# 21. CPU 信息

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Hex | Dec | Size | Content | Units | Type |
| 0x03E0 | 992 | 1 | 协议ID查询 | ASCII | Read only |
| 0x03E1 | 993 | 10 | 主CPU固件版本 | ASCII | Read only |

# 22.UPS型号和额定信息

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 0x03EB | | | 1003 | | | 7 | | | | 主生产类型 | | | | ASCII | | | Read only | | |
| 子生产类型 | | | | ASCII | | | Read only | | |
| VA type | | | | ASCII | | | Read only | | |
| H/LV type | | | | ASCII | | | Read only | | |
| 年 | | | | ASCII | | | Read only | | |
| 月 | | | | ASCII | | | Read only | | |
| 生产商标识 | | | | ASCII | | | Read only | | |
| 序列号 | | | | ASCII | | | Read only | | |
| 0x03F2 | | | 1010 | | | 1 | | | | Battery Piece Number | | | |  | | | Read only | | |
| 0x03F3 | | | 1011 | | | 1 | | | | 单位电池标准电压 | | | | 0.1V | | | Read only | | |
| 0x03F4 | | | 1012 | | | 1 | | | | 输入相位 | | | |  | | | Read only | | |
| 0x03F5 | | | 1013 | | | 1 | | | | 输出相位 | | | |  | | | Read only | | |
| 0x03F6 | | | 1014 | | | 1 | | | | 标准 I/P 电压 | | | | V | | | Read only | | |
| 0x03F7 | | | 1015 | | | 1 | | | | 标准 O/P 电压 | | | | V | | | Read only | | |
| 0x03F8 | | | 1016 | | | 1 | | | | 输出功率因数 | | | |  | | | Read only | | |
| 0x03F9 | | | 1017 | | | 2 | | | | Output rated VA | | | | W | | | Read only | | |
| 0x03FB | | | 1019 | | | 8 | | | | 设备型号 | | | | ASCII | | | Read only | | |
| 0x048A | | | 1162 | | | 1 | | | | 电池电压 | | | | 0.1V | | | Read only | | |
|  | 0x048B |  |  | 1163 |  |  | 1 | |  |  | 额定输出电流 | t |  |  | 0.1A |  |  | Read only |  |
| 0x048C | | | 1164 | |  | 1 | | | | 额定输出频率 | | ncy | | 0.1 H | | z | Read/Writ e | | |
| 0x048D | | | 1165 | |  | 1 | | | | 额定输出电压 | | e | | 0.1V | |  | Read/Writ e | | |
|  | 0x048E |  |  | 1166 |  |  | 1 |  | |  | The parallel number. |  | |  | |  |  | Read only |  |

# Note

# 1. Note1

|  |  |
| --- | --- |
| Note 1: | |
| 815 （bit15-bit8） | bit15 bit14：  00: 备份;  01: line-interactive;  10:在线 |
| bit13: Utility Fail  bit12: 电池电量低  bit11: Bypass/Boost Active bit10: UPS故障  bit9: EPO  bit8: 测试进行中 |
| 815 （bit2-bit0） | Bit2: 关机生效  bit1: 电池静默  bit0: 电池测试正常 |

# 2. Note2

|  |  |  |
| --- | --- | --- |
| Note 2: |  |  |
| 0x00D0H | P: | 开机模式 |
| S: | 待机模式 |
| Y: | 旁路模式 |
| L: | 市电模式 |
| B: | 电池模式 |
| T: | 电池自检模式 |
| F: | 故障模式 |
| E: | HE/ECO 模式 |
| C: | 转换器模式 |
| D: | 关机模式 |

# 3. Note3

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 故障类型 | Fault  Number | 故障名称 | | |
| 总线故障 | 0x01 | 总线启动失败 | | |
| 0x02 | 总线电压过高 | | |
| 0x03 | 总线电压过低 | | |
| 0x04 | 总线电压不平衡 | | |
| 0x05 | 总线短路 | | |
| 0x06 | PFC 过流 | | |
| 0x07 | PFC IGBT 过流 | | |
| 0x08 | 输入触电故障 | | |
| **逆变器故障** | 0x11 | Inverter soft fail | | |
| 0x12 | 逆变器电压高 | | |
| 0x13 | 逆变器电压低 | | |
| 0x14 | L1 逆变器短路 | | |
| 0x15 | L2 逆变器短路 | | |
| 0x16 | L3 逆变器短路 | | |
| 0x17 | L1L2 逆变器短路 | | |
| 0x18 | L2L3 逆变器短路 | | |
| 0x19 | L3L1 逆变器短路 | | |
| 0x1A | L1 inverter negative power | | |
| 0x1B | L2 inverter negative power | | |
| 0x1C | L3 inverter negative power | | |
| Electric link fault | 0x21 | 电池SCR 短路故障 | | |
| 0x22 | 市电 SCR 短路故障 | | |
| 0x23 | 逆变器继电器开路故障 | | |
| 0x24 | 逆变器继电器短路故障 | | |
| 0x25 | 接线错误 | | |
| 0x26 | Battery reverse fault | | |
| 0x27 | 电池电量过高 | | |
| 0x28 | 电池电量过低 | | |
| 0x29 | 电池保险丝 | | |
| 0x30 | 开路故障 | | |
| 并机系统故障 | 0x31 | CAN 通信故障 | | |
| 0x32 | 主机线路故障 | | |
| 0x33 | 同步线路故障 | | |
| 0x34 | 同步脉冲线故障 | | |
|  | 0x35 | 并机通讯线路丢失 | | |
| 0x36 | 输出电路故障 | | |
| 其它 | 0x41 | 过温 | | |
| 0x42 | CPU 通讯故障 | | |
| 0x43 | 过载故障 | | |
| 0x44 | 风扇故障 | | |
| 0x45 | 充电器故障 | | |
| 0x46 | Model fault | | |
| 0x47 | MCU 通讯故障 | | |
| 0x48 | DSP 固件版本不兼容 | | |
| 0x49 | IpOP相位异常 | | |
| 0x4A |  |  |  |
| 0x4B |  |  |  |
| 0x4C |  |  |  |
| 0x4D |  |  |  |
| 0x4E |  |  |  |
| 0x4F |  |  |  |
| 0x60 | 逆变器过流 | | |
| 0x61 | BypScrShort | | |
| 0x62 | BypScrOpen | | |
| 0x63 | RINVWaveAbnormal | | |
| 0x64 | SINVWaveAbnormal | | |
| 0x65 | TINVWaveAbnormal | | |
| 0x66 | CTSatiation | | |
| 0x67 | OPShort\_BYP | | |
| 0x68 | OPLineShort\_BYP | | |
| 0x69 | InvScrShort | | |
| 0x6A | 总线电压故障 | | |

# 应用实例

# 1. 启用或禁用声音警报

在表地址0x000E的bit15中查找启用声音警报，然后可以将0x8000写入0x000E来启用声音警报，或者将0xEFFF写入0x0E以禁用声音警报。 例如：

[XX 10 00 0E 00 01 02 80 00 CRCL CRCH]Mean: 开启声音警报

[XX 10 00 0E 00 01 02 7F FF CRCL CRCH]Mean: 关闭声音警报

你可以读取以下地址0x10的bit15来查询执行结果。 例如：

[XX 03 00 10 00 01 CRCL CRCH]

[XX 03 02 80 00 CRCL CRCH]表示: 执行成功

[XX 03 02 00 00 CRCL CRCH]表示: 执行失败

# 2. 设置蜂鸣器静默.

在地址0x001A bit 15 查找静默蜂鸣器。然后你可以在 0x8000 写入 0x001A.

例如:

[XX 10 00 1A 00 01 02 80 00 CRCL CRCH]静默蜂鸣器.

查询读取结果，你可以读取 0x0025

[XX 03 00 25 00 01 CRCL CRCH]查询结果命令

# 3. 设置控制参数为默认值

寻找将控制参数设置为默认值 ,然后将 0x8000 写入 0x0030.如果执行成功把0x003B bit15 置为 1; 例如:

[XX 10 00 30 00 01 02 80 00 CRCL CRCH]设置控制参数设置为默认值.

[XX 03 00 3B 00 01 CRCL CRCH]查询命令结果

# 4. 获取输入电压

在地址 0x00AA查询输入电压, 当读取 0x00AA来 获取输入电压。 并且其单位为 0.1V

For example:

PC:[XX 03 00 AA 00 01 CRCL CRH]

DEVICE:[XX 03 02 08 89 CRCL CRCH]

Mean: HEX [0x0889] to DEC[2185] .输入电压：218.5V.

# 5. 输出接口状态

查询输出接口状态,将接口号写入 0x0345,然后读取0x0346 查询接口状态.

例如:

PC:[XX 10 03 45 00 01 02 01 00 CRCL CRCH] 01:表示查询接口1状态.

PC:[XX 03 03 46 00 01 CRCL CRCH]

DEVICE:[XX 03 02 01 00 CRCL CRCH] 01:表示接口1已开启。.

# 6. 远程关机UPS

远程关机UPS, 然后写入从 (.2, .3, ..., 01, 02,..., 到 10)的数字到 0x3AB。如果执行成功 则0x003DA bit0 会被置为 1. 例如:

PC:[XX 10 03 AB 00 01 02 2E 32]表示: 在0.2分钟内关闭UPS

# 7. 关闭UPS并且稍后自动重启

在n分钟内切断UPS输出并且等待m分钟，然后再打开UPS输出。然后将n写入 0x03AD 并且把m写入 0x003AE. 例如:

PC:[XX 10 03 AD 00 03 06 2E 32 30 30 30 32 CRCL CRCH]表示: 在0.2分钟内关闭UPS 并且 等待2分钟打开UPS.

# 8. 设置参数项

Set The bypass Voltage high loss point of UPS ,You want to Set the value 286V . Then write 0x011E to 0x0350 . For example:

PC:[XX 10 03 50 00 01 02 01 1E CRCL CRCH]Mean: Set The bypass Voltage high loss point of UPS for 286V.