

目录

1. FaultCode	2
2. WarningCode	5
3. Control Flag	7
4. Query CMD	9
5. Set CMD	17

1. FaultCode

Fault 类别	Fault 名称	Fault 代码	Fault 描述
Bus/converter fault	Bus start fail	0x01	规定时间内，bus电压未达到设定值。
	Bus volt over	0x02	Bus电压超过上限值。
	Bus volt under	0x03	Bus电压低于下限值。
	Bus volt unbalance	0x04	正负Bus电压之差超出允许范围。
	Bus short	0x05	Bus电压下降斜率过快。
	PFC over current	0x06	PFC输入电感电流过大。
	PFC IGBT over current	0x07	PFC IGBT电流过大
	Input contact fault	0x08	输入接触器故障
Inverter fault	Inverter soft start fail	0x11	规定时间内，inverter电压未达到设定值。
	Inverter volt high	0x12	Inverter电压超过上限值。
	Inverter volt low	0x13	Inverter电压低于下限值。
	L1 inverter short	0x14	L1 inverter相短路。
	L2 inverter short	0x15	L2 inverter相短路。
	L3 inverter short	0x16	L3 inverter相短路。
	L1L2 inverter short	0x17	L1L2 inverter线短路。
	L2L3 inverter short	0x18	L2L3 inverter线短路。
	L3L1 inverter short	0x19	L3L1 inverter线短路。
	L1 inverter negative power	0x1A	L1 inverter负功超出允许范围。
	L2 inverter negative power	0x1B	L2 inverter负功超出允许范围。
	L3 inverter negative power	0x1C	L3 inverter负功超出允许范围。
	Inverter over current	0x1D	逆变电感电流过大
	Inverter IGBT over current	0x1E	逆变IGBT电流过大
Electric link fault	Bat SCR short fault	0x21	Battery scr短路故障
	Line SCR short fault	0x22	Line scr短路故障
	Inverter relay open fault	0x23	Inverter relay开路故障
	Inverter relay/STS short fault	0x24	Inverter relay或者STS短路故障
	Wiring fault	0x25	输入输出线路反接故障
	Battery reverse fault	0x26	电池反接故障
	Battery too high	0x27	电池电压过高，远超出over charge点。
	Battery too low	0x28	电池电压过低，远低于shut down点。
	Battery Fuse Open-Circuit Fault	0x29	电池fuse开路故障
	Charger output short	0x2A	Charger输出端短路
	BypScrFault	0x2B	Bypass relay或者STS短路故障
Parallel system fault (待实现)	CAN communication fault	0x31	CAN bus通信故障。(support latter)
	Host line fault	0x32	主机信号线路故障。

	Synchronization line fault	0x33	同步信号线路故障。
	Synchronization pulse line fault	0x34	同步触发信号线路故障，
	Parallel communication line loss	0x35	并机通信线路丢失故障。
	Output circuit fault	0x36	输出严重不均流故障。
Others	Over temperature	0x41	UPS工作温度过高故障。
	CPU communication fault	0x42	控制板中CPU间通信故障。
	Overload fault	0x43	过载故障。
	Fan fault	0x44	风扇模组故障。
	Charger fault	0x45	充电器故障。
	Model fault	0x46	机型设置错误
	MCU communication fault	0x47	控制板与通讯板MCU通信故障
	DSP firmware version	0x48	控制板固件版本不兼容
		0x49	
		0x4A	
		0x4B	
		0x4C	
		0x4D	
		0x4E	
		0x4F	
		0x50	
	cBatUnbalance	0x51	电池不平衡
	cBatVoltHigh	0x52	电池电压高

2. WarningCode

Warning Code 1 warning

bit	code		note
a0	1	Battery open	电池未接报警。
a1	2	IP N loss	输入N线丢失报警。
a2	3	IP site fail	输入零火线接反报警。(The gray means not support now.)
a3	4	Line phase error	三相输入时, 市电L1/L2/L3相序错误。
a4	5	Bypass phase error	三相输入时, 旁路L1/L2/L3相序错误。
a5	6	Bypass frequency unstable	旁路输入频率变化过快, 超出UPS锁相能力。
a6	7	Battery over charge	电池过充报警。
a7	8	Battery low	电池低压报警。
a8	9	Overload warning	过载报警。
a9	0A	Fan lock warning	风扇模组堵转报警。
a10	0B	EPO active	EPO开关生效。
a11	0C	Turn on abnormal	系统不允许开机。
a12	0D	Over temperature	过温报警。
a13	0E	Battery unbalance	电池不平衡。
a14	0F	Remote shut down	远程自动关机报警。
a15	10	L1 IP fuse fail	L1输入保险开路报警。
a16	11	L2 IP fuse fail	L2输入保险开路报警。
a17	12	L3 IP fuse fail	L3输入保险开路报警。
a18	13	L1 PFC positive error	L1正边 PFC工作异常, 连续48个count PWM输出始终为满偏。
a19	14	L1 PFC negative error	L1负边 PFC工作异常, 连续48个count PWM输出始终为满偏。
a20	15	L2 PFC positive error	L2正边 PFC工作异常, 连续48个count PWM输出始终为满偏。
a21	16	L2 PFC negative error	L2负边 PFC工作异常, 连续48个count PWM输出始终为满偏。
a22	17	L3 PFC positive error	L3正边 PFC工作异常, 连续48个count PWM输出始终为满偏。
a23	18	L3 PFC negative error	L3负边 PFC工作异常, 连续48个count PWM输出始终为满偏。
a24	19	CAN communication error	CAN bus通信报警。
a25	1A	Synchronization line error	同步信号线路报警。
a26	1B	Synchronization pulse error	同步触发信号线路报警。
a27	1C	Host line error	主机信号线路报警。
a28	1D	Male connection error	并机通信线公端连接脱落报警。
a29	1E	Female connection error	并机通信线母端连接脱落报警。
a30	1F	Parallel line connection error	并机通信线脱落报警
a31	20	Battery connect different	并机系统各模块电池连接不一致。
a32	21	Line connect different	并机系统各模块市电连接不一致。
a33	22	Bypass connect different	并机系统各模块旁路连接不一致。
a34	23	Mode type different	并机系统中各UPS机种类型不一致。
a35	24	Parallel inverter voltage setting different	并机系统逆变电压设置不一致。
a36	25	Parallel output frequency setting different	并机系统输出频率设置不一致。
a37	26	Battery cell over charge	电池单体过充电

a38	27	Parallel output parallel setting different	并机系统输出并联设置不一致。
a39	28	Parallel output phase setting different	并机系统输出相角设置不一致。
a40	29	Parallel Bypass Forbidden setting different	并机系统旁路禁止标志位设置不一致。
a41	2A	Parallel Converter Enable setting different	并机系统CVCF标志位设置不一致。
a42	2B	Parallel Bypass Freq High loss setting different	并机系统旁路频率丢失点上限设置不一致。
a43	2C	Parallel Bypass Freq Low loss setting different	并机系统旁路频率丢失点下限设置不一致。
a44	2D	Parallel Bypass Volt High loss setting different	并机系统旁路电压丢失点上限设置不一致。
a45	2E	Parallel Bypass Volt Low Loss setting different	并机系统旁路电压丢失点下限设置不一致。
a46	2F	Parallel Line Freq High Loss setting different	并机系统市电频率丢失点上限设置不一致。
a47	30	Parallel Line Freq Low Loss setting different	并机系统市电频率丢失点下限设置不一致。
a48	31	Parallel Line Volt High Loss setting different	并机系统市电电压丢失点上限设置不一致。
a49	32	Parallel Line Volt Low Loss setting different	并机系统市电电压丢失点下限设置不一致。
a50	33	Locked in bypass after overload 3 times in 30min	30分钟内过载三次锁在旁路告警。
a51	34	Warning for three-phase AC input current unbalance	PFC输入电流不平衡告警。
a52	35	Battery fuse broken	电池保险开路告警。
a53	36	Inverter inter-current unbalance	逆变并板不均流告警。
a54	37	P1 cut off pre-alarm	P1切断预警
a55	38	Warning for Battery replace	电池需要更换告警
a56	39	Warning for input phase error	输入相角不正常告警
a57	3A	Cover of maintain switch is open	维护旁路开路报警
a58	3B	Phase Auto Adapt Failed	相位自动侦测失败
a59	3C	Utility extremely unbalanced	市电电压极度不平衡
a60	3D	Bypass unstable	旁路状态不稳定
a61	3E	EEPROM operation error	EEPROM操作异常
a62	3F	Parallel protect warning	并机保护告警。提示机器上次运行时出现了并机通讯线丢失故障。
a63	40	Discharger overly	电池过放电告警,需要进行保护
a64	41	Battery too high	电池电压远高于overcharge点
a65	42	Battery too low	电池电压过低
a66	43	Battery over temp	电池温度过高
a67	44	End of battery backup time	电池设定放电时间将到
a68	45	Battery switch open	电池开关open告警
a69	46	Battery test failed	电池自检失败
a70	47	Inverter DC voltage too high	逆变电压直流分量过高
a71	48	Phase lock failed	逆变旁路同步失败

3. Control Flag

No	Control setting
A	Enable/disable all audible alarm (完全静音)
B	Enable/disable battery mode warning mute
C	Enable/disable code start(The gray means not support now.)
D	Enable/disable battery open status check
E	Enable/disable high efficiency mode (ECO mode)
F	Enable/disable bypass forbidden
G	Enable/disable energy saving
H	Enable/disable short restart 3 times
I	Enable/disable inverter short clear function
J	Enable/disable Output socket1 when the delay release time is over in battery mode .
K	Enable/disable Output socket2 when the delay release time is over in battery mode.
L	Enable/disable Site fault detect
M	Enable/disable hot standby function
N	Enable/disable deep high efficiency mode
O	Enable/disable bypass when UPS turn off. (bps enable/disable)
P	Enable/disable bypass audible warning
Q	Enable/disable Constant Phase Angle function
R	Enable/disable auto-restart
S	Enable/disable battery deep discharge protect
T	Enable/disable battery low protect (if disable, the battery will discharge to 6V)
U	Enable/disable Free run function
V	Enable/disable converter mode
W	Enable/disable limited runtime on battery mode
X	Enable/disable output parallel function in phase angle 0
Y	Enable/disable phase auto adapt
Z	Enable/disable period battery test
a	Enable/disable power walk in delay function
b	Enable/disable battery test stop by time
c	Enable/disable battery test stop by voltage
d	Enable/disable work without battery
e	Enable/disable frequency auto detection
f	Enable/disable auto battery test function
g	Enable/disable warning mute
h	Enable/disable fault mute
i	Enable/disable all mode mute

4. Query CMD

Order	Sender	Pre	Len	Data	End code	Format
1	PC	~P	5	Q3GS	0x0d	~P005Q3GS<0x0d>
				AA, BBB. B, CCC. C, DDD. D, EE. E, FFF. F, GGG. G, HHH. H, II. I, JJJ. J, KKK. K, LLL. L, MMM. N, NN, OOO, PPP, QQQ. Q, RRR. R, SSS, b9b8b7b6b5b4b3b2b1b0a0	<CRC H><CRC L><0x0d>	~D113AA, BBB. B, CCC. C, DDD. D, EE. E, FFF. F, GGG. G, HHH. H, II. I, JJJ. J, KKK. K, LLL. L, MMM. N, NN, OOO, PPP, QQQ. Q, RRR. R, SSS, b9b8b7b6b5b4b3b2b1b0a0<CRC H><CRC L><0x0d>
	UPS	~D	113			
				Item	Description	Range
				AA	UPS Work mode	#define MODE_POWERON 1 #define MODE_STANDBY 2 #define MODE_BYPSS 3 #define MODE_LINE 4 #define MODE_BATTERY 5 #define MODE_BATTEST 6 #define MODE_FAULT 7 #define MODE_CONVERT 8 #define MODE_ECO 9 #define MODE_SHUTDOWN
				BBB. B	Line Voltage R	
				CCC. C	Line Voltage S	
				DDD. D	Line Voltage T	
				EE. E	Line frequency	
				FFF. F	Output Voltage R	
				GGG. G	Output Voltage S	
				HHH. H	Output Voltage T	
				II. I	Output Frequency	
				JJJ. J	Output Current R	
				KKK. K	Output Current S	
				LLL. L	Output Current T	
				MMM	Load Percent R	
				NNN	Load Percent S	
				OOO	Load Percent T	
				PPP	Total Load Percent	
				QQQ. Q	Battery voltage P	
				RRR. R	Battery voltage N	
				SSS	Max temperature	
				b9b8	Ups type (fixed :10(online ups)
				b7	Utility Fail	
				b6	Battery Low	
				b5	Bypass at UPS off	
				b4	UPS Failed	
				b3	EPO active	
				b2	Test in Progress	
				b1	Shutdown Active	
				b0	mute status	
				a0	battery test ok	
2	PC	~P	5	Q3LD	0x0d	~P005Q3LD<0x0d>

UPS	~D	109	AAA. A, BBB. B, CCC. C, DDD. D, EEE. E, FFF. F, GGG. G, HHH. H, III. I, JJJ. J, KKK. K, LLL. L, MMMM, NNNNN, OOOOO, PPPPP, QQQQQ, RRRRR	<CRC H><CRC L><0x0d>	~D0109AAA. A, BBB. B, CCC. C , DDD. D, EEE. E, FFF. F, GGG. G, HHH. H, III. I, JJJ. J, KKK . K, LLL. L, MMMM, NNNNN, OO OOO, PPPPP, QQQQQ, RRRRR<C RC H><CRC L><0x0d>
-----	----	-----	---	-------------------------	--

Item	Description	Range
AAA. A	Max Load Percent R	
BBB. B	Max Load Percent S	
CCC. C	Max Load Percent T	
DDD. D	Max Total Percent	
EEE. E	Load VA Percent R	
FFF. F	Load VA Percent S	
GGG. G	Load VA Percent T	
HHH. H	Load VA Total Percent	
III. I	Load Watt Percent R	
JJJ. J	Load Watt Percent S	
KKK. K	Load Watt Percent T	
LLL. L	Load Watt Total Percent	
MMMM	Load VA R	
NNNN	Load VA S	
OOOO	Load VA T	
PPPP	Load Watt R	
QQQQ	Load Watt S	
RRRR	Load Watt T	

3 PC	~P	5	Q3Y	0x0d	~P004Q3Y<0x0d>
UPS	~D	43	AAA. A, BBB. B, CCC. C, DDD. D, EEE. E, FFF. F, GG. G	<CRC H><CRC L><0x0d>	~D043AAA. A, BBB. B, CCC. C, DDD. D, EEE. E, FFF. F, GG. G< CRC H><CRC L><0x0d>

Item	Description	Range
AAA. A	Bypass Voltage R	
BBB. B	Bypass Voltage S	
CCC. C	Bypass Voltage T	
DDD. D	Bypass Current R	
EEE. E	Bypass Current S	
FFF. F	Bypass Current T	
GG. G	Bypass Frequency	

4 PC	~P	5	QBDT	<0x0d>	~P005QBDT<0x0d>
UPS	~D	20	AAAABBCC, DDDDEEFF	<CRC H><CRC L><0x0d>	~D020AAAABBCC, DDDDEEFF< CRC H><CRC L><0x0d>

Item	Description	Range
AAAA	Battery install year	
BB	Battery install month	
CC	Battery install day	
DDDD	Battery last maintain year	
EE	Battery last maintain month	
FF	Battery last maintain day	

5 PC	~P	5	QBRT	<0x0d>	~P005QBRT<0x0d>
------	----	---	------	--------	-----------------

UPS	~D	33	AA. A, BB. B, CC. C, DDD, EEE. E , FF. F, GG, HH	<CRC H><CRC L><0x0d>	~D033AA. A, BB. B, CCC, DDD. D, EE. E, FF. F, GG, HHH<CRC H><CRC L><0x0d>
			Item Description Range		
			AA. A Battery Bluk voltage 12~ 14V		
			BB. B Battery shutdown voltage 10. 5V~12. 0V		
			CC. C Battery Low voltage (Under点 +0. 1V)~(Under点		
			DDD Battery AH Number 007~200		
			EEE. E Battery max charging 0. 5A~安时数*0. 2		
			FF. F Battery High voltage 14. 0~15. 0		
			GG battery cell number 31~32		
			HHH Battery mode work time 0~999 min		
6 PC	~P	5	QBTT	<0x0d>	~P005QBTT<0x0d>
UPS	~D	15	AAA, B, CC. C, D	<CRC H><CRC L><0x0d>	~D015AAA, B, CC. C, D<CRC H><CRC L><0x0d>
			Item description range		
			AAA Battery test stop time (minute) 001~240		
			B Enable battery test stop by time 1 or 0		
			CC. C Battery test stop voltage(V) 11. 0~12. 0		
			D Enable battery test stop by voltage 1 or 0		
7 PC	~P	4	QBV	<0x0d>	~P004QBV<0x0d>
UPS	~D	49	AAA. A, BBB. B, CCCC. C, DDD. D , EEE. E, FFFF. F, GGG, HHHH	<CRC H><CRC L><0x0d>	~D049AAA. A, BBB. B, CCCC. C , DDD. D, EEE. E, FFFF. F, GGG , HHHH<CRC H><CRC L><0x0d>
			Item Description		
			AAA. A Battery Voltage P		
			BBB. B Battery Charging Current P		
			CCCC. C Battery Discharging Current P		
			DDD. D Battery Voltage N		
			EEE. E Battery Charging Current N		
			FFFF. F Battery Discharging Current N		
			GGG Battery Capacity 7~200, 默认45Ah		
			HHHH Battery Remain time(minute)		
8 PC	~P	9	QFIF<XXXX>	<0x0d>	~P009QFIP0001<0x0d>
UPS	~D				使用16位传输,
9 PC	~P	5	QFLG	<0x0d>	~P005QFLG<0x0d>

UPS	~D	A0B0C0...Z0a0...e1	<CRC H><CRC L><0x0d>	~D065A0B0C0...Z0a0...e1<CRC H><CRC L><0x0d>
		<u>see control flag table</u>	1 means enable, 0 means disable, - means reserved	
10 PC	~P	4 QFS	<0x0d>	~P004QFS<0x0d>
UPS	~D	4 AA	<CRC H><CRCL><0x0d>	~D005AA<CRC H><CRC L><0x0d>
		Item AA	Description Fault code	<u>see FaultCode</u>
11 PC	~P	4 QID	<0x0d>	~P004QID<0x0d>
UPS	~D	20 AAAAAAAAAAAAAAAAAA	<CRC H><CRC L><0x0d>	~D021AAAAAAAAAAAAAAAAAA<CRC H><CRC L><0x0d>
		Item AA...AA	Description SN of UPS	
12 PC	~P	5 QIOT	<0x0d>	~P005QIOT<0x0d>
UPS	~D	16 A, B, BB, C, D, DD	<CRC H><CRC L><0x0d>	~D0160, 1.00, 0, 1.00<CRC H><CRC L><0x0d>
		Item A B, BB C D, DD	Description input wire type input scale factor output wire type output scale factor	Range 0:3P4W;1:3P3W 0.01~2.55 0:3P4W;1:3P3W 0.01~2.55
13 PC	~P	5 QLFD	<0x0d>	~P005QLFD<0x0d>
UPS	~D	6 AAAA	<CRC H><CRC L><0x0d>	~D007AAAA<CRC H><CRC L><0x0d>
		Item AAAA	Description The last fault order ID	Range
14 PC	~P	5 QMAP	<0x0d>	~P005QMBS<0x0d>
UPS	~D	9 AAA, B, C	<CRC H><CRC L><0x0d>	~D0010AAA, B, C<CRC H><CRC L><0x0d>
		Item AAA B C	Description Modbus address The number of the parallel UPS The number of the redundant UPS	Range 1~247 1~4 0~(B-1)
13 PC	~P	4 QMD	<0x0d>	~P004QMD<0x0d>
UPS	~D	45 AA6, BBBB, CCC, DDD, EEE, FFF, GG, HH	<CRC H> <CRCL>	~D038AA6, BBBB, CCC, DDD, EEE, FF, GG<CRC H><CRC L>

		Item	Description		
		AA6	Modbus Name (6 Bytes)		
		BBBBBB	Rating output VA (w)		
		CCC	Output Factor	090 means PF 0.9	
		DDD	Input phase/Output phase	fixed 3/3	
		EEE	Input Rating voltage		
		FFF	Output Rating voltage		
		GG	battery piece number		
		HH	voltage per cell		
15	PC	~P	4 QOPF	<0x0d>	~P005QOPF<0x0d>
	UPS	~D	6 A. AA, B. BB, C. CC	<CRC H> <CRC L>	~D017AA. A, B. BB, C. CC<CRC H><CRC L><0x0d>
		Item	Description	Range	
		A. AA	L1 ouptput power factor	max1.00	
		B. BB	L2 ouptput power factor	max1.00	
		C. CC	L3 ouptput power factor	max1.00	
16	PC	~P	4 QPI	<0x0d>	~P004QPI<0x0d>
	UPS	~D	6 PI35	<CRC H> <CRC L>	~D007PI35<CRC H><CRC L>
17	PC	~P	5 QRHL	<0x0d>	~P005QRHL<0x0d>
	UPS	~D	AAA, BBB, CC. C, DD. D, EEE, FF 37 F, GG. G, HH. H, III, JJJ, KK. K , LL. L	<CRC H><CRC L>	~D052AAA, BBB, CC, DD, EEE, FFF, GG. G, HH. H, III, JJJ, K K. K, LL. L<CRC H><CRC L>
		Item	Description	Rang	
		AAA	Line Voltage High		
		BBB	Line Voltage Low		
		CC. C	Line Frequency High		
		DD. D	Line Frequency Low		
		EEE	Bypass Voltage High		
		FFF	Bypass Voltage Low		
		GG. G	Bypass Frequency High		
		HH. H	Bypass Frequency Low		
		III	ECO Voltage High		
		JJJ	ECO Voltage Low		
		KK. K	ECO Frequency High		
		LL. L	ECO Frequency Low		
18	PC	~P	4 QRI	<0x0d>	~P004QRI<0x0d>
	UPS	~D	28 AAA. A, CCC. C, DDD, EE. E	<CRC H><CRC L>	~D022AAA. A, CCC. C, DDD, EE . E<CRC H><CRC L>
		Item	Description	Range	
		AAA. A	Rating output voltage		
		CCC. C	Rating battery voltage		
		DDD	Battery AH Number		
		EE. E	Rating output frequency		

19 PC	~P	5 QSDT	<0x0d>	~P005QSDT<0x0d>
UPS	~D	YYYYMMDD, yyyymmdd	<CRC H><CRC L>	~D020YYYYMMDD, yyyymmdd<CRC H><CRC L>
	Item	Description	Range	
	YYYYMMDD	System install date:year-month-day		
	yyyymmdd	System last maintain date:year-month-day		
20 PC	~P	QTIME	<0x0d>	~P006QTIME<0x0d>
UPS	~D	yyyyymmddhhmmss	<CRC H><CRC L>	~D017yyyyymmddhhmmss<CRC H><CRC L>
	Item	Description		
	yyyy	current year		
	mm	current month		
	dd	current day		
	hh	current hour		
	mm	current minute		
	ss	current second		
21 PC	~P	QTPR	<0x0d>	~P005QTPR<0x0d>
UPS	~D	AAA, BBB, CCC, DDD	<CRC H><CRC L>	~D018AAA, BBB, CCC, DDD<CRC H><CRC L>
	Item	Description		
	AAA	heatsink temperature 1		
	BBB	heatsink temperature 2		
	CCC	cabinet temperature		
	DDD	battery temperature		
22 PC	~P	QVFW	<0x0d>	~P005QVFW<0x0d>
UPS	~D	AAAA, BB. CC, DDDD, EE. FF	<CRC H><CRC L>	~D024AAAA, BB. CC, DDDD, EE. FF<CRC H><CRC L>
	Item	Description		
	AAAA	DSP firmware number		
	BB	DSP firmware version		
	CC	DSP firmware extra version	if CC=0, show nothing, else show "SC" the range of cc is 0~9.	
	DDDD	MCU firmware number		
	EE	MCU firmware version		
	FF	MCU firmware extra version	if FF=0, show nothing, else show "SF" the range of ff is 0~9.	
23 PC	~P	QWS	<0x0d>	~P004QWS<0x0d>
UPS	~D	a0a1...a71	<CRC H><CRC L>	~D075a0a1...a71<CRC H><CRC L>

	Item	Description	<u>see WarningCode</u> <u>Table</u>	
	a0~a63	warning bit		
23 PC	~P	QDLG<0/+/->	<0x0d>	~P006QDLG0<0/+/-><0x0d>
UPS	~D	ABBBCCCCDD/EE/FFGGHH:II:JJ	<CRC H><CRC L>	~D027W014 2015/01/11 10:33:49<CRC H><CRC L>
	Item	Description	range	
	<0/+/->	0:the latest one +:next new one -:next old one		
	A	type	W:warning F:fault E:event	
	BBB	code		
	C	space		
	DDDD	year	2014-2214	
	EE	month		
	FF	day		
	G	space		
	HH	hour		
	II	minute		
	JJ	second		

5. Set

CMD

UPS	^D	6 ACK or NAK	<CRC H><CRC L><0x0d>	^D006ACK<CRC H><CRC L><0x0d>
	Item	meaning	Description	Range
		bypass	set bypass voltage	
nnn.n	voltage low	low loss	loss point, unit is V	176V~(op volt-15V)
24 PC	^S	5 REEP		<0x0d> ^S005REEP<0x0d>
UPS	^D	6 ACK or NAK	<CRC H><CRC L><0x0d>	^D006ACK<CRC H><CRC L><0x0d>
		restore eeprom date		

25 PC	^S	8 SBDT<nnn>	<0x0d>	^S008SBDT900<0x0d>
UPS	^D	6 ACK or NAK	<CRC H><CRC L><0x0d>	^D006ACK<CRC H><CRC L><0x0d>
	Item	meaning	Description	Range
nnn	max battery discharge time	set the max battery discharge time, unit is minute		0~999 0 means don't limit discharge time

26 PC	^S	9 SBHV<nn.n>	<0x0d>	^S009SBHV15.0<0x0d>
UPS	^D	6 ACK or NAK	<CRC H><CRC L><0x0d>	^D006ACK<CRC H><CRC L><0x0d>
	Item	meaning	Description	Range
nn.n	battery high voltage	set the battery high warning voltage, unit is V/pcs		14.0~15.0
27 PC	^S	13 SBID<yyyymmdd>	<0x0d>	^S013SBID20140827<0x0d>
UPS	^D	6 ACK or NAK	<CRC H><CRC L><0x0d>	^D006ACK<CRC H><CRC L><0x0d>
	Item	meaning	Description	Range
yyyy	battery install year	set the battery install year		2014~2214 (year-2000 can't over the range of INT8U)
mm	battery install month	set the battery install month		1~12
dd	battery install day	set the battery install day		1~31 (30, 29, 28)

28 PC	^S	9 SBLV<nn.n>	<0x0d>	^S009SBLV11.4<0x0d>
-------	----	--------------	--------	---------------------

UPS	~D		6 ACK or NAK	<CRC H><CRC L><0x0d>	^D006ACK<CRC H><CRC L><0x0d>
	Item	meaning	Description	Range	
	nn.n	battery low voltage	set the battery low warning voltage, unit is V/pcs	(Under点+0.1V)~(Under点+2V)	
29 PC	~S		13 SBMD<yyyymmdd>	<0x0d>	^S013SBMD20140827<0x0d>
UPS	~D		6 ACK or NAK	<CRC H><CRC L><0x0d>	^D006ACK<CRC H><CRC L><0x0d>
	Item	meaning	Description	Range	
	yyyy	battery last maintain year	set the battery last maintain year	2014~2214 (year-2000 can't over the range of INT8U)	
	mm	battery last maintain month	set the battery last maintain month	1~12	
	dd	battery last maintain day	set the battery last maintain day	1~31 (30, 29, 28)	
30 PC	~S		9 SBNV<nn.n>	<0x0d>	^S009SBNV12.0<0x0d>
not supp	UPS	~D	6 ACK or NAK	<CRC H><CRC L><0x0d>	^D006ACK<CRC H><CRC L><0x0d>
	Item	meaning	Description	Range	
	nn.n	battery nominal voltage	set the battery nominal voltage, unit is V/cell		
31 PC	~S		9 SBSV<nn.n>	<0x0d>	^S009SBSV10.5<0x0d>
UPS	~D		6 ACK or NAK	<CRC H><CRC L><0x0d>	^D006ACK<CRC H><CRC L><0x0d>
	Item	meaning	Description	Range	
	nn.n	battery under voltage	set the battery under(shutdown) voltage, unit is V/pcs	10.5~12.0	
32 PC	~S		8 SBT<nnn>	<0x0d>	^S008SBTT010<0x0d>
UPS	~D		6 ACK or NAK	<CRC H><CRC L><0x0d>	^D006ACK<CRC H><CRC L><0x0d>
	Item	meaning	Description	Range	
	nnn	battery test time	set the battery test time, unit is minute	1~240	

33 PC	^S		9 SBTV<nn.n>	<0x0d>	^S009SBTV11.5<0x0d>
UPS	^D		6 ACK or NAK	<CRC H><CRC L><0x0d>	^D006ACK<CRC H><CRC L><0x0d>
	Item	meaning	Description	Range	
	nn.n	battery test stop voltage	set the battery test stop voltage, unit is V/pcs	11.0~12.0	
34 PC	^S		6 SEAF<n>	<0x0d>	^S006SEAF1<0x0d>
not supp	UPS	^D	6 ACK or NAK	<CRC H><CRC L><0x0d>	^D006ACK<CRC H><CRC L><0x0d>
	Item	meaning	Description	Range	
	n	1:enable 0:disable	enable/disable epo active	1、0	
35 PC	^S		10 SIPT<m, nnn>	<0x0d>	^S010SIPT1,100<0x0d>
UPS	^D		6 ACK or NAK	<CRC H><CRC L><0x0d>	^D006ACK<CRC H><CRC L><0x0d>
	Item	meaning	Description	Range	
	m	1:3P4W 0:3P3W	set the input type(3P4W or 3P3W)	1、0	
	nnn	input TX ratio	set the input TX ratio	1~255	
36 PC	^S		8 SIPV<nnn>	<0x0d>	^S008SIPV220<0x0d>
UPS	^D		6 ACK or NAK	<CRC H><CRC L><0x0d>	^D006ACK<CRC H><CRC L><0x0d>
	Item	meaning	Description	Range	
	AAA		set input voltage	220, 230, 240	
36 PC	^S		8 SOPV<nnn>	<0x0d>	^S008SOPV220<0x0d>
UPS	^D		6 ACK or NAK	<CRC H><CRC L><0x0d>	^D006ACK<CRC H><CRC L><0x0d>
	Item	meaning	Description	Range	
	AAA		set output voltage	220, 230, 240	
37 PC	^S		5 SN<nn>	<0x0d>	^S005SN.6<0x0d>
UPS	^D		6 ACK or NAK	<CRC H><CRC L><0x0d>	^D006ACK<CRC H><CRC L><0x0d>
	Item	meaning	Description	Range	
	nn	shutdown delay time	shut down in nn minute	.1,.2, .3, ..., 01, 02,..., to 99	
38 PC	^S		5 SOFF	<0x0d>	^S005SOFF<0x0d>
UPS	^D		6 ACK or NAK	<CRC H><CRC L><0x0d>	^D006ACK<CRC H><CRC L><0x0d>

turn off the UPS					
39 PC	^S	4 SON	<0x0d>	^S004SON<0x0d>	
UPS	^D	6 ACK or NAK	<CRC H><CRC L><0x0d>	^D006ACK<CRC H><CRC L><0x0d>	
turn on the UPS					
40 PC	^S	9 SOPF<nn.n>	<0x0d>	^S009SOPF60.0<0x0d>	
UPS	^D	6 ACK or NAK	<CRC H><CRC L><0x0d>	^D006ACK<CRC H><CRC L><0x0d>	
Item	meaning	Description	Range		
nn.n	output freq	set the output frequency, unit is Hz	50.0/60.0/FF.F		
41 PC	^S	10 SOPT<m,nnn>	<0x0d>	^S010SOPT1,100<0x0d>	
UPS	^D	6 ACK or NAK	<CRC H><CRC L><0x0d>	^D006ACK<CRC H><CRC L><0x0d>	
Item	meaning	Description	Range		
m	1:3P4W 0:3P3W	set the output type(3P4W or 3P3W)	1、0		
nnn	output TX ratio	set the output TX ratio	1~255		
42 PC	^S	5 SPD<n>	<0x0d>	^S005SPDA<0x0d>	
UPS	^D	6 ACK or NAK	<CRC H><CRC L><0x0d>	^D006ACK<CRC H><CRC L><0x0d>	
Item	meaning	Description	Range		
n	control flag	disable control flag	<u>see control flag table</u>		
43 PC	^S	5 SPE<n>	<0x0d>	^S005SPEA<0x0d>	
UPS	^D	6 ACK or NAK	<CRC H><CRC L><0x0d>	^D006ACK<CRC H><CRC L><0x0d>	
Item	meaning	Description	Range		
n	control flag	enable control flag	<u>see control flag table</u>		
44 PC	^S	9 SR<nnnn>	<0x0d>	^S007SR0010<0x0d>	
UPS	^D	6 ACK or NAK	<CRC H><CRC L><0x0d>	^D006ACK<CRC H><CRC L><0x0d>	
Item	meaning	Description	Range		
nnnn	restart delay time	restart in nnnn minute	0001~9999		
45 PC	^S	13 SSID<yyyymmdd>	<0x0d>	^S013SSID20140827<0x0d>	
UPS	^D	6 ACK or NAK	<CRC H><CRC L><0x0d>	^D006ACK<CRC H><CRC L><0x0d>	

Item	meaning	Description	Range	
yyyy	system install year	set the system install year	2014~2214 (year- 2000 can't over the range of INT8U)	
mm	system install month	set the system install month	1~12	
dd	system install day	set the system install day	1~31 (30, 29, 28)	
46 PC	~S	13 SSMD<yyyymmdd>	<0x0d>	~S013SSMD20140827<0x0d >
UPS	~D	6 ACK or NAK	<CRC H><CRC L><0x0d>	~D006ACK<CRC H><CRC L><0x0d>
Item	meaning	Description	Range	
yyyy	system last maintain year	set the system last maintain year	2014~2214 (year- 2000 can't over the range of INT8U)	
mm	system last maintain month	set the system last maintain month	1~12	
dd	system last maintain day	set the system last maintain day	1~31 (30, 29, 28)	
47 PC	~S	8 SSTN<m, n>	<0x0d>	~S008SSTN3, 1<0x0d>
UPS	~D	6 ACK or NAK	<CRC H><CRC L><0x0d>	~D006ACK<CRC H><CRC L><0x0d>
Item	meaning	Description	Range	
m	parallel total number	set number of the parallel UPS	1~4	
n	redundant number	set number of the redundant UPS	0~(m-1)	
48 PC	~S	22 STID<nnnnnnnnnnnnnnnn nnnn>	<0x0d>	~S022STID0123456789abc edef<0x0d>
UPS	~D	6 ACK or NAK	<CRC H><CRC L><0x0d>	~D006ACK<CRC H><CRC L><0x0d>
Item	meaning	Description	Range	
n	UPS SN	set the UPS SN	17 characters	
49 PC	~S	12 STIME<hhmmss>	<0x0d>	~S012STIME132000<0x0d>
UPS	~D	6 ACK or NAK	<CRC H><CRC L><0x0d>	~D006ACK<CRC H><CRC L><0x0d>
Item	meaning	Description	Range	
hh	hour	set current hour	00~23	

	mm	minute	set current minute	00~59	
	ss	second	set current second	00~59	
49 PC	^S		8 SPWIT<00>	<0x0d>	^S008SPWIT00<0x0d>
UPS	^D		6 ACK or NAK	<CRC H><CRC L><0x0d>	^D006ACK<CRC H><CRC L><0x0d>
	Item	meaning	Description	Range	
	AA	sec	set power walk in time	00~60	
49 PC	^S		10 SPWID<0000>	<0x0d>	^S010SPWID0000<0x0d>
UPS	^D		6 ACK or NAK	<CRC H><CRC L><0x0d>	^D006ACK<CRC H><CRC L><0x0d>
	Item	meaning	Description	Range	
	AAAA	sec	set power walk in delay time	0000~1800	
49 PC	^S		6 SBLF<0>	<0x0d>	^S006SBLF0<0x0d>
UPS	^D		6 ACK or NAK	<CRC H><CRC L><0x0d>	^D006ACK<CRC H><CRC L><0x0d>
	Item	meaning	Description	Range	
	A	year	set battery life, the unit is year	1~5	
49 PC	^S		7 SMOD<00>	<0x0d>	^S007SMOD00<0x0d>
UPS	^D		6 ACK or NAK	<CRC H><CRC L><0x0d>	^D006ACK<CRC H><CRC L><0x0d>
	Item	meaning	Description	Range	
	A	model	set ups model	0~12 0:7.5K 1:10K 2:15K 3:20K 4:30K 5:40K 6:50K 7:60K 8:80K 9:100K 10:120K 11:160K 12:200K	
45 PC	^S		14 SDATE<yyyymmdd>	<0x0d>	^S014SDATE20140827<0x0d>
UPS	^D		6 ACK or NAK	<CRC H><CRC L><0x0d>	^D006ACK<CRC H><CRC L><0x0d>
	Item	meaning	Description	Range	
	yyyy	year	set the current year	2014~2214 (year-2000 can't over the range of INT8U)	
	mm	month	set the current month	1~12	
	dd	day	set the current day	1~31 (30, 29, 28)	
52 PC	^S		4 T10	<0x0d>	^S004T10<0x0d>

not supp	UPS	^D	6 ACK or NAK	<CRC H><CRC L><0x0d>	
			do battery test for 10 second		
53 PC	UPS	^S ^D	5 TBYP 6 ACK or NAK	<0x0d> <CRC H><CRC L><0x0d>	^S005TBYP<0x0d> ^D006ACK<CRC H><CRC L><0x0d>
			turn to bypass		
54 PC	UPS	^S ^D	3 TL 6 ACK or NAK	<0x0d> <CRC H><CRC L><0x0d>	^S003TL<0x0d> ^D006ACK<CRC H><CRC L><0x0d>
			do battery test until battery low		
55 PC	UPS	^S ^D	5 TN<nn> 6 ACK or NAK	<0x0d> <CRC H><CRC L><0x0d>	^S005TN. 8<0x0d> ^D006ACK<CRC H><CRC L><0x0d>
		Item nn	meaning test time	Description do battery test for nn minute	Range .1,.2, .3, ..., 01, 02,..., to 10
56 PC	UPS	^S ^D	21 SABTP<A, B, CC, DD, EE> 6 ACK or NAK	<0x0d> <CRC H><CRC L><0x0d>	^S021SABTPA, B, CC, DD, EE ^D006ACK<CRC H><CRC L><0x0d>
		Item A	meaning type	Description auto battery test type	Range 0:monthly, 1:weekly, 2:daily
		B	weekday		1:Monday 2:Tuesday 3:Wednesday 4:Thursday 5:Friday 6:Saturday 7:Sunday
		CC DD EE FF	hour minute month day		0~23 0~59 1~12 1~31 (30, 29, 28)
57 PC	UPS	^S ^D	5 DBAT 6 ACK or NAK	<0x0d> <CRC H><CRC L><0x0d>	^S005DBAT<0x0d>
			do battery test		
58 PC	UPS	^S ^D	6 DSAR 6 ACK or NAK	<0x0d> <CRC H><CRC L><0x0d>	^S005DSAR<0x0d>
			do shutdown and restore		
59 PC		^S	7 FACT<A, B>	<0x0d>	^S008FACTA, B<0x0d>

UPS	^D	6 ACK or NAK	<CRC H><CRC L><0x0d>	^D006ACK<CRC H><CRC L><0x0d>
Item A, B	meaning command code	Description A:0 B:- enter factory test A:1 B:- exit factory test A:2 B:- pulse test A:3 B:- cancel pulse test A:4 B: (R/S/T/A) inverter open loop test R, S, T mean R, S, T phase, A means all the phase A:5 B:- inverter close loop test A:6 B:- cancel inverter test A:7 B: (R/S/T/A) rectifier test R, S, T mean R, S, T phase, A means all the phase A:8 B:- cancel rectifier test	Range "- " mean any value is OK	
60 PC	^S	6 INST<A>	<0x0d>	^S006INST1<0x0d>
UPS	^D	6 ACK or NAK	<CRC H><CRC L><0x0d>	^D006ACK<CRC H><CRC L><0x0d>
Item A	meaning input source type	Description 0:High Resistance Source 1:Utility source	Range	
60 PC	^S	6 IND1<A>	<0x0d>	^S006IND1<0x0d>
UPS	^D	6 ACK or NAK	<CRC H><CRC L><0x0d>	^D006ACK<CRC H><CRC L><0x0d>
Item A	meaning inductor type	Description 0:Click 1: Traftor	Range 0, 1	