CPT Multifunction Power Transducer

Operation manual

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■ Product

CPT Power transducer provide single phase, 3 phase multiple parameters (such as voltage, current, active power, reactive power ,apparent power, power factor, frequency, effective energy)input conversion, display and remote communication function.
Standard equip with 1 RS485 communication output (Modbus RUT Mode), 1 Relay and 2 pulse outputs, optional 2 sets /4 sets of analogue output, comply to the needs in power management, remote input and output, alarm, remote controls applications.

■ Features

- Input 1P2W,1P3W,3P3W,3P4W Unbalanced load system's active power, reactive power, apparent power and electric energy (Watts-Hr) etc parameters.
- 1 set relay(SPDT) output, with 3 variable setting (R1.1/R1.2/R1.3), each react to setting parameters V.AVG/I.AVG/FREQ/P.TL/Q.TL/ S.TL / PF.AVG / AE.TL / RE.TL / VA / VB / VC / IA / IB / IC / PF-A / PF-B / PF-C / P-A / P-B / P-C / Q-A / Q-B / Q-C / S-A / S-B / S-C, having relay function : Hi / Lo / Hi Hold / Lo Hold / Do / OFF; further advance function , start delay, hysteresis, time delay, reset delay etc.
- 2 set of open collector pulse for Kilowatt-Hour and Kvar-hour output, maximum frequency 1000Hz.
- 4 analogues output same as relay setting parameters.

Output range: Current0~10mA / 0~20 mA / 4~20 mA / 4~12~20 mA / ±10 mA / ±20 mA
Output range: Voltage 0~5V / 1~5 V / 0~10 V / 0~2.5~5 V / 1~3~5 V / 0~5~10 V / ±5 V / ±10 V

- Outer case wall mounting or din rail mounting(EN500022)

Product design according to CE.

■ Application

Motor control/ panel power monitoring/ power consumption monitor and control/ power distribution system/ intelligent building & automation power management system/ power testing equipment

CPT can be use for electric monitoring system (SCADA), measuring site parameters and remote control. Standard industrial RS-485 communication interface, allow easy internet connection, best for SCADA system choice

Front panel and button info

Control button

4 CONTROL BUTTONS: Enter / Shift / Up / Down

ENTER Enter/Fun key: Enter setting status / save and enter next function parameters

Shift key: Move decimal point / return to previous level escape setting

Up key: Value increase / return to previous level

Down key: Values reduced / go to the next level

Display

Rate display: 5 Digits; 0.28" (0.71cm) Red LED (Watts)
Accumulative display: 8 Digits; 0.28" (0.71cm) Red LED(Hi 4 digits" 8888- "low 4 digits" -8888" scrow display)
Unit display:2 square red LED for the K / M

Status LED

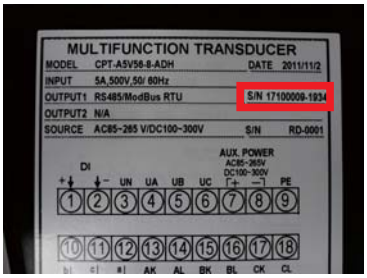
Po1 & Po2 Pulse output display: 2 square red LED
During pulse transmission, LED will blink ; when
It blink faster mean Watt-Hr. accumulate more

COM RS 485 communication:1 square orange LED
Rs485 signal send/receive data , LED will blink
When blink faster, data transfer speed is higher

RL1 Relay output LED:1 square red LED
Led on when relay output

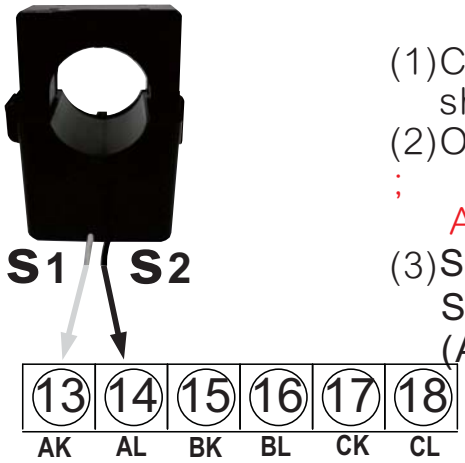
ECI ECI Input LED:1 square green LED

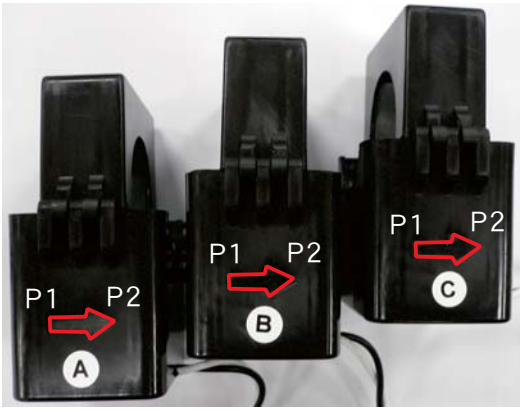
Clamp CT



Optional of Clamp CT, make sure

(1)CT of the SN number with the CPT SN number, as shown
(2)On the label A:A-Phase; B:B-Phase ; C:C-Phase ;
According to the phase matching
(3)S1 (white) connected" K" side;
S2 (black)connected "L" side
(A.B.C Phase are the same then the law)



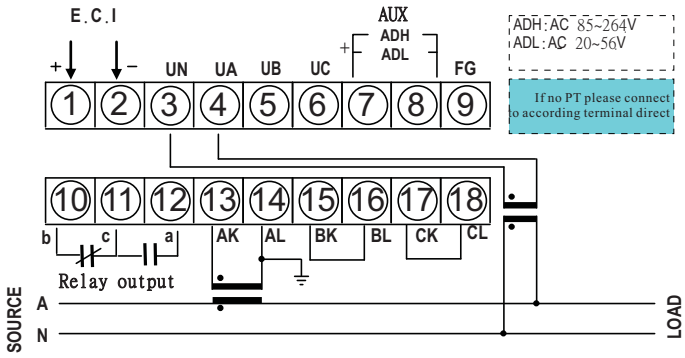


Direction of the arrow indicates the direction for the primary current through P1-P2

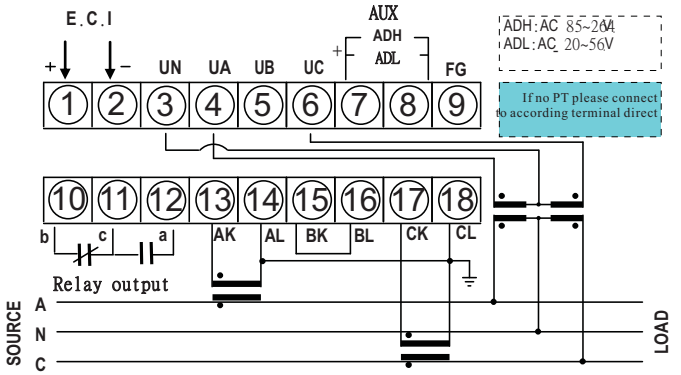
Wiring diagram

Please check input operating voltage before sending power, terminal connection to right number

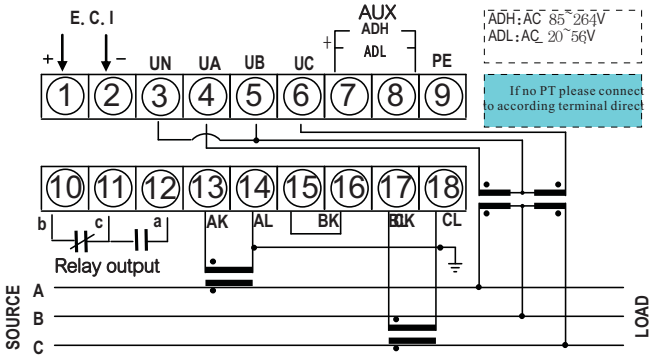
1 Phase 2 wire(Unbalanced load)



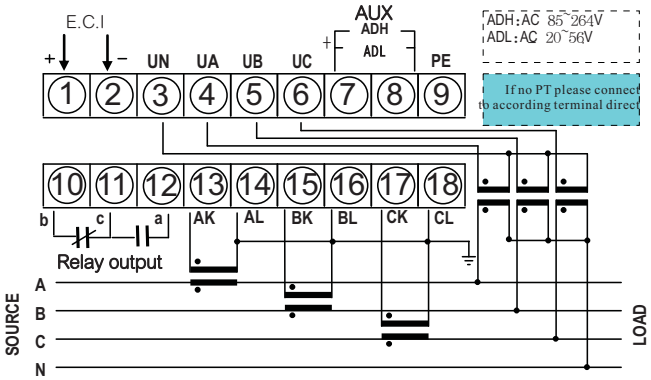
1 Phase 3 wire(Unbalanced load)



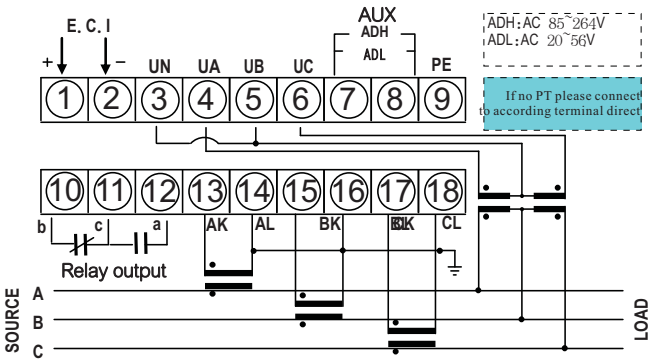
3 Phase 3 wire(Unbalanced load) 2CT)



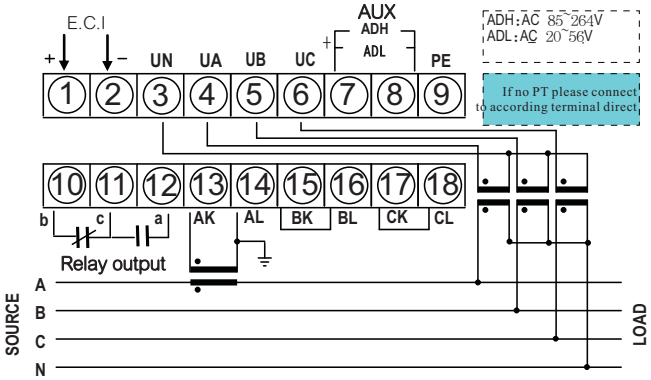
3 Phase 4 wire(Unbalanced load) 3CT)



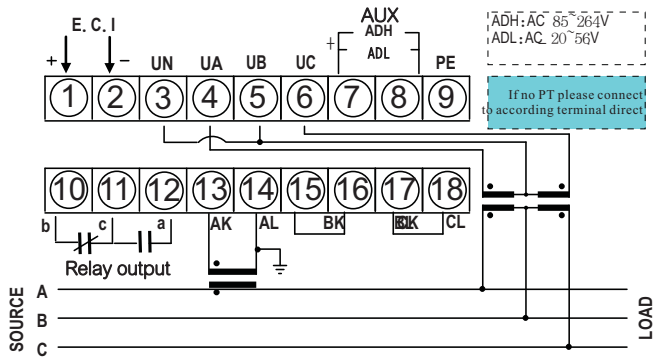
3 Phase 3 wire(Unbalanced load) 3CT)



3 Phase 4 wire(Balanced load) 1CT)



3 Phase 3 wire(Balanced load) 1CT)

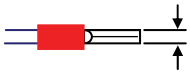


Output wiring

Wiring terminal

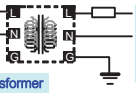
Terminal A1~A16: 20A/600Vac, M3.5, 22~12AWG;
Max Torque : 13Kg-cm

Input/ Output Terminal :10A 300Vac, M2.6, 22~16AWG,
Max Torque: 5Kg-cm
Please use pin terminal



Aux power connection

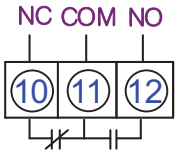
1A Fuse



ADH: AC 85~264V
DC 100~300 V
ADL: AC/DC 20~56V

Fliter transformer

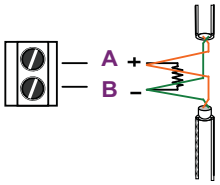
Relay output



Relay output:

Contact load
1A/230V，3A/115V

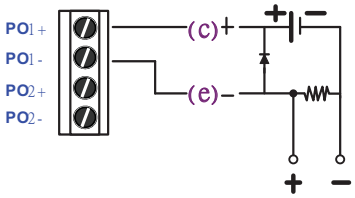
RS485 Output



Max Dist: 1200M
Resistance(at latest unit):
120~300ohm/0.25W
(typical: 150ohm)

Pulse output

Open collector:

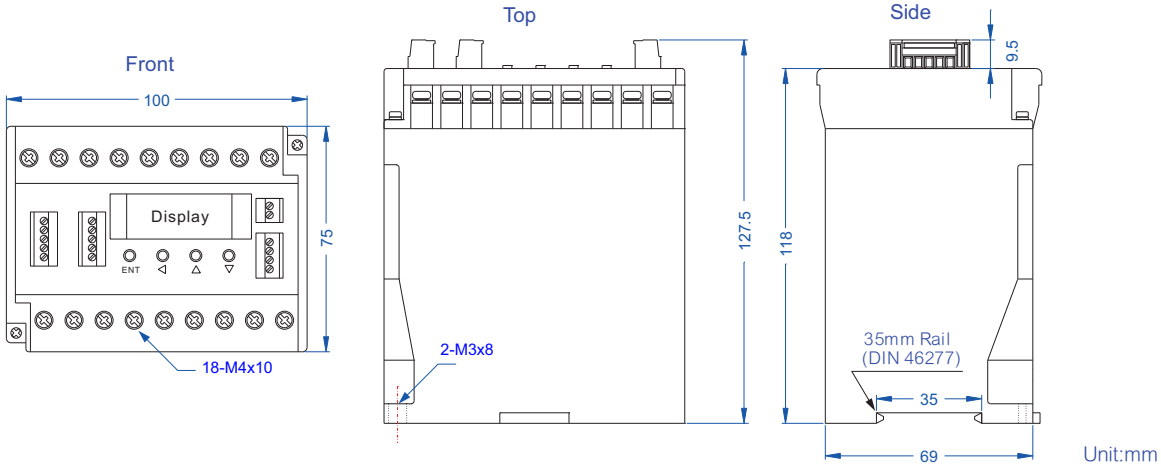


Max load
30V/60mA

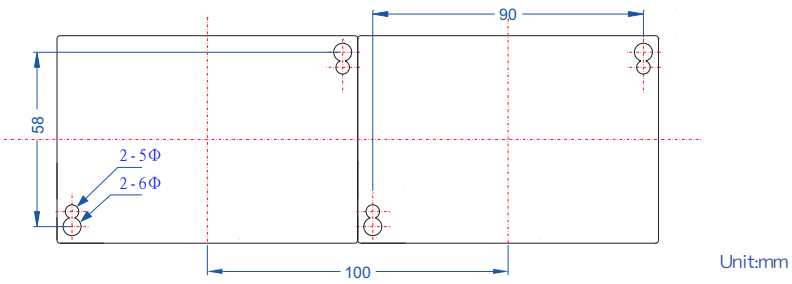
Analogue output

Size

Casing dimension



Panel holes position



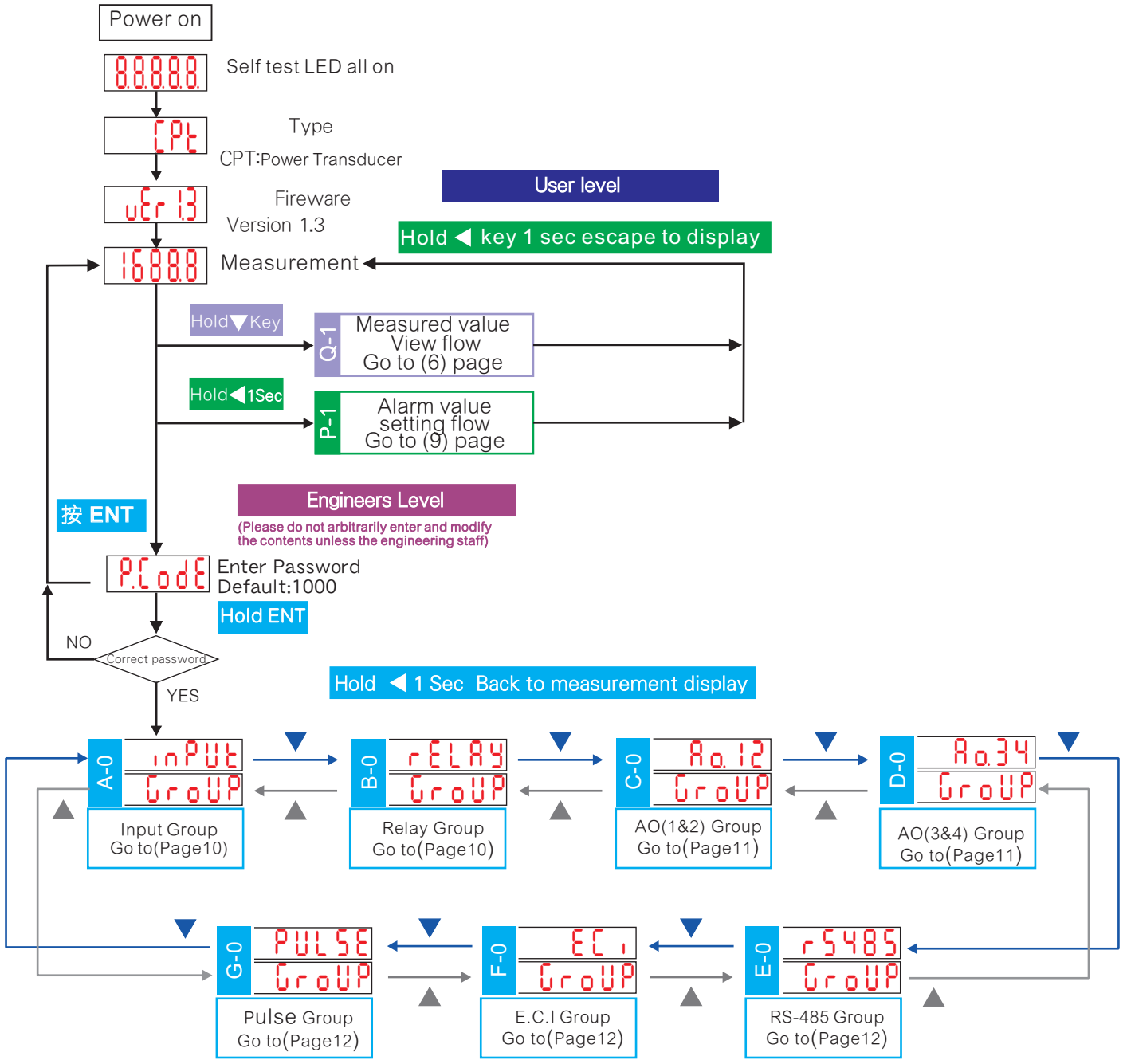
Operation flow chart

Operate the meter before read the process description:

1.This meter divided into “user level "and" engineers level " ◦

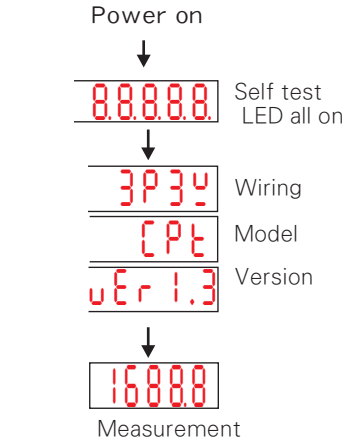
2.(If not the engineering staff) Do not enter any and modify the content of the inside of the” engineers level ", so as not to cause the system due to the incorrect setting of abnormal or even damage ◦

3.Engineering staff after the purchase of the new meter Please read in this flow, according to their needs, set the appropriate parameters to fully understand the following flow can help Later, the operation



User Level

■Operation flow:Understanding of below flow can help thereafter Operation



Parameter setting(A-1),connection different.will have a different display(tick shown)

	1P2W	1P3W	3P3W.1	3P3W.2	3P3W.3	3P4W.1	3P4W.3
V.AVG	v	v	v	v	v	v	v
I.AVG	v	v	v	v	v	v	v
FREQ	v	v	v	v	v	v	v
P.TL	v	v	v	v	v	v	v
Q.TL	v	v	v	v	v	v	v
S.TL	v	v	v	v	v	v	v
PF.AVG	v	v	v	v	v	v	v
AE.TL	v	v	v	v	v	v	v
RE.TL	v	v	v	v	v	v	v

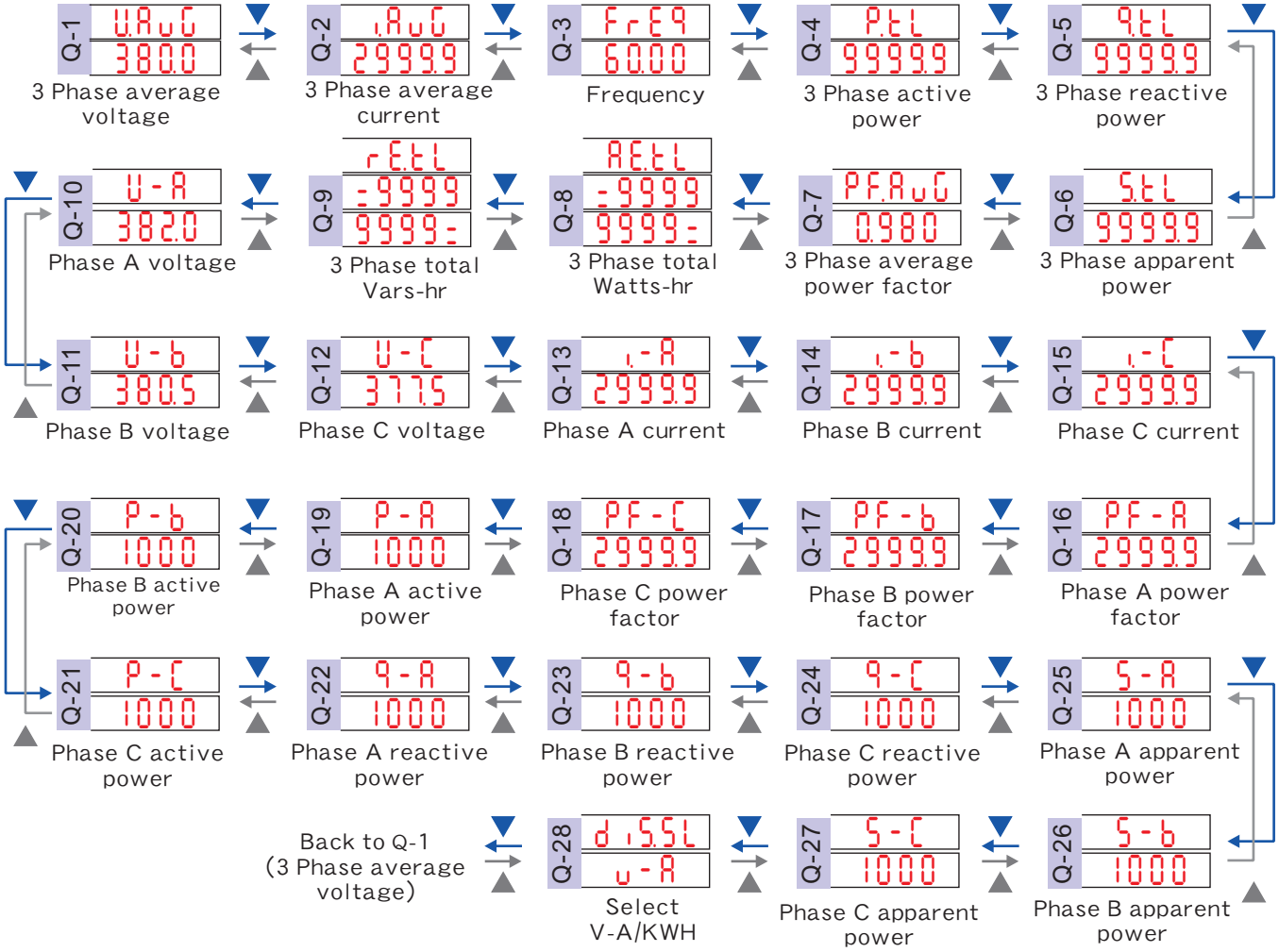
	1P2W	1P3W	3P3W.1	3P3W.2	3P3W.3	3P4W.1	3P4W.3
VA			v	v	v	v	v
VB			v	v	v	v	v
VC			v	v	v	v	v
IA		v	v	v	v		v
IB				v	v		v
IC		v		v	v		v
PF-A			v	v	v	v	v
PF-B							v
PF-C				v	v		v

	1P2W	1P3W	3P3W.1	3P3W.2	3P3W.3	3P4W.1	3P4W.3
P-A			v	v	v	v	v
P-B							v
P-C				v	v		v
Q-A			v	v	v	v	v
Q-B							v
Q-C				v	v		v
S-A			v	v	v	v	v
S-B							v
S-C				v	v		v

Hold ◀ 1Sec Left

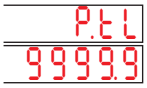
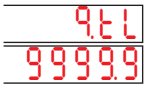
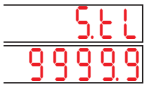
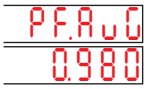
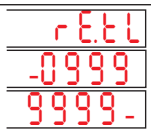
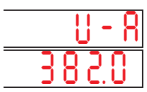
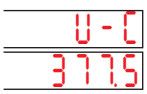
Hold ▼Enter

Measured flow



Operating Steps

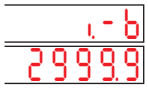
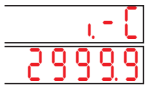
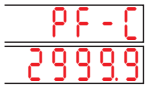
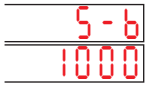
Measured flow

Item	Parameters	Display	Setting	Operation
		Usually screen	Press ▼ enter measuring Enter measuring function list	
Q-1		3 Phase voltage average value	View only	The average voltage is the average of the voltage relative N。V.AVG=(Van+Vbn+Vcn)/3Voltage readings need to be interpreted in conjunction with voltage unit V or KV。
Q-2		3 Phase current average value	View only	The average current is the average flowing through the line current。I.AVG=(Ia+Ib+Ic)/3 Displayed as the current units of ampere。
Q-3		Frequency	View only	Frequency is taken between the Van voltage frequency。Range:45.00~75.00 Hzexceed Frequency range will affect the other parameters, the accuracy of the reading。
Q-4		3 Phase power factor total	View only	The total effective power is the sum of each phase effective power。 The power of reading needs with the unit MW, KW or W。
Q-5		3 Phase reactive power	View only	Total invalid power is the power of total。 The power of reading needs with the unit MW, KW or W。
Q-6		3 Phase active power	View only	The power of reading needs with the unit MW, KW or W。
Q-7		3 Phase power factor average value	View only	Total power factor (PF) = total effective power (P) / total apparent power (S)
Q-8		3 Phase total energy Watt-hr	View only Parameter based on Po 15L corresponding display	The only 5-digit display, but the cumulative number of bits to 8 digits, so into the down 4-digit "-9999", and the up 4 digits "9999 -" The 2 show。Reading needs with the unit MW, KW or
Q-9		3 Phase reactive energy Var-hr	View only Parameter based on Po2.5L corresponding display	The only 5-digit display, but the cumulative number of bits to 8 digits, so into the down 4-digit "-9999", and the up 4 digits "9999 -" The 2 show。Reading needs with the unit MW, KW or
Q-10		A Phase voltage	View only	Each phase voltage refers to the relative N and white voltage。Va(Vb、Vc)with Vn voltage。3P4W wiring, only to show the line voltage of N, if you want to understand the line to line voltage, is only the value multiplied by 1.732.。 3P3W wiring, S need to short circuit and N, so the only Vab and Vca value and read value is the line voltage。 Reading needs with the unit KV or V。
Q-11		B Phase voltage	View only	
Q-12		C Phase voltage	View only	

NEXT

■Operating Steps

Measured flow

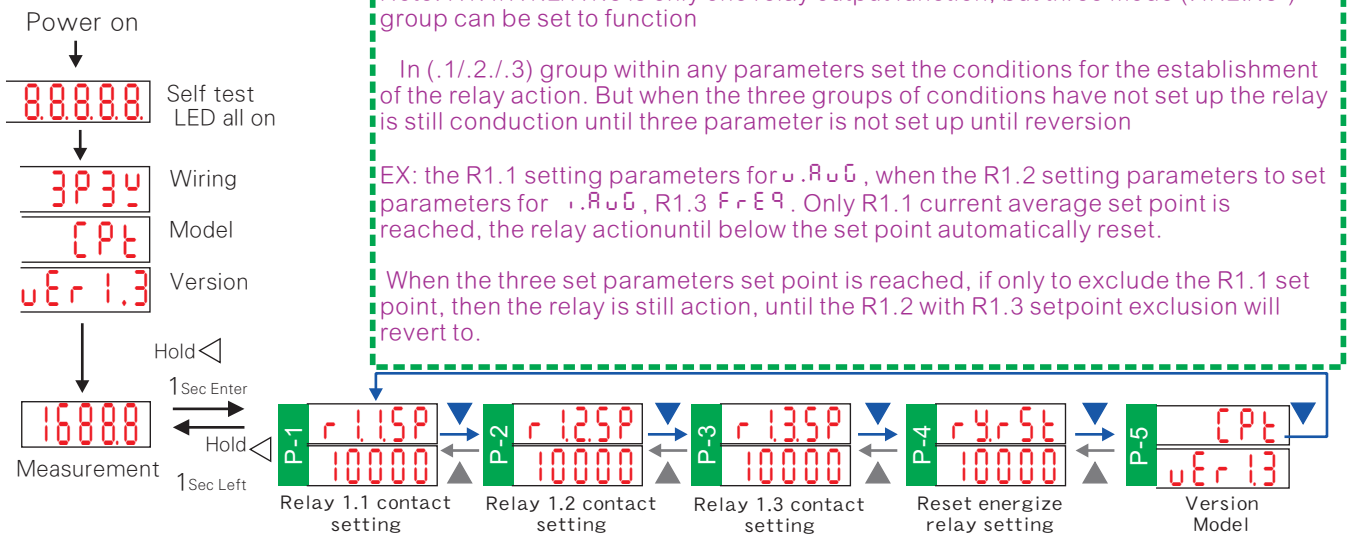
Item	Parameters	Display	Setting	Operation
Q-13		A Phase current	View only	Each phase current is flowing through the line current。 Ia、Ib、Ic current。 Current unit is ampere。
Q-14		B Phase current	View only	
Q-15		C Phase current	View only	
Q-16		A Phase power factor	View only	3P3W system, the system in “a phase current lag behind voltage 30 degree angle, "and" c phase current leads the voltage 30 degree angle ", so the total power factor of 1.00, PF-A will be = 0.866, PF-C will be = -0.866, so the display is a normal phenomenon。
Q-17		B Phase power factor	View only	
Q-18		C Phase power factor	View only	
Q-19		A Phase active power	View only	Reading needs with the unit MW, KW or W。
Q-20		B Phase active power	View only	
Q-21		C Phase active power	View only	
Q-22		A Phase reactive power	View only	Reading needs with the unit M、K or None(var)。
Q-23		B Phase reactive power	View only	
Q-24		C Phase reactive power	View only	
Q-25		A Phase apparent power	View only	Reading needs with the unit M、K or None(var)。
Q-26		B Phase apparent power	View only	
Q-27		C Phase apparent power	View only	
Q-28		Select V-A/KWH	View only	

Back to 1-1

Press ◀ 1 sec to measuring page

User Level

Alarm value setting flow



Note: R1.1/R1.2/R1.3 is only one relay output function, but three mode (.1/.2/.3-) group can be set to function

In (.1/.2./.3) group within any parameters set the conditions for the establishment of the relay action. But when the three groups of conditions have not set up the relay is still conduction until three parameter is not set up until reversion

EX: the R1.1 setting parameters for , when the R1.2 setting parameters to set parameters for , R1.3 . Only R1.1 current average set point is reached, the relay actionuntil below the set point automatically reset.

When the three set parameters set point is reached, if only to exclude the R1.1 set point, then the relay is still action, until the R1.2 with R1.3 setpoint exclusion will revert to.

Alarm value setting flow parameters

Shift | Increase | Decrease | Enter

ITEM	Parameters	Display	Setting	Operation
P-1	r 1.1SP 10000	Relay 1.1 funtion setting	Relay R1.1 value range:-19999~29999	Press ENTER values blink,press ▲ & ▼ change value or selection when done press ENTER to next setting or hold ◀ 1 sec to previous selection list.
P-2	r 1.2SP 15000	Relay 1.2 funtion setting	Relay R1.2 value range:-19999~29999	Press ENTER values blink,press ▲ & ▼ change value or selection when done press ENTER to next setting or hold ◀ 1 sec to previous selection list.
P-3	r 1.3SP 10000	Relay 1.3 funtion setting	Relay R1.3 value range:-19999~29999	Press ENTER values blink,press ▲ & ▼ change value or selection when done press ENTER to next setting or hold ◀ 1 sec to previous selection list.
P-4	r4.rSt no	Reset relay function	Select:YES/no	Press ENTER values blink,press ▲ & ▼ change value or selection when done press ENTER to next setting or hold ◀ 1 sec to previous selection list.
P-5	CPn-10 uEr 1.3	Version Model		View only

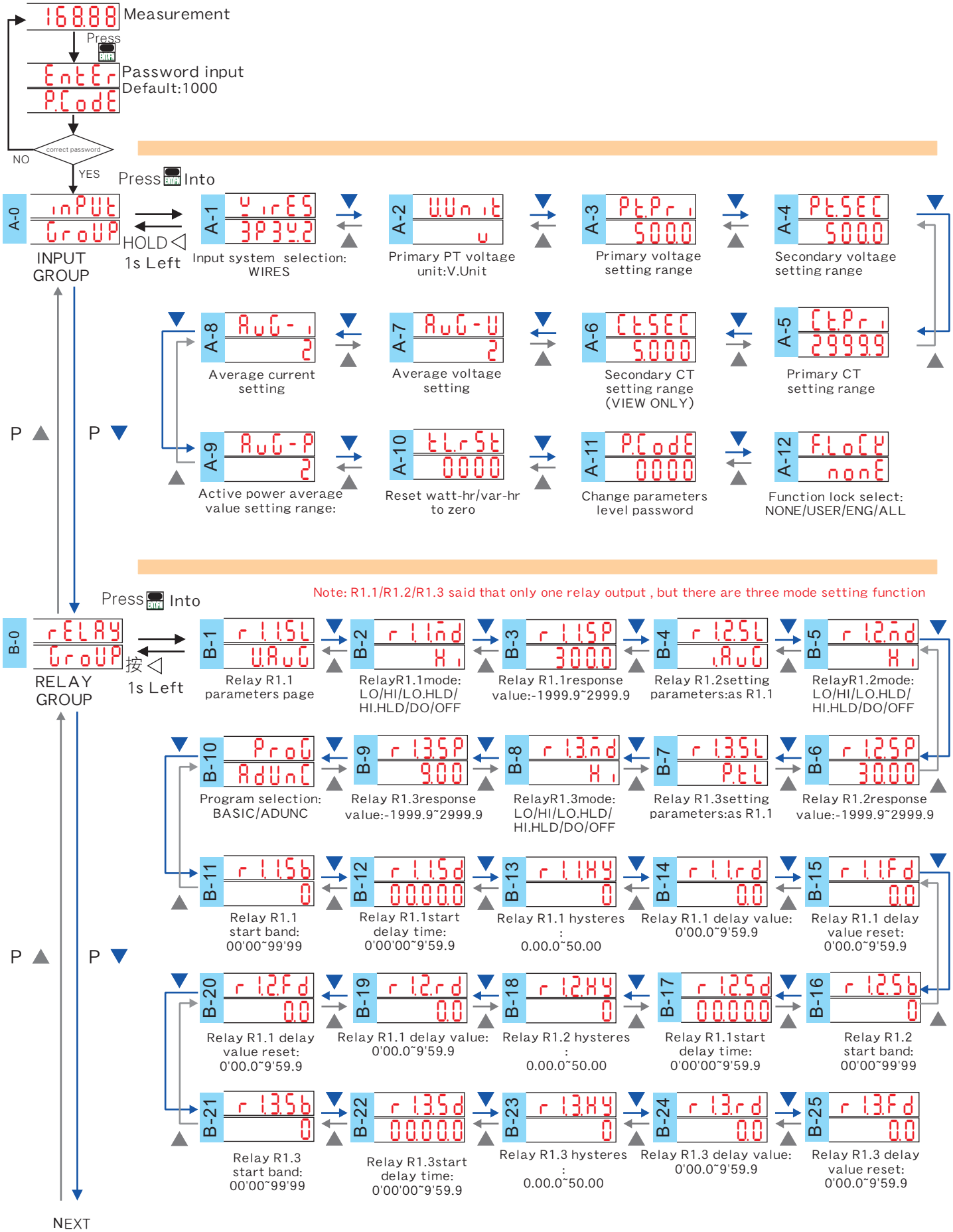
Back to P-1

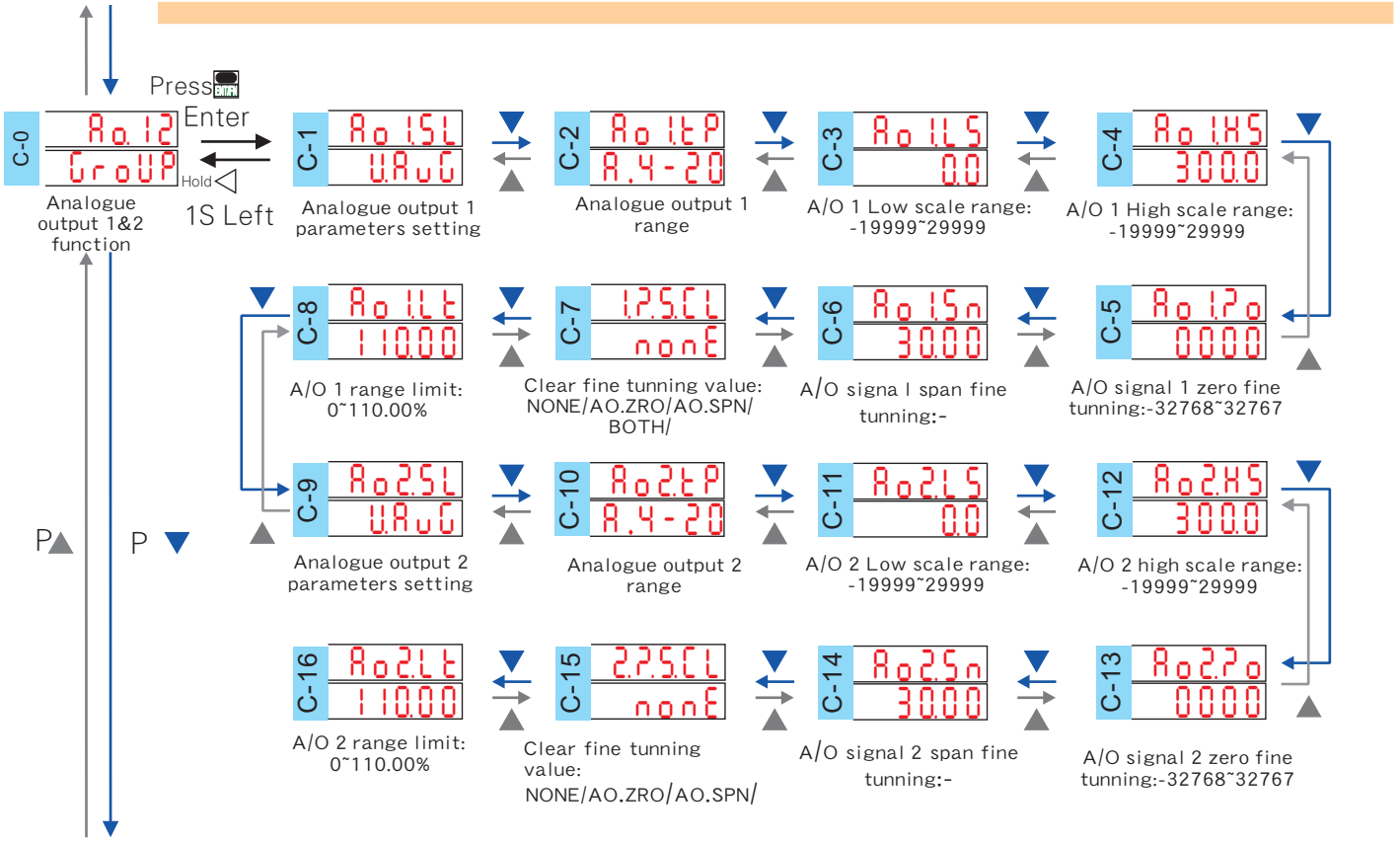
Press ▼ 1 sec escape to begining page

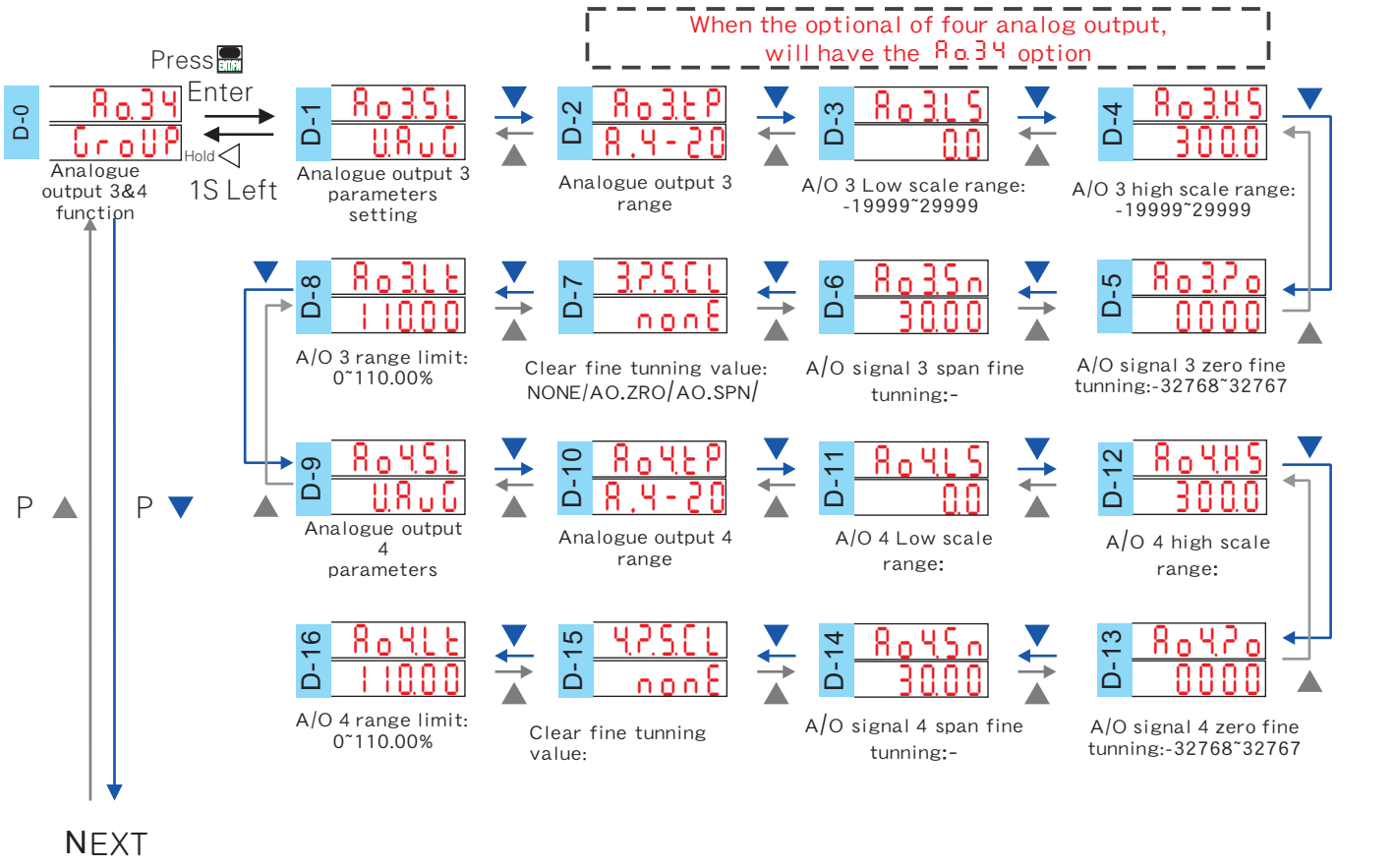
Press ◀ 1 sec escape to measuring page.

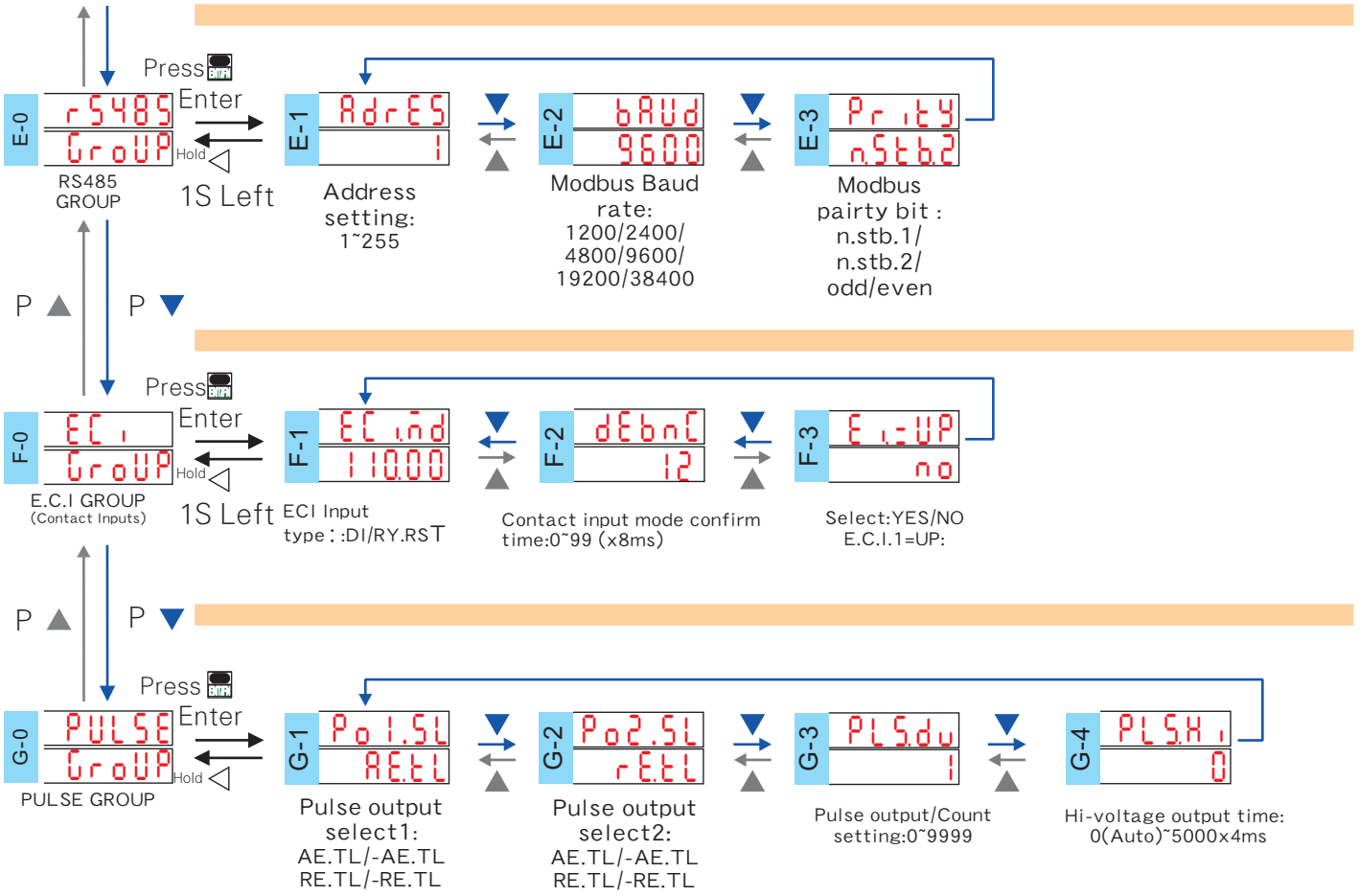
Engineers Level

Operation Flow Chart:For the following flow to help after the operation



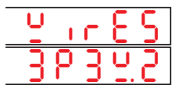
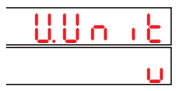
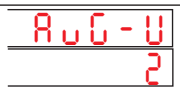
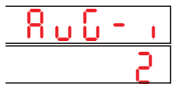
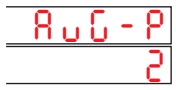

Press
Enter
Hold
1S Left
C-0
Ao.12
GroUP
Analogue output 1&2 function
C-1
Ao.1SL
U.AuG
Analogue output 1 parameters setting
C-2
Ao.1tP
A.4-20
Analogue output 1 range
C-3
Ao.1LS
0.0
A/O 1 Low scale range: -19999~29999
C-4
Ao.1HS
3000
A/O 1 High scale range: -19999~29999
C-5
Ao.1Fo
0000
A/O signal 1 zero fine tunning:-32768~32767
C-6
Ao.1Sn
3000
A/O signa l span fine tunning:-
C-7
1.2S.CL
nonE
Clear fine tunning value: NONE/AO.ZRO/AO.SPN/ BOTH/
C-8
Ao.1Lt
110.00
A/O 1 range limit: 0~110.00%
C-9
Ao.2SL
U.AuG
Analogue output 2 parameters setting
C-10
Ao.2tP
A.4-20
Analogue output 2 range
C-11
Ao.2LS
0.0
A/O 2 Low scale range: -19999~29999
C-12
Ao.2HS
3000
A/O 2 high scale range: -19999~29999
C-13
Ao.2Fo
0000
A/O signal 2 zero fine tunning:-32768~32767
C-14
Ao.2Sn
3000
A/O signal 2 span fine tunning:-
C-15
2.2S.CL
nonE
Clear fine tunning value: NONE/AO.ZRO/AO.SPN/
C-16
Ao.2Lt
110.00
A/O 2 range limit: 0~110.00%
P
P


When the optional of four analog output, will have the Ao.34 option
Press
Enter
Hold
1S Left
D-0
Ao.34
GroUP
Analogue output 3&4 function
D-1
Ao.3SL
U.AuG
Analogue output 3 parameters setting
D-2
Ao.3tP
A.4-20
Analogue output 3 range
D-3
Ao.3LS
0.0
A/O 3 Low scale range: -19999~29999
D-4
Ao.3HS
3000
A/O 3 high scale range: -19999~29999
D-5
Ao.3Fo
0000
A/O signal 3 zero fine tunning:-32768~32767
D-6
Ao.3Sn
3000
A/O signal 3 span fine tunning:-
D-7
3.2S.CL
nonE
Clear fine tunning value: NONE/AO.ZRO/AO.SPN/
D-8
Ao.3Lt
110.00
A/O 3 range limit: 0~110.00%
D-9
Ao.4SL
U.AuG
Analogue output 4 parameters
D-10
Ao.4tP
A.4-20
Analogue output 4 range
D-11
Ao.4LS
0.0
A/O 4 Low scale range:
D-12
Ao.4HS
3000
A/O 4 high scale range:
D-13
Ao.4Fo
0000
A/O signal 4 zero fine tunning:-32768~32767
D-14
Ao.4Sn
3000
A/O signal 4 span fine tunning:-
D-15
4.2S.CL
nonE
Clear fine tunning value:
D-16
Ao.4Lt
110.00
A/O 4 range limit: 0~110.00%
P
P
NEXT


E-0
rS485
GroUP
Press
Enter
Hold
1S Left
RS485
GROUP
E-1
AdrES
1
Address
setting:
1~255
E-2
bAUd
9600
Modbus Baud
rate:
1200/2400/
4800/9600/
19200/38400
E-3
Pr.tY
n.Stb.2
Modbus
pairty bit :
n.stb.1/
n.stb.2/
odd/even
P
P
F-0
EC.1
GroUP
E.C.I GROUP
(Contact Inputs)
F-1
EC.ind
11000
ECI Input
type : :DI/RY.RST
F-2
dEbnC
12
Contact input mode confirm
time:0~99 (x8ms)
F-3
E.1-UP
no
Select:YES/NO
E.C.I.1=UP:
G-0
PULSE
GroUP
PULSE GROUP
G-1
Po1.SL
AE.TL
Pulse output
select1:
AE.TL/-AE.TL
RE.TL/-RE.TL
G-2
Po2.SL
rE.TL
Pulse output
select2:
AE.TL/-AE.TL
RE.TL/-RE.TL
G-3
PLS.dv
1
Pulse output/Count
setting:0~9999
G-4
PLSH.1
0
Hi-voltage output time:
0(Auto)~5000x4ms

Parameters setting level(Engineer level)

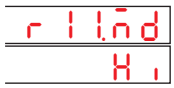
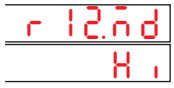
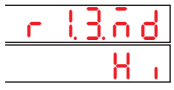
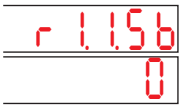
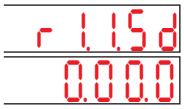
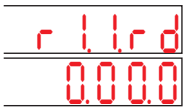
Shift Increase Decrease Enter

ITEM	Parameters	Display	Setting	Operation
A-1		Input system selection:WIRES	Range: 1P2W/1P3W/3P3W.1/ 3P3W.2/3P3W.3/ 3P4W.1/3P4W.3 Default :3P4W.3	Press values blink,press, & change value or selection when done press to next setting or hold 1 sec. to previous selection list 1P2W:1Phase 2 Wire 1P3W:1Phase 3 Wire 3P3W.1:3Phase 3 Wire 1CT(balanced)、 3P3W.2:3Phase 3 Wire 2CT、 3P3W.3:3Phase 3 Wire 3CT、 3P4W.1:3Phase 4 Wire 1CT(balanced)、 3P4W.3:3Phase 4 Wire 3CT。
A-2		Primary PT voltage unit:V.Unit	V / KV Default :V	Press values blink,press, & change value or selection when done press to next setting or hold 1 sec. to previous selection list
A-3		Primary voltage setting range	Setting range:50V~100KV Default:500.0	Press values blink,press, & change value or selection when done press to next setting or hold 1 sec. to previous selection list
A-4		Secondary voltage setting range	Setting range:50V~500V Default:500.0	Press values blink,press, & change value or selection when done press to next setting or hold 1 sec. to previous selection list
A-5		Primary CT setting range	(VIEW ONLY) Default:50.00	Shift Increase Decrease Enter
A-6		Secondary CT setting range	Setting range:1A~9.999A Default:5.000	Press values blink,press, & change value or selection when done press to next setting or hold 1 sec. to previous selection list
A-7		Average voltage setting:	Setting range:2~99 Default:2	Press values blink,press, & change value or selection when done press to next setting or hold 1 sec. to previous selection list
A-8		Average current setting:	Setting range:2~99 Default:2	Shift Increase Decrease Enter ※System may have interference or signal unstable sometimes, causing display unstable: This function help to decrease rapid change on the display. Increasing average value make display more stable,
A-9		Active power average value setting range:	Setting range:2~99	Press values blink,press, & change value or selection when done press to next setting or hold 1 sec. to previous selection list
A-10		Reset watt-hr/var-hr to zero	Password:0000~9999	Press values blink,press, & change value or selection when done press to next setting or hold 1 sec. to previous selection list
A-11		Change parameters level password:	Password:0000~9999 Default:1000	Press values blink,press, & change value or selection when done press to next setting or hold 1 sec. to previous selection list
A-12			Function lock select: NONE/USER/ENG/ALL Default:2	Press values blink,press, & change value or selection when done press to next setting or hold 1 sec. to previous selection list nonE:None: No function lock, user can enter and change setting USEr (User Level):User level lock,can view setting cant change parameters value EnG (Programming Level): Parameters setting lock ,can view setting cant change parameters value ALL (All Level): All level lock，can view setting cant change

Return to A-1 Press ◀ 1 sec to measuring page

Parameters setting level(Relay Output)

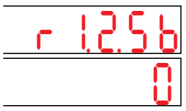
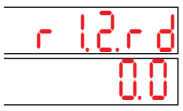
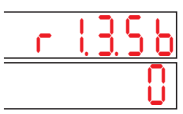
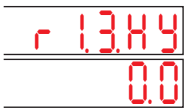
Shift Increase Decrease Enter

ITEM	Parameters	Display	Setting	Operation
B-1		Relay R1.1 parameters page:	Reference to corresponding table(table B-1) Default:V.AVG	Press values blink,press, & change value or selection when done press to next setting or hold 1 sec. to previous selection list
B-2		Relay R1.1 mode:	Setting type: L.o. / H. ı / L.o. .H.L.d. / H. ı. .H.L.d. / d.o. / o.F.F.	Press values blink,press, & change value or selection when done press to next setting or hold 1 sec. to previous selection list
B-3		Relay R1.1 value setting:	Setting range: -19999~2999 Default:300.0	Press values blink,press, & change value or selection when done press to next setting or hold 1 sec. to previous selection list
B-4		Relay R1.2 Mode:	Relay R1.2 setting type :same R1.1 Default:I.AVG	Press values blink,press, & change value or selection when done press to next setting or hold 1 sec. to previous selection list
B-5		Relay R1.2 Mode:	Setting type: L.o. / H. ı / L.o. .H.L.d. / H. ı. .H.L.d. / d.o. / o.F.F.	Press values blink,press, & change value or selection when done press to next setting or hold 1 sec. to previous selection list
B-6		Relay R1.2 value setting:	Setting range: -19999~2999 Default:300.0	Press values blink,press, & change value or selection when done press to next setting or hold 1 sec. to previous selection list
B-7		Relay R1.3 Mode:	Relay R1.3 setting type:same R1.1 Default:P.AVG	Press values blink,press, & change value or selection when done press to next setting or hold 1 sec. to previous selection list
B-8		Relay R1.3 Mode:	Setting type: L.o. / H. ı / L.o. .H.L.d. / H. ı. .H.L.d. / d.o. / o.F.F.	Press values blink,press, & change value or selection when done press to next setting or hold 1 sec. to previous selection list
B-9		Relay R1.3 value setting:	Setting range: -19999~2999 Default:300.0	Press values blink,press, & change value or selection when done press to next setting or hold 1 sec. to previous selection list
B-10		Program selection:	prog (Programming for basic or advance setting): Default:basic	Shift Increase Decrease Enter In parameters setting level, default is basic , during setting , it only show common functions,advance functions is hidden.User can change setting in each group , [P r o G] set it A d u n C (advance) to show all functions.
B-11		Relay R1.1 stard band:	Setting range:00'00~99'99 Default:0	Shift Increase Decrease Enter When display exceed set start band and after Start delay time ,then relay compare PV value, energized.
B-12		Relay R1.1 start delay time:	Setting range:0'00'00~9'59.9 Default:0.00.0	Press values blink,press, & change value or selection when done press to next setting or hold 1 sec. to previous selection list
B-13		Relay R1.1 hysteresis time:	Setting range:0.00.0~50.00 Default:0	Press values blink,press, & change value or selection when done press to next setting or hold 1 sec. to previous selection list
B-14		Relay R1.1 start delay time:	Setting range:0'00.0~9'59.9 Default:0.00.0	Press values blink,press, & change value or selection when done press to next setting or hold 1 sec. to previous selection list
B-15		Relay R1.1 de-energized delay time:	Setting range:0'00.0~9'59.9 Default:0.00.0	Press values blink,press, & change value or selection when done press to next setting or hold 1 sec. to previous selection list

NEXT

Parameters setting level(Relay Output)

Shift Increase Decrease Enter

ITEM	Parameters	Display	Setting	Operation
B-16		Relay R1.2 start band:	Setting range:00'00~99'99 Default:0	Shift Increase Decrease Enter When display exceed set start band and after Start delay time ,then relay compare PV value, energized.
B-17		Relay R1.2 start delay time	Setting range:0'00'00~9'59.9 Default:0.00.0	Press values blink,press, & change value or selection when done press to next setting or hold 1 sec. to previous selection list
B-18		Relay R1.2 hysteresis time:	Setting range:0.00.0~50.00 Default:0	Press values blink,press, & change value or selection when done press to next setting or hold 1 sec. to previous selection list
B-19		Relay R1.2 start delay time:	Setting range:0'00.0~9'59.9 Default:0.00.0	Press values blink,press, & change value or selection when done press to next setting or hold 1 sec. to previous selection list
B-20		Relay R1.2 de-energized delay time:	Setting range:0'00.0~9'59.9 Default:0.00.0	Press values blink,press, & change value or selection when done press to next setting or hold 1 sec. to previous selection list
B-21		Relay R1.3 start delay time:	Setting range:00'00~99'99 Default:0	Shift Increase Decrease Enter When display exceed set start band and after Start delay time ,then relay compare PV value, energized.
B-22		Relay R1.2start delay time:	Setting range:0'00'00~9'59.9 Default:0.00.0	Press values blink,press, & change value or selection when done press to next setting or hold 1 sec. to previous selection list
B-23		Relay R1.3 hysteresis time:	Setting range:0.00.0~50.00 Default:0	Press values blink,press, & change value or selection when done press to next setting or hold 1 sec. to previous selection list
B-24		Relay R1.2 start delay time:	Setting range:0'00.0~9'59.9 Default:0.00.0	Press values blink,press, & change value or selection when done press to next setting or hold 1 sec. to previous selection list
B-25		Relay R1.2 de-energized delay time:	Setting range:0'00.0~9'59.9 Default:0.00.0	Press values blink,press, & change value or selection when done press to next setting or hold 1 sec. to previous selection list

Return to B-1

Press ◀ 1 sec to measuring page

TableB-1 Corresponding action parameter:

u.AuG	3 Phase average voltage	PF-A	A Phase power factor
i.AuG	3 Phase average current	PF-b	B Phase power factor
FrEq	Frequency	PF-C	C Phase power factor
P.tL	3 Phase active power	P-A	A Phase active power
q.tL	3 Phase reactive power	P-b	B Phase active power
S.tL	3 Phase apparent power	P-C	C Phase power factor
PF.AuG	3 Phase power factor	q-A	A Phase reactive power
AE.tL	3 Phase Watt-hr [AA.o output can not correspond to this parameter]	q-b	B Phase reactive power
rE.tL	3 Phase Var-hr [q.A.o output can not correspond to this parameter]	q-C	C Phase reactive power
u-A	A Phase voltage	S-A	A apparent power
u-b	B Phase voltage	S-b	B apparent power
u-C	C Phase voltage	S-C	C apparent power
i-A	A Phase current		
i-b	B Phase current		
i-C	C Phase current		

Table B-2 AlarmActionDescription:

Lo : PV＜Setpoint，relay energized。

Hi : PV＞Setpoint，relay energized。

Lo.HLd : Display＜Setpoint，relay energized, and hold energized status。

Hi.HLd : Display＞Setpoint，relay energized, and hold energized status。

do : Using Rs485 communication,relay can act as DO,command relay to energized。

oFF : Close relay function,when relay is off ,relay remain open, LED will not light。

Table C-1 Analog Output type specifier:

Current(mA):

A0-10:0~10mA　A0-20:0~20mA　A.4-20:4~20mA

A.4b20:4~12~20mA　Ab10:±10mA　Ab20:±20mA

Voltage(V):

u0-5:0~5V　u.1-5:1~5V　u0-10:0~10V

u0b5:0~2.5~5V　u.1b5:1~3~5V　u0b.10:0~5~10V

ub5:±5V　ub10:±10V

Parameters setting level (AO Output)

Shift　Increase　Decrease　Enter

ITEM	Parameters	Display	Setting	Operation
C-1	Ao.1SL / U.AuG	Analogue output parameters setting:	Parameters setting: Default :V.AVG	Press Enter values blink,press, ▲&▼ change value or selection when done press Enter to next setting or hold ◀ 1 sec. to previous selection list
C-2	Ao.1tP / A.4-20	Analogue output range	Setting range:Voltage/Current Default :By Order	Press Enter values blink,press, ▲&▼ change value or selection when done press Enter to next setting or hold ◀ 1 sec. to previous selection list
C-3	Ao.1L S / 0.0	A/O Low scale range: -19999~29999	Setting range: -19999~29999	Shift Increase Decrease Enter Ex: When A/O set A.4-20 (4~20mA) display value as 0~199.99 user may set [Ao.L S] (Ao.LS) 5 so when, display value is 5 , A/O will give 4mA output
C-4	Ao.1H S / 300.0	A/O high scale range:	Setting range: -19999~29999	Shift Increase Decrease Enter Ex: When A/O set A.4-20 (4~20mA) display value as 0~199.99 user may set [Ao.H S] (Ao.HS)15so when, display value is 1 5 , A/O will give 20mA output
C-5	Ao.1Fo / 0000	A/O signal zero fine tunning:	Setting range: -32768~32767 Default:0000	Shift Increase Decrease Enter When A/O low value is different from display (low),fine tunning can be done from front panel. During tunning please connect a higher accuracy meter, to measure output signal, so as calibration is within accuracy
C-6	Ao.1Sn / 0000	A/O signal span fine tunning:	Setting range: -32768~32767 Default:0000	Shift Increase Decrease Enter When A/O high value is different from display (high),fine tunning can be done from front panel. During tunning please connect a higher accuracy meter, to measure output signal, so as calibration is within
C-7	1.2S.CL / nonE	Clear fine tunning value:	Setting range: NONE/AO.ZRO/AO.SPN/BOTH Default:NONE	▲▼ Cycle　Enter nonE:None : None clear Ao.Fro:Ao.Zro : Zero clear Ao.SPn:Ao.SPn : Span clear botH:both :Zero 、span clear
C-8	Ao.1Lt / 110.00	A/O range limit:	Setting range in %: 0~110 Default:110.00	Shift Increase Decrease Enter Press Enter values blink,press, ▲&▼ change value or selection when done press Enter to next setting or hold ◀ 1 sec. to previous selection list

NEXT

Parameters setting level (AO Output)

Shift | Increase | Decrease | Enter

ITEM	Parameters	Display	Setting	Operation
C-9	Ao2.SL / U.AuG	Analogue output parameters setting:	Parameters setting: Default :V.AVG	Press Enter values blink,press, & change value or selection when done press Enter to next setting or hold Shift 1 sec. to previous selection list
C-10	Ao2.tP / A.4-20	Analogue output range	Setting range:Voltage/Current Default :By Order	Press Enter values blink,press, & change value or selection when done press Enter to next setting or hold Shift 1 sec. to previous selection list
C-11	Ao2.LS / 0.0	A/O Low scale range: -19999~29999	Setting range: -19999~29999	Shift Increase Decrease Enter Ex: When A/O set 4-20 (4~20mA) display value as 0~199.99 user may set [Ao.LS] (Ao.LS) 5 so when, display value is 5 , A/O will give 4mA output
C-12	Ao2.HS / 300.0	A/O high scale range:	Setting range: -19999~29999	Shift Increase Decrease Enter Ex: When A/O set 4-20 (4~20mA) display value as 0~199.99 user may set [Ao.HS] (Ao.HS)15so when, display value is 1 5 , A/O will give 20mA output
C-13	Ao2.Zo / 0000	A/O signal zero fine tunning:	Setting range: -32768~32767 Default:0000	Shift Increase Decrease Enter When A/O low value is different from display (low),fine tunning can be done from front panel. During tunning please connect a higher accuracy meter, to measure output signal, so as calibration is within accuracy
C-14	Ao2.Sn / 0000	A/O signal span fine tunning:	Setting range: -32768~32767 Default:0000	Shift Increase Decrease Enter When A/O high value is different from display (high),fine tunning can be done from front panel. During tunning please connect a higher accuracy meter, to measure output signal, so as calibration is within
C-15	2.2.5.CL / nonE	Clear fine tunning value:	Setting range: NONE/AO.ZRO/AO.SPN/BOTH Default:NONE	Cycle Enter nonE.None: None clear Ao.Pro.Ao.Zro: Zero clear Ao.SPn.Ao.SPn: Span clear botH.both:Zero & span clear
C-16	Ao2.Lt / 110.00	A/O range limit:	Setting range in %: 0~110 Default:110.00	Shift Increase Decrease Enter Press Enter values blink,press, & change value or selection when done press Enter to next setting or hold Shift 1 sec. to previous selection list

Return to C-1 | Press Shift 1 sec to measuring page

Ao3, AO4 parameter set with AO1, AO2 same, no longer repeat the instructions.。

Parameters setting level Rs485 Output

Shift | Increase | Decrease | Enter

ITEM	Parameters	Display	Setting	Operation
E-1	AdrES / 1	Address setting:	Setting range:1~255 Default:1	Press Enter values blink,press, & change value or selection when done press Enter to next setting or hold Shift 1 sec. to previous selection list
E-2	bAUd / 9600	Modbus Baud rate:	Setting range: 1200/2400/4800/9600/ 19200/38400 Default:9600	Press Enter values blink,press, & change value or selection when done press Enter to next setting or hold Shift 1 sec. to previous selection list
E-3	Pr.tY / n.Stb2	Modbus pairty bit:	Setting range: n.stb.1/.stb.2/odd/even Default:n.Stb.2	Cycle Enter n.Stb.1 (n.Stb.1): None, 1 stop bit n.Stb.2 (n.Stb.2): None, 2 stop bit odd (odd): odd EuEn (EvEn): Even

Return to E-1 | Press Shift 1 sec to measuring page

Parameters setting level Pulse Output

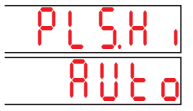
Shift Increase Decrease Enter

ITEM	Parameters	Display	Setting	Operation
F-1		ECI Input type:	Setting mode: DI/RY.RST Default:DI	Shift Increase Decrease Enter d i (DI) : Digital signal input r Y.r St (RY.RST) : ECI contact reset(relay reset)
F-2		Contact input mode confirm time:	Setting time range: 0~99 (x8ms) Default:12	Press Enter values blink,press, & change value or selection when done press Enter to next setting or hold 1 sec. to previous selection list
F-3		Front panel"UP" key=ECI input	Select:YES/NO Default:NO	Cycle Enter External control functions, change performed by the Panel" UP" key "。

Return to F-1 Press ◀ 1 sec to measuring page

Parameters setting level Pulse Output

Shift Increase Decrease Enter

ITEM	Parameters	Display	Setting	Operation
G-1		Pulse output select1:	Setting type: AE.TL/-AE.TL RE.TL/-RE.TL Default:AE.TL	Cycle Enter AE.tL 9.AE.TL0.: 3 Phase watt hr -AE.tL 9.- AE.TL0.:3 Phase watt hr hr E.tL 9.RE.TL0.: 3 Phase var hr -r E.tL 9.- RE.TL0.: 3 Phase var hr
G-2		Pulse output select2:	Setting type: AE.TL/-AE.TL RE.TL/-RE.TL Default:RE.TL	
G-3		Pulse output/Count setting:	Setting range:1~9999 Default:1	Shift Increase Decrease Enter ※When set 1,mean 1 count watt hr give 1 pulse: When set 1000, mean 1000 count watt hr give 1 pulse ,
G-4		Hi-voltage output time:	Setting range: 0(AUTO)~5000 (x 4ms) Default:AUTO	Shift Increase Decrease Enter ※When set 0, mean Duty cycle.is 50% ; setting 1~5000(x4ms.) time length , please beware at long time length, high frequency the output may remain at H-voltage and not completing a full pulse cycle, resulting data not readable.

Return to G-1 Press ◀ 1 sec to measuring page

CPT ADDRESS TABLE**Address number are Hexadecima

Name	Address	Range	Explain	Initial	Read/Write
AEtL	0000h	-19999999 ~99999999	Active Energy (High word)		R
	0001h		Active Energy (Mid word)		R
	0002h		Active Energy (low word)		R
rEtL	0003h	-19999999 ~99999999	Re-Active Energy (High word)		R
	0004h		Re-active Energy (Mid word)		R
	0005h		Re-active Energy (low word)		R
uAuG	0006h	0~9999	Average Voltage		R
iAuG	0007h	0~9999	Average Current		R
FrE9	0008h	0~9999	Frequency		R
PtL	0009h	-1999~9999	Total Active Power		R
9tL	000Ah	-1999~9999	Total Re-active Power		R
StL	000Bh	0~9999	Total Apparent Power		R
PFAuG	000Ch	-1000~1000	Average Power Factor		R
u-A	000Dh	0~9999	Phase-A Voltage		R
u-b	000Eh	0~9999	Phase-B Voltage		R
u-C	000Fh	0~9999	Phase-C Voltage		R
i-A	0010h	0~9999	Phase-A Current		R
i-b	0011h	0~9999	Phase-B Current		R
i-C	0012h	0~9999	Phase-C Current		R
PF-A	0013h	-1000~1000	Phase-A Power Factor		R
PF-b	0014h	-1000~1000	Phase-B Power Factor		R
PF-C	0015h	-1000~1000	Phase-C Power Factor		R
P-A	0016h	-1999~9999	Phase-A Active Power		R
P-b	0017h	-1999~9999	Phase-B Active Power		R
P-C	0018h	-1999~9999	Phase-C Active Power		R
9-A	0019h	-1999~9999	Phase-A Re-active Power		R
9-b	001Ah	-1999~9999	Phase-B Re-active Power		R
9-C	001Bh	-1999~9999	Phase-C Re-active Power		R
S-A	001Ch	0~9999	Phase-A Apparent Power		R
S-b	001Dh	0~9999	Phase-B Apparent Power		R
S-C	001Eh	0~9999	Phase-C Apparent Power		R
i-dP	001Fh	0~2	DP of Current 0:0.000A 1:00.00A 2:000.0A		R
U-dP	0020h	0~3	DP of Voltage 0:000.0V 1:0000V 2:00.00kV 3:000.0kV		R
Y-dP	0021h	0~7	DP of Active Power 0:0000W 1:00.00kW 2:000.0kW 3:0000kW 4:00.00MW 5:000.0MW 6:0000MW 7:00.00GW		R
Y irES	0022h	0~3	Wiring of Voltage & Current Input 0: 1P2W 1: 1P3W 2: 3P3W.1 3: 3P4W.2 4: 3P3W.3 5: 3P4W.1 6: 3P4W.3	6	R/W
uUn it	0023h	0~1	Unit for Primary Voltage of PT 0: V 1: kV	0	R/W
PtPr i	0024h	500~29999	Primary Voltage of PT	3000	R/W
PtSEC	0025h	500~5000	Secondary Voltage of PT	3000	R/W
CtPr i	0026h	10~29999	Primary Current of CT	500	R/W
CtSEC	0027h	1000 or 5000	Secondary Current of CT	5000	R
AuG-u	0028h	2~99	Average Display for Voltage	5	R/W
AuG- i	0029h	2~99	Average Display for Current	5	R/W
AuG-P	002Ah	2~99	Average Display for Power	5	R/W
tLrSt	002Bh	0~1	The Reset for Energy 0:No Clear values 1:Clear values	0	R/W
PCodE	002Ch	0000~9999	Pass Code	1000	R/W
FLoCY	002Dh	0~3	Function Lock 0: none 1: User Level 2: Engineer Level 3: All	0	R/W
r1 ISL	0031h	0~24	The parameter relative to Relay 1.1 0: Average Voltage 1: Average Current 2: Frequency 3: Total Active Power 4: Total Re-active Power 5: Total Apparent Power 6: Average Power Factor 7: Phase-A Voltage 8: Phase-B Voltage 9: Phase-C Voltage 10: Phase-A Current 11: Phase-B Current 12: Phase-C Current 13: Phase-A Power Factor 14: Phase-B Power Factor 15: Phase-C Power Factor 16: Phase-A Active Power 17: Phase-B Active Power 18: Phase-C Active Power 19: Phase-A Re-active Power 20: Phase-B Re-active Power 21: Phase-C Re-active Power 22: Phase-A Apparent Power 23: Phase-B Apparent Power 24: Phase-C Apparent Power	0	R/W
r1 IAd	0032H	0~5	Relay 1.1 Energized Mode 0: No Use 1: Low Energized 2: High Energized 3: Low Energized Hold 4: High Energized Hold 5: Digital Output	2	R/W

Name	Address	Range	Explain	Initial	Read/Write
r1.1SP	0033H	-19999~29999	Relay 1.1 Set Point	3000	R/W
r1.2SL	0034H	0~24	The parameter relative to Relay 1.2 0: Average Voltage 1: Average Current 2: Frequency 3: Total Active Power 4: Total Re-active Power 5: Total Apparent Power 6: Average Power Factor 7: Phase-A Voltage 8: Phase-B Voltage 9: Phase-C Voltage 10: Phase-A Current 11: Phase-B Current 12: Phase-C Current 13: Phase-A Power Factor 14: Phase-B Power Factor 15: Phase-C Power Factor 16: Phase-A Active Power 17: Phase-B Active Power 18: Phase-C Active Power 19: Phase-A Re-active Power 20: Phase-B Re-active Power 21: Phase-C Re-active Power 22: Phase-A Apparent Power 23: Phase-B Apparent Power 24: Phase-C Apparent Power	1	R/W
r1.2Hd	0035H	0~5	Relay 1.2 Energized Mode 0: No Use 1: Low Energized 2: High Energized 3: Low Energized Hold 4: High Energized Hold 5: Digital Output	2	R/W
r1.2SP	0036H	-19999~29999	Relay 1.2 Set Point	5000	R/W
r1.3SL	0037H	0~24	The parameter relative to Relay 1.3 0: Average Voltage 1: Average Current 2: Frequency 3: Total Active Power 4: Total Re-active Power 5: Total Apparent Power 6: Average Power Factor 7: Phase-A Voltage 8: Phase-B Voltage 9: Phase-C Voltage 10: Phase-A Current 11: Phase-B Current 12: Phase-C Current 13: Phase-A Power Factor 14: Phase-B Power Factor 15: Phase-C Power Factor 16: Phase-A Active Power 17: Phase-B Active Power 18: Phase-C Active Power 19: Phase-A Re-active Power 20: Phase-B Re-active Power 21: Phase-C Re-active Power 22: Phase-A Apparent Power 23: Phase-B Apparent Power 24: Phase-C Apparent Power	3	R/W
r1.3Hd	0038H	0~5	Relay 1.3 Energized Mode 0: No Use 1: Low Energized 2: High Energized 3: Low Energized Hold 4: High Energized Hold 5: Digital Output	2	R/W
r1.3SP	0039H	-19999~29999	Relay 1.3 Set Point	4500	R/W
r1.1Sb	003AH	0~9999	Start Band of input for Relay1.1 energized	0	R/W
r1.1Sd	003BH	0~5999 (0.1second)	Start Delay Time of input for Relay1.1 energized	0	R/W
r1.1HY	003CH	0~5000	Hysteresis of Relay 1.1	0	R/W
r1.1rd	003DH	0~5999 (0.1second)	Energized Delay Time of Relay 1.1	0	R/W
r1.1Fd	003EH	0~5999 (0.1second)	De-Energized Delay Time of Relay 1.1	0	R/W
r1.2Sb	003FH	0~9999	Start Band of input for Relay1.2 energized	0	R/W
r1.2Sd	0040H	0~5999 (0.1second)	Start Delay Time of input for Relay1.2 energized	0	R/W
r1.2HY	0041H	0~5000	Hysteresis of Relay 1.2	0	R/W
r1.2rd	0042H	0~5999 (0.1second)	Energized Delay Time of Relay 1.2	0	R/W
r1.2Fd	0043H	0~5999 (0.1second)	De-Energized Delay Time of Relay 1.2	0	R/W
r1.3Sb	0044H	0~9999	Start Band of input for Relay1.3 energized	0	R/W
r1.3Sd	0045H	0~5999 (0.1second)	Start Delay Time of input for Relay1.3 energized	0	R/W
r1.3HY	0046H	0~5000	Hysteresis of Relay 1.3	0	R/W
r1.3rd	0047H	0~5999 (0.1second)	Energized Delay Time of Relay 1.3	0	R/W
r1.3Fd	0048H	0~5999 (0.1second)	De-Energized Delay Time of Relay 1.3	0	R/W
Relay Status	0049H	0~7	bit0~bit2: Relay1.1~Relay1.3; 0=Relay off 1=Relay on		R/W
Ao1SL	004DH	0~24	The parameter relative to Analog Output 1 0: Average Voltage 1: Average Current 2: Frequency 3: Total Active Power 4: Total Re-active Power 5: Total Apparent Power 6: Average Power Factor 7: Phase-A Voltage 8: Phase-B Voltage 9: Phase-C Voltage 10: Phase-A Current 11: Phase-B Current 12: Phase-C Current 13: Phase-A Power Factor 14: Phase-B Power Factor 15: Phase-C Power Factor 16: Phase-A Active Power 17: Phase-B Active Power 18: Phase-C Active Power 19: Phase-A Re-active Power 20: Phase-B Re-active Power 21: Phase-C Re-active Power 22: Phase-A Apparent Power 23: Phase-B Apparent Power 24: Phase-C Apparent Power	0	R/W
Ao1tP	004EH	0~13	Analog Output 1 Type 0: V.0-5 1: V.1-5 2: V.0-10 3: V.0.b.5 4: V.1.b.5 5: V.0.b.10 6: V.b.5 7: V.b.10 8: A.0-10 9: A.0-20 10: A.4-20 11: A.4.b.20 12: A.b.10 13: A.b.20	10	R/W
	004FH	-19999~29999	Analog Output 1 Low scale	0	R/W
Ao1HS	0050H	-19999~29999	Analog Output 1 High scale	3000	R/W

Name	Address	Range	Explain	Initial	Read/Write
Ao1Po	0051H		Analog Output 1 Zero adjustment	0	R/W
Ao1Sn	0052H		Analog Output 1 Span adjustment	25933	R/W
1PSCL	0053H	0~3	The clear of Analog Output 1 Zero and Span 0: None 1: Zero 2: Span 3: Both	0	R/W
Ao1LE	0054H	00.00%~110.00%	Analog Output 1 High Limit	11000	R/W
Ao2SL	0055H	0~24	The parameter relative to Analog Output 2 0: Average Voltage 1: Average Current 2: Frequency 3: Total Active Power 4: Total Re-active Power 5: Total Apparent Power 6: Average Power Factor 7: Phase-A Voltage 8: Phase-B Voltage 9: Phase-C Voltage 10: Phase-A Current 11: Phase-B Current 12: Phase-C Current 13: Phase-A Power Factor 14: Phase-B Power Factor 15: Phase-C Power Factor 16: Phase-A Active Power 17: Phase-B Active Power 18: Phase-C Active Power 19: Phase-A Re-active Power 20: Phase-B Re-active Power 21: Phase-C Re-active Power 22: Phase-A Apparent Power 23: Phase-B Apparent Power 24: Phase-C Apparent Power	1	R/W
Ao2YP	0056H	0~13	Analog Output 2 Type 0: V.0-5 1: V.1-5 2: V.0-10 3: V.0.b.5 4: V.1.b.5 5: V.0.b.10 6: V.b.5 7: V.b.10 8: A.0-10 9: A.0-20 10: A.4-20 11: A.4.b.20 12: A.b.10 13: A.b.20	10	R/W
Ao2LS	0057H	-19999~29999	Analog Output 2 Low scale	0	R/W
Ao2HS	0058H	-19999~29999	Analog Output 2 High scale	19999	R/W
Ao2Po	0059H		Analog Output 2 Zero adjustment	0	R/W
Ao2Sn	005AH		Analog Output 2 Span adjustment	25933	R/W
2PSCL	005BH	0~3	The clear of Analog Output 2 Zero and Span 0: None 1: Zero 2: Span 3: Both	0	R/W
Ao2LE	005CH	00.00%~110.00%	Analog Output 2 High Limit	11000	R/W
Ao3SL	005DH	0~24	The parameter relative to Analog Output 3 0: Average Voltage 1: Average Current 2: Frequency 3: Total Active Power 4: Total Re-active Power 5: Total Apparent Power 6: Average Power Factor 7: Phase-A Voltage 8: Phase-B Voltage 9: Phase-C Voltage 10: Phase-A Current 11: Phase-B Current 12: Phase-C Current 13: Phase-A Power Factor 14: Phase-B Power Factor 15: Phase-C Power Factor 16: Phase-A Active Power 17: Phase-B Active Power 18: Phase-C Active Power 19: Phase-A Re-active Power 20: Phase-B Re-active Power 21: Phase-C Re-active Power 22: Phase-A Apparent Power 23: Phase-B Apparent Power 24: Phase-C Apparent Power	3	R/W
Ao3EP	005EH	0~13	Analog Output 3 Type 0: V.0-5 1: V.1-5 2: V.0-10 3: V.0.b.5 4: V.1.b.5 5: V.0.b.10 6: V.b.5 7: V.b.10 8: A.0-10 9: A.0-20 10: A.4-20 11: A.4.b.20 12: A.b.10 13: A.b.20	11	R/W
Ao3LS	005FH	-19999~29999	Analog Output 3 Low scale	0	R/W
Ao3HS	0060H	-19999~29999	Analog Output 3 High scale	5000	R/W
Ao3Po	0061H		Analog Output 3 Zero adjustment	0	R/W
Ao3Sn	0062H		Analog Output 3 Span adjustment	25933	R/W
3PSCL	0063H	0~3	The clear of Analog Output 3 Zero and Span 0: None 1: Zero 2: Span 3: Both	0	R/W
Ao3LE	0064H	00.00%~110.00%	Analog Output 3 High Limit	11000	R/W
Ao4SL	0065H	0~24	The parameter relative to Analog Output 4 0: Average Voltage 1: Average Current 2: Frequency 3: Total Active Power 4: Total Re-active Power 5: Total Apparent Power 6: Average Power Factor 7: Phase-A Voltage 8: Phase-B Voltage 9: Phase-C Voltage 10: Phase-A Current 11: Phase-B Current 12: Phase-C Current 13: Phase-A Power Factor 14: Phase-B Power Factor 15: Phase-C Power Factor 16: Phase-A Active Power 17: Phase-B Active Power 18: Phase-C Active Power 19: Phase-A Re-active Power 20: Phase-B Re-active Power 21: Phase-C Re-active Power 22: Phase-A Apparent Power 23: Phase-B Apparent Power 24: Phase-C Apparent Power	6	R/W
Ao4YP	0066H	0~13	Analog Output 4 Type 0: V.0-5 1: V.1-5 2: V.0-10 3: V.0.b.5 4: V.1.b.5 5: V.0.b.10 6: V.b.5 7: V.b.10 8: A.0-10 9: A.0-20 10: A.4-20 11: A.4.b.20 12: A.b.10 13: A.b.20	11	R/W
Ao4LS	0067H	-19999~29999	Analog Output 4 Low scale	-500	R/W
Ao4HS	0068H	-19999~29999	Analog Output 4 High scale	500	R/W
Ao4Po	0069H		Analog Output 4 Zero adjustment	0	R/W
Ao4Sn	006AH		Analog Output 4 Span adjustment	25933	R/W
4PSCL	006BH	0~3	The clear of Analog Output 4 Zero and Span 0: None 1: Zero 2: Span 3: Both	0	R/W
Ao4LE	006CH	00.00%~110.00%	Analog Output 4 High Limit	11000	R/W
AdrES	0070H	1~255	RS485 address	1	R/W
bAUd	0071H	0~5	RS485 baud rate 0: 1200 1: 2400 2: 4800 3: 9600 4: 19200 5: 38400	3	R/W
Pr tY	0072H	0~3	RS485 parity 0: n-8-1 1: n-8-2 2: odd 3: even	1	R/W

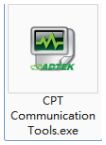
Name	Address	Range	Explain	Initial	Read/Write
EC ind	0075H		External Control Input Mode 0: Digital Input 1: Relay Reset	0	R/W
dEbnC	0076H	0~99	ECI debonce 0~99*8mSec	12	R/W
E.rESP	0077H	0~1	0: no 1: yes	0	R/W
Po1SL	007AH	0~3	The parameter relative to Pulse Output 1 0: Positive Active Energy 1: Negative Active Energy 2: Positive Re-active Energy 3: Negative Re-active Energy	0	R/W
Po2SL	007BH	0~3	The parameter relative to Pulse Output 2 0: Positive Active Energy 1: Negative Active Energy 2: Positive Re-active Energy 3: Negative Re-active Energy	2	R/W
PLSdv	007CH	1~9999	Pulse Devider	1	R/W
PLSH i	007DH	0~5000	The Period of Pulse Output High 0(Auto)/~1~5000*4mSec	0	R/W

office web :www.adtek.com.tw to download Tools Software , Supper WIN XP/VISAT/7

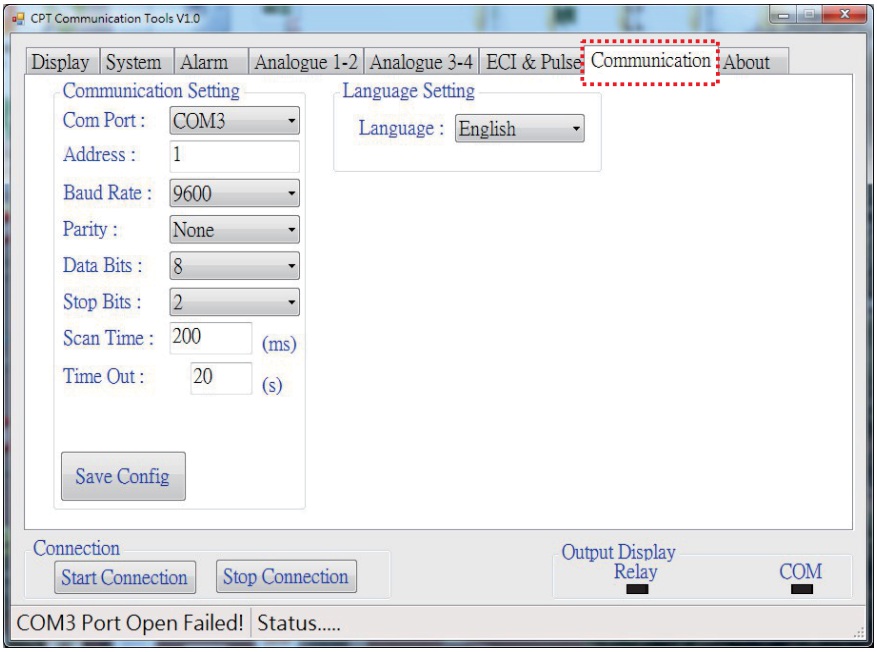
Communication Tools Manual

Before use the Soft ,go to download &install Microsoft .NET Framework 4

http://www.microsoft.com/zh-tw/download/details.aspx?id=17718

Press 

Program follows



Communication Leave

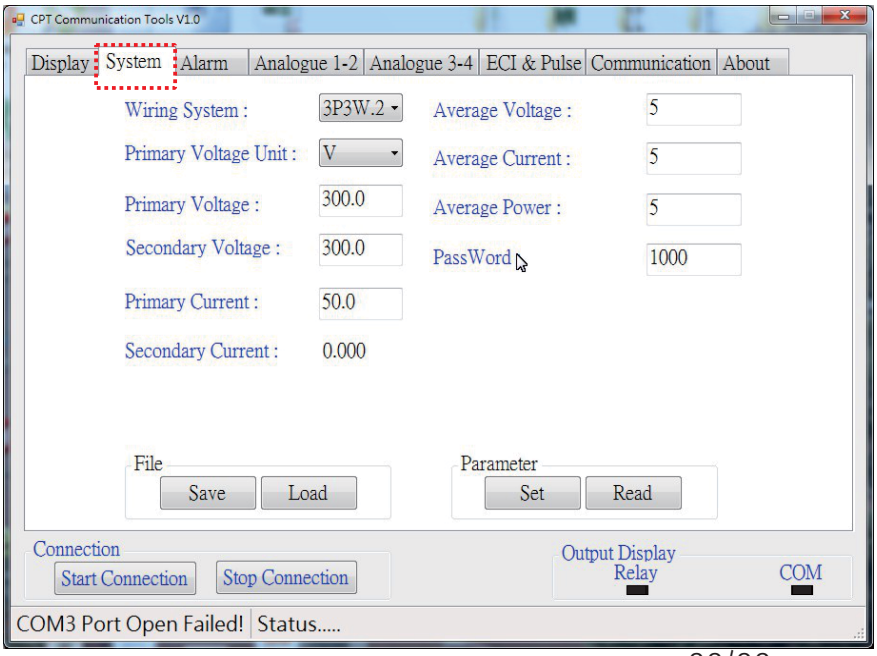
First set
(1)Com Port (2)Address (3)Band Rate
(4)Parity (5)Data Bits (6)Stop Bits
(7)Delay Time (8)Disconnection

Then Press Save Config to Storage parameters

Then Go to Sett other parameters

When set up correctly COM flashes that is communicating

Language Setting:
English /Traditional Chinese/ Simplified Chinese



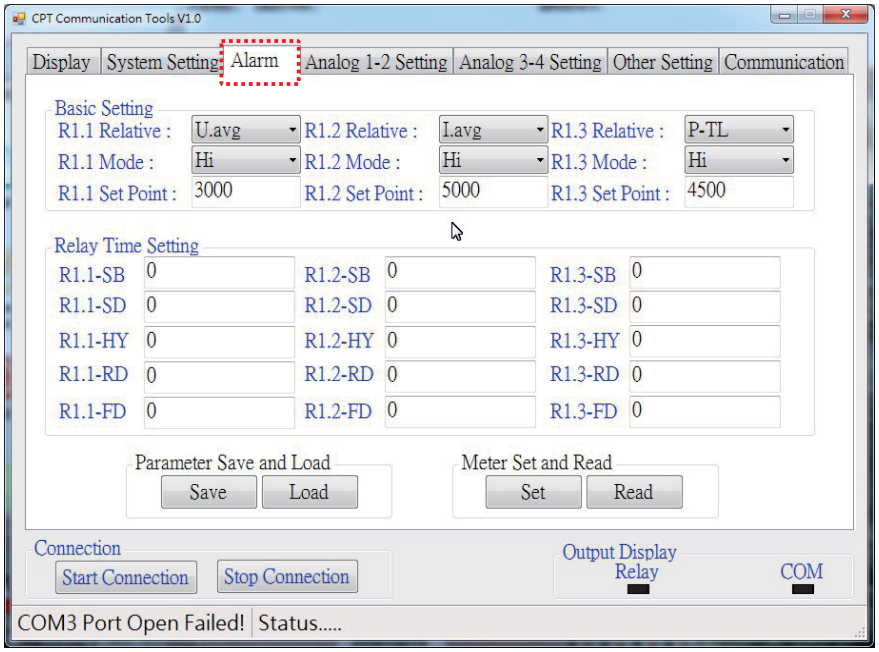
System Leave

First Press Read on Parameter to Show meter Default

Then Press " Save " to Storage parameters

Then Go to Set parameters
(1)Wiring System:1P2W/1P3W/3P3W.1~3/ 3P4W.1/3P4W.3
(2)Primary Voltage Unit: V/KV
(3)Primary Voltage:50.0V~100.0KV
(4)Secondary Voltage:50.0V~500.0V
(5)Primary Current:1.0~2999.9 A
(6)Secondary Current: View Only
(7)Aver age Voltage/Current/Power:1~99
(8)Pass Word :0000~9999

When you modify parameters press Save
Save the file and press Set to set the meter



Alarm Leave

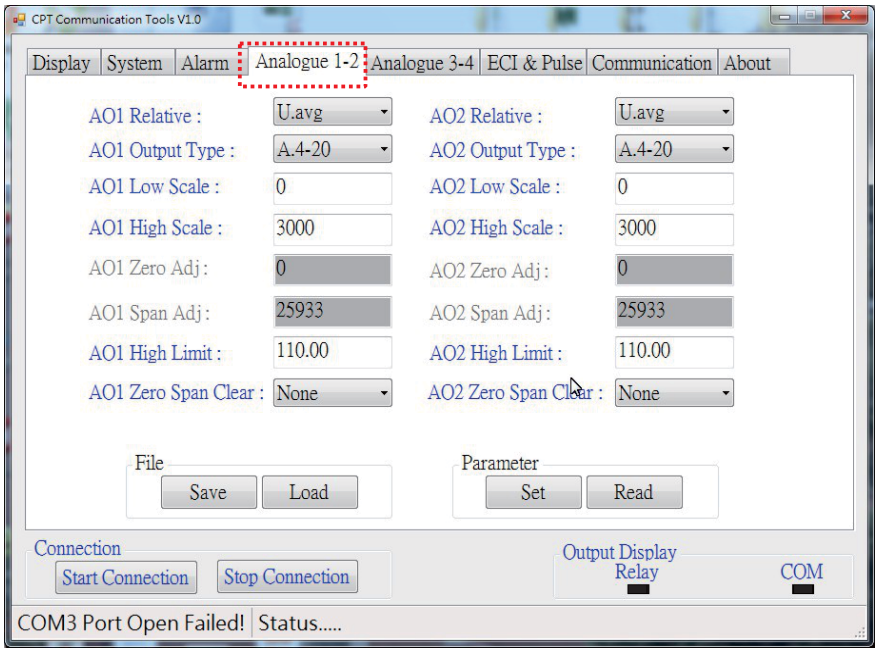
First Press [Read] on Parameter to Show meter Default

Then Press [Save] to Storage parameters

Then Go to Set parameters
Basic Setting:
R1.1~1.3 Relative : U.Avg.....S-C
R1.1~1.3 Mode : Off/Lo....
R1.1~1.3 Set Point :-19999~29999

Relay Time Setting:
R1.1~3 SB/SD/HY/RD/FD

When you modify parameters press [Save]
Save the file and press [Set] to set the meter



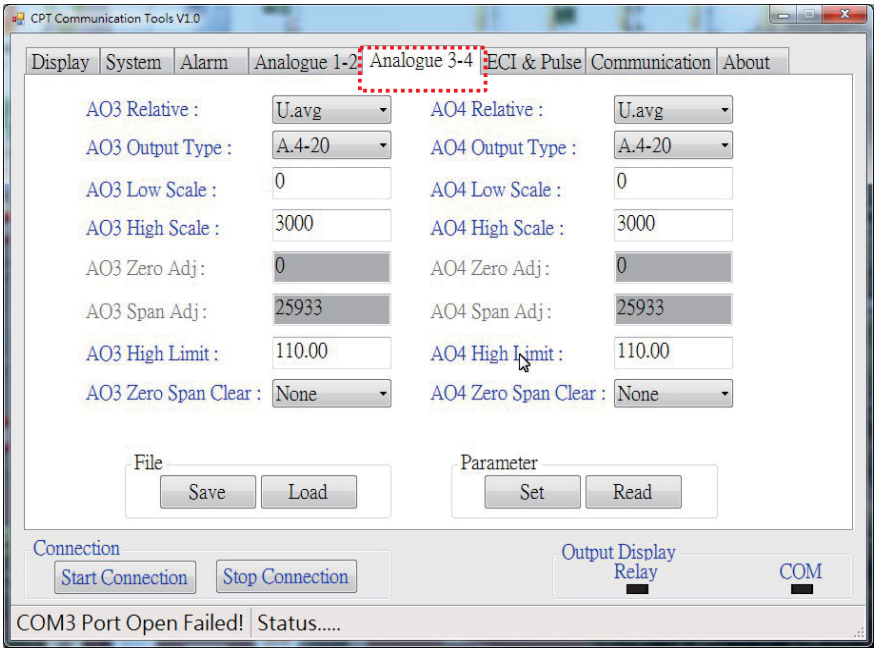
Analog 1-2 Leave

First Press [Read] on Parameter to Show meter Default

Then Press [" Set "] to Storage parameters

Then Go to Set parameters
Basic Setting:
AO1~2 Relative : U.Avg.....S-C
AO1~2 Output Type : Off/Lo....
AO1~2 Low/High Scale :-19999~29999
AO1~2 Zero /Span Adj:0~25933
AO1~2 High Limit:0.00~110.00
AO1~2 Zero Span Clear:None/Zero/Span /Both

When you modify parameters press [Save]
Save the file and press [Set] to set the meter



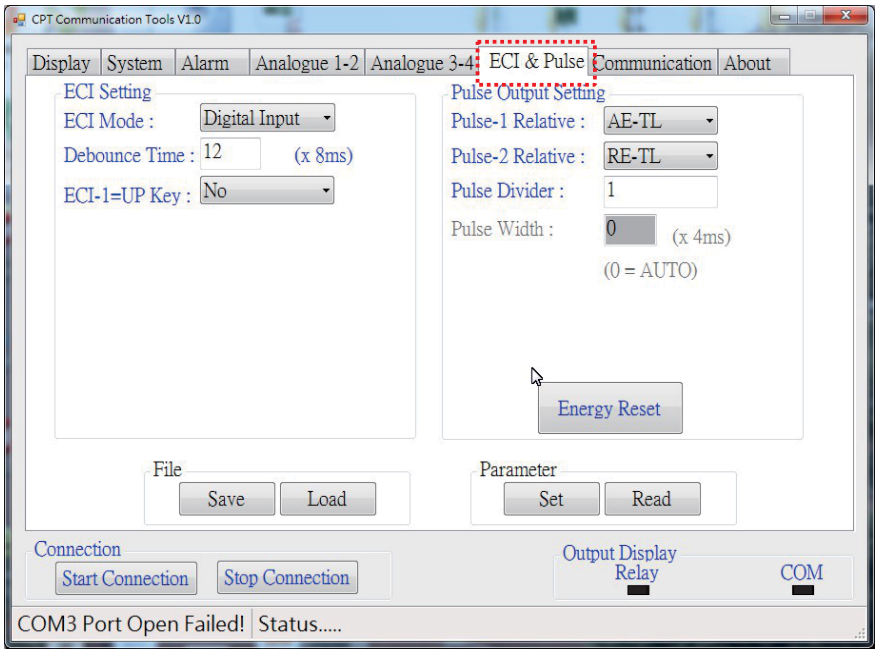
Analog 3-4 Leave

First Press [Read] on Parameter to Show meter Default

Then Press [Set] to Storage parameters

Then Go to Set parameters
Basic Setting:
AO3~4 Relative : U.Avg.....S-C
AO3~4 Output Type : Off/Lo....
AO3~4 Low/High Scale :-19999~29999
AO3~4 Zero /Span Adj:0~25933
AO3~4 High Limit:0.00~110.00
AO3~4 Zero Span Clear:None/Zero/Span /Both

When you modify parameters press [Save]
Save the file and press [Set] to set the meter



ECI & Pulse Leave

First Press [Read] on Parameter to Show meter Default

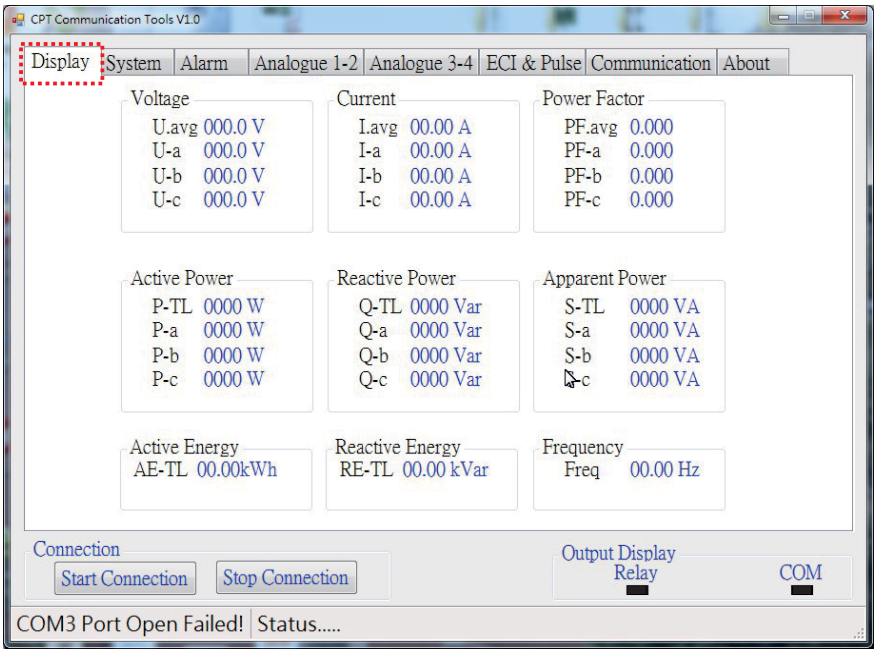
Then Press [" Save "] to Storage parameters

Then Go to Set parameters
ECI Setting:
ECI Mode : Digital Input / Relay Reset
Debounce Time : 0~99 (*8ms)
ECI -1= UP Key: YES / NO

Pulse Output Setting
Pulse Divider:AE-TL /-AE-TL / RE-TL
-RE-TL
Pulse Divider:1~9999
Pulse Width:0~5000

Energy Reset:Press the Key to Clear Energy Value

When you modify parameters press [Save] Save the file and press [Set] to set the meter



Display Leave

On this Leave Only View value (Voltage/Current/P.F./Active Power Reactive Power/Apparent Power)

Press the Start Connection will display the actual measured values

Press the Stop Connection will Stop display the actual measured values