

High frequency sine wave inverter RS232 communication protocol

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- 1.42 [QBEOI](#) Query equalizing setting parameters (3K is valid, 5K is invalid) 51 42 45 51 49 2E A9 0D

2. Setting command: [T](#)

- 2.1 P*a Buzzer alarm ON/OFF (*=>E: ON; *=>D: OFF)
- 2.2 P*b Overload transfer to bypass function on/off in battery inverter mode (*=>E: On; *=>D: Off)
- 2.3 P*j Set the power saving mode on/off (*=>E: On; *=>D: Off) (5K is valid, 3K is invalid, and it is invalid when paralleling)
- 2.4 P*k Set the LCD to return to the main interface function after 1 minute of no key operation (*=>E: ON; *=>D: OFF)
- 2.5 P*u overload restart function ON/OFF (*=>E: ON; *=>D: OFF)
- 2.6 P*v over-temperature restart function on/off (*=>E: on; *=>D: off)
- 2.7 P*x Display backlight on/off after 1 minute of no key operation (*=>E: always on; *=>D: off)
- 2.8 P*y Input source change alarm function ON/OFF (*=>E: ON; *=>D: OFF)
- 2.9 P*z Set the computer communication software fault record function on/off (*=>E: on; *=>D: off)
- 2.10 PCP** Set charging source priority
- 2.11 POP** Set output source priority
- 2.12 PGR** Set UPS mode (**=>00: APL mode)/(**=>01: UPS mode)
- 2.13 PBT** Set the battery type (**=>00: AGM)/(**=>01: FLOODED)/(**=>02: USER)
- 2.14 F** set output frequency (**=>50: 50Hz)/(**=>60: 60Hz)
- 2.15 MNCHGC*** Set the maximum charging current (setting range: 10, 20...110, 120)
- 2.16 MUCHGC** Set the maximum charging current of the mains (setting range: 02, 10, 20...50, 60)
- 2.17 PBCV**.* Set the voltage of the battery returning to the mains when the mains is normal (setting range: 22.0, 22.5...25.0, 25.5)
- 2.18 PBDV**.* Set the voltage for battery recovery when the mains is normal
- 2.19 PCVV**.* Set the CV fast charging voltage setting range (25.0...31.5) The battery type can only be set when the battery type is USER
- 2.20 PBFT**.* Set the float voltage setting range (25.0...31.5) The battery type can only be set when the battery type is USER
- 2.21 PSDV**.* Set the discharge cut-off voltage setting range (21.0.....24.0) The battery type can only be set when the battery type is USER
- 2.22 PBVO**.* Set the battery overvoltage protection point (3K setting range is 24.0-33.0) (5K setting range is 48.0-60.0)
- 2.26 [PF](#)restore default settings 50 46 26 BD 0D
- 2.27 [REEP](#)restore default settings
- 2.30 POLBY** Set overload to bypass mode (00: overload not to bypass / 01: overload to bypass mode)
- 2.31 PBP** set the buzzer switch (00: close the buzzer / 01: open the buzzer)
- 2.32 POPM** Set parallel mode (00: no parallel/01: single-phase parallel/02: 3P1,/03: 3P2/04: 3P3)
- 2.33 PUPSTYPE Set the UPS type? (00: What type? / 01: What type?)
- 2.34 [PLCDV**](#)Set the LCD screen version to 0 by default; 1 is for other displays
- 2.35 [PPVOKC*](#)Set to charge when the solar energy is normal (0: charge when a single unit is normal; 1: charge when all are normal) (3K is valid, 5K is invalid)
- 2.36 [PSPB*](#) Set to charge when the solar energy is normal (0: charge when a single unit is normal; 1: charge when all are normal) (3K is valid, 5K is invalid)
- 2.37 [PBEQE*](#) Set the equalizing function (default 0: disable equalizing; 1: enable equalizing) (3K is valid, 5K is invalid)

2.38 PBEQT***Set the equalizing time (default 60 minutes: 5-900 +5 per gear) (3K is valid, 5K is invalid)

2.39 PBEQP***Set the number of days between equal charging (default 30 days: 0-90 +1 per file) (3K is valid, 5K is invalid)U

2.40 PBEQ*.**** Set the equalizing voltage (default 29.20V, 25.00-31.50 +0.1V per gear) (3K is valid, 5K is invalid)

2.41 PBEQOT***Set the timeout time for equalizing charge (default 120 minutes: 5-900 +5 per gear) (3K is valid, 5K is invalid)

2.42 PBEQA* Set the equalizing function to activate immediately (default 0: immediate activation is prohibited; 1: immediate activation) (3K is valid, 5K is invalid)

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

1.1 QPIGS<CRC16><CR>: Device general status parameters inquiry

Computer: QPIGS <CRC16><CR>//Query real-time data51 50 49 47 53 B7 A9 0D

Device: (BBB.B CC.C DDD.D EE.E FFFF GGGG HHH III JJ.JJ KKK OOO TTTT EEEE UUU.U WW.WW
PPPPb7b6b5b4b3b2b1b0QQ VV MMMMMb10b9b8<CRC16><CR>

(000.000.0229.850.00023000500043654.8000010000460000000.000.000000000010
000 00 000000010(Old: SUNSEE 5K)

(000.000.0230.150.00008000800036351.80000096003800.0000.000.000000000010
00000000000010 0 01 0000(NEW: SUNPOLO 5K) 10 more digits

(000.000.0229.950.00002000200036225.8000004100290000000.000.000000000010
00000000000010(NEW: SUNSEE PLUS 3K)

	Data	Description	Notes	Axpert
a	(	Start byte		
b	BBB.B	grid voltage	B is an Integer number 0 to 9. The units are V.	
C	CC.C	grid frequency	C s an Integer number 0 to 9. The units are Hz.	
D	DDD.D	AC output voltage	D is an Integer number 0 to 9. The units are V. Displayed as bypass output voltage when bypassed.	
E	EE.E	AC output frequency	E is an Integer number from 0 to 9. The units are 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 are 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 are %.	
I	III	BUS voltage	I is an Integer ranging from 0 to 9. The units are V.	
j	JJ.JJ	Battery voltage	J is an Integer ranging from 0 to 9. The units are V.	
k	KKK	Battery charging current	K is an Integer ranging from 0 to 9. The units are A.	
o	OOO	Battery capacity	O 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 (NTC A/D value for Axpert 1~3K) Note: The unit of the machine model is VP model and the unit needs to be changed to 0.1 °C	
r	EEEE	PV Input current for battery.	E is an Integer ranging from 0 to 9. The units are A.	
t	UUU.U	PV Input voltage 1	U is an Integer ranging from 0 to 9. The units are V.	
u	WW.WW	Battery voltage from SCC	W is an Integer ranging from 0 to 9. The units are V.	
w	PPPPP	Battery discharge current	P is an Integer ranging from 0 to 9. The units are A.	
x	b7b6b5b4 b3b2b1b0	Device status	b7: add SBU priority version, 1:yes,0:no b6: configuration status: 1: Change 0: unchanged (Configuration status, change the	

			setting to 1. Reply QPIRICleared after the instruction inquires about the changed rated information 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	Keep b6~b4, b2 ~ b0, reserve other
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	PV Charging power	M is an Integer ranging from 0 to 9. The unit is watt.	
	b10b9b8	Device status	b10: flag for charging to floating mode b9: Switch On b8: reserved	

1.2 QPIRI<CRC16> <CR>: Device general status parameters inquiry

Computer: 51 50 49 52 49 F8 54 0D; //QPIRI <CRC16> <CR> //Query rating information

Device: (BBB.B CC.C DDD.D EE.E FF.F GGGG HHHH II.I JJ.J KK.KLL.L MM.MN OO PPP QRST UU VW XX.XY Z<CRC16><CR>

SUNSEE 5K:

(230.021.7230.050.021.75000400048.046.042.056.454.00300600026010054.001

SUNPOLO 5K:

(230.022.6230.050.022.65200520048.046.042.056.454.00300601029000054.001000

SUNSEE 3K:

(230.013.0230.060.013.03000300024.023.021.028.227.0025500026010054.001

SUNSEE PLSU 3K: Compare SUNPOLO 5K 2 more

(230.0 13.9 230.0 50.0 13.9 3200 3200 24.0 23.0 21.5 28.2 27.0 0 30 060 1 0 0 9 01 0 0 27.0 0 1 000 0

	Data	Description	Notes	Axpert
A	(	Start byte		
B	BBB.B	rated grid voltage	B is an Integer number 0 to 9. The units are V.	
C	CC.C	Rated input current	C is an Integer number 0 to 9. The units are A.	
D	DDD.D	rated AC output voltage	D is an Integer number 0 to 9. The units are V. Only 230V, cannot be set to 220V. 120V models can be set to 110V.	
E	EE.E	rated AC output frequency	E is an Integer number from 0 to 9. The units are Hz.	

F	FF.F	Rated output current	F is an Integer number 0 to 9. The units are A.	
G	GGGG	ratedAC output apparent power	G is an Integer number from 0 to 9. The units are VA	
H	HHHH	ratedAC output active power	H is an Integer ranging from 0 to 9. The units are W.	
I	II.I	ratedBattery voltage	I is an Integer ranging from 0 to 9. The units are V.	
J	JJ.J	Battery voltage Low-end to mains switching point	J is an Integer ranging from 0 to 9. The units are V.(3K setting range 22-25.5V default 23V; 5K setting range 44-51V default 46V)	
K	KK.K	Battery voltageshutdown point	K is an Integer ranging from 0 to 9. The units are V. (3K setting range 21.0-24.0V default 21.0V; 5K setting range 40.0-48.0V default 42.0V)	
L	LL.L	Battery voltage Quick charge point CV	L is an Integer ranging from 0 to 9. The units are V.(3K setting range 24-29.2V default 28.2V; 5K setting range 48-58.4V default 56.4V)	
M	MM.M	Battery voltage Floating point FLV	M is an Integer ranging from 0 to 9. The units are V.(3K setting range 24-29.2V default 27V; 5K setting range 48-58.4V default 54V)	
N	N	Battery Type	N is the battery type: AGM is 0, FLD is 1, USE is 2	
O	OO	Mains maximum chargingInput current for battery.	O is an Integer ranging from 0 to 9. The units are A.Set the maximum charging current of the mains to 60A (the setting range is 2-60A, the default is 30A)	
P	PPP	total current maxInput current for battery.	P is an Integer ranging from 0 to 9. The units are A.(5KSolar energy 80A + mains 60A), the default setting is 60A	
Q	Q	input range	Q input range: 0: APL mode (90-280V); (switching time 8-20mS) 1: UPS mode (170-280V); (switching time 5-15mS)	
R	R	Load power source priority	R is the priority of the load power supply source: 0: UTL mode (mains power priority) [default] 1: SOL mode (solar priority) 2: SBU mode (S solar 1, B battery 2, U mains 3)	
S	S	Charging source priority	S is the charging source priority: 0: CUT: (utility first mains priority) 1: CSO: (solar first solar priority) 2: SUN: (solar&utility solar energy and utility power [default]) 3: OSO: (only solar only solar charge)	
T	T	?A maximum of T devices can be connected in parallel	T: (default 6) may be the maximum number of 6 units that can be paralleled	
U	UU	?	U: (default 01)	
V	V	?	V: (default 0)	
W	W	Parallel mode	W:(0: no parallel/1: single-phase parallel/2: 3P1, /3: 3P2/4: 3P3)	
X	XX.X	Battery voltage High-end to inverter switching point	X is an Integer ranging from 0 to 9. The units are V.(3K range 24-29V +FUL; when setting FUL = 00.0V 5K range 48-58V+FUL default 54V; FUL=00.0V)	

Y	Y	Solar working conditions in parallel	YSolar charging working conditions in parallel 0: ONE (single machine can be charged by solar energy when parallel machine) 1: ALL (all machines can be charged only when all machines have solar energy)	
Z	Z	Automatic adjustment of solar maximum charging power	Z: (default 1: SbE is automatically adjusted according to the load; 0: The maximum charging power of Sbd solar energy is the maximum charging power of the battery)	

1.3 **QMOD**<CRC16><CR>: Device general status parameters inquiry

Computer: 51 4D 4F 44 49 C1 0D;//**QMOD**<CRC16> <CR>//**Query working mode**

Device:(B <CRC16><CR>





	Data	Description	Notes	Axpert
A	(	Start byte		
B	B	working status	B(BAT)battery inverter mode, L(LINE)Mains Bypass Mode, S(STANDBY)Waiting state for on/off, P(POWER UP)In the power-on state, D(POWER DOWN)is about to shut down, F(FAULT)is a fault state,	

1.4 QPIWS<CRC16><CR>: Device general status parameters inquiry

Computer: 51 50 49 57 53 B4 DA 0D;//QPIWS<CRC16> <CR>//Query status word

Device:(01000100000000000000000000000000<CRC16> <CR>

A	Data	Description	Notes	Axpert
B0	Device status	B0: 1: ; 0: none	b7b6b5b4b3b2b1b0	Device status
B1		B1: 1: fault; 0: no	B1: It is 1 in case of failure, the buzzer beeps for a long time, and the red light is always on.	
B2		B1,B2: 1: Fault 8, BUS is too high; 0: None	B2: Flashes every second, the buzzer beeps, and the red light is always on.	
B3		B1,B3: 1: Fault 52, BUS is too low; 0: None	B3:	
B4		B1,B4: 1: Fault 9, BUS soft start failed; 0: None	B4:	
B5		B5: 1: The mains is abnormal; 0: The mains is normal	B5: Do not call the police	
B6		B1,B6: 1: Fault 5, output short circuit; 0: None	B6: Flashes every second, the buzzer beeps, and the red light is always on.	
B7		B1,B7: 1: Fault 58, the output voltage is too low; 0: No	B7:	
B8		B1,B8: 1: Fault 6, the output voltage is too high; 0: No	B8:	
B9		B1,B9: 1: fault 2, inverter overtemperature; 0: no	B9: Flashes every second, the buzzer beeps, and the red light is always on.	
B10		B10: 1: Fault 1, the fan is abnormal; 0: No	B10: Display icon during warning	
B11		B1,B11: 1: fault 3, battery overvoltage, ; 0: no	Flashes every second, the buzzer beeps, and the red light is always on.	
B12		B12: 1: Fault 4, battery undervoltage; 0: None	B12:	
B13		B13: 1: ; 0: None	B13:	
B14		B14: 1: under-voltage shutdown; 0: no	B14:	
B15		B15: 1: fault 10, mains undervoltage,; 0: no	B15:	
B16		B16: 1: fault 7, overload,; 0: none	B16:	
B17		B17: 1: ? restart flag?; 0: None	B17:	
B18		B1,B18:1: Fault 51, inverter overcurrent; 0: None	3K inverter is more than 80 over temperature, fault 2; 0: after over temperature less than 60 degrees, it becomes 0.	
B19		B1,B19: 1: Fault 53, inverter soft start failed; 0: None	5K is more than 85 over temperature, more than 90 shutdown	
B20		B1,B20:1: Fault 11, self-test failed; 0: None	B20:	
B21		B1,B21: 1: Fault 55, the output DC component is too high; 0: No	B21:	
B22		B1,B22: 1: Fault 56, battery open circuit, ; 0: None	B22:	
B23		B1,B23: 1: Fault 57, current sensor fault; 0: None	B23:	
B24		B1,B24:1: battery short circuit; 0: no	B24:	
B25		B25: 1: ; 0: none	B25:	
B26		B26: 1: ; 0: None	B26:	
B27		B27: 1: ; 0: None	B27:	
B28		B28: 1: ; 0: None	B28:	
B29		B29: 1: ; 0: none	B29:	
B30		B30: 1: ; 0: none	B30:	
B31	B31: 1: ; 0: none	B31:		

		B31: 1: ; 0: none	beeps continuously, and the red light is always on. B11:  One second flashes, the buzzer beeps for a long time, and the red light is always on. B12:  With the buzzer flashing every second, the red light flashing every 2 seconds. B14: No fault display, no alarm Description: When a fault occurs and the B1 bit is not 1, it is a warning signal display icon  When a fault occurs and the B1 bit is 1, the fault signal shows the icon 	
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1.5 [QVFW](#)<CRC16><CR>: Device general status parameters inquiry [T](#)

Computer: 51 56 46 57 62 99 0D//[QVFW](#)<CRC16> <CR>//Query the firmware version number of the main chip

Device: (VERFW:00017.03<CRC16> <CR>)(BBBBBBCCCC.CC<CRC16> <CR>)

	Data	Description	Notes	Axpert
A	(	Start byte		
B	BBBBBB	VERFW:	B	
C	CCCC.CC	00017.03	C	

1.6 [QVFW2](#)<CRC16><CR>: Device general status parameters inquiry [T](#)

Computer: 51 56 46 57 32 C3 F5 0D//[QVFW2](#)<CRC16> <CR>//Query the firmware version number of the SCC chip

Device: (VERFW2:00005.11<CRC16> <CR>)(BBBBBBBCCCC.CC<CRC16> <CR>)

	Data	Description	Notes	Axpert
A	(	Start byte		
B	BBBBBBB	VERFW2:	B	
C	CCCC.CC	00005.11	C	

1.7 [QMCHGCR](#)<CRC16><CR>: Device general status parameters inquiry [T](#)

Computer:51 4D 43 48 47 43 52 0D//[QMCHGCR](#)<CRC16> <CR>//Query the total charging current setting range

Device: (010 020 030 040 050 060 070 080 090 100 110 120 130 140<CRC16> <CR>)(5KVA)

Device: (010 020 030 040 050 060 070 080 090 100 110 120<CRC16> <CR>(3KVA)

Note: SUNSEE PLUS 3K is followed by 120. 1 point and a total of 51 digits.

(BBB CCC DDD EEE FFF GGG HHH III JJJ KKK LLL MMM NNN OOO<CRC16> <CR>

	Data	Description	Notes	Axpert
A	(	Start byte	A	
	BCDEFGH IJKLMNOP	010: 10A 020: 20A 030: 30A 040: 40A 050: 50A 060: 60A 070:70A 080:80A 090:90A 100: 100A 110:110A 120: 120A 130: 130A 140: 140A	B C D E F G H I J K L M N O	

1.11 **QRI**<CRC16> <CR>: Device general status parameters inquiry **T**

Computer: 51 52 49 D8 CE 0D//QRI <CRC16> <CR>//Query rating information (same as SCC instruction)

Device: (RIBBB.B CC.C DD EEE.E FFF.F GGG.G HHH.H III.I<CRC16><CR>

28 52 49 30 32 34 2E 30 20 31 32 2E 30 20 30 32 20 30 35 30 2E 30 20 30 32 38 2E 32 20 30 32 37 2E 30 20 30 33 32 2E 35 20 D30 70

3KVA:(RI024.0 12.0 02 050.0 028.2 027.0 032.0 055.0<CRC16><CR>

5KVA:(RI048.0 12.0 04 060.0 056.4 054.0 060.0 065.0<CRC16><CR>

	Data	Description	Notes	Axpert
A	(	Start byte		
B	BBB.B	Rated battery voltage	B is an Integer number 0 to 9. The units are V.	
C	CC.C	Single battery voltage	C s an Integer number 0 to 9. The units is V.	
D	DD	Number of battery cells	D is an Integer number 0 to 9. The units are PCS	
E	EEE.E	rated AC output frequency	E is an Integer number from 0 to 9. The units are Hz.	
F	FFF.F	Battery voltage Quick charge point CV	L is an Integer ranging from 0 to 9. The units are V.(3K setting range 24-29.2V default 28.2V; 5K setting range 48-58.4V default 56.4V)	
G	GGG.G	Battery voltage Floating point FLV	M is an Integer ranging from 0 to 9. The units are V.(3K setting range 24-29.2V default 27V; 5K setting range 48-58.4V default 54V)	
H	HHH.H	Battery high voltage protection point	H is an Integer ranging from 0 to 9. The units are V.	
I	III.I	Set the maximum charging current +5A	I is an Integer ranging from 0 to 9. The units are A.	

1.12 **QID**<CRC16><CR>: Device general status parameters inquiry **T**

Computer: 51 49 44 D6 EA 0D//QID<CRC16><CR>//Query device ID

Device:3k:(92331605104473<CRC16><CR>//5k:(55355535553555<CRC16><CR>

(BBBBBBBBBBBBBB<CRC16><CR>

	Data	Description	Notes	Axpert
A	(	Start byte	A	
	BBB.....BBBB	(55355535553555 (92331605104473	5KVA serial number: (55355535553555 3KVA serial number: (92331605104473	

1.13 **QMD**<CRC16><CR>://Query machine information **T**

Computer: 51 4D 44 1A 2E 0D//QMD<CRC16><CR>

SUNSEE 3K:(#####INVERTEX3K ###3000 99 1/1 230 230 02 12.0<CRC16><CR>

SUNSEE 5K:(#####INVERTEX5K ###5000 99 1/1 230 230 04 12.0<CRC16><CR>

(#####BBBBBBBBBBB ###CCCC DD E/E FFF GGG HH II.I<CRC16><CR>

28 23 23 23 23 49 4E 56 45 54 45 58 33 4B 20 23 23 33 30 30 30 30 31 2F 31 20 32 33 30 30 30 32 2E 30 87 D3 0d

1.14 **QMN**<CRC16><CR>://Query the machine modelT

Computer: 51 4D 4E BB 64 0D//QMN<CRC16><CR>

Device:(BB-CCCC<CRC16><CR>

SUNSEE 3K:(VM-3000<CRC16><CR>28 56 50 2D 33 30 30 30 36 0C 0D//SUNSEE 5K did not answer

SUNON 3K: (VMII-3000<CRC16><CR>

SUNON 5K: (VMII-5000<CRC16><CR>

SUNON PLUS 3K:(VMIII-3000<CRC16><CR>

SUNON PLUS 5K:(VMIII-5000<CRC16><CR>

SUNPOLO 5K:(MKS2-5200<CRC16><CR>

SUNSEE PLUS 3K:(KING-3200<CRC16><CR>

SVP series (1-3K):(VP-3000<CRC16><CR>

1.15 **QGR**<CRC16> <CR>: //Query UPS mode (01:UPS/00:APL)T

Computer: 51 47 52 87 12 0D;//QGR<CRC16><CR>

Device: (BB<CRC16><CR>28 30 30 1C A1 0D

(00<CRC16><CR>//3K and 5K reply the same

1.16 **QBV**<CRC16> <CR>://Query battery voltage and capacityT

Computer: 51 42 56 38 63 0D;//QBV<CRC16><CR>

Device: (BB.B CCC <CRC16><CR>28 32 33 2E 31 20 30 33 35 20 9F 72 0D

3K:(23.1 035 <CRC16><CR>//23.1 battery voltage, 035% battery capacity

5K:(54.1 100<CRC16><CR>//54.1 battery voltage, 100% battery capacity

1.17 **QBT**<CRC16> <CR>://Query battery typeT

Computer: 51 42 54 18 21 0D;//QBT<CRC16><CR>

Device: (BB<CRC16><CR>28 30 30 1C A1 0D

(00<CRC16><CR> (00: AGM/01: FLOODED/02: USER)

1.18 **QBP**<CRC16> <CR>://Query buzzer switch statusT

Computer: 51 42 50 58 A5 0D;//QBP<CRC16><CR>

Device: (BB<CRC16><CR>28 30 31 0C 80 0D

(01<CRC16><CR>(00:OFF/01:open)

1.19 **QOP**<CRC16> <CR>://Query output source priorityT

Computer: 51 4F 50 2E F9 0D;//QOP<CRC16><CR>

Device: (BB<CRC16><CR>28 30 30 1C A1 0D

(00<CRC16><CR> (00: utility/01: solar/02: solar, battery, utility)

1.20 **QCP**<CRC16> <CR>://Query charging source priorityT

Computer: 51 43 50 6B 94 0D;//QCP<CRC16><CR>

Device: (BB<CRC16><CR>28 30 32 3C E3 0D

(02<CRC16><CR> (00: Mains/01: Solar/02: Mains and Solar/03: Solar only)

1.21 [QCVV](#)<CRC16> <CR>://Query charging CV voltageT

Computer: 51 43 56 56 D9 58 0D;//QCP<CRC16><CR>

Device: (BB<CRC16><CR>28 32 38 2E 32 94 E4 0D

3K:(28.2<CRC16><CR> //5K:(56.4<CRC16><CR>

1.22 [QBFT](#)<CRC16> <CR>://Query the float voltageT

Computer: 51 42 46 54 CD 59 0D;//QBFT<CRC16><CR>

Device: (BB.B<CRC16><CR>28 32 37 2E 30 98 97 0D

3K:(27.0<CRC16><CR> //5K:(54.0<CRC16><CR>

1.23 [QBVO](#)<CRC16> <CR>://Query the battery overvoltage protection pointT

Computer: 51 42 56 4F 6D 70 0D;//QBVO<CRC16><CR>

Device: (BB.BB<CRC16><CR>28 33 33 2E 30 32 E3 0D

3K:(33.0<CRC16><CR> //5K:(60.0<CRC16><CR>

1.24 [QOLBY](#)<CRC16> <CR>://Query overload to bypassT

Computer: 51 4F 4C 42 59 CD AF 0D;//QOLBY<CRC16><CR>

Device: (BB<CRC16><CR>28 30 30 1C A1 0D

(00<CRC16><CR> (00: not allowed/01: allowed)

1.25 [QUPSTYPE](#)<CRC16> <CR>://Query UPS type? Not controlled by the restore settings commandT

Computer: 51 55 50 53 54 59 50 45 FD B8 0D;//QUPSTYPE<CRC16><CR>

Device: (BB<CRC16><CR>28 30 30 1C A1 0D

(00<CRC16><CR> //(01<CRC16><CR>

1.26 [QBVTU](#)<CRC16> <CR>://Query the voltage value of battery low to mains settingT

Computer: 51 42 56 54 55 18 D2 0D;//QBVTU<CRC16><CR>

Device: (BB<CRC16><CR>28 32 33 4A A0 0D

3K:(23<CRC16><CR> // 5K:(51<CRC16><CR>

1.27 [QOPM](#)<CRC16> <CR>://Query parallel modeT

Computer: 51 4F 50 4D A5 C5 0D;//QOPM<CRC16><CR>

Device: (BB<CRC16><CR>28 30 30 1C A1 0D

(00<CRC16><CR> (00: no parallel/01: single-phase parallel/02:3P1,/03:3P2/04:3P3)

1.28 [QOPC](#)<CRC16> <CR>://Query the output currentT

Computer: 51 4F 50 43 44 0B 0D;//QOPC<CRC16><CR>

Device: (BBB.B CCC.C DDD.D<CRC16><CR>

28 30 30 30 2E 38 20 30 30 30 2E 34 20 30 30 30 2E 30 AB 2A 0D

(000.8 000.4 000.0<CRC16><CR>//000.8A; 000.4A; 000.0A

1.29 QBEQI<CRC16> <CR>://Query the equalizing setting parameters (3K is valid, 5K is invalid)⌘

Computer: 51 42 45 51 49 2E A9 0D ;//QBEQI<CRC16><CR>

Device: (B CCC DDD EEE FFF GG.GG HHH III J KKKK<CRC16><CR>

28 30 20 30 36 30 20 30 33 30 20 30 35 30 20 30 33 30 20 32 39 2E 32 30 20 30 30 20 31
32 30 20 30 20 30 30 30 29 0C 0D

3K:(0 060 030 050 030 29.20 000 120 0 0000<CRC16><CR>

	Data	Description	Notes	Axpert
A	(	Start byte		
B	B	Battery equalizing function flag	0: (EdS) disable equalizing function; 1: (EEN) enable equalizing function	Default 0
C	CCC	Battery charging time	Default 60 minutes, 5-900 minutes, +5min per gear	Default 60
D	DDD	Number of days between battery charging	Default 30 days, 0-90d +1d per file	Default 30 days
E	EEE	Maximum charging current	Maximum charging current Mains + solar (02-120A) default 60A	Default 60A
F	FFF	Number of days between battery charging	Default 30 days, 0-90d +1d per file	Default 30 days
G	GG.GG	Battery voltage Float voltage default 29.20V	G is an Integer ranging from 0 to 9. The units are V.(setting range 25.00-31.50V) 0.1V per gear, default 29.20V	Default 29.20V
H	HHH	?	?	Default 000
I	III	Battery equalization timeout time	Default 120 minutes, 5-900 minutes, +5min per gear	Default 120
J	J	The battery equalization charge immediately activates the flag	0: (AdS) disable immediate equalization; 1: (AEN) enable immediate equalization	Default 0
K	KKKK	?	?	Default 0000

二、 set command

2.1 P*a set buzzer on/off

Computer:50 45 61 D0 70 0D //PEa<CRC16> <CR>//Turn on the buzzer

Computer:50 44 61 E3 41 0D //PDa<CRC16> <CR>//Turn off the buzzer

Device:(ACK<CRC16><CR>//Acknowledgment setting succeeded or
(NAK<CRC16><CR>//Acknowledgment setting failed

2.2 P*b set the overload transfer to bypass in battery inverter mode when the mains is normal

Computer:50 45 62 E0 13 0D //PEb<CRC16> <CR>//Overload transfer to bypass in battery inverter mode

Computer: 50 44 62 D3 22 0D //PDb<CRC16> <CR>//Overload will not switch to bypass in battery inverter mode

Device:(ACK<CRC16><CR>//Acknowledgment setting succeeded or
(NAK<CRC16><CR>//Acknowledgment setting failed

2.3 P*j set the energy saving mode on (5K is valid, 3K is invalid)

Computer:50 45 6A 61 1B 0D //PEj<CRC16> <CR>//Enable

Computer: 50 44 6A 52 2A 0D //PDj<CRC16> <CR>//disable

Device:(ACK<CRC16><CR>//Acknowledgment setting succeeded or
(NAK<CRC16><CR>//Acknowledgment setting failed

2.4 P*k set the LCD display to return to the default interface after 1 minute

Computer: 50 45 6B 71 3A 0D //PEk<CRC16> <CR>//Enable

Computer: 50 44 6B 42 0B 0D //PDk<CRC16> <CR>//disable

Device:(ACK<CRC16><CR>//Acknowledgment setting succeeded or
(NAK<CRC16><CR>//Acknowledgment setting failed

2.5 P*u set overload restart on/off

Computer: 50 45 75 82 C5 0D //PEu<CRC16> <CR>//Open overload restart

Computer: 50 44 75 B1 F4 0D //PDu<CRC16> <CR>//Off overload restart

Device:(ACK<CRC16><CR>//Acknowledgment setting succeeded or
(NAK<CRC16><CR>//Acknowledgment setting failed

2.6 P*v set over temperature restart on/off

Computer: 50 45 76 B2 A6 0D //PEv<CRC16> <CR>//open over temperature restart

Computer: 50 44 76 81 97 0D //PDv<CRC16> <CR>//Turn off over temperature restart

Device:(ACK<CRC16><CR>//Acknowledgment setting succeeded or
(NAK<CRC16><CR>//Acknowledgment setting failed

2.7 P*x set display backlight on/off [I](#)

Computer:50 45 78 53 68 0D //PEx<CRC16> <CR>//Turn on display backlight

Computer:50 44 78 60 59 0D //PDx<CRC16> <CR>//Turn off display backlight

Device:(ACK<CRC16><CR>//Acknowledgment setting succeeded or

(NAK<CRC16><CR>//Acknowledgment setting failed

2.8 P*y set input source change alarm on/off [I](#)

Computer: 50 45 79 43 49 0D //PEy<CRC16> <CR>//Open input source change alarm

Computer: 50 44 79 70 78 0D //PDy<CRC16> <CR>//Close the input source change alarm

Device:(ACK<CRC16><CR>//Acknowledgment setting succeeded or

(NAK<CRC16><CR>//Acknowledgment setting failed

2.9 P*z set computer communication software fault record on/off [T](#)

Computer:50 45 7A 73 2A 0D //PEz<CRC16> <CR>//Enable

Computer:50 44 7A 40 1B 0D //PDz<CRC16> <CR>//disable

Device:(ACK<CRC16><CR>//Acknowledgment setting succeeded or
(NAK<CRC16><CR>//Acknowledgment setting failed

2.10 PCP** set charging source priority [T](#)

Computer: 50 43 50 30 30 8d 7a 0d //PCP00<CRC16> <CR>//(mains)

Computer: 50 43 50 30 31 9d 5b 0d //PCP01<CRC16> <CR>//(Solar priority)

Computer: 50 43 50 30 32 ad 38 0d //PCP02<CRC16> <CR>// (mains and solar)

Computer: 50 43 50 30 33 bd 19 0d //PCP03<CRC16> <CR>//(Solar only)

Device:(ACK<CRC16><CR>//Acknowledgment setting succeeded or
(NAK<CRC16><CR>//Acknowledgment setting failed

2.11 POP** set output source priority [T](#)

Computer:50 4f 50 30 30 c2 48 0d //POP00<CRC16> <CR>//(Mains priority)

Computer: 50 4f 50 30 31 d2 69 0d //POP01<CRC16> <CR>//(Solar priority)

Computer:50 4f 50 30 32 e2 0b 0d // POP02<CRC16> <CR>//(solar, battery, mains)

Device:(ACK<CRC16><CR>//Acknowledgment setting succeeded or
(NAK<CRC16><CR>//Acknowledgment setting failed

2.12 PGR** set UPS mode [T](#)

Computer: 50 47 52 30 30 29 eb 0d //PGR00<CRC16> <CR>//(APL mode)

Computer: 50 47 52 30 31 39 ca 0d // PGR01<CRC16> <CR>//(UPS mode)

Device:(ACK<CRC16><CR>//Acknowledgment setting succeeded or
(NAK<CRC16><CR>//Acknowledgment setting failed

2.13 PBT** set battery type (AGM) [T](#)

Computer: 50 42 54 30 30 27 0e 0d //PBT00<CRC16> <CR>//(AGM)

Computer: 50 42 54 30 31 37 2f 0d//PBT01<CRC16> <CR>// (FLOODED)

Computer: 50 42 54 30 32 07 4c 0d//PBT02<CRC16> <CR>// (USER)

Device:(ACK<CRC16><CR>//Acknowledgment setting succeeded or
(NAK<CRC16><CR>//Acknowledgment setting failed

2.14 F** set output frequency [T](#)

Computer: 46 35 30 63 3e 0d //F50<CRC16> <CR>//(50Hz)

Computer: 46 36 30 36 6d 0d//F60<CRC16> <CR>// (60Hz)

Device:(ACK<CRC16><CR>//Acknowledgment setting succeeded or
(NAK<CRC16><CR>//Acknowledgment setting failed

2.15 MNCHGC* set the maximum charging current (60A) setting range (10, 20...110, 120) every 10A**

Computer: 4D 4E 43 48 47 43 30 36 30 D4 2E 0D//MNCHGC060<CRC16> <CR>//Enable(3KVA)

Computer: 4D 4E 43 48 47 43 30 30 36 30 8B AC 0D//MNCHGC0060<CRC16> <CR>//Enable(5KVA)

Device:(ACK<CRC16><CR>//Acknowledgment setting succeeded or
(NAK<CRC16><CR>//Acknowledgment setting failed

2.16 MUCHGC* set the maximum charging current of the mains (30A)**

(Setting range: 02, 10, 20...50, 60) Every 10A after 2A

Computer: 4d 55 43 48 47 43 30 33 30 c0 c0 0d//MUCHGC030<CRC16> <CR>//enable

Device:(ACK<CRC16><CR>//Acknowledgment setting succeeded or
(NAK<CRC16><CR>//Acknowledgment setting failed

2.17 PBCV.* Set the voltage of the battery returning to the mains for charging when the mains is normal (22.5V)**

(setting range: 22.0, 22.5...25.0, 25.5) every 0.5V

Computer: 50 42 43 56 32 32 2e 35 23 77 0d//PBCV22.5<CRC16> <CR>//enable

Device:(ACK<CRC16><CR>//Acknowledgment setting succeeded or
(NAK<CRC16><CR>//Acknowledgment setting failed

2.18 PBDV.* Set the battery recovery voltage when the mains is normal (28V)**

Setting range (24.0, 24.5..... 28.5, 29.0, FULL) FULL is full and send 00.0, every 0.5V in front

Computer: 50 42 44 56 32 38 2E 30 7C 52 0D/PBDV28.0<CRC16> <CR>//enable

Device:(ACK<CRC16><CR>//Acknowledgment setting succeeded or
(NAK<CRC16><CR>//Acknowledgment setting failed

2.19 PCVV.* Set the CV charging voltage (28.4V) and the battery type can only be set when the battery type is USER (user-defined mode).**

The setting range (25.0...31.5) is every 0.1V, and the setting voltage cannot be less than the float voltage

Computer: 50 43 56 56 32 38 2E 34 15 73 0D/PCVV29.5<CRC16><CR>//enable

Device:(ACK<CRC16><CR>//Acknowledgment setting succeeded or
(NAK<CRC16><CR>//Acknowledgment setting failed

2.20 PBFT.*Set the float voltage (26.8V) and can only be set when the battery type is USER (user-defined mode).**

The setting range (25.0.....31.5) is every 0.1V, and the setting voltage cannot be greater than the CV voltage

Computer: 50 42 46 54 32 36 2E 38 29 98 0D/PBFT26.8<CRC16><CR>//enable

Device:(ACK<CRC16><CR>//Acknowledgment setting succeeded or
(NAK<CRC16><CR>//Acknowledgment setting failed

2.21 PSDV.* Set the discharge cut-off voltage (22.4V) and can only be set when the battery type is USER (user-defined mode).**

Setting range (21.0.....24.0) every 0.1V step

Computer: 50 53 44 56 32 32 2E 34 21 09 0D/PSDV22.4<CRC16><CR>//enable

Device:(ACK<CRC16><CR>//Acknowledgment setting succeeded or
(NAK<CRC16><CR>//Acknowledgment setting failed

2.22PBVO.* Set the battery overvoltage protection point (3K setting range 24.0-33.0) (5K setting range 48.0-60.0)**

Computer: 50 42 56 4F 33 32 2E 31 E0 E4 0D/PBVO32.1<CRC16> <CR>//enable

Device:(ACK<CRC16><CR>//Acknowledgment setting succeeded or

(NAK<CRC16><CR>//Acknowledgment setting failed

2.25PSAVE<CRC16><CR>//Save settings?[I](#)

Computer: 50 53 41 56 45 6D 30 0D

Device:(ACK<CRC16><CR>//Acknowledgment setting succeeded or
(NAK<CRC16><CR>//Acknowledgment setting failed

2.26PF<CRC16><CR>//Restore default settings.[I](#)

Computer: 50 46 26 BD 0D

Device:(ACK<CRC16><CR>//Acknowledgment setting succeeded or
(NAK<CRC16><CR>//Acknowledgment setting failed

2.27REEP<CRC16><CR>//Restore default settings.[I](#)

Computer: 52 45 45 50 C6 C2 0D

Device:(ACK<CRC16><CR>//Acknowledgment setting succeeded or
(NAK<CRC16><CR>//Acknowledgment setting failed

2.30 POLBY<CRC16><CR>Set overload to bypass mode (00: overload not to bypass / 01: overload to bypass mode)**[I](#)

Computer: 50 4F 4C 42 59 30 31 BF 8B 0D

Device:(ACK<CRC16><CR>//Acknowledgment setting succeeded or
(NAK<CRC16><CR>//Acknowledgment setting failed

2.31 PBP<CRC16><CR>**//Set the buzzer switch (00: close the buzzer / 01: open the buzzer)T

Computer: 50 42 50 30 30 FB CE 0D

Device:(ACK<CRC16><CR>//Acknowledgment setting succeeded or
(NAK<CRC16><CR>//Acknowledgment setting failed

2.32 POPM<CRC16><CR>**Set parallel mode (00: no parallel/01: single-phase parallel/02: 3P1,/03: 3P2/04: 3P3)

Computer: 50 4F 50 4D 30 30 1D 04 0DT

Device:(ACK<CRC16><CR>//Acknowledgment setting succeeded or
(NAK<CRC16><CR>//Acknowledgment setting failed

2.35 PPVOKC*<CRC16> <CR>://Set to charge when the solar energy is normal (0: charge when a single unit is normal; 1: charge when all are normal)

Computer: 50 50 56 4F 4B 43 30 7B 56 0D //PPVOKC0<CRC16><CR>(3K has a response, but no such function)

Device:(ACK<CRC16><CR>//Acknowledge set successfully or (NAK<CRC16><CR>//Acknowledge set failed

2.36PSPB*<CRC16> <CR>://Set the automatic adjustment of the maximum solar charging power (0: the maximum solar power is the maximum charging power of the battery; 1: the maximum solar power is automatically adjusted to the maximum power according to the load power and battery charging power)T

Computer: 50 53 50 42 31 E8 C7 0D //PSPB1<CRC16><CR>(3K has a response, but no such function)

Device:(ACK<CRC16><CR>//Acknowledge set successfully or (NAK<CRC16><CR>//Acknowledge set failed

2.37PBEQE*<CRC16> <CR>//Set the equalizing function (default 0: disable equalizing; 1: enable equalizing)T

50 42 45 51 45 30 5A 32 0D //PBEQE*<CR>(3K valid, 5K invalid)

Device:(ACK<CRC16><CR>//Acknowledge set successfully or (NAK<CRC16><CR>//Acknowledge set failed

2.38PBEQT*<CRC16><CR>**//Set the equalizing time (default 60 minutes: 5-900 +5 per gear)T

50 42 45 51 54 31 30 30 9E 80 0D //PBEQT100<CR>(3K valid, 5K invalid)

Device:(ACK<CRC16><CR>//Acknowledge set successfully or (NAK<CRC16><CR>//Acknowledge set failed

2.39PBEQP*<CRC16><CR>**//Set the number of days between equal charging (default 30 days: 0-90 + 1 per gear)T

50 42 45 51 50 30 39 30 D9 D9 0D //PBEQP090<CR>(3K valid, 5K invalid)

Device:(ACK<CRC16><CR>//Acknowledge set successfully or (NAK<CRC16><CR>//Acknowledge set failed

2.40PBEQVPN.**<CRC16> <CR>//Set the equalizing voltage (default 29.20V, 25.00-31.50 +0.1V per gear)┘

50 42 45 51 56 32 35 2E 31 35 7B 8B 0D //PBEQV25.15<CR>(3K valid, 5K invalid)

Device:(ACK<CRC16><CR>//Acknowledge set successfully or (NAK<CRC16><CR>//Acknowledge set failed

2.41PBEQOT***<CRC16><CR>//Set the equalizing timeout time (default 120 minutes: 5-900 +5 per gear)┘

50 42 45 51 4F 54 32 30 30 B7 76 0D //PBEQOT200<CR>(3K valid, 5K invalid)

Device:(ACK<CRC16><CR>//Acknowledge set successfully or (NAK<CRC16><CR>//Acknowledge set failed

2.42PBEQA*<CRC16> <CR>//Set the equalizing function to activate immediately (default 0: immediate activation is prohibited; 1: immediate activation)┘

Computer: 50 42 45 51 41 30 96 F6 0D //PBEQA0<CR>(3K valid, 5K invalid)

Device:(ACK<CRC16><CR>//Acknowledge set successfully or (NAK<CRC16><CR>//Acknowledge set failed

3. Answer the command T

3.1 (NAK<CRC16><CR>: Device general status parameters inquiry

Computer: invalid command<CRC16> <CR>

Device: (NAK<CRC16> <CR> //No response(BBB<CRC16> <CR>

	Data	Description	Notes	Axpert
A	(	Start byte	A	
	BBB	NAK	B device responds to invalid command	

3.2 (ACK<CRC16><CR>: Device general status parameters inquiry

Computer: valid command<CRC16> <CR>

Device: (NAK<CRC16> <CR> //No response(BBB<CRC16> <CR>

	Data	Description	Notes	Axpert
A	(	Start byte	A	
	BBB	ACK	B device responds to valid commands	