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|  |
| --- |
|   |

 ：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

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# 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:SUCCESS  | 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:SUCCESS  | 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.