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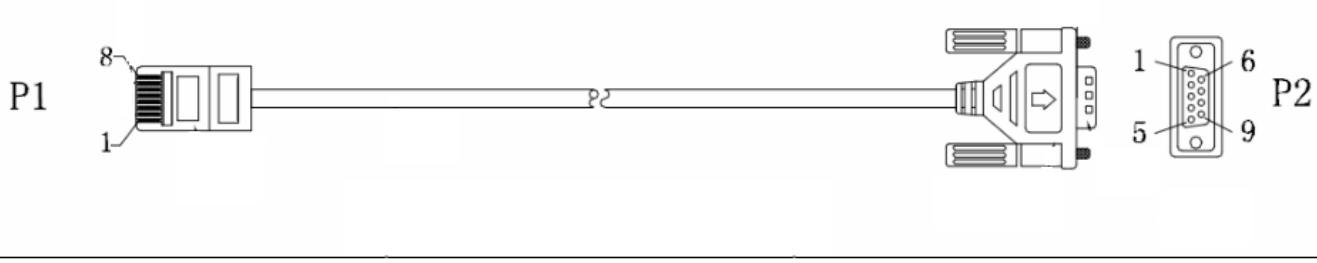
RJ45 to RS232 cable between computer and device



The connection between P1 and P2

P1	wire color	P2	Function
1	white and orange	2	TXD
2	blue	3	RXD
8	white and green	5	GND

1 Communication format

Baud rate	Start bit	Data bit	Parity bit	Stop bit
2400	1	8	N	1

2 Inquiry Command

2.1 QPI<cr>: Device Protocol ID Inquiry

Computer: QPI<CRC><cr>

Device: (PI<NN> <CRC><cr>

N is an integer number ranging from 0 to 9.

Function: To request the device Protocol ID.

Protocol ID distribution: 30 for HS series

2.2 QID<cr>: The device serial number inquiry

Computer: QID <CRC><cr>

Device: (XXXXXXXXXXXXXX <CRC><cr>

2.3 QVFW<cr>: Main CPU Firmware version inquiry

Computer: QVFW<CRC><cr>

Device: (VERFW:<NNNNN.NN><CRC><cr>

<N> is a HEX number from 0...9 or A…F.

Example:

Computer: QVFW<CRC><cr>

Device: (VERFW:00123.01<CRC><cr>

00123: firmware series number；01：version

2.4 QVFW2<cr> :Another CPU Firmware version inquiry

Computer: QVFW2<CRC><cr>

UPS: (VERFW2: <NNNNN.NN><CRC><cr>

<N> is a HEX number from 0...9 or A…F.

2.5 QPIRI<cr>: Device Rating Information inquiry

Computer: QPIRI<CRC><cr>

Device: (BBB.B CC.C DDD.D EE.E FF.F HHHH IIII JJ.J KK.K JJ.J KK.K LL.L O PP QQ0 O P Q R SS T U VV.V W X<CRC><cr>

	Date	Description	Notes
A	(	Start byte	
B	BBB.B	Grid rating voltage	B is an integer ranging from 0 to 9. The units is V.
C	CC.C	Grid rating current	C is an Integer ranging from 0 to 9. The units is A.
D	DDD.D	AC output rating voltage	D is an Integer ranging from 0 to 9. The units is V.
E	EE.E	AC output rating frequency	E is an Integer ranging from 0 to 9. The units is Hz.
F	FF.F	AC output rating current	F is an Integer ranging from 0 to 9. The unit is A.
H	HHHH	AC output rating apparent power	H is an Integer ranging from 0 to 9. The unit is VA.
I	IIII	AC output rating active power	I is an Integer ranging from 0 to 9. The unit is W.
J	JJ.J	Battery rating voltage	J is an Integer ranging from 0 to 9. The units is V.
K	KK.K	Battery re-charge voltage	K is an Integer ranging from 0 to 9. The units is V.
l	JJ.J	Battery under voltage	J is an Integer ranging from 0 to 9. The units is V.
M	KK.K	Battery bulk voltage	K is an Integer ranging from 0 to 9. The units is V.
N	LL.L	Battery float voltage	L is an Integer ranging from 0 to 9. The units is V.

O	O	Battery type	0: AGM 1: Flooded 2: User
P	PP	Current max AC charging current	P is an Integer ranging from 0 to 9 The units is A.
Q	QQ0	Current max charging current	Q is an Integer ranging from 0 to 9. The units is A.
O	O	Input voltage range	0: Appliance 1: UPS
P	P	Output source priority	0: Utility first 1: Solar first 2: SBU first
Q	Q	Charger source priority	For HS Series: 0: Utility first 1: Solar first 2: Solar + Utility 3: Only solar charging permitted For MS/MSX Series 1K~3K: 0: Utility first 1: Solar first 2: Solar + Utility 3: Only solar charging permitted
R	R	Parallel max num	R is an Integer ranging from 0 to 9.
S	SS	Machine type	00: Grid tie; 01: Off Grid; 10: Hybrid.
T	T	Topology	0 transformerless 1 transformer
U	U	Output mode	00: single machine output 01: parallel output 02: Phase 1 of 3 Phase output 03: Phase 2 of 3 Phase output 04: Phase 3 of 3 Phase output
V	VV.V	Battery re-discharge voltage	V is an Integer ranging from 0 to 9. The units is V.
W	W	PV OK condition for parallel	0: As long as one unit of inverters has connect PV, parallel system will consider PV OK; 1: Only All of inverters have connect PV, parallel system will consider PV OK
X	X	PV power balance	0: PV input max current will be the

			max charged current; 1: PV input max power will be the sum of the max charged power and loads power.

2.6 QFLAG<cr>: Device flag status inquiry

ExxxDxxx is the flag status. E means enable, D means disable

x	Control setting
A	Enable/disable silence buzzer or open buzzer
B	Enable/Disable overload bypass function
J	Enable/Disable power saving
K	Enable/Disable LCD display escape to default page after 1min timeout
U	Enable/Disable overload restart
V	Enable/Disable over temperature restart
X	Enable/Disable backlight on
Y	Enable/Disable alarm on when primary source interrupt
Z	Enable/Disable fault code record

Computer: QFLAG <CRC><cr>

Device: (ExxxDxxx <CRC><cr>

2.7 QPIGS<cr>: Device general status parameters inquiry

Computer: QPIGS <CRC><cr>

Device: (BBB.B CC.C DDD.D EE.E FFFF GGGG HHH III JJ.JJ KKK OOO TTTT EEEE UUU.U WW.WW PPPPP b7b6b5b4b3b2b1b0<CRC><cr>

	Data	Description	Notes	HS/MS/ MSX
a	(	Start byte		
b	BBB.B	Grid voltage	B is an Integer number 0 to 9. The units is V.	
C	CC.C	Grid frequency	C s an Integer number 0 to 9. The units is Hz.	
D	DDD.D	AC output voltage	D is an Integer number 0 to 9. The units is V.	
E	EE.E	AC output frequency	E is an Integer number from 0 to 9. The units is Hz.	
F	FFFF	AC output apparent power	F is an Integer number from 0 to 9. The units is VA	
G	GGGG	AC output active power	G is an Integer ranging from 0 to 9. The units is W.	
H	HHH	Output load percent	DEVICE: HHH is Maximum of W% or VA%.	

			VA% is a percent of apparent power. W% is a percent of active power. The units is %.	
I	III	BUS voltage	I is an Integer ranging from 0 to 9. The units is V.	
j	JJ.JJ	Battery voltage	J is an Integer ranging from 0 to 9. The units is V.	
k	KKK	Battery charging current	K is an Integer ranging from 0 to 9. The units is A.	
o	OOO	Battery capacity	X is an Integer ranging from 0 to 9. The units is %.	
P	TTTT	Inverter heat sink temperature	T is an integer ranging from 0 to 9. The units is ℃（NTC A/D value for HS/MS/MSX 1~3K）	
r	EEEE	PV Input current for battery.	E is an Integer ranging from 0 to 9. The units is A.	
t	UUU.U	PV Input voltage 1	U is an Integer ranging from 0 to 9. The units is V.	
u	WW.WW	Battery voltage from SCC	W is an Integer ranging from 0 to 9. The units is V.	
w	PPPPP	Battery discharge current	P is an Integer ranging from 0 to 9. The units is A.	
x	b7b6b5b4 b3b2b1b0	Device status	b7: add SBU priority version, 1:yes,0:no b6: configuration status: 1: Change 0: unchanged b5: SCC firmware version 1: Updated 0: unchanged b4: Load status: 0: Load off 1:Load on b3: battery voltage to steady while charging b2: Charging status(Charging on/off) b1: Charging status(SCC charging on/off) b0: Charging status(AC charging on/off) b2b1b0: 000: Do nothing 110: Charging on with SCC charge on 101: Charging on with AC charge on 111: Charging on with SCC and AC charge on	

2.8 QMOD<cr>: Device Mode inquiry

Computer: QMOD<CRC><cr>

Device: (M<CRC><cr>

MODE	CODE(M)	Notes
Power On Mode	P	Power on mode
Standby Mode	S	Standby mode
Line Mode	L	Line Mode
Battery Mode	B	Battery mode
Fault Mode	F	Fault mode
Power saving Mode	H	Power saving Mode

Example:

Computer: QMOD<CRC><cr>

DEVICE: (L<CRC><cr>

Means: the current DEVICE mode is Grid mode.

2.9 QPIWS<cr>: Device Warning Status inquiry

Computer: QPIWS<CRC> <cr>

Device: (a0a1…..a30a31<CRC><cr>

a0,…,a31 is the warning status. If the warning is happened, the relevant bit will set 1, else the relevant bit will set 0. The following table is the warning code.

bit	**Warning**	Description
a0	Reserved	
a1	Inverter fault	Fault
a2	Bus Over	Fault
a3	Bus Under	Fault
a4	Bus Soft Fail	Fault
a5	LINE_FAIL	Warning
a6	OPVShort	Warning
a7	Inverter voltage too low	Fault
a8	Inverter voltage too high	Fault
a9	Over temperature	Compile with a1, if a1=1,fault, otherwise warning
a10	Fan locked	Compile with a1, if a1=1,fault, otherwise warning
a11	Battery voltage high	Compile with a1, if a1=1,fault, otherwise warning
a12	Battery low alarm	Warning

a13	Reserved	
a14	Battery under shutdown	Warning
a15	Reserved	Warning
a16	Over load	Compile with a1, if a1=1,fault, otherwise warning
a17	Eeprom fault	Warning
a18	Inverter Over Current	Fault
a19	Inverter Soft Fail	Fault
a20	Self Test Fail	Fault
a21	OP DC Voltage Over	Fault
a22	Bat Open	Fault
a23	Current Sensor Fail	Fault
a24	Battery Short	Fault
a25	Power limit	Warning
a26	PV voltage high	Warning
a27	MPPT overload fault	Warning
a28	MPPT overload warning	Warning
a29	Battery too low to charge	Warning
a30	Reserved	
a31	Reserved	

2.10 QDI<cr>: The default setting value information

Computer: QDI<CRC><cr>

Device: (BBB.B CC.C 00DD EE.E FF.F GG.G HH.H II J K L M N O P Q R S T U V W YY.Y X Z<CRC><cr>

	Data	Description	Notes	HS/MS/MSX
A	(	Start byte		
B	BBB.B	AC output voltage	B is an Integer ranging from 0 to 9. The units is V.	Default 230.0
C	CC.C	AC output frequency	C is an Integer ranging from 0 to 9. The units is Hz.	Default 50.0
D	00DD	Max AC charging current	D is an Integer ranging from 0 to 9. The unit is A.	HS000, MS-1000-24: 20A HS-2000, HS-3000: 30A

<table>
<tr><td></td><td></td><td></td><td></td><td><table>
<tr><td>HS-4000</td><td rowspan="6"></td></tr>
<tr><td>HS-5000</td></tr>
<tr><td>MS-2000-24</td></tr>
<tr><td>MS-3000-24</td></tr>
<tr><td>MSX-2000-24</td></tr>
<tr><td>MSX-3000-24</td></tr>
<tr><td>MS-1000-48</td><td rowspan="6">15A</td></tr>
<tr><td>MS-2000-48</td></tr>
<tr><td>MS-3000-48</td></tr>
<tr><td>MSX-2000-48</td></tr>
<tr><td>MSX-3000-48</td></tr>
</table></td></tr>
<tr><td>E</td><td>EE.E</td><td>Battery Under voltage</td><td>E is an Integer ranging from 0 to 9. The unit is V.</td><td></td></tr>
<tr><td>F</td><td>FF.F</td><td>Charging float voltage</td><td>F is an Integer ranging from 0 to 9. The unit is V.</td><td></td></tr>
<tr><td>G</td><td>GG.G</td><td>Charging bulk voltage</td><td>G is an Integer ranging from 0 to 9. The unit is V.</td><td></td></tr>
<tr><td>H</td><td>HH.H</td><td>Battery default re-charge voltage</td><td>H is an Integer ranging from 0 to 9. The units is V.</td><td>11.5/23/46 for 12/24/48V unit.</td></tr>
<tr><td>I</td><td>II</td><td>Max charging current</td><td>I is an Integer ranging from 0 to 9. The units is A.</td><td><table>
<tr><td>HS Series</td><td>50A</td></tr>
<tr><td>MS-1000-24</td><td rowspan="6">25A (not show)</td></tr>
<tr><td>MS-2000-24</td></tr>
<tr><td>MS-3000-24</td></tr>
<tr><td>MS-1000-48</td></tr>
<tr><td>MS-2000-48</td></tr>
<tr><td>MS-3000-48</td></tr>
<tr><td>MS-4000</td><td rowspan="6">60A</td></tr>
<tr><td>MS-5000</td></tr>
<tr><td>MS-2000-48</td></tr>
<tr><td>MS-3000-48</td></tr>
<tr><td>MSX-2000-48</td></tr>
<tr><td>MSX-3000-48</td></tr>
</table></td></tr>
<tr><td>J</td><td>J</td><td>AC input voltage range</td><td>J is an Integer ranging from 0 to 1. No unit</td><td>Default 0 for appliance range</td></tr>
<tr><td>K</td><td>K</td><td>Output source priority</td><td>K is an Integer ranging from 0 to 1. No unit</td><td>Default 0 for utility first</td></tr>
</table>

L	L	Charger source priority	L is an Integer ranging from 0 to 1. No unit	Default 0 for Utility first
M	M	Battery type	M is an Integer ranging from 0 to 1. No unit	Default 0 for AGM
N	N	Enable/disable silence buzzer or open buzzer	N is an Integer ranging from 0 to 1. No unit	Default 0 for enable buzzer
O	O	Enable/Disable power saving	O is an Integer ranging from 0 to 1. No unit	Default 0 for disable power saving
P	P	Enable/Disable overload restart	P is an Integer ranging from 0 to 1. No unit	Default 0 for disable overload restart
Q	Q	Enable/Disable over temperature restart	Q is an Integer ranging from 0 to 1. No unit	Default 0 for disable over temperature restart
R	R	Enable/Disable LCD backlight on	R is an Integer ranging from 0 to 1. No unit	Default 1 for enable LCD backlight on
S	S	Enable/Disable alarm on when primary source interrupt	S is an Integer ranging from 0 to 1. No unit	Default 1 for enable alarm on when primary source interrupt
T	T	Enable/Disable fault code record	T is an Integer ranging from 0 to 1. No unit	Default 0 for disable fault code record
U	U	Overload bypass	U is an Integer ranging from 0 to 1. No unit	Default 0 for disable overload bypass function
V	V	Enable/Disable LCD display escape to default page after 1min timeout	V is an Integer ranging from 0 to 1. No unit	Default 1 for LCD display escape to default page
W	W	**Output mode**	W is an Integer ranging from 0 to 4. No unit	Default 0 for single output
Y	YY.Y	**Battery re-discharge voltage**	W is an Integer ranging from 0 to 9. The unit is V	13.5/27/54 for 12/24/48V unit.
X	X	**PV OK condition for parallel**	X is an Integer ranging from 0 to 1	0: As long as one unit of inverters has connect PV, parallel system

				will consider PV OK;
Z	Z	**PV power balance**	X is an Integer ranging from 0 to 1	0: PV input max current will be the max charged current;

2.11 QMCHGCR<cr>: Enquiry selectable value about max charging current

Computer: QMCHGCR<CRC><cr>

Device: (AAA BBB CCC DDD……<CRC><cr>

More value can be added, make sure there is a space character between every value.

2.12 QMUCHGCR<cr>: Enquiry selectable value about max utility charging current

Computer: QMUCHGCR<CRC><cr>

Device: (AAA BBB CCC DDD……<CRC><cr>

More value can be added, make sure there is a space character between every value.

2.13 QBOOT<cr>: Enquiry DSP has bootstrap or not

Computer: QBOOT<CRC><cr>

Device: (1/0<CRC><cr> if device accepts this command, otherwise, responds (NAK<cr>

When: if dsp has bootstrap, return 1.

2.14 QOPM<cr>: Enquiry output mode (For 4000/5000)

Computer: QOPM<CRC><cr>

Device: (nn<CRC><cr>

nn:

00: single machine output

01: parallel output

02: Phase 1 of 3 Phase output

03: Phase 2 of 3 Phase output

04: Phase 3 of 3 Phase output

Parallel Command

2.15 QPGSn<cr>: Parallel Information inquiry（For 4K/5K）

Computer: QPGSn<CRC><cr>

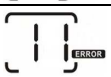
Device: (A BBBBBBBBBBBBB C DD EEE.E FF.FF GGG.G HH.HH IIII JJJJ KKK LL.L MMM NNN OOO.O PPP QQQQQ RRRRR SSS b7b6b5b4b3b2b1b0 T U VVV WWW ZZ XX YYY<CRC><cr>

	Date	Description	Notes

A	(	Start byte	
B	A	The parallel num whether exist	0：No exist. 1：Exist.
C	BBBBBBBB BBBBBB	Serial number	B is an Integer ranging from 0 to 9.
D	C	Work mode	C is an character, refer to QMOD
E	DD	Fault code	D is an Integer ranging from 0 to 9.
F	EEE.E	Grid voltage	E is an Integer ranging from 0 to 9. The units is V.
G	FF.FF	Grid frequency	F is an Integer ranging from 0 to 9. The unit is Hz.
H	GGG.G	AC output voltage	G is an Integer ranging from 0 to 9. The units is V.
I	HH.HH	AC output frequency	H is an Integer ranging from 0 to 9. The unit is Hz.
J	IIII	AC output apparent power	I is an Integer number from 0 to 9. The units is VA
K	JJJJ	AC output active power	J is an Integer ranging from 0 to 9. The units is W.
L	KKK	Load percentage	K is an Integer ranging from 0 to 9. The units is %.
M	LL.L	Battery voltage	L is an Integer ranging from 0 to 9. The unit is V.
N	MMM	Battery charging current	M is an Integer ranging from 0 to 9. The units is A.
O	NNN	Battery capacity	N is an Integer ranging from 0 to 9. The units is %.
P	OOO. O	PV Input Voltage	O is an Integer ranging from 0 to 9. The units is V.
Q	PPP	Total charging current	P is an Integer ranging from 0 to 9. The units is A.
R	QQQQQ	Total AC output apparent power	Q is an Integer ranging from 0 to 9. The units is VA.
S	RRRRR	Total output active power	R is an Integer ranging from 0 to 9. The units is W.
T	SSS	Total AC output percentage	S is an Integer ranging from 0 to 9. The units is %.
U	b7b6b5b4b3b2b1b0	Inverter Status	b7: 1 SCC OK, 0 SCC LOSS b6: 1 AC Charging 0 AC no charging b5: 1 SCC Charging

			0 SCC no charging b4b3: 2 battery open, 1 battery under, 0 battery normal b2: 1 Line loss 0 Line ok b1: 1 load on, 0 load off b0: configuration status: 1: Change 0: unchanged
V	T	Output mode	0: single machine 1: parallel output 2: Phase 1 of 3 phase output 3: Phase 2 of 3 phase output 4: Phase 3 of 3 phase output
W	U	Charger source priority	0: Utility first 1: Solar first 2: Solar + Utility 3: Solar only
X	VVV	Max charger current	V is an Integer ranging from 0 to 9. The units is A.
Y	WWW	Max charger range	W is an Integer ranging from 0 to 9. The units is A.
Z	ZZ	Max AC charger current	Z is an Integer ranging from 0 to 9. The units is A.
a	XX	PV input current for battery	X is an Integer ranging from 0 to 9. The units is A.
b	YYY	Battery discharge current	Y is an Integer ranging from 0 to 9. The units is A.

Fault Code	Fault Event	Icon on
01	Fan is locked	
02	Over temperature	
03	Battery voltage is too high	
04	Battery voltage is too low	
05	Output short circuited or Over temperature	
06	Output voltage is too high	
07	Over load time out	
08	Bus voltage is too high	

09	Bus soft start failed	
11	Main relay failed	
51	Over current inverter	
52	Bus soft start failed	
53	Inverter soft start failed	
54	Self-test failed	
55	Over DC voltage on output of inverter	
56	Battery connection is open	
57	Current sensor failed	
58	Output voltage is too low	
60	Inverter negative power	
71	Parallel version different	
72	Output circuit failed	
80	CAN communication failed	
81	Parallel host line lost	
82	Parallel synchronized signal lost	
83	Parallel battery voltage detect different	
84	Parallel Line voltage or frequency detect different	
85	Parallel Line input current unbalanced	
86	Parallel output setting different	

3 Setting parameters Command

3.1 PE<XXX>/PD<XXX><CRC><cr>: setting some status enable/disable

Computer: PE<XXX>/PD<XXX><CRC><cr>

Device: (ACK<CRC><cr> if DEVICE accepts this command, otherwise, responds (NAK<cr>

PExxxPDxxx set flag status. PE means enable, PD means disable

x	Control setting
A	Enable/disable silence buzzer or open buzzer
B	Enable/disable overload bypass

J	Enable/Disable power saving
K	Enable/Disable LCD display escape to default page after 1min timeout
U	Enable/Disable overload restart
V	Enable/Disable over temperature restart
X	Enable/Disable backlight on
Y	Enable/Disable alarm on when primary source interrupt
Z	Enable/Disable fault code record

3.2 PF<cr>: Setting control parameter to default value

Computer: PF<CRC><cr>

Device: (ACK<CRC><cr> if device accepts this command, otherwise, responds (NAK<CRC><cr>

All Device parameters set to default value.

<table>
<tr><td rowspan="2">x</td><td colspan="2">Parameter setting</td></tr>
<tr><td>Parameter</td><td>Default value</td></tr>
<tr><td>1</td><td>AC output voltage</td><td>230.0V</td></tr>
<tr><td>2</td><td>AC output frequency</td><td>50.0Hz</td></tr>
<tr><td>3</td><td>Max charging current</td><td>~~50A~~
<table>
<tr><td>HS Series</td><td>50A</td></tr>
<tr><td>MS-1000-24</td><td rowspan="6">25A</td></tr>
<tr><td>MS-2000-24</td></tr>
<tr><td>MS-3000-24</td></tr>
<tr><td>MS-1000-48</td></tr>
<tr><td>MS-2000-48</td></tr>
<tr><td>MS-3000-48</td></tr>
<tr><td>MS-4000</td><td rowspan="6">60A</td></tr>
<tr><td>MS-5000</td></tr>
<tr><td>MS-2000-48</td></tr>
<tr><td>MS-3000-48</td></tr>
<tr><td>MSX-2000-48</td></tr>
<tr><td>MSX-3000-48</td></tr>
</table></td></tr>
<tr><td></td><td>Max utility charging current</td><td>
<table>
<tr><td>HS-1000</td><td rowspan="2">20A</td></tr>
<tr><td>MS-1000-24</td></tr>
<tr><td>HS-2000</td><td rowspan="5">30A</td></tr>
<tr><td>HS-3000</td></tr>
<tr><td>HS-4000</td></tr>
<tr><td>HS-5000</td></tr>
<tr><td>MS-2000-24</td></tr>
</table></td></tr>
</table>

		MS-3000-24	
		MSX-2000-24	
		MSX-3000-24	
		MS-1000-48	15A
		MS-2000-48	
		MS-3000-48	
		MSX-2000-48	
		MSX-3000-48	
4	AC input voltage range	0: Appliance range	
5	Output source priority	0: Utility first	
	Battery re-charge voltage	11.5/23/46 for 12/24/48V unit.	
6	Charger source priority	0: Utility first	
7	Battery type	0: AGM	
8	Enable/disable buzzer alarm	1: Enable buzzer alarm	
9	Enable/Disable power saving	0: Disable power saving	
10	Enable/Disable overload restart	0: Disable overload restart	
11	Enable/Disable over temperature restart	0: Disable over temperature restart	
12	Enable/Disable LCD backlight on	1: Enable LCD backlight on	
13	Enable/Disable alarm on when primary source interrupt	1: Enable beep on when primary source interrupt	
	Enable/Disable overload bypass when overload happened in battery mode	0: Disable overload bypass	
	Enable/Disable LCD display escape to default page after 1min timeout	1: Enable LCD display escape to default page	
	Output mode	0: single output(for 4K/5K)	
	float charging voltage	13.5/27/54 for 12/24/48V unit.	
	Bulk charging voltage	14.1/28.2/56.4 for 12/24/48V unit.	
	Battery cut-off voltage	10.5/21/42 for 12/24/48V unit.	
	Battery re-discharge voltage	13.5/27/54 for 12/24/48V unit.	

Note: The correct default value can be gain by QDI command.

3.3 F<nn><cr>: Setting device output rating frequency

Computer: F<nn><CRC><cr>

Device: (ACK<CRC><cr> if device accepts this command, otherwise, responds (NAK<CRC><cr>

Set UPS output rating frequency to 50Hz.or 60Hz

3.4 POP<NN><cr>: Setting device output source priority

Computer: POP<NN><CRC><cr>

Device: (ACK<CRC><cr> if device accepts this command, otherwise, responds (NAK<CRC><cr>

Set output source priority, 00 for utility first, 01 for solar first, 02 for SBU priority

3.5 PBCV<nn.n><cr>: Set battery re-charge voltage

Computer: PBCV<nn.n><CRC><cr>

Device: (ACK<CRC><cr> if device accepts this command, otherwise, responds (NAK<CRC><cr>

12V unit: 11V/11.3V/11.5V/11.8V/12V/12.3V/12.5V/12.8V

24V unit: 22V/22.5V/23V/23.5V/24V/24.5V/25V/25.5V

48V unit: 44V/45V/46V/47V/48V/49V/50V/51V

3.6 PBDV<nn.n><cr>: Set battery re-discharge voltage

Computer: PBDV<nn.n><CRC><cr>

Device: (ACK<CRC><cr> if device accepts this command, otherwise, responds (NAK<CRC><cr>

12V unit: 00.0V12V/12.3V/12.5V/12.8V/13V/13.3V/13.5V/13.8V/14V/14.3V/14.5

24V unit: 00.0V/24V/24.5V/25V/25.5V/26V/26.5V/27V/27.5V/28V/28.5V/29V

48V unit: 00.0V48V/49V/50V/51V/52V/53V/54V/55V/56V/57V/58V

00.0V means battery is full(charging in float mode).

3.7 PCP<NN><cr>: Setting device charger priority

Computer: PCP<NN><CRC><cr>

Device: (ACK<CRC><cr> if device accepts this command, otherwise, responds (NAK<CRC><cr>

Set output source priority,

For HS: 00 for utility first, 01 for solar first, 02 for solar and utility, 03 for only solar charging

For MS: 00 for utility first, 01 for solar first, 03 for only solar charging

3.8 PGR<NN><cr>: Setting device grid working range

Computer: PGR<NN><CRC><cr>

Device: (ACK<CRC><cr> if device accepts this command, otherwise, responds (NAK<cr>

Set device grid working range, 00 for appliance, 01 for UPS

3.9 PBT<NN><cr>: Setting battery type

Computer: PBT<NN><CRC><cr>

Device: (ACK<CRC><cr> if device accepts this command, otherwise, responds (NAK<CRC><cr>

Set device grid working range, 00 for AGM, 01 for Flooded battery

3.10 PSDV<nn.n><cr>: Setting battery cut-off voltage (Battery under voltage)

Computer: **PSDV** <nn.n><CRC><cr>

Device: (ACK<CRC><cr> if device accepts this command, otherwise, responds (NAK<CRC><cr>

nn.n: 40.0V ~ 48.0V for 48V unit

3.11 PCVV<nn.n><cr>: Setting battery C.V. (constant voltage) charging voltage

Computer: **PCVV** <nn.n><CRC><cr>

Device: (ACK<CRC><cr> if device accepts this command, otherwise, responds (NAK<CRC><cr>

nn.n: 48.0V ~ 58.4V for 48V unit

3.12 PBFT<nn.n><cr>: Setting battery float charging voltage

Computer: **PBFT** <nn.n><CRC><cr>

Device: (ACK<CRC><cr> if device accepts this command, otherwise, responds (NAK<CRC><cr>

nn.n: 48.0V ~ 58.4V for 48V unit

3.13 PPVOKC<n ><cr>: Setting PV OK condition

Computer: **PPVOKC** <n><CRC><cr>

Device: (ACK<CRC><cr> if device accepts this command, otherwise, responds (NAK<CRC><cr>

0: As long as one unit of inverters has connected PV, parallel system will consider PV OK;

1: Only all of inverters have connected PV, parallel system will consider PV OK.

3.14 PSPB<n ><cr>: Setting Solar power balance

Computer: **PSPB**<n><CRC><cr>

Device: (ACK<CRC><cr> if device accepts this command, otherwise, responds (NAK<CRC><cr>

0: PV input max current will be the max charged current;

1: PV input max power will be the sum of the max charged power and loads power.

Parallel Command

3.15 MCHGC<mnn><cr>: Setting max charging current

Computer: MCHGC<mnn><CRC><cr>

Device: (ACK<CRC><cr> if device accepts this command, otherwise, responds (NAK<CRC><cr>

Setting value can be gain by QMCHGCR command.

m: Parallel machine number

3.16 MUCHGC<mnn><cr>: Setting utility max charging current

Computer: MUCHGC<mnn><CRC><cr>

Device: (ACK<CRC><cr> if device accepts this command, otherwise, responds (NAK<CRC><cr>

Setting value can be gain by QMUCHGCR command.

m: Parallel machine number

3.17 POPM<mn ><cr>: Set output mode (For 4000/5000)

Computer: POPM <mn ><CRC><cr>

Device: (ACK<CRC><cr> if device accepts this command, otherwise, responds (NAK<CRC><cr>

n:

0: single machine output

1: parallel output

2: Phase 1 of 3 Phase output

3: Phase 2 of 3 Phase output

4: Phase 3 of 3 Phase output

m: Parallel machine number

3.18 PPCP<MNN><cr>: Setting parallel device charger priority (For 4000/5000)

Computer: PCP<MNN><CRC><cr>

Device: (ACK<CRC><cr> if device accepts this command, otherwise, responds (NAK<CRC><cr>

00 for utility first, 01 for solar first, 02 for solar and utility,03 for solar only

M is parallel machine num.

3.19 MNCHGC<mnnn><cr>: Setting max charging current (More than 100A) (For 4000/5000)

Computer: MNCHGC<mnnn><CRC><cr>

Device: (ACK<CRC><cr> if device accepts this command, otherwise, responds (NAK<CRC><cr>

Setting value can be gain by QMCHGCR command.

nnn is max charging current, m is parallel number.

4 Appendix

4.1 CRC calibration method

CRC.c