HBKJ®

HB-330X Series Intelligent three-phase integrated power parameter monitor

- ⊙ Thank you for your benefit to buy HB-330X Series Intelligent three-phase electrical parameters of an integrated monitoring device, Please read it carefully before using;
- ⊙ In order to use security, please in strict accordance with the specification requirements to set up instruments and connect electrical;
- ⊙ Please safekeeping instructions to prepare for the future inspection

Directory

一、Overview

HB-330X is a set of programmable, automatic measurement, LED display, digital communications, switch input, the switch output, the accident、event logging features as one of multi-functional integrated digital, intelligent, network-based three-phase electrical parameters of an integrated monitor. It can completely replace the current, voltage, power, power factor, frequency, transmitter power, but also alternative energy meter。

It can be widely used in electric power, petrochemical, chemical, metallurgy, coal, electrical and construction industries devices, automatic control and scheduling systems.

二、Feature

- ⦿ Using electromagnetic isolation, optical isolation technology, so that input, output and power supply completely isolated each other, is ideal for the composition of electrical automation products
- ⦿ 16-bit A/D converter, 6 channels, the path to 3.2KHz synchronous sampling
- ⦿ Built-in transformer isolated input, machine safety, reliability
- ⦿ An arbitrary ratio of external current transformer and voltage transformer
- ⦿ With the power-down memory function
- ⦿ There are logging functions to the accident、event ,it can be record recent 20 events automatically and is inseparable from the time of binding, but the record of no more than 20 times, otherwise automatic overflow
- ⦿ Relay alarm output, 485 communication, can be easily networked with a computer or PLC to achieve four remote.

三 、Specification

1. Power supply: AC/DC85～260V(Power consumption <5W)
2. Input signal:
   Analog input: AC V(3-way 0-100VAC(PT)/0-400VAC direct input)
   AC A (3-way 0-5A AC direct input)
   Switch input: 3-way (Passive contact)
3. Output signal: 3-way switch output(N.O. contact)
4. Contact capacity: AC250V/3A or DC30V/5A
5. Measurement accuracy: Voltage、Current:0.2%FS;
   Others :0.5%FS

6. Display range:

Voltage: 0～9999(K)VAC　　Current: 0～999.9(K)A AC

Power factor: -1.000～1.000　　Frequency: 45.00～75.00Hz

Active power: 0～9999.9KW/0～99999KW;
0～9999.9MW/0～99999MW

Active energy: 0～99999.99MWH/0～99999999.99MWH

Reactive power: -1999.9～9999.9KVar/-19999～99999KVar;
-1999.9～9999.9MVar/0～99999MVar

Reactive energy: 0～99999999.99KVarH;
0～99999.99MVarH

Apparent Power: 0～9999.9KVA/0～99999KVA;
0～9999.9MVA/0～99999MVA

Power Timing: 0-999S

7. Display cycle: once per second

8. Overload capacity: Isolate each other within 1.4 times of measurement range

9. System wiring: Three-phase three-wire / three-phase four-wire compatible

10. Communication output: RS485(MODBUS-RTU协议),Baud rate 2400～19200bps, Optical Isolation

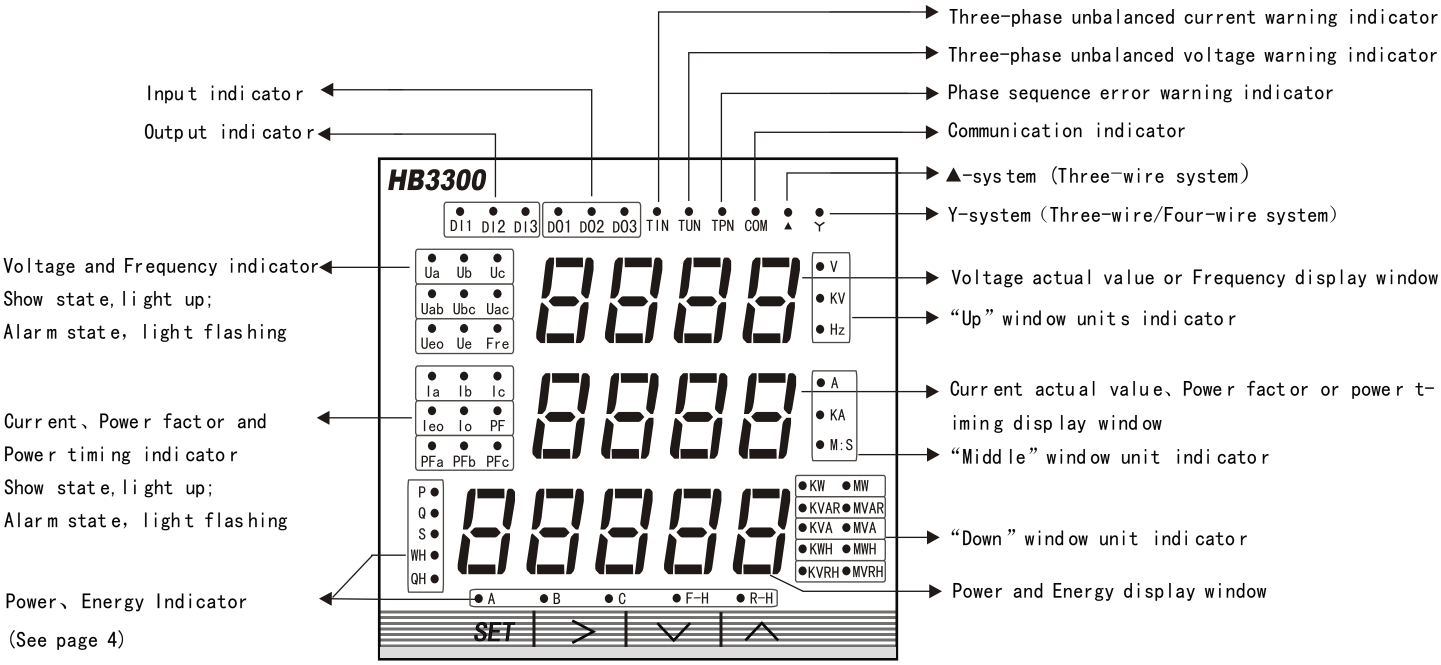
11. Working environment: -10～50℃;10～90%RH

12. Temperature excursion: 100ppm/℃

13. Panel and cutout size:

Symbol	LED display(Red)		Panel size (Plate loaded snap-on)	Cutout size
	Up、Middle Window	Down Window		
HB3300	0.56″	0.56″	96×96×120	92×92
HB3309	0.56″	0.36″	120×120×135	111×111

四、Panel description(Take HB3300 for example)



1. Key description

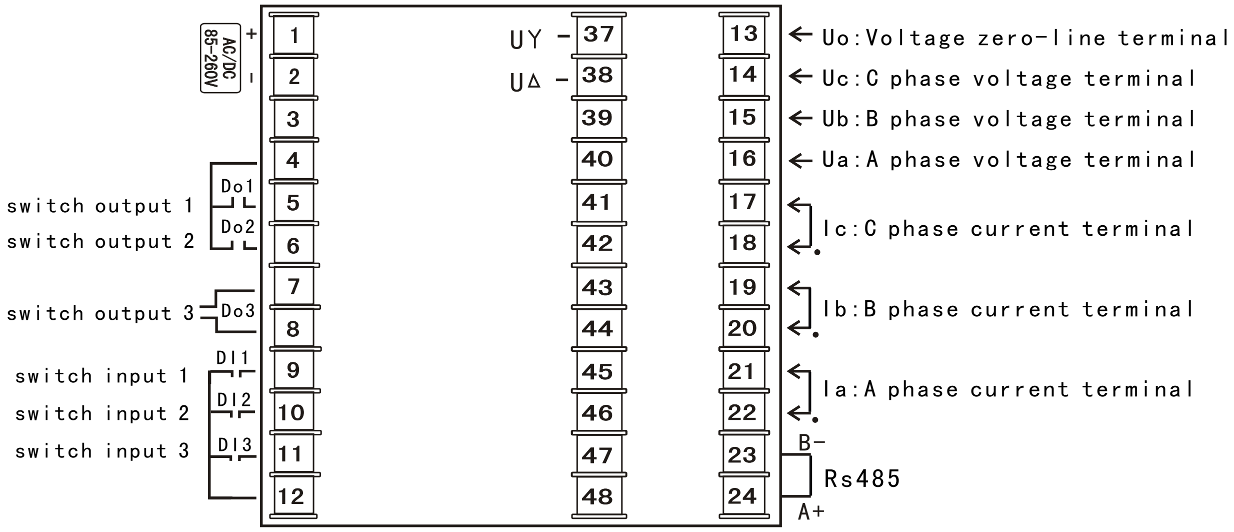
SET Set key	In the "energy timing measurement" mode, "Middle"、"Down" window recover original function after pressing	∧ Up key/additional key	In the "automatic display state", pressing it to stop inspection, "Middle" window displays the value of the same, and then click restore the inspection function
> Shift key	In the "automatic display state", pressing it to stop inspection, "Middle" window displays the value of the same, and then click restore the inspection function	∨ Down key/decrease key	In the "automatic display state", pressing it to stop inspection, "Down" window displays the value of the same, and then click restore the inspection function

2. “Down” window indicator

Parameter Name	Indicator status	“Down” window display content
P(Q、S)	When bright, no alarm; Flashing, the corresponding parameter alarming	The corresponding P (Q, S) values, which corresponds to the total active power(reactive power, apparent power)
P(Q、S) and A(B、C)phase	At the same time brights,no alarm; At the same time flashing,the correspoing parameter alarming	The corresponding A (B, C) phase power value, which corresponds to A (B, C) phase active power (reactive power, apparent power)
Wh	When light, no alarm; Flashing, the corresponding parameter alarming	The corresponding display FH (RH) values
Wh and F-H(R-H)	At the same time brights, no alarm	Positive (negative) active energy

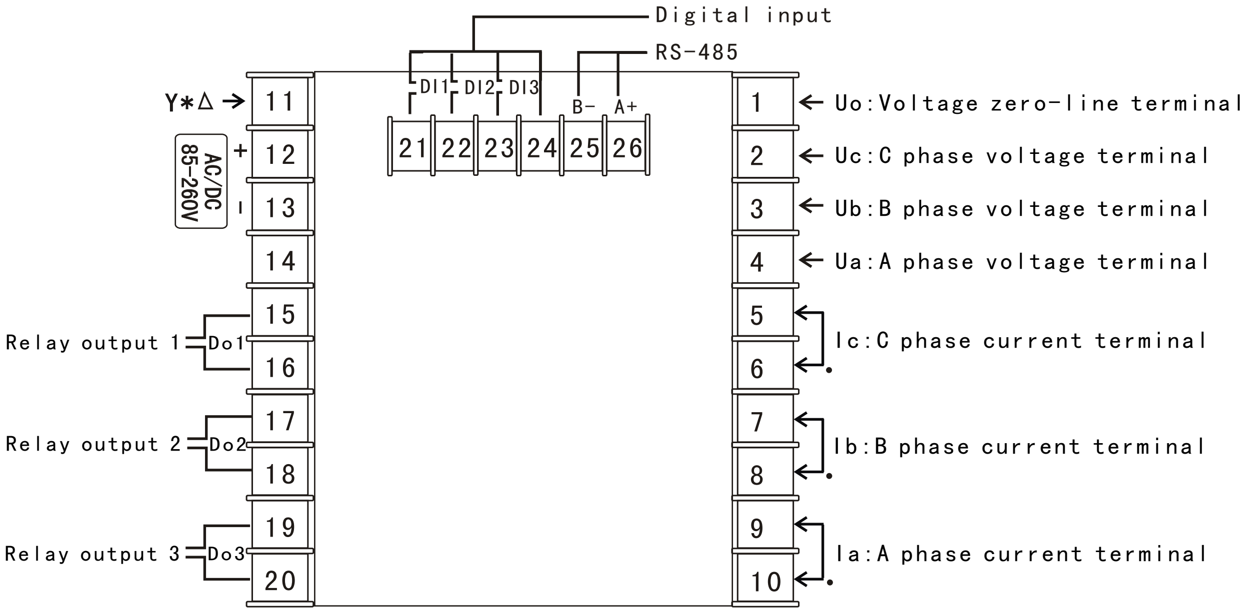
五、Connecting Drawing

HB3300:96×96×120mm



Note { UY:Please refer to the specific connection mode “Annex 1(Page 12)”
U∆:The same as above

HB3309:120×120×135mm



Y*∆:Please refer to the specific connection mode ″Annex 1(Page 13)″

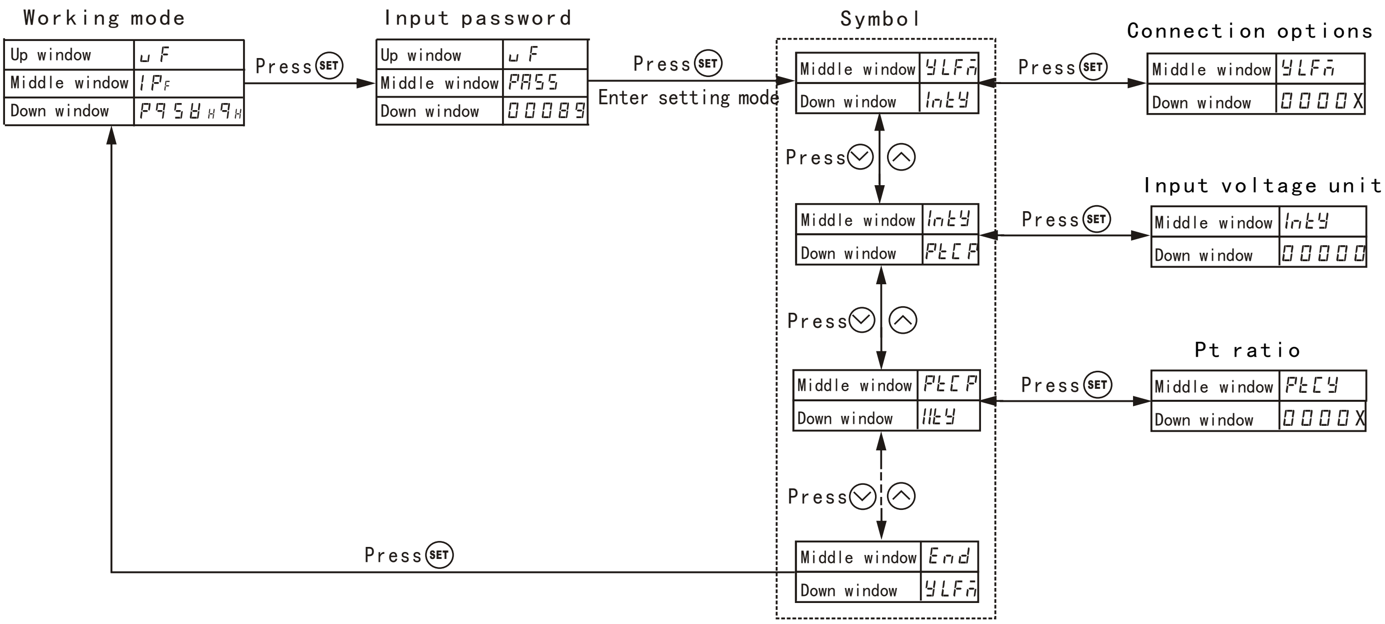
六、Parameter setting guide(In the "Middle", "down" windows go on)

(一)、Initiation function parameters(Log in by inputting password “0089” after pressing SET key)

1. Details of initiation parameters

Symbol		Definition	Setting range	Default value
YLFn̄	YLFM	Connection options	1:Three-phase three-wire; 2:Three-phase four-wier;	2
IutY	IUty	Input voltage unit	0-1(0:V 1:KV)	0
PtCP	PtCP	pt value	1-1000	1
IItY	IIty	Input current unit	0-1 (0:A 1:KA)	0
CtCP	CtCP	ct value	1-1000	1
PtY	PTY	Active power unit	0-1 (0:KW 1:MW)	0
9tY	QTY	Reactive power unit	0-1 (0:KVar 1:MVar)	0
5tY	STY	Apparent power units	0-1(0:KVA 1:MVA)	0
W HtY	WhTY	Active energy units	0-1(0:KWh 1:MWh)	0
9 HtY	QhTY	Reactive energy unit	0-1(0:KVRh 1:MRVh)	0
Id I I	IDI1	DI1 input	0/1; 0:connect ; 1: disconnect	0
r d I I	RDI1	DI1 Corresponding relay	0-3	0
Id I2	IDI2	DI2 input	0/1; 0:connect; 1: disconnect	0
r d I2	RDI2	DI2 corresponds to Relay	0-3	0
Id I3	IDI3	Di3 input	0/1; 0:Connect; 1: Discoonect	0
r d I3	RDI3	DI3 corresponds to Relay	0-3	0
W 5Et	WSET	Reclosing delay	0-99999S	0
9 5Et	QSET	Preset value of reactive power	0-99999KVarH/MVarH	0
n̄ 5W H	MSWh	Active Power Demand		0
o n d Y	ondy	Preset value of active power	0-99999KWH/MWH	5
YEAr	YEAR	YEAR	0-9999	Current value
n̄ o t H	MOTH	MONTH	1-12	Current value
dAY	DAY	DAY	1-31	Current value
H o u r	HOUR	HOUR	0-23	Current value
n̄ In	MIN	MINUTE	0-59	Current value
5EC	SEC	SECOND	0-59	Current value
Id	Id	Local address	0-99	0
bAud	bAud	Communication baud rate	1:1200; 2:2400; 3:4800; 4:9600; 5:14400; 6:19200	4
End	End			

2 Setting procedure



(二)、Alarm parameters(Log in by inputting password "0036" after pressing SET key)

1. Details of alarm parameters

Symbol		Description	Setting range	Default value
AYuA	AYUa	Ua alarm mode selection	0:no;1:H;2:L;3:HL	0
AHuA	AHUa	Ua upper alarm value	0-9999	999
ALuA	ALUa	Ua lower alarm value	0-9999	0
AYub	AYUb	Ub alarm mode selection	0:no;1:H;2:L;3:HL	0
AHub	AHUb	Ub upper alarm value	0-9999	999
ALub	ALUb	Ub lower alarm value	0-9999	0
AYuC	AYUc	Uc alarm mode selection	0:no;1:H;2:L;3:HL	0
AHuC	AHUc	Uc upper alarm value	0-9999	999
ALuC	ALUc	Uc lower alarm value	0-9999	0
YuAb	YUab	Uab alarm mode selection	0:no;1:H;2:L;3:HL	0
HuAb	HUab	Uab upper alarm value	0-9999	999
LuAb	LUab	Uab lower alarm value	0-9999	0
YubC	YUbc	Ubc alarm mode selection	0:no;1:H;2:L;3:HL	0
YHbC	Hubc	Ubc upper alarm value	0-9999	999
LubC	LUbc	Ubc lower alarm value	0-9999	0
YuCA	YUca	Uca alarm mode selection	0:no;1:H;2:L;3:HL	0
HuCA	HUca	Uca upper alarm value	0-9999	999
LuCA	LUca	Uca lower alarm value	0-9999	0
AYuE	Ayue	The average three-phase line voltage alarm options	0:no;1:H;2:L;3:HL	0
AHuE	AHUe	The average three-phase line voltage upper limit alarm value	0-9999	999
ALuE	ALUe	The average three-phase line voltage lower limit alarm value	0-9999	0
YuEo	Yueo	The average three-phase phase voltage alarm options	0:no;1:H;2:L;3:HL	0
HuEo	HUeo	The average three-phase phase voltage upper limit alarm value	0-9999	999
LuEo	LUeo	The average three-phase phase voltage lower limit alarm value	0-9999	0
ALdu	ALDU	Voltage alarm back to the difference	0-9999	0
ALtu	ALtU	Voltage alarm delay value	0-60s	0
ALru	ALRU	Voltage alarm relay selection	0-3	0
AYun	AYUn	Voltage break phase alarm mode selection	0/1 (See page 19;Note 1)	0
AouA	AOUa	Ua break phase alarm	0/1 (See page 19;Note 2)	0
Aoub	AOUb	Ub break phase alarm	0/1 (See page 19;Note 2)	0

AouC	AOUc	Uc break phase alarm	0/1(See page 19;Note 2)	0
ALFr	ALFR	Voltage break phase alarm relay selection	0-3(0:No relay output)	0
AYIA	AYIa	Ia alarm mode selection	0:no;1:H;2:L;3:HL	0
AHIA	AHIa	Ia upper alarm value	0-9999	999
ALIA	ALIa	Ia lower alarm value	0-9999	0
AYIb	AYIb	Ib alarm mode selection	0:no;1:H;2:L;3:HL	0
AHIb	AHIb	Ib upper alarm value	0-9999	999
ALIb	ALIb	Ib lower alarm value	0-9999	0
AYIC	AYIc	Ic alarm mode selection	0:no;1:H;2:L;3:HL	0
AHIC	AHIc	Ic upper alarm value	0-9999	999
ALIC	ALIc	Ic lower alarm value	0-9999	0
ALdI	ALdI	Phase current alarm back to the difference	0-9999	0
YIEo	YIeo	The average three-phase phase current alarm mode selection	0:no;1:H;2:L;3:HL	0
HIEo	HIeo	Three-phase average value of phase current upper limit alarm	0-9999	999
LIEo	LIeo	Three-phase average value of phase current lower limit alarm	0-9999	0
AdIE	AdIE	The average current alarm back to the difference	0-9999	0
AYIo	AYIo	Zero-sequence current alarm mode selection	0:no;1:H;2:L;3:HL	0
AHIo	AHIo	Zero-sequence current upper limit alarm value	0-9999	999
ALIo	ALIo	Zero-sequence current lower limit alarm value	0-9999	0
AdIo	ADIo	Zero-sequence current alarm back to the difference	0-9999	3
AIdY	AIdY	Current value of alarm delay	0-60(S)	0
ArIo	ARIo	Zero-sequence current alarm relay selection	0-3	0
AYPF	AYPF	Total power factor alarm options	0:no;1:H;2:L;3:HL	0
AHPF	AHPF	Upper alarm limit value of the total power factor	0-1.000	1.000
ALPF	ALPF	Lower limit alarm value of the total power factor	0-1.000	0
YPFA	YPFa	A-Phase power factor alarm options	0:no;1:H;2:L;3:HL	0
HPFA	HPFa	A-phase power factor limit alarm value	0-1.000	1.000
LPFA	LPFa	A-Phase Power factor alarm value lower limit	0-1.000	0
YPFb	YPFb	B-phase power factor alarm options	0:no;1:H;2:L;3:HL	0
HPFb	HPFb	B-phase power factor upper limit alarm value	0-1.000	1.000
LPFb	LPFb	B-Phase power factor lower alarm value lower limit	0-1.000	0
YPFC	YPFc	B-phase power factor alarm options	0:no;1:H;2:L;3:HL	0
HPFC	HPFc	B-phase power factor upper limit value	0-1.000	1.000
LPFC	LPFc	B-Phase power factor lower limit alarm value	0-1.000	0
AdPF	ADPF	Power factor alarm back to the difference	0-9999	0
AtPF	ATPF	Value of power factor alarm delay	0-60(S)	0
ArPF	ARPF	Power factor alarm relay selection	0-3	0
ALYP	ALYP	Total active alarm options	0:no;1:H;2:L;3:HL	0
ALHP	ALHP	Value of the total active power upper limit alarm	0-99999	9999
ALLP	ALLP	Value of the total active power lower limit alarm	0-99999	0
AYPA	AYPa	A-phase active power alarm options	0:no;1:H;2:L;3:HL	0
AHPA	AHPa	A-phase active power upper alarm value	0-99999	9999
ALPA	ALPa	A-phase active power lower alarm value	0-99999	0
AYPb	AYPb	B-phase active power alarm options	0:no;1:H;2:L;3:HL	0
AHPb	AHPb	B-phase active power upper alarm value	0-99999	9999
ALPb	ALPb	B-phase active power lower alarm value	0-99999	0
AYPC	AYPc	C-phase active power alarm options	0:no;1:H;2:L;3:HL	0
AHPC	AHPc	C-phase active power upper alarm value	0-99999	9999
ALPC	ALPc	C-phase active power lower alarm value	0-99999	0

ALdP	ALDP	Power factor back to the difference	0-9999	0
ALtP	ALTP	Power alarm delay value	0-60(S)	0
ALrP	ALRP	Power alarm relay option	0-3	0
ALYq	ALYQ	Total reactive power alarm options	0:no;1:H;2:L;3:HL	0
ALHq	ALHQ	Total value of reactive power upper limit alarm	0-99999	9999
ALLq	ALLQ	Total value of reactive power lower limit alarm	0-99999	0
AYqA	AYQa	A-phase reactive power alarm mode selection	0:no;1:H;2:L;3:HL	0
AHqA	AHQa	A-phase reactive power upper limit alarm value	0-99999	9999
ALqA	ALQa	A-phase reactive power lower limit alarm value	0-99999	0
AYqb	AYQb	B-phase reactive power alarm mode selection	0:no;1:H;2:L;3:HL	0
AHqb	AHQb	B-phase reactive power limit alarm value	0-99999	9999
ALqb	ALQb	B-phase reactive power lower limit alarm value	0-99999	0
AYqC	AYQc	C-phase reactive power alarm mode selection	0:no;1:H;2:L;3:HL	0
AHqC	AHQc	C-phase reactive power limit alarm value	0-99999	9999
ALqC	ALQc	C-phase reactive power lower limit alarm value	0-99999	0
ALdq	ALDQ	Reactive power alarm back to the difference	0-9999	0
ALtq	ALTQ	The value of reactive power alarm delay	0-60(S)	0
ALrq	ALRQ	Reactive power alarm relay selection	0-3	0
ALYF	ALYF	Frequency alarm options	0:no;1:H;2:L;3:HL	0
ALHF	ALHF	Frequency limit alarm value	45.00-75.00	75.00
ALLF	ALLF	Frequency lower limit alarm value	45.00-75.00	45.00
ALdF	ALDF	Frequency alarm back to the diffference	0-20.00	0
ALtF	ALTF	The value of the frequency alarm delay	0-99(S)	0
ALrF	ALRF	Frequency alarm relay selection	0-3	0
AYIn	AYIn	The average three-phase line current alarm options	0:no;1:H;2:L;3:HL	0
AHIn	AHIn	The average three-phase line current upper limit alarm value	0-100.0%	20.0
ALIn	ALIn	The average three-phase line current lower limit alarm value	0-100.0%	20.0
AdIn	ADIn	Three-phase current unbalance alarm back to the difference	0-20.0%	0
AtIn	ATIn	Delay value of three-phase current unbalance alarm	0-99(S)	0
ArIn	ARIn	Three-phase current unbalance alarm relay selection	0-3	0
AYun	AYUn	Three-phase voltage unbalance alarm mode selection	0:no;1:H;2:L;3:HL	0
AHun	AHUn	Three-phase voltage unbalance limit alarm value	0-100.0%	20.0
ALun	ALUn	Three-phase voltage unbalance alarm value lower limit	0-100.0%	20.0
Adun	ADUn	Three-phase voltage unbalance alarm back to the difference	0-20.0%	0
Atun	ATUn	Delay value of three-phase voltage unbalance alarm	0-99(S)	0
Arun	ARUn	Three-phase voltage unbalance alarm relay selection	0-3	0
AYPu	AYPU	Phase sequence error alarm options	0/1(See page 19;Note 3)	0
ALLF	ALLF	Frequency lower limit alarm value	45.00-75.00	45.00
ALdF	ALDF	Frequency alarm back to the diffference	0-20.00	0
ALtF	ALTF	The value of the frequency alarm delay	0-99(S)	0
ALrF	ALRF	Frequency alarm relay selection	0-3	0
AYIn	AYIn	The average three-phase line current alarm options	0:no;1:H;2:L;3:HL	0
AHIn	AHIn	The average three-phase line current upper limit alarm value	0-100.0%	20.0
ALIn	ALIn	The average three-phase line current lower limit alarm value	0-100.0%	20.0
AdIn	ADIn	Three-phase current unbalance alarm back to the difference	0-20.0%	0
AtIn	ATIn	Delay value of three-phase current unbalance alarm	0-99(S)	0
ArIn	ARIn	Three-phase current unbalance alarm relay selection	0-3	0
AYun	AYUn	Three-phase voltage unbalance alarm mode selection	0:no;1:H;2:L;3:HL	0
AHun	AHUn	Three-phase voltage unbalance limit alarm value	0-100.0%	20.0

ALun	ALUn	Three-phase voltage unbalance alarm value lower limit	0-100.0%	20.0
Adun	ADUn	Three-phase voltage unbalance alarm back to the difference	0-20.0%	0
Atun	ATUn	Delay value of three-phase voltage unbalance alarm	0-99(S)	0
Arun	ARUn	Three-phase voltage unbalance alarm relay selection	0-3	0
AYPu	AYPU	Phase sequence error alarm options	0/1(See page 19;Note 3)	0
APun	APUn	Phase sequence error alarm	0/1(See page 19; Note 4)	0
rPun	RPUn	Phase sequence error alarm relay selection	0-3	0
nSW H	MSWh	Active power demand (tentative no such function)	-19999-99999	0
FILt	FILt	Digital filter coefficients	0-3	0
End	End			

2. Settings of alarm parameters are same as above

3. Parameters definition description

Note 1(AYUn): 0 Voltage break phase without warning;
1 Voltage break phase that needs to alarm

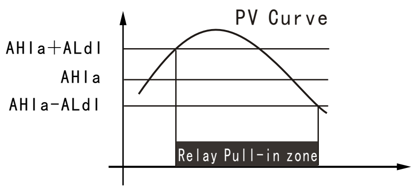
Note 2 (AOUa、AOUb、AOUc): 0 Voltage break phase without warning;
1 Voltage break phase, relay alarm

Note 3 (AYPU): 0 phase sequence error without warning;
1 phase sequence error that needs to alarm

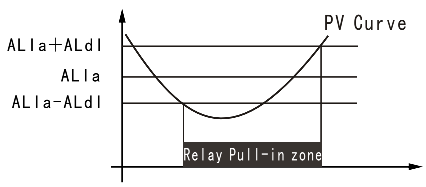
Note 4 (APUn): 0 phase sequence correct, relay alarm;
1 phase sequence error, relay alarm;

4. Alarm action diagram

Take Ia for example:



1、Upper limit alarm



2、Lower limit alarm

Note:

(1) Alarm mode selection
No:no alarm
L:lower limit alarm
H:Upper limit alarm
HL:Upper and lower limit alarm

(2) Alarm relay selection
0: No output
1: Alarm 1 output
2: Alarm 2 output
3: Alarm 3 output

When more than one alarm relay output to select the same one, any one alarm condition is set up, will trigger the relay output. Only when all the alarm conditions are lifted, the relay will stop the output。

(三)、Operating parameters(Log in by inpurtting password “0001” after pressing SET key)

1. Details of operating parameters

Symbol		Description	Setting range	Default value
uW dI	UWdI	“Up” window parameter display value selection	Note 1	0
CW dI	CWdI	“Middle” window parameter display value selection	Note 2	0
dW dI	DWd1	“Down” parameter display value selection window	Note 3	0
uIt I	UIt1	“Up” window displays conversion time	1-99S	5
CIt2	CIt2	“Middle” window displays the conversion time	1-99S	5
dIt3	DIt3	“Down” window display conversion time	1-99S	5
W Hdt	WHDt	Active energy measurement timing	0-999S(Note 4)	0
uW I	UW1	“Up” window inspection preferences 1	Note 5	11100
uW 2	UW2	“Up” window inspection preferences 2	Note 5	0000H
CW I	CW1	“Middle” window inspection preferences 1	Note 6	11100
CW 2	Cw2	“Middle” window inspection preferences 2	Note 6	0000H

dW 1	DW1	"Down" window inspection Preferences 1	Note 7	11100
dW 2	DW2	"Down" window inspection Preferences 2	Note 7	00000
dW 3	Dw3	"Down" window inspection Preferences 3	Note 7	00000
dW 4	Dw4	"Down" window inspection Preferences 4	Note 7	00000
dW 5	Dw5	"Down" window inspection Preferences 5	Note 7	00000

2. Settings of operate parameters are same as above

3. Parameters definication description

Note 1 (UWd1): 0(tour show);1: UA、2: UB、3: UC、4: UAB、5: UBC、6: UCA、7: Ueo、8: Ue、9: F; If select ″0″, then ″Up″ window touring show that this 9 value of the parameter; but if select ″1″, then ″Up″ window only shows ″UA″ value, the others are same as above

Note 2 (CWd1): 0(tour show); 1: IA、2: IB、3: IC、4: Ieo、5: Io、6: PF、7; PFA、8: PFB、9: PFC

Note 3 (DWd1): 0(tour show); 1: P、2:PA、3: PB、4: PC、5: Q、6: QA、7: QB、8: QC、9: S、10: SA、11: SB、12: SC、13: WH、14: FWH、15: RWH、16: QH、17: FQH、18: RQH

Note 4 (WHDt): In "energy timing measurement" mode, "Middle" window shows regular time, ″down″window shows the total active power, the countdown time to, "Middle″, ″down″ window restore the original state automatically

Note 5(UW1、UW2): In setting mode, the "Up" window tour shown parameters are determined by UW1 and UW2

UW1(00000~11111) is decided that the "Up" window if show Ua、Ub、Uc、Uab、Ubc or not(**See Table 一**);

UW2(0000H~1111H) is decided that the "Middle" window if show Uca、Ueo、Ue、Fre or not

Note 6(CW1、CW2): In setting mode, the "Middle" window tour shown parameters are determined by CW1 and CW2

CW1(00000~11111) is decided that the "Middle" window if show Ia、Ib、Ic、Ieo、Io or not;

CW2(0000H~1111H) is decided that the "Middle" window if show PF、PFa、PFb、PFc or not

Table 一:

UW1	Ua	Ub	Uc	Uab	Ubc
00000	×	×	×	×	×
00001	×	×	×	×	√
00010	×	×	×	√	×
⋮					
11111	√	√	√	√	√
Note:0 on behalf of the corresponding parameters of non-participation show; 1 on behalf of the corresponding parameters of participation show					

Note 7: "Down" window displayed parameters are as following:

Symbol	Description	Symbol	Description
Pa	A-phase active power	WH-L	low byte part of active energy(fixed with two decimal point)
Pb	B-phase active power	WH-H	high byte part of active energy(no decimal point)
Pc	C-phase active power	FWH-L	low byte part of positive active energy(fixed with two decimal point)
P	Total active power	FWH-H	high byte part of positive active energy(no decimal point)
Qa	A-phase reactive power	RWH-L	low byte part of reverse active energy(fixed with two decimal point)
Qb	B-phase reactive power	RWH-H	high byte part of reverse active energy(no decimal point)
Qc	C-phase reactive power	QH-L	low byte part of reactive power(fixed with two decimal point)
Q	Total reactive pwer	QH-H	high byte part of reactive energy(no decimal point)
Sa	A-phase apparent Power	FQH-L	low byte part of positive reactive energy(fixed with two decimal point)
Sb	B-phase apparent Power	FQH-H	high byte part of positive reactive energy(no decimal point)
Sc	C-phase apparent Power	RQH-L	low byte part of reverse reactive energy(fixed with two decimal point)
S	Total apparent Power	RQH-H	high byte part of reverse reactive energy(no decimal point)

In setting mode, they are determined by dW1、dW2、dW3、dW4、dW5:

dW1 (00000~11111) is decided that the "Down" window if show Pa、Pb、Pc、P、Qa or not;

dW2 (00000~11111) is decided that the "Down" window if show Qb、Qc、Q、Sa、Sb or not;

dW2 (00000~11111) is decided that the "Down" window if show Qb、Qc、Q、Sa、Sb or not;

dW3 (00000~11111) is decided that the "Down" window if show Sc、S、WH-L、WH-H、FWH-L or not;

dW4 (00000~11111) is decided that the "Down" window if show FWH-H、RWH-L、RWH-H、QH-L、QH-H or not;

dW5 (0000H~1111H) is decided that the "Down" window if show FQH-L、FQH-H、RQH-L、RQH-H or not;

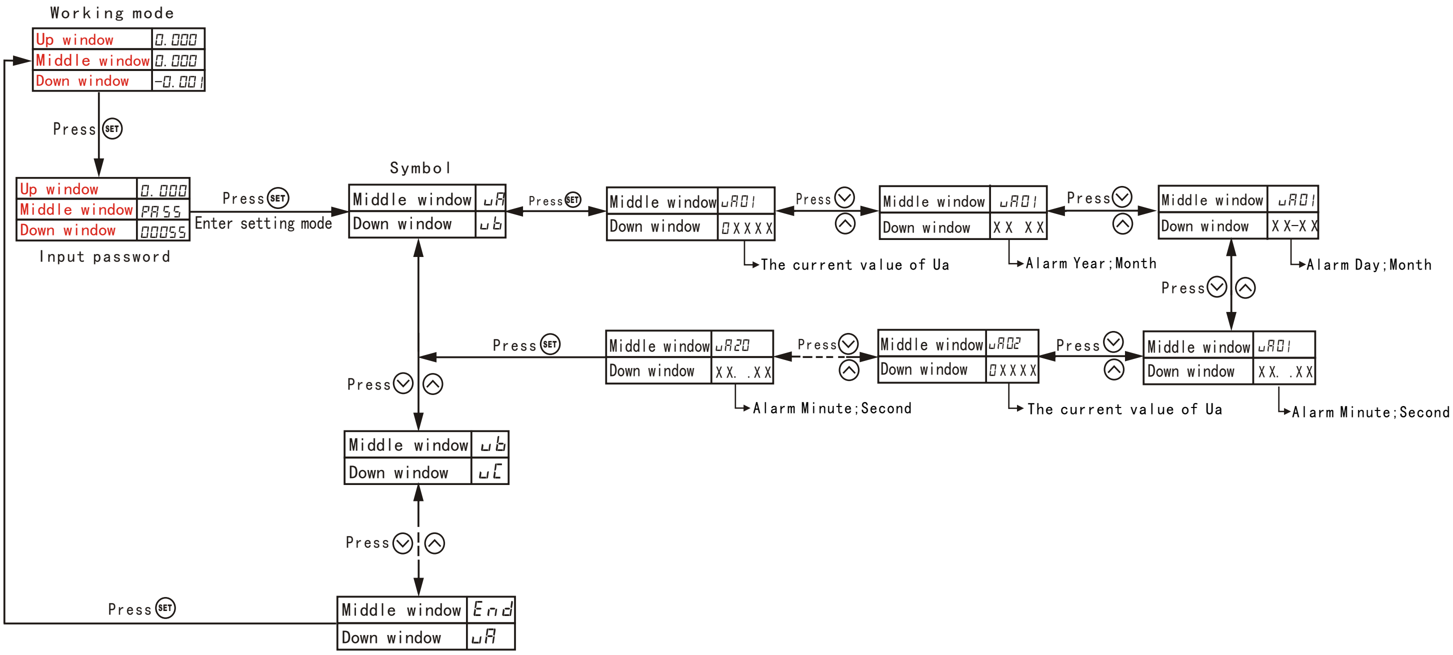
(四)、Telemetry, remote control, remote alarm event log parameters (Log in by inputting password "0055" after pressing SET key)

The instruments on the following 23 telemetry events, three remote signal event, three remote incident records(record of the event for each parameter can not exceed 20 times, otherwise automatic overflow)

1. Parameters list:

Symbol		Description	Adminlogdate	Default value
uA	Ua	A-phase voltage	Year Month Day Hour Minute Second	05:01:01:01:01:01
ub	Ub	B-phase voltage	Year Month Day Hour Minute Second	05:01:01:01:01:01
uC	Uc	C-phase voltage	Year Month Day Hour Minute Second	05:01:01:01:01:01
Ab	AB	AB-phase line voltage	Year Month Day Hour Minute Second	05:01:01:01:01:01
bC	BC	BC-phase line voltage	Year Month Day Hour Minute Second	05:01:01:01:01:01
CA	CA	CA-phase line voltage	Year Month Day Hour Minute Second	05:01:01:01:01:01
uE	Ue	Three-phase average voltage	Year Month Day Hour Minute Second	05:01:01:01:01:01
Au	AU	Three-phase non-average voltage	Year Month Day Hour Minute Second	05:01:01:01:01:01
IA	Ia	A-phase current	Year Month Day Hour Minute Second	05:01:01:01:01:01
Ib	Ib	B-phase current	Year Month Day Hour Minute Second	05:01:01:01:01:01
IC	Ic	C-phase current	Year Month Day Hour Minute Second	05:01:01:01:01:01
Io	Io	Zero-sequence current	Year Month Day Hour Minute Second	05:01:01:01:01:01
IE	Ie	Three-phase average current	Year Month Day Hour Minute Second	05:01:01:01:01:01
AI	AI	Three-phase non-average current	Year Month Day Hour Minute Second	05:01:01:01:01:01
FA	fa	A-phase power factor	Year Month Day Hour Minute Second	05:01:01:01:01:01
Fb	fb	B-phase power factor	Year Month Day Hour Minute Second	05:01:01:01:01:01
FC	fc	C-phase power factor	Year Month Day Hour Minute Second	05:01:01:01:01:01
PF	pf	The total power factor	Year Month Day Hour Minute Second	05:01:01:01:01:01
PA	pa	A-phase active power	Year Month Day Hour Minute Second	05:01:01:01:01:01
Pb	pb	B-phase active power	Year Month Day Hour Minute Second	05:01:01:01:01:01
PC	pc	C-phase active power	Year Month Day Hour Minute Second	05:01:01:01:01:01
P0	P0	The total active power	Year Month Day Hour Minute Second	05:01:01:01:01:01
F0	F0	Grid frequency	Year Month Day Hour Minute Second	05:01:01:01:01:01
1I	1I	DI1 input	Year Month Day Hour Minute Second	05:01:01:01:01:01
2I	2I	DI2 input	Year Month Day Hour Minute Second	05:01:01:01:01:01
3I	3I	DI3 input	Year Month Day Hour Minute Second	05:01:01:01:01:01
1o	1o	Do1 output	Year Month Day Hour Minute Second	05:01:01:01:01:01
2o	2o	Do2 output	Year Month Day Hour Minute Second	05:01:01:01:01:01
3o	3o	Do3 output	Year Month Day Hour Minute Second	05:01:01:01:01:01
End	End			

2、Setting procedure



七、Protocol

HB330X Series meter accepted MODBUS-RTU protocol internationally , the instrument can be used RS485 transmission standards and computer communications, support Kingview, MCGS, Century Star, Kai and other configuration software, such as the use of non-driven configuration software of this instrument or the host software developed by the users themselves, the user can design their own drivers under the agreement.Our company with the products detailed on the accompanying CD-ROM communication protocols and testing software can guide and help the user driver.

Communication speed: 1200,2400,4800,9600,14400,19200 bps

Stop Bits: 1　　　Data bits: 8

Parity: None

Function Code 03: Read parameter set

Function Code 10: Write parameter set

Detailed guidance please refer to the random communication protocol with the communication protocol.

八、Instrucment maintenance and warranty

(一)、 Instrucment maintenance

This series of instruments used normally without any special maintenance,You can be sent the manufacturer calibration on a regular basis if necessary.

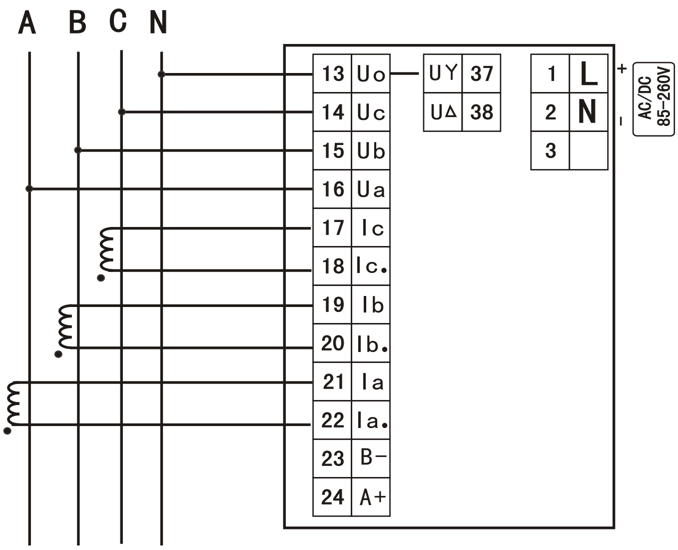
(二)、 Instrucment storage

The instrument should to be stored in a dry and ventilated, non-corrosive environment。

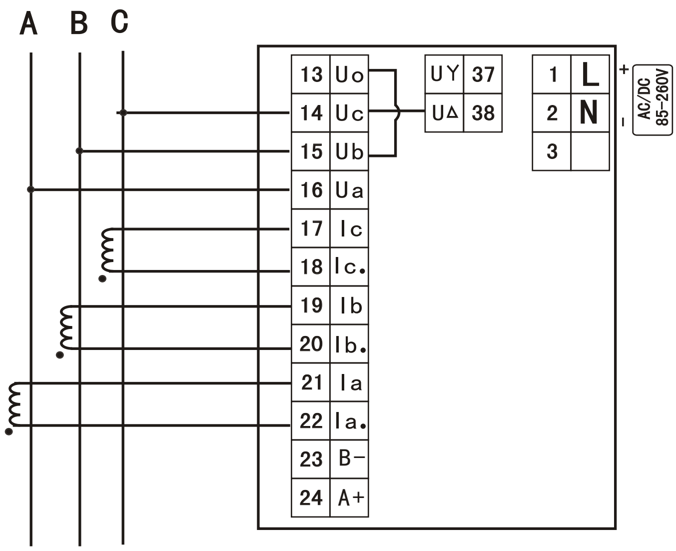
(三)、 Instrucment Security

The user according to the instructions of the proper use of instruments, this instrument warranty for one year (from date of sale), due to improper use or shelf life of users outside the maintenance, the company only charged the cost of maintenance.

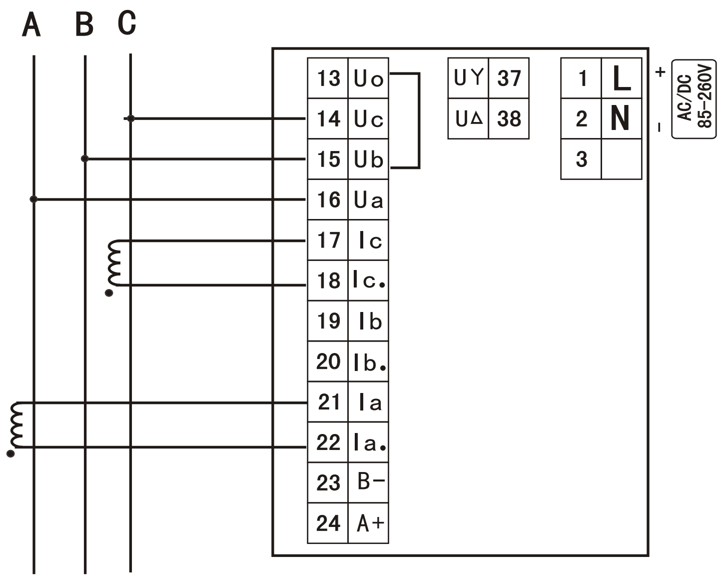
Annex 1: HB3300 Wiring diagram



Three-phase Four-wire wiring diagram（3CT）

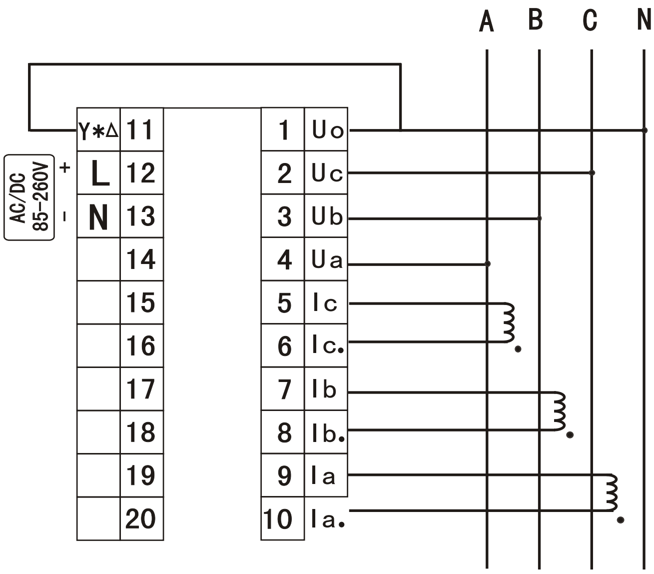


Three-phase Three-wire wiring diagram（3CT）

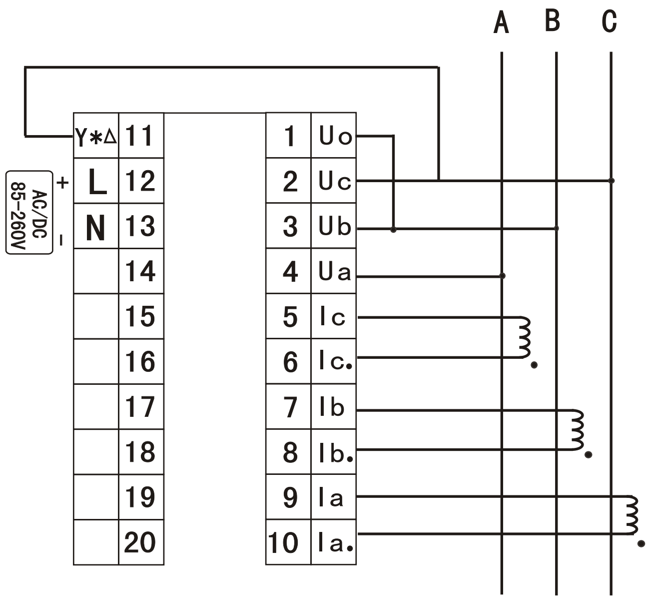


Three-phase Three-wire wiring diagram（2CT）

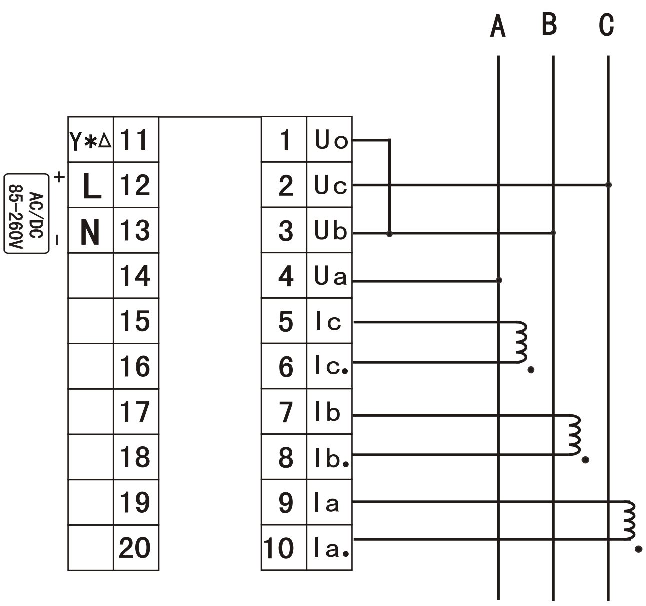
HB3309 Wiring diagram



Three-phase Four-wire wiring diagram（3CT）



Three-phase Three-wire wiring diagram（3CT）



Three-phase Three-wire wiring diagram（2CT）

Annex 2： Concise interface operation