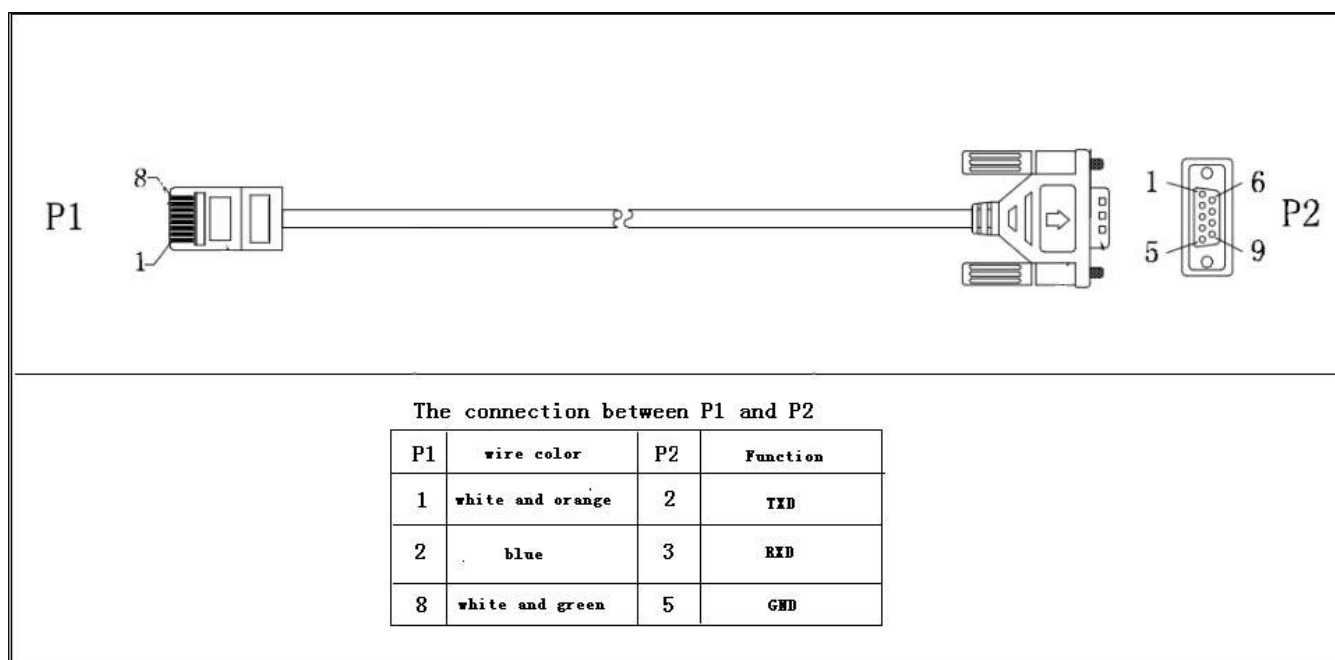


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RJ45 to RS232 cable between computer and device



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 PIP series

2.2 QID<cr>: The device serial number inquiry

Computer: QID <CRC><cr>

Device: (XXXXXXXXXXXXXXXXX <CRC><cr>

2.3 QSID<cr>: The device serial number inquiry (the length is more than 14)

Computer: QSID<CRC><cr>

Device: (NNXXXXXXXXXXXXXXXXXXXXXXXXX <CRC><cr>

NN: Serial number valid length, X: Serial number, invalid part is filled as '0', total X is 20.

2.4 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

2.5 QVFW2<cr>: Another CPU Firmware version inquiry

Computer: QVFW2<CRC><cr>

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

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

2.6 QVFW3<cr>: Remote Panel CPU Firmware version inquiry

Computer: QVFW3<CRC><cr>

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

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

2.7 VERFW:<cr>: BLE CPU Firmware version inquiry

Computer: VERFW:<CRC><cr>

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

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

2.8 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 QQO
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	III	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	0: Utility first 1: Solar first 2: Solar + Utility 3: Only solar charging permitted
R	R	Parallel max number	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 unit 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.
Y	YYY	Max. charging time at C.V stage	Y is an Integer ranging from 0 to 9. The unit is minute. (Only for PIP-MK)
Z	Z	Operation Logic(For PIP-MK)	0: Automatically 1: On-line mode 2: ECO mode (Only for PIP-MK)

2.9 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
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

Example:

Computer: QFLAG <CRC><cr>

Device: (ExxxDxxx <CRC><cr>




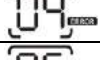



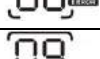
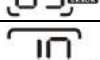
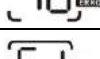

2.10 QPIGS<cr>: Device general status parameters inquiry






Computer: QPIGS <CRC><cr>

Device: (BBB.B CC.C DDD.D EE.E FFFF GGGG HHH III JJ.JJ KKK OOO TTTT EE.E
UUU.U WW.WW PPPPP b7b6b5b4b3b2b1b0 QQ VV MMMMM b10b9b8<CRC><cr>

	Data	Description	Notes	
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 °C	
r	EE.E	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: PV or AC feed the load, 1:yes,0:no b6: configuration status: 1: Change 0:	

			<p>unchanged</p> <p>b5: SCC firmware version 1: Updated 0: unchanged</p> <p>b4: Load status: 0: Load off 1: Load on</p> <p>b3: reserved</p> <p>b2: Charging status(Charging on/off)</p> <p>b1: Charging status(SCC charging on/off)</p> <p>b0: Charging status(AC charging on/off)</p> <p>b2b1b0:</p> <p>000: Do nothing</p> <p>110: Charging on with SCC charge on</p> <p>101: Charging on with AC charge on</p> <p>111: Charging on with SCC and AC charge on</p>	<p>Keep b6~b4, b2 ~ b0, reserve other</p>
y	QQ	Battery voltage offset for fans on	Q is an Integer ranging from 0 to 9. The unit is 10mV.	
z	VV	EEPROM version	V is an Integer ranging from 0 to 9.	
	MMMM M	PV Charging power	M is an Integer ranging from 0 to 9. The unit is watt.	
	b10b9b8	Device status	<p>b10: flag for charging to floating mode</p> <p>b9: Switch On</p> <p>b8: flag for dustproof installed(1-dustproof installed,0-no dustproof)</p>	

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	
10	PV charger current over	
51	Over current inverter	

53	Inverter soft start failed	
55	Over DC voltage on output of inverter	
57	Current sensor failed	
58	Output voltage is too low	
59	PV voltage high	
60	Inverter negative power	(For PIP-MK)
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	

2.11 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
Shutdown Mode	D	Shutdown Mode
Charge Mode	C	Charge Mode
Bypass Mode	Y	Bypass mode (For PIP-MK)
ECO mode	E	ECO mode (For PIP-MK)

Example:

Computer: QMOD<CRC><cr>

DEVICE: (L<CRC><cr>

Means: the current DEVICE mode is Grid mode.

2.12 QPIWS<cr>: Device Warning Status inquiry

Computer: QPIWS<CRC> <cr>

Device: (a0a1.....a34a35<CRC><cr>

a0,...,a35 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	PV loss	Warning
a1	Inverter fault	Fault
a2	Bus Over	Fault
a3	Bus Under	Fault
a4	Bus Soft Fail	Fault
a5	LINE_FAIL	Warning
a6	OPVShort	Fault
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	Battery derating	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	Battery Open	Fault
a23	Current Sensor Fail	Fault
a24	Battery Short	Fault(For PIP-MK)

a25	Power limit	Warning(For PIP-MK)
a26	PV voltage high	Warning/Fault (For PIP-MK)
a27	MPPT overload fault	Fault (For PIP-MK)
a28	MPPT overload warning	Warning(For PIP-MK)
a29	Battery too low to charge	Warning(For PIP-MK)
a30	DC/DC Over Current	Fault (For PIP-MK)
a31	D	Fault code
a32	D	Fault code
a33	Low PV energy	Warning
a34	High AC input during BUS soft start	Warning
a35	Battery equalization	Warning

2.13 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 aaa b<CRC><cr>

	Data	Description	Notes	
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.	Default 30.0
E	EE.E	Battery Under voltage	E is an Integer ranging from 0 to 9. The unit is V.	
F	FF.F	Charging float voltage	F is an Integer ranging from 0 to 9. The unit is V.	
G	GG.G	Charging bulk voltage	G is an Integer ranging from 0 to 9. The unit is V.	
H	HH.H	Battery default re-charge voltage	H is an Integer ranging from 0 to 9. The units is V.	
I	II	Max charging current	I is an Integer ranging from 0 to 9. The units is A.	60A
J	J	AC input voltage range	J is an Integer ranging from 0 to 1. No unit	Default 0 for appliance range

K	K	Output source priority	K is an Integer ranging from 0 to 1. No unit	Default 0 for utility first
L	L	Charger source priority	L is an Integer ranging from 0 to 1. No unit	Default 2 for Utility and Solar 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	
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;
a	aaa	Max. charging time at C.V stage	a is an Integer ranging from 0 to 1	0: means automatically (For PIP-MK)
b	b	Operation logic	b is an Integer ranging from 0 to 1	0: automatically (For PIP-MK)

2.18 QT<cr>: Time inquiry

Computer: QT<cr>

Device:(YYYYMMDDHHMMSS<cr>

Example:

Computer: QT<cr>

DEVICE: (20180101111120<cr>

Means: The time is 2018/01/01,11:11:20.

	Data	Description	Notes
a	(Start byte	
b	YYYYMMDD	Date	Y, M and D are an Integer number 0 to 9.
c	HHMMSS	Time	H, M and S are an Integer number 0 to 9.

2.19 QMN<cr>: Query model name

Computer: QMN<CRC><cr>

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

MMMM: model name (VMIII), NNNN: Rated output VA

2.20 QGMN<cr>: Query general model name

Computer: QGMN<CRC><cr>

Inverter: (NNN<CRC><cr> if Inverter accepts this command, otherwise, responds (NAK<cr>

NNN: model name number

NNN list as below:

023	PIP-5048MK	PIP-5048MK
024	PIP-3024MK	PIP-3024MK

2.21 QBEQI<cr>: Battery equalization status parameters inquiry

Computer: QBEQI <CRC><cr>

Device: (B CCC DDD EEE FFF GG.GG HHH III J KKKK <CRC><cr>

	Data	Description	Notes
a	(Start byte	
b	B	Enable or Disable equalization	B is an Integer number 0 to 1..
C	CCC	equalization time	C s an Integer number 0 to 9. The unit is Minute.

D	DDD	equalization period	D is an Integer number 0 to 9. The unit is day.	
E	EEE	equalization max current	E is an Integer number from 0 to 9. The unit is A.	
F	FFF	reserved	reserved	
G	GG.GG	equalization voltage	G is an Integer ranging from 0 to 9. The units is V.	
H	HHH	reserved	reserved	
I	III	equalization over time	I is an Integer ranging from 0 to 9. The unit is Minute.	
j	J	equalization active status	J is an Integer ranging from 0 to 1.	
k	KKKK	equalization elapse time	K is an Integer ranging from 0 to 9. The units is Hour.	

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.

x	Parameter setting	
	Parameter	Default value
1	AC output voltage	230.0V
2	AC output frequency	50.0Hz
3	Max charging current	60A
	Max utility charging current	30A
4	AC input voltage range	0: Appliance range
5	Output source priority	0: Utility first
6	Battery re-charge voltage	11.5/23/46 for 12/24/48V unit.
7	Charger source priority	2: Utility and Solar first
8	Battery type	0: AGM
9	Enable/disable buzzer alarm	1: Enable buzzer alarm
10	Enable/Disable power saving	0: Disable power saving
11	Enable/Disable overload restart	0: Disable overload restart
12	Enable/Disable over temperature restart	0: Disable over temperature restart
13	Enable/Disable LCD backlight on	1: Enable LCD backlight on
14	Enable/Disable alarm on when primary source interrupt	1: Enable beep on when primary source interrupt
15	Enable/Disable overload bypass when overload happened in battery mode	0: Disable overload bypass
16	Enable/Disable LCD display escape to default page after 1min timeout	1: Enable LCD display escape to default page
17	Output mode	0: Reserved
18	float charging voltage	13.5/27/54 for 12/24/48V unit.
19	Bulk charging voltage	14.1/28.2/56.4 for 12/24/48V unit.
20	Battery cut-off voltage	10.5/21/42 for 12/24/48V unit.
21	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 MNCHGC<nnn><cr>: Setting max charging current

Computer: MNCHGC<nnn><CRC><cr>

If machine is KING, 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.

3.4 MUCHGC<nnn><cr>: Setting utility max charging current

Computer: MUCHGC<nnn><CRC><cr>

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

Setting value can be gain by QMUCHGCR command.

3.5 F<nn><cr>: Setting Inverter output rating frequency

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

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

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

3.6 V<nnn><cr>: Setting device output rating voltage

Computer: V<nnn><CRC><cr>

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

Set inverter output rating voltage to 220V/230V/240V

3.7 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

3.8 POPM<nn><cr>: Setting output mode (Only for KING)

Computer: POPM <nn><CRC><cr>

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

3.9 POPLG<nn><cr>: Setting operation logic (Only for KING)

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

Inverter: (ACK<CRC><cr> if Inverter accepts this command, otherwise, responds (NAK<CRC><cr>
nn:00: automatically, 01: On-line mode, 02: ECO mode

3.10 PBCV<nn.n><cr>: Battery voltage back to utility

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

3.11 PBDV<nn.n><cr>: Battery voltage back to battery

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

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

12V unit: 00.0V/12V/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: 00.0V/48V/49V/50V/51V/52V/53V/54V/55V/56V/57V/58V

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

3.12 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, 01 for solar first, 02 for solar and utility, 03 for only solar charging

3.13 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

3.14 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, 02 for user-define battery type

3.15 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: 21.0V~24.0V for 24V unit, 42.0V ~ 48.0V for 48V unit

3.16 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: 24.0V~31.5V for 24V unit, 48.0V ~ 63.0V for 48V unit

3.17 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: 24.0V~31.5V for 24V unit, 48.0V ~ 63.0V for 48V unit

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

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

Inverter: (ACK<CRC><cr> if Inverter 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.

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

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

Inverter: (ACK<CRC><cr> if Inverter 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.

3.20 RTEY<cr>: Reset PV/load energy storage

Computer: RTEY <CRC><cr>

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

3.21 RTDL<cr>: Reset datalog

Computer: RTDL <CRC><cr>

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

3.22 PBEQE<n><cr>: Enable or disable battery equalization

Computer: PBEQE<n><CRC><cr>

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

Enable or Disable battery equalization, n=1 means enable; n=0 means disable;

3.23 PBEQT<nnn><cr>:Set battery equalization time

Computer: PBEQT<nnn><CRC><cr>

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

Set equalization time, nnn is in the range of 5 to 900minute, every click increase or decrease 5minute.

3.24 PBEQP<nnn><cr>:Set battery equalization period

Computer: PBEQP<nnn><CRC><cr>

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

Set equalization period, nnn is in the range of 0 to 90day, every click increase or decrease 1day.

3.25 PBEQV<nn.nn><cr>:Set battery equalization voltage

Computer: PBEQV<nn.nn><CRC><cr>

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

Set equalization time, nn.nn is in the range as below.

48V model: 48.0~61.0V;

24V model: 24.0~31.5V;

3.26 PBEQOT<nnn><cr>:Set battery equalization over time

Computer: PBEQOT<nnn><CRC><cr>

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

Set equalization time, nnn is in the range of 5 to 900minute, every click increase or decrease 5minute.

3.27 PBEQA<n><cr>: Active or inactive battery equalization now

Computer: PBEQA<n><CRC><cr>

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

Active or inactive battery equalization now, n=1 means active; n=0 means inactive;

3.28 PCVT<nnn><cr>: Set max charging time at C.V stage

Computer: PCVT<nnn><CRC><cr>

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

3.29 DAT<YYMMDDHHMMSS><cr>: Date and time

Computer: DAT<YYMMDDHHMMSS><cr>

<Y, M, D, H, S> is an integer number 0 to 9.

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

4 Appendix

4.1 CRC calibration method



CRC.c
