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ANDELI

Electricity meter
Selection Manual

One-stop solution for power products

Brand Innovation Technical Service

www.andeligroup.com

ANDELI GROUP CO.,LTD.

ENTERPRISE INTRODUCTION

企业简介

安德利集团是一家以电气为核心产业，集研发、生产、销售、服务于一体的专业制造商，荣获中国电气工业成长力10强、全国用户满意企业、国家高新技术企业、国家工信部绿色工厂、国家专精特新小巨人企业、国家工信部绿色供应链管理企业等多项荣誉。

安德利集团以铸就“中国电气行业的卓越品牌”为己任。主要研发生产输配电成套设备、电力变压器、高低压电器元件、仪器仪表、焊接设备、新能源等系列。产品广泛应用于国家电网、南方电网、内蒙古电网及轨道交通、商业住宅、能源化工、金属冶炼、电能治理等众多领域。

安德利积极实施全球化战略，在阿联酋、俄罗斯、巴西、巴基斯坦、泰国、沙特等地设立分支机构，产品远销全球100多个国家与地区。

As a professional manufacturer integrating R&D, production, sales and service with electrical as the core industry, Andeli Group has won several honors such as Top 10 Electrical Industry Growth Capacity in China, National Customer Satisfaction Enterprise, National High-tech Enterprise, Green Plant of Ministry of Industry and Information Technology of the People's Republic of China, National Professional and New Giant Enterprise and Green Supply Chain Management Enterprise of Ministry of Industry and Information Technology of the People's Republic of China.

Andeli Group takes "excellent brand in Chinese electrical industry" as its own task. Mainly research, develop and produce complete power transmission and distribution equipment, power transformer, high and low voltage electrical components, instruments, welding equipment, new energy and other series. The products are widely used in many fields such as State Grid, China Southern Power Grid, Inner Mongolia Power Grid and rail transit, commercial residence, energy and chemical industry, metal smelting and electric energy governance.

Andeli actively implements the globalization strategy and establishes branches in the United Arab Emirates, Russia, Brazil, Pakistan, Thailand, Saudi Arabia, etc. Its products are sold to more than 100 countries and regions around the world.

ANDELI *专注于为客户提供满意的电力产品及解决方案*
Focus on providing customers with satisfactory power products and solutions

MANUFACTURE

专业制造·专心服务

我们拥有多条智能生产线，拥有规模化定制生产的能力，精准聚焦客户个性化需求。我们与东南大学、杭州电子科技大学、浙江大学等多家高校合作，依靠科技力量，为您提供安心可靠的产品与服务。

We have multiple intelligent production lines, have the capacity of large-scale customized production, and accurately focus on the personalized needs of customers. We cooperate with Southeast University, Hangzhou University of Electronic Science and Technology, Zhejiang University and other universities, rely on science and technology to provide you with dependable products and services.

Honor and qualification

荣誉资质

我们拥有多条智能生产线，拥有规模化定制生产的能力，精准聚焦客户个性化需求。我们与东南大学、杭州电子科技大学、浙江大学等多家高校合作，依靠科技力量，为您提供安心可靠的产品与服务。

We have multiple intelligent production lines, have the capacity of large-scale customized production, and accurately focus on the personalized needs of customers. We cooperate with Southeast University, Hangzhou University of Electronic Science and Technology, Zhejiang University and other universities, rely on science and technology to provide you with dependable products and services.

Single & Three Phase Protetor

Provide you with dependable products and services

ANDELI

自复式过欠压保护器

OVERVOLTAGE AND UNDERVOLTAGE PROTECTOR

P2-VA

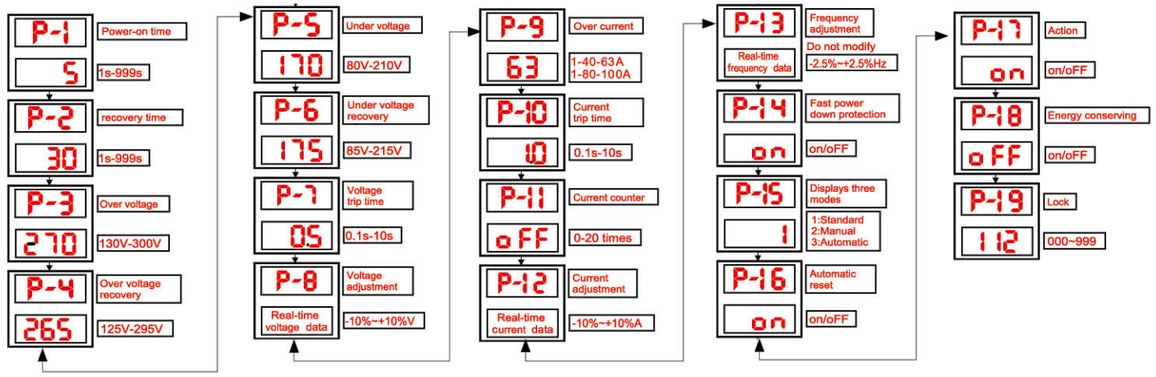
技术参数 Technical parameter

Rated supply voltage	AC 220V	Operation voltage range	AC 80V~400V(single phase)
Rated frequency	50/60Hz	Electnic curent(>A)seting range	1~40/63A
Over voltage(>U)seting Range	230~300V	Undervoltage(>U)setting range	210~140V
Rated Current	40/63A (subject to prodect abel)	>U and <U Trip Delay	0.1~30S
Reset/Start Delay	1-500S	Voltage measurement accuracy	2%(Not exceeding 2%of the overall range)
Rated Insulation Voltage	400V	Output contact	1NO
Electrical life	10^5	Mechanical life	10^6
Potecfon Degree	IP20	Polution Degree	3
Altiude	≤2000m	Operating temperature	-50℃~55℃
Humidity	≤50% at 40℃ (without condensation)	Storage temperature	-30℃~70℃

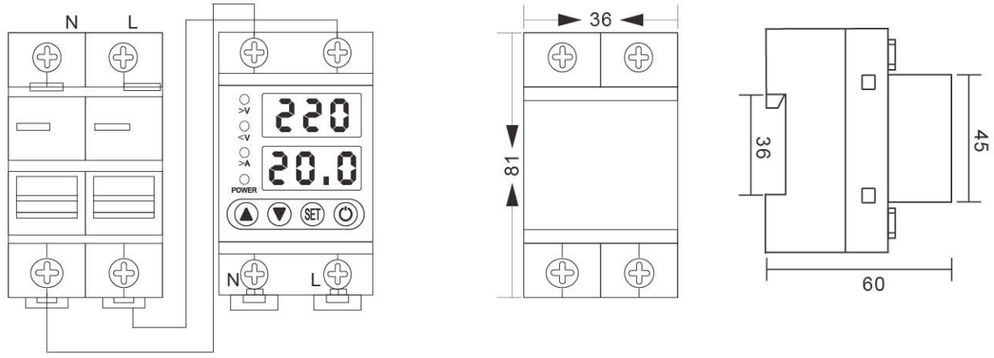
默认设置 Default setting

Technical Parameter	Setting range	Step	Factory Setting
Power-on Delay Time	1~500S	1S	10S
Over-Voltage Protection value	230~300V	1V	270V
OVer-Voltage Recvery Value	225~295V	1V	265V
Over-Voltage Recovery Delay Time	1~500S	1S	30S
OVer-Volage Protection Action Time	0.1~30S	0.1S	1S
Under-Voltage Protection Value	210~140V	1V	170V
Under-Voltage Recovery Value	215~145V	1V	175V
Under-Voltage Recovery Delay Time	1~500S	1S	30S
Under-Voltage Protecion Action Time	0.1~30S	0.1S	1S
Over-Current Protecion Value	1~40/63A	0.1A	40/63A
Over-Current recovery Delay Time	1-500S	1S	30S
Voltage Calibration	-9.5~9.5%	0.5%	0%
Current Calibration	-9.5~9.5%	0.5%	0%
Continuous over-current protectimes	1-20/OFF	1	OFF
Current calibration	9.5~9.5%	0.5%	0%

功能设置 Function Setting



接线和形状尺寸 Wiring and shape dimensions



P2-VA

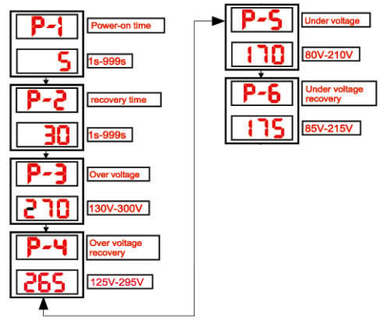
技术参数 Technical parameter

Rated supply voltage	AC 220V	Operation voltage range	AC 80V~350V
Rated frequency	50/60Hz	Undervoltage(>U)setting range	230~300V
Over voltage(>U)seting Range	210~140V	Rated Current	40/63A(subject to prodect label)
>U And <U Trip Delay	0.5S	Reset / Start Delay	1~600S
Voltage measurement accuracy	2%(Not exceeding 2%of the overall range)	Rated Insulation Voltage	400V
Output contact	1NO	Electrical life	10
Mechanical life	10^6	Protection Degree	Ip20
Pollution Degree	3	Altiude	≤2000m
Operating temperature	-50℃~55℃	Humidity	≤50%at40℃ (without condensation)
Storage temperature	-30℃~70℃		

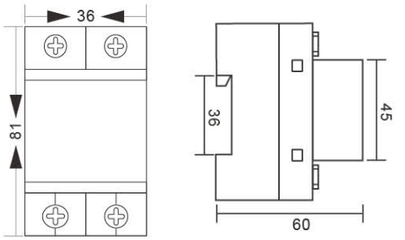
默认设置 Default setting

Technical Parameter	Setting range	Step	Factory Setting
Over-Voltage Protecion Value	80~210V	1V	270V
Under-Voltage Protection Value	130~300V	1V	170V
Recovery delay time	1~999S	1S	5S

功能设置 Function Setting



接线和形状尺寸 Wiring and shape dimensions



P2VA-LOGO

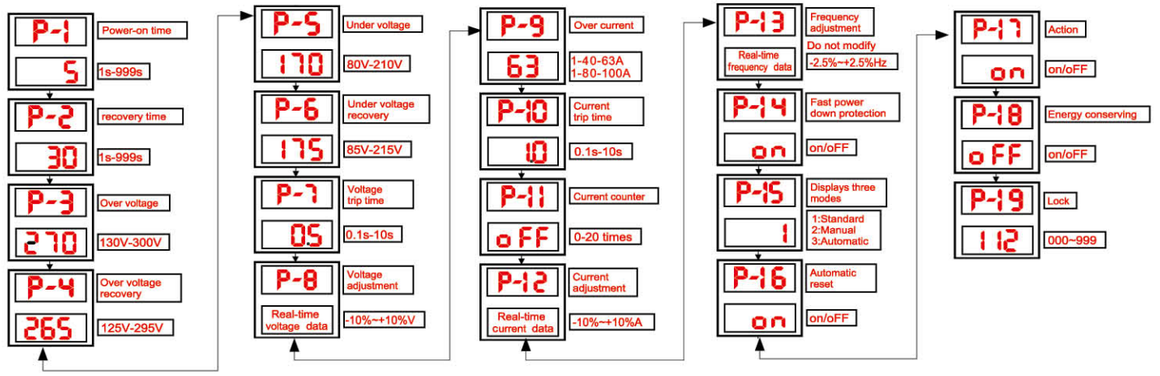
技术参数 Technical parameter

Rated supply voltage	AC 220V	Operation voltage range	AC 80V~350V
Rated frequency	50/60Hz	Undervoltage(>U)setting range	230~300V
Over voltage(>U)seting Range	210~140V	Rated Current	40/63A(subject to prodect label)
>U And <U Trip Delay	0.5S	Reset / Start Delay	1~600S
Voltage measurement accuracy	2%(Not exceeding 2%of the overall range)	Rated Insulation Voltage	400V
Output contact	1NO	Electrical life	10
Mechanical life	10^6	Protection Degree	Ip20
Pollution Degree	3	Altiude	≤2000m
Operating temperature	-50℃~55℃	Humidity	≤50%at40℃ (without condensation)
Storage temperature	-30℃~70℃		

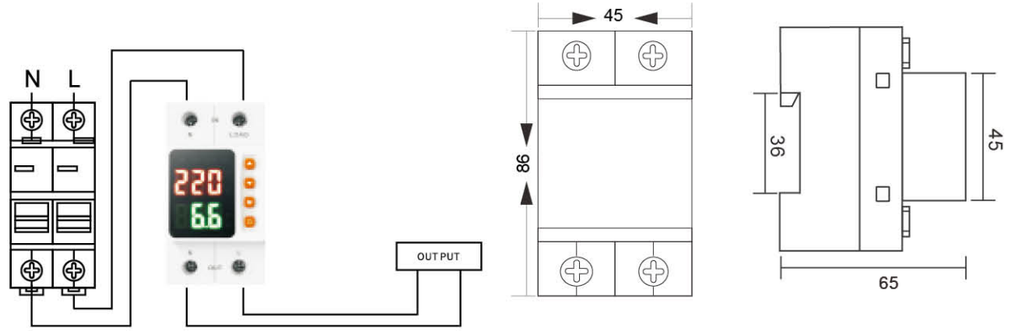
默认设置 Default setting

Technical Parameter	Setting range	Step	Factory Setting
Power-on Delay Time	1~500S	1S	10S
Over-Voltage Protection value	230~300V	1V	270V
OVer-Voltage Recvery Value	225~295V	1V	265V
Over-Voltage Recovery Delay Time	1~500S	1S	30S
OVer-Volage Protection Action Time	0.1~30S	0.1S	1S
Under-Voltage Protection Value	210~140V	1V	170V
Under-Voltage Recovery Value	215~145V	1V	175V
Under-Voltage Recovery Delay Time	1~500S	1S	30S
Under-Voltage Protecion Action Time	0.1~30S	0.1S	1S
Over-Current Protecion Value	1~40/63A	0.1A	40/63A
Over-Current recovery Delay Time	1-500S	1S	30S
Voltage Calibration	-9.5~9.5%	0.5%	0%
Current Calibration	-9.5~9.5%	0.5%	0%
Continuous over-current protectimes	1-20/OFF	1	OFF
Current calibration	9.5~9.5%	0.5%	0%

功能设置 Function Setting



接线和形状尺寸 Wiring and shape dimensions



P2-VAKWH

技术参数 Technical parameter

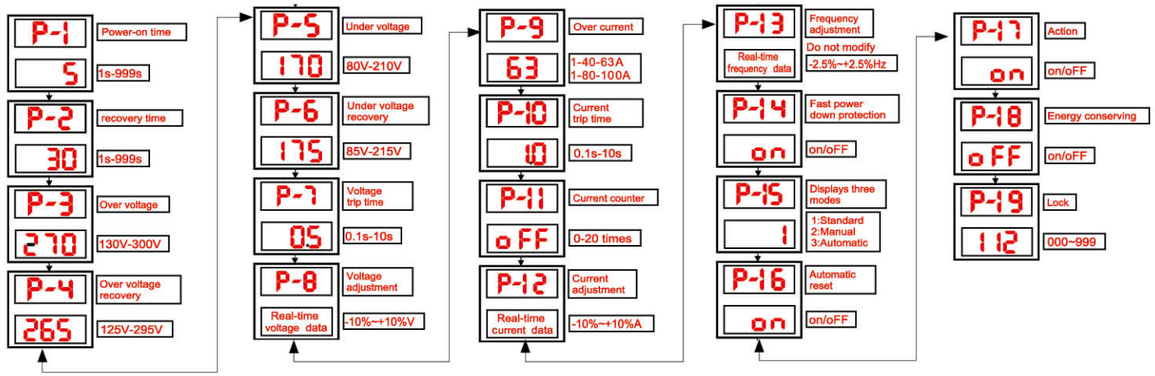
Rated supply voltage	AC 220V	Operation voltage range	AC 80~400V(single phase)
Rated frequency	50/60Hz	Electic current(>A)seting range	1-40/63A /oFF
Over voltage(>U)seting Range	230-300V/OFF	Undervoltage(>U)setting range	210~140V/oFF
Kilowatt-hour protection value	1-9999/oFF	Rated Current	40/63A(subject to prodect label)
>U And <U Trip Delay	0.5S	Reset / Start Delay	1~600S
Voltage measurement accuracy	2%(Not exceeding 2%of the overall range)	Rated Insulation Voltage	400V
Output contact	1NO	Electrical life	105
Mechanical life	10^6	Protection Degree	Ip20
Pollution Degree	3	Altiude	≤2000m
Operating temperature	-50℃~55℃	Humidity	≤50%at40℃ (without condensation)
Storage temperature	-30℃-70℃		

默认设置 Default setting

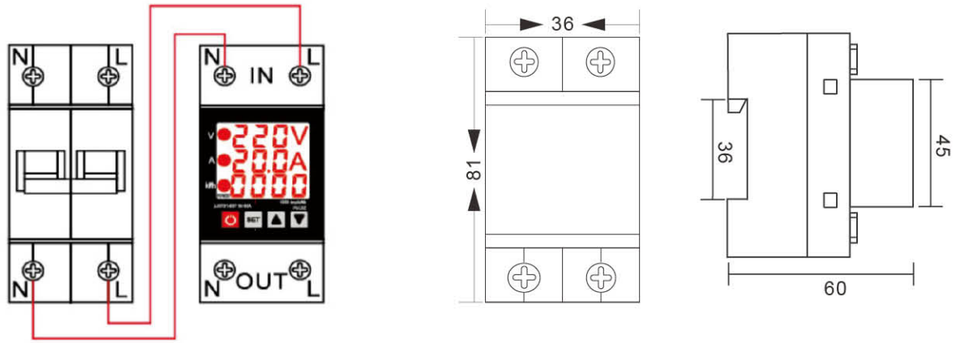
Technical Parameter	Setting range	Step	Factory Setting
Over-Voltage Protection Value	AC230V-300V/oFF	1V	AC280V
Under-Voltage Protection Value	AC210V-140V/oFF	1V	AC160V
Recovery delay time	1S-600S	1S	5S
Over-current protection value	1-40/63AoFF	0.1A	63A
Continuous over-current protect times	1-20/OFF	1	oFF
Kilowatt hour protection value	1-9999/oFF	1	300

Curent Specication	15A	25A	32A	50A	63A
Rated Operaing curent(In,A)	15	25	32	50	63
Max Operating Curent Imax(A,within 10min)	25	30	40	60	80
Max power of load(KW)	3.6	5.5	7	11	13.9

功能设置 Function Setting



接线和形状尺寸 Wiring and shape dimensions



P2-VAKWH

技术参数 Technical parameter

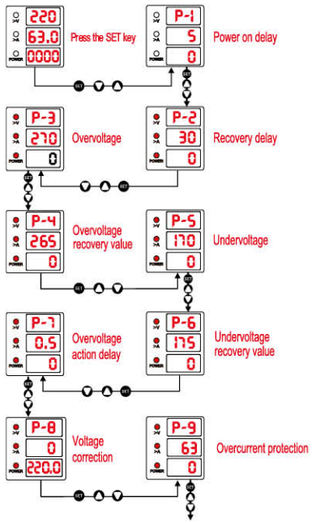
Rated supply voltage	AC 220V	Operation voltage range	AC 80~400V(single phase)
Rated frequency	50/60Hz	Electic current(>A)seting range	1-40/63A /oFF
Over voltage(>U)seting Range	230-300V/OFF	Undervoltage(>U)setting range	210~140V/oFF
Kilowatt-hour protection value	1-9999/oFF	Rated Current	40/63A(subject to prodect label)
>U And <U Trip Delay	0.5S	Reset / Start Delay	1~600S
Voltage measurement accuracy	2%(Not exceeding 2%of the overall range)	Rated Insulation Voltage	400V
Output contact	1NO	Electrical life	105
Mechanical life	10^6	Protection Degree	Ip20
Pollution Degree	3	Altiude	≤2000m
Operating temperature	-50℃~55℃	Humidity	≤50%at40℃ (without condensation)
Storage temperature	-30℃-70℃		

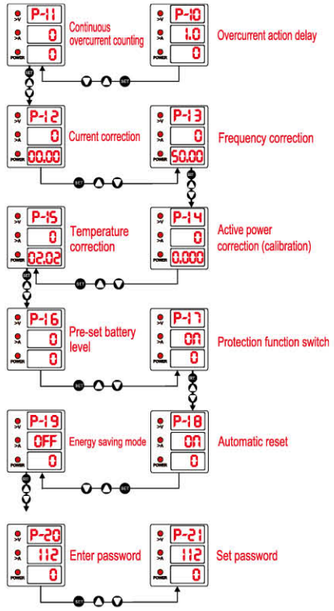
默认设置 Default setting

Technical Parameter	Setting range	Step	Factory Setting
Over-Voltage Protection Value	AC230V-300V/oFF	1V	AC280V
Under-Voltage Protection Value	AC210V-140V/oFF	1V	AC160V
Recovery delay time	1S-600S	1S	5S
Over-current protection value	1-40/63AoFF	0.1A	63A
Continuous over-current protect times	1-20/OFF	1	oFF
Kilowatt hour protection value	1-9999/oFF	1	300

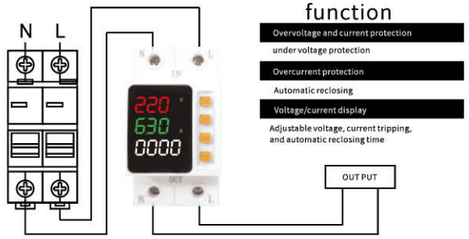
Curent Specication	15A	25A	32A	50A	63A
Rated Operaing curent(In,A)	15	25	32	50	63
Max Operating Curent Imax(A,within 10min)	25	30	40	60	80
Max power of load(KW)	3.6	5.5	7	11	13.9

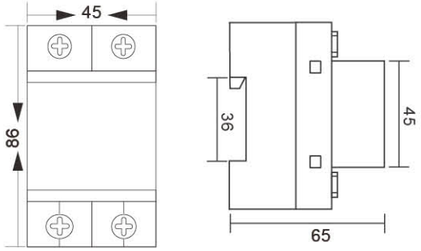
功能设置 Function Setting





Wiring diagram





P2-WIFI

技术参数 Technical parameter

Rated supply voltage	AC 220V	Operation voltage range	AC85v-300v (single phase)
Rated frequency	50Hz	Electic current(>A)seting range	1A-63A
Overvoltage(>U)seting range	110V - 300V(adjustable)	Undervoltage(<U)setting range	85V-220V(adjustable)
Leakage protection	10mA-300mA(This function can be turned off)	Discrepancy Range	2%
>U and<U trip delay	1s-30s	Reset / Start Delay	1s-500s(adjustable)(Default value:5s)
Voltage measurement accuracy	1%(Not exceeding 2%of the overall range)	Rated Insulation Voltage	400V
Output contact	1NO	Altitude	≤2000m
Operation temperature	30℃-70℃ Power display	Range	0-99999.9kw/h

功能 Function

1.Remote control at anytime from anywhere
2.Schedule/Timer/loop timer
3.Energy monitoring
4.Under voltage protection 85V-220V(adjustable)(default:100V)
5.Over voltage proteciton 110V-300V(adjustable)(default:270V)
6.Over current protection 1A-63A(adjustable)(default:63A)
7.Electric leakage protection:10-300mA(adjustable)(default:30mA)
8.Preset current/voltage threshold values by app,Once the real-time/current/voltage reaches the threshold values,The connected electrical appliances will be automatically turned off

添加APP How to add device to APP

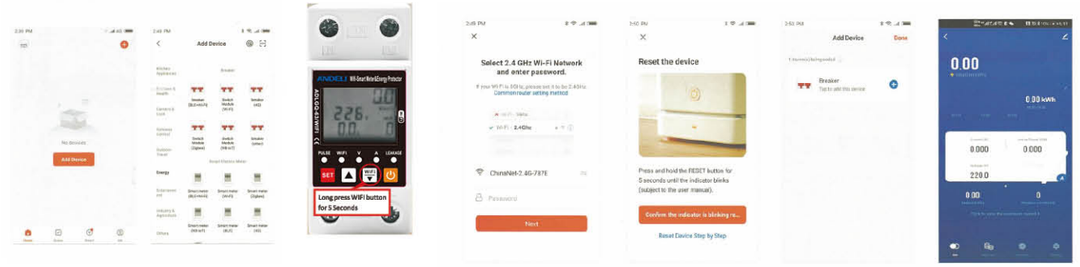
1. Use Your smart phone to scan QR codes,or search "smart Life"or Tuya Smart" app in Google play or APP store to download and install.

Smart Life Google Play　Tuya Smart APP Store

2. Create an account with your mobile number.

3. Connect you mobile to your wi-fi router. Click"+" in the upper right conner of homepage or click"Add device",then select breaker " switch module (Wi-Fi)" from"Energy" ,long press WIFI button for 5 seconds,after see quick flash,open app to pair.

ANDELI
智能wifi过欠压保护器
Smart Wi-Fi Overvoltage and Undervoltage Protector



产品尺寸 Product dimension

参数设置 Parameter Settings

1.Click [SET] to view each data.
2.Press [SET] for 5 seconds to enter setup mode,and then press [SET] to select, press [▲] and [WiFi▼] key to adjust the setting.
3.Press [▲] key, then press [⏻] key together for 8 second, then screen show "dEL", press [SET] key confirm, KWH reset zero

P4-V

Technical parameter

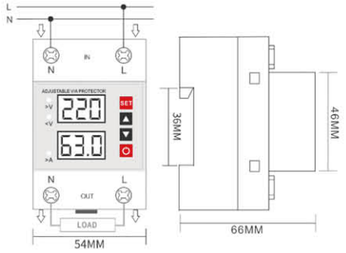
Supply terminals	N,L
Rated supply voltage	AC220V;DC80-300V
Rated frequency	40/50/60/70Hz
＞U setting range	AC130-300V;DC130-300V
＜U setting range	AC80-210V:DC80-210V
Voltage hysteresis	5V
Overvoltage trip delay	0.5s
Voltage accuracy	<1%
Max.operating phase voltage	350V
Max.operating current	63A/100A
Altitude	≤2000m
Ambient temperature	-25℃~+50℃
Permissable relative humidity	≤50%at 40 ℃(without condensation)
Storage temperature	-25℃~+55℃
Size	91*54*66mm

Front-face panel

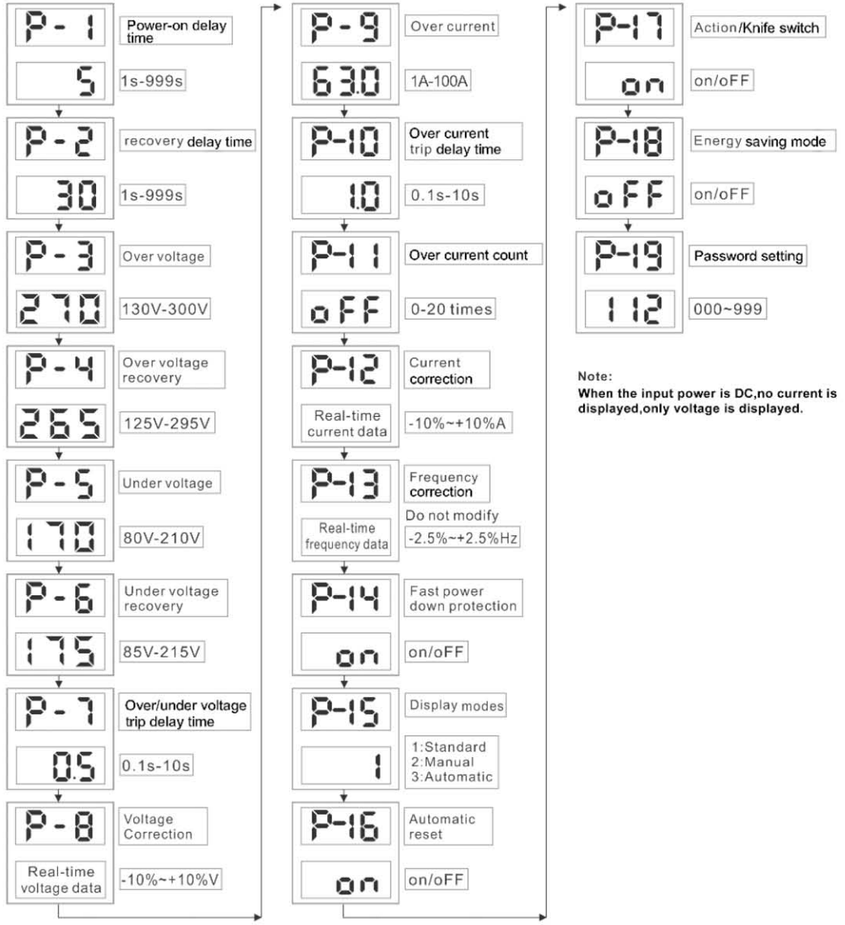
>V: Overvoltage Indicator
<V: Undervoltage Indicator
>A: Overcurrent Indicator
POWER: Normal Working Indicator

SET Menu selection
▲ Digit+
▼ Digit-
⏻ ON/OFF

Wiring diagram/Dimensional Drawing



Setup menu



Note:
When the input power is DC,no current is displayed,only voltage is displayed.

THIRD- AND FOURTH-TIER-VA

Matters needing attention

1.The equipment must be installed by qualified professionals.
2.Before operating the device,disconnect all power supplies and do not touch any terminal when the power supply is connected.
3.Verify that terminals are properly connected.
4.No matter whether the equipment is in normal operation,do not disassemble or repair otherwise,producers and sellersNo responsibility is accepted.
5.Do not use the equipment in places that may be corroded by gas,strong sunlight and rain.
6.Clean equipment with a dry cloth.
7.Failure to comply with these instructions will result in serious injury or serious accident.

Product characteristics

1.microcontroller-based
2.Digital display of operating voltage and current values
3.Prevent the electrical set voltage is too high/too low current,three-phase asymmetry and phase sequence error
4.Voltage measurement accuracy 2%
5.Key setting parameter
6.LED indicates overvoltage/undervoltage and overcurrent faults
7.6 modules,DIN rail mounting

Technical data

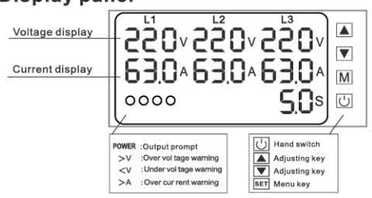
Rated supply voltage	AC230V
Operating voltage range	AC120V-300V
Rated frequency	50/60Hz
lag	Overvoltage and asymmetry:5V Undervoltage:5V
Asymmetric delay	10s
Voltage measurement accuracy	≤2%(On the whole spectrum)
Rated insulation voltage	450V
Output contact	3NO
Electrical life	105
Mechanical life	105
Protection class	Ip20
Pollution degree	3
altitude	<2000m
Operating temperature	-5℃-40℃
humidity	≤50%or40℃(Condensation free)
Storage temperature	-25℃-55℃

ANDELI
三相四线LOGO定制款保护器
LOGO Customised Three-Phase Four-Wire Protector

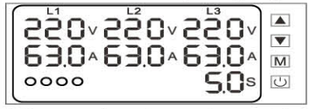
Parameter setting

Set character	Technical parameter	Set range	Default value	Step forward	Function description
P-1	Power-on delay time	1s-600s	5s	1s	The time required after the external power supply is cut off is used Power on when power is restored.
P-2	Protection recovery delay	1s-600s	30s	1s	After voltage and current recovery,automatic resetTime required
P-3	Overvoltage protection value	230V-300V	270V	1V	When the voltage is above the set value. The protector will cutBroken line
P-4	Overvoltage recovery value	225V-295V	265V	1V	The protector will be automatic when the voltage falls below the set valueReset,and the value must be less than the overcharge Voltage protection value greater than 5V
P-5	Under voltage protection value	120V-210V	170V	1V	When the voltage falls below the set value,the protector willCut the line.
P-6	Undervoltage recovery value	125V-215V	175V	1V	The protector will be automatic when the voltage is higher than the set valueReset,the set value must begreater than the undervoltage protection currentThe pressure is over 5V
P-7	Voltage protection action delay	0.1s-10s	0.5s	0.1s	When the voltage is below or above the set value,the protection actionThe time required to do it
P-8	Three-phase voltage unbalance value	20V-100V	50V	1V	When the error ratio between the three phase voltage is setIf the value deviates,the protector will cut the line
P-9	Three-phase voltage unbalance recovery value	5V-95V	20V	1V	When the three-phase voltage unbalance value is less than the set value,The protector will reset automatically
P10	Three-phase voltage calibration	-9.5V~9.5V	ov	1V	Correct three-phase voltage error
P11	Phase-sequence switch	On/off	ON		Three-phase voltage sequential protection
P12	Overcurrent protection value	1~100A	100A	1A	Protector when the current is higher than the set value will cut the line When the current is higher than the set
P13	Overcurrent protection operation time	0.1s~10s	0.5s	0.1s	value,the protection movesThe time required to do it
P14	Number of continuous overcurrent protection	0~20	OFF	1	When the number of consecutive passes
P15	Three phase current error value	-9.5A~9.5A	0	1	Correct the three phase current error value

Display panel

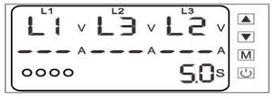


Reset/start delay display



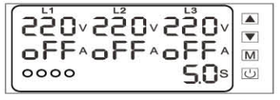
Voltage operating values are shown on L1-L2-L3 and on current during the start of delay counting on L2 Value display; After the delay is over, the output relays close and they will open normally

Phase sequence error indication



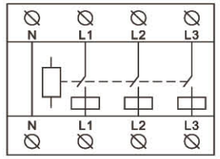
When a phase fault occurs, L1-L3-L2 is displayed, and the protector is disconnected from the output power supply

Indication of continuous over current faults



Continuous over current fault indication
Disconnect overload device
Start the relay after manual reset

Electrical symbol



Product status statement

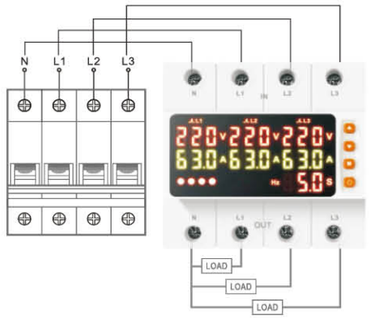
1.If a voltage fault is detected during the relay's reset/start delay count,the output relay turns on and the fault indicating LED lights up

2.The operating voltage and current values will be displayed on the screen when the relay is operating normally.If a voltage or current fault is detected,the output relay turns on and the fault indication LED lights up

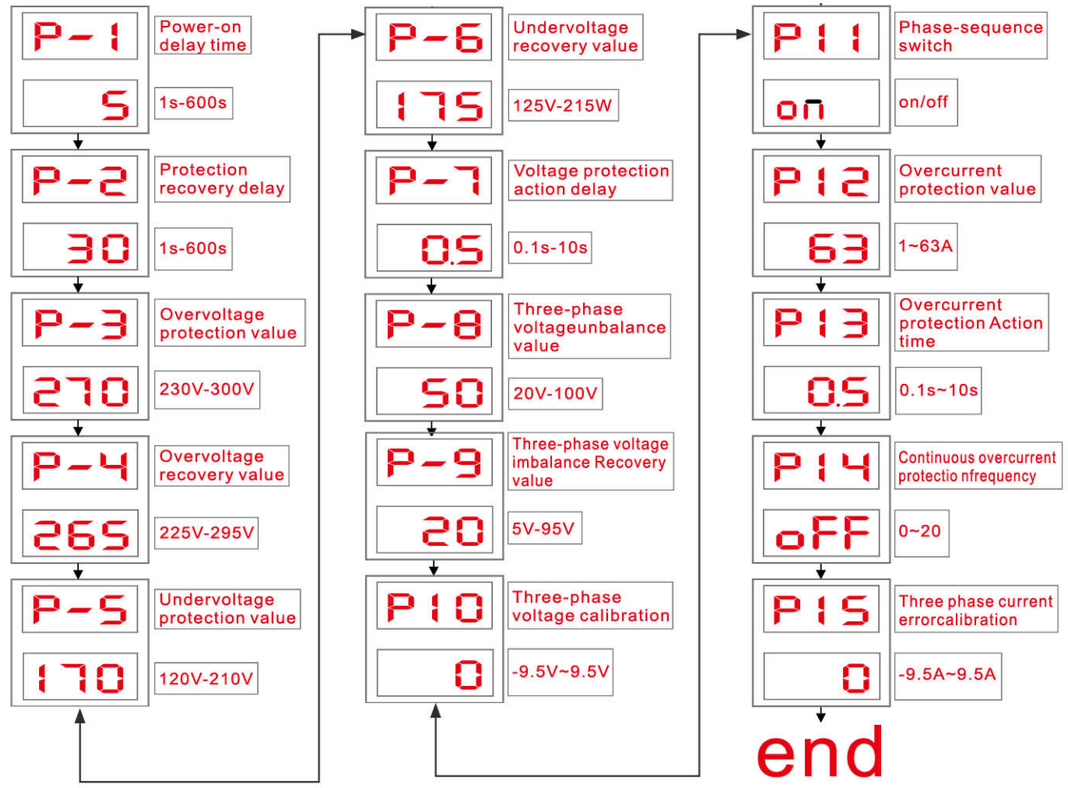
3.Voltage failure:If the input voltage is detected to trip back to Hys after a voltage failure;During counting the relay will automatically reset reset/start delay fault indicator light off working voltage and current value flashing screen

4.Current failure:When the relay fails due tocurrent trip,it will reset automatically.Reset/start delay during counting,failure indicator LED off operating voltage and current value flashing on the screen.

Wiring diagram
(Wiring is for reference only,subject to the actual)



Setup Menu



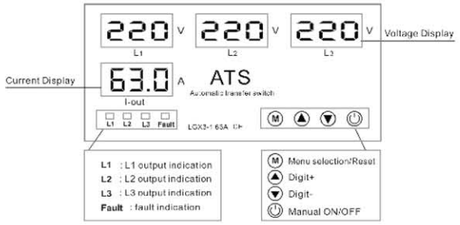
Technical parameter

Supply terminals	N,L1,L2,L3
Rated supply voltage	AC3*220V(N-L1/L2/L3)
Rated frequency	40/50/60/70Hz
Umax setting range	230-300V
Umin setting range	140-210V
Auto-reclosing delay(Ton)	1-600s
Return delay to priority phase	1-600s
Switch delay to reserve phases	<0.2s
Voltage hysteresis	5V
Overvoltage trip delay	0.1s;≥350V:0.02s
Undervoltage trip delay	0.1s:≥350V:0.02s
Voltage accuracy	<1%
Max.operating phase voltage	350V
Rated operating current	63A
Max.operating current	80A
Pollution degree	3
Electrical life	10^5
Mechanical life	10^8
Altitude	≤2000m
Ambient temperature	-25℃~+50℃
Permissable relative humidity	≤50%at40℃(without condensation)
Storage temperature	-25℃~+55℃
Conductor size	0.5mm²~1mm²

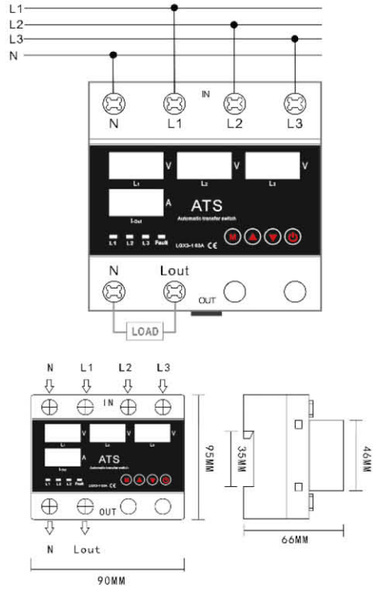
Product Description

1.Automatic Transfer Switch:with"Priority"phase
2.Microcontroller based
3.Parameter setting by knobs
4.Overvoltage and undervoltage protection
5.Overcurrent protection
6.LED indication for operating voltage
7.Din-rail mounting
8.Net weight:378g
9.Size:90*95*66mm(W*L*H)

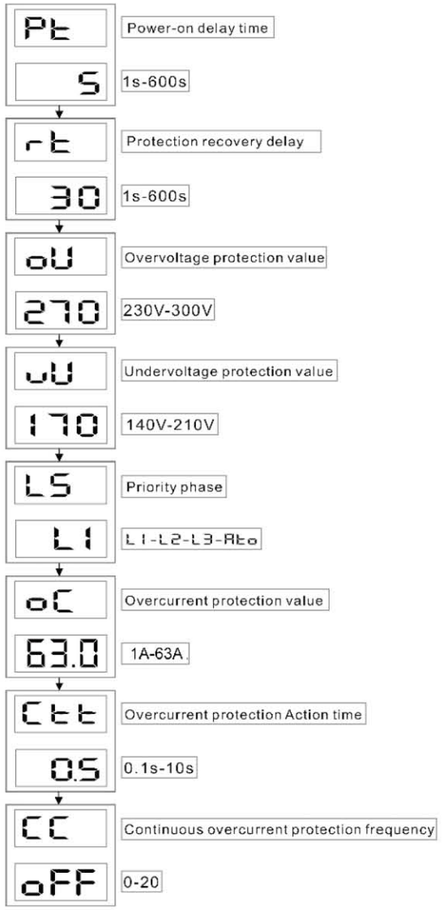
Front-face panel



Wiring diagram/Dimensional Drawing



Setup menu



Di Rail Display Meter

Accurate Display Safe And Flame RetardantTo Ensure Circuit Safety

ANDELI

多功能数显表

DIN-RAIL MULTI-FUNCTION DIGITAL METER

技术参数 Technical parameter

Accuracy	1%±2 words
Range	AC voltage: AC 40.0-300.0V or AC 200.0-450.0V(You should select one type of the meter in your order
	AC current: 0.1~99.9A(You should order current transformer when current is higher than 100A independent)
	Frequence:45.0Hz-65.0Hz
	PowerFactor:0.00-1.00PF
	Electric Power:0-450000W,the electric power resolution is 0.1W when measure electric power between 0-9999.9W, otherwise the electric power resolution is 1W.
	Electric Energy.0-99999kwh,the display of electric energy resolution is0.01kwh when measure electric energy between 0-999.99kwh,the display of electric energy resolution is 0.1kwh when measure electric energy between 1000.0-9999.9kwh and the display of electric energy resolution is 1kwh when measure electric energy larger than 9999.9kwh
Sampling rate	2 times per second
Size	54*80*64 mm
Installation	Din-rail

技术参数 Technical parameter

Accuracy	1%
Display mode	0.5 inch LED digital tube
Range	AC voltage: 80~300V,200~450V (You should select the one of measuring range in your order) AC curent：0.1~99.9A(You should order curent transformer when curent s higher than 100Aindependent)
Sampling rate	2 per second
Size	54*80*64 mm
Installation	Din-rail

应用方法 Application Method

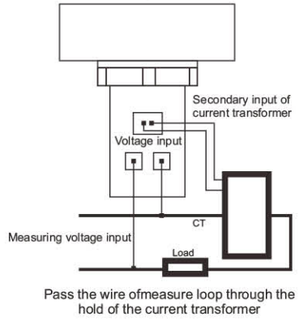
1.According to the wiring diagram,connect the plug two-wire of the current transformer to transformer the input on meter,make the current returnconductor across the hold which in the middle of the current transformer.

2.Connect the voltage measurement to the voltage input terminal of the meter.Then turn on and measure the voltage to start to read themeasure result.

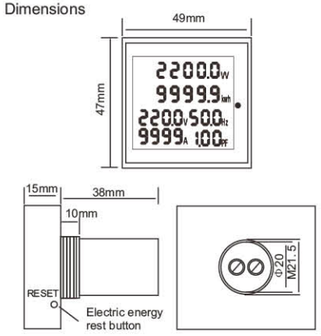
3.The electric energy reset button is on the right-bottom of the meter.you can press the button with a needle last for.

4.Second,then the electric energy will be reset.

Connection Diagram



Dimensions



注意 Attention

The meter with measure range between 250-450Vcan only use to measure 50Hz AC city electricity, it will be destroved when use to measuresquare wave, output of inverter and correction sine wave. The meter with measure range between 50-300 not affected.

技术参数 Technical parameter

Type	Effective value	Unit	Accuracy	Description
Effective voltage range	AC 80~300	V	1%	Can be calibrated and have higher accuracy
Effective current range	AC 0.1~63.0	A	1%	Can be calibrated and have higher accuracy
Frequency range	40~70	Hz	1%	Can be calibrated and have higher accuracy
Screen refresh rate	>1000	Hz	---	---
Table update	0.1~1.0	S	1%	Screen value update
Table algorithm	Root mean square	---	---	This algorithm should be used in mains power grid
Overvoltage and undervoltage backlash	5	V	---	Fixed 5V backlash
Timer range	1~999	S	1%	User settings
Action time	0.1~10.0	S	1%	User settings
Effective DC range	DC 80~300	V	1%	---

功能 Function

Overvoltage and current protection
Under voltage protection
Overcurrent protection
Automatic reclosing
Voltage/current display
Adjustable voltage,current tripping
Automatic reclosing time

其他功能及说明 Other functions and instructions

1. Reset: Press and hold the power button for at least 5 secondsin shutdown mode to reset all parameters and turn onthe device.
2. Toggle display: Display mode 2: +,- key switch
   Display mode 3: +,- key switch
3. Turn on/off: Short press the power button to operate.
4. Quickly adjust voltage: Power on status, quickly click the '+' button.
5. Quickly adjust the current: Power on status, quickly click the '-' button.
6. Setting error: When the overvoltage is set to be lower than theundervoltage, the protector will rem in a protectivestate.
7. School table reference: When correcting voltage/current, it is necessary to refer to a multimeter wit root mean square (RMS) for adjustment.
8. Change lock password settings: When the value of P19 is not 112, only the parameterscan be viewed and cannot be set. P20 will only appeawhen the P19 value is correc

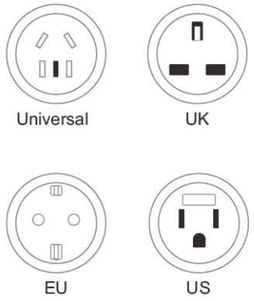
设置菜单 Setup Menu

Code	Option	Set range	Default
P1	Power-on delay	1-999	5S
P2	Recovery delay	1-999	30S
P3	Overvoltage	130-300	270V
P4	Overvoltage recovery walue	125-295	265V
P5	Undervoltage	80-210	170V
P6	Undervoltage recovery value	85-215	175V
P7	Overvoltage action delay	0.1-10.0	0.5S
P8	Voltage correction	-10%-+10%	0V
P9	Overcurrent	1-16	16A
P10	Overflow as delay	0.1-10.0	1.0S
P11	Continuous overcurrent counting	0-20	0 times
P12	Current correction	-10%-+10%	0 A
P13	Frequency correction	-2.5%-+2.5%	0 Hz

Code	Option	Set range	Default
P14	Rapid power failure protection	ON/OFF	ON
P15	Display mode	1: Standards 2: Manual switch 3: Automatic switch	1: Standards
P16	Automatic reset	ON: Self-recovery OFF: Manual recovery	ON
P17	Action/knife mode	ON/OFF	ON
P18	Energy saving mode	ON/OFF	OFF
P19	Setup lock password	000-999	112
P20	Change password lock	000-999	112

产品外形尺寸 Dimension of product

插座类型 Socket type



Multifunctional digital display & ATS over/under-voltage protection & energy metering with reserve funds

Provide you with dependable products and services

D52-2066

D52-2066 DIN-rail multi-function Digital meter can measure AC voltage, AC current, active power, power factor,frequence and electric energy and the same time. The meter have a colorful, full-view, high definition LCD todisplay the measure parameters.

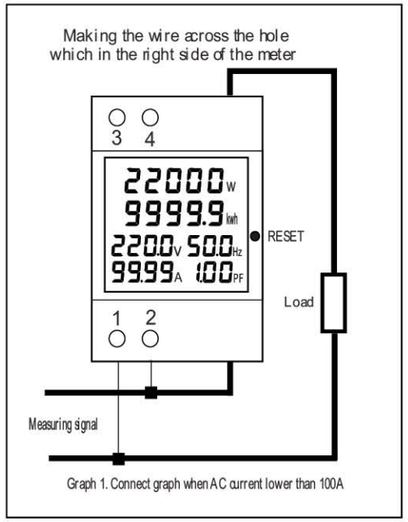
Technical parameter

Accuracy	1%±2 words
Range	AC voltage: AC 40.0-300.0V or AC 250.0-450.0V (You should select one type of the meter in your order) AC Current:AC 0-100.0A, the current resolution is 0.01A . Frequence: 45.0Hz – 65.0Hz Power Factor: 0.00-1.00PF Electric Power: 0-450000W, the electric power resolution is 0.1W when measure electric power between 0-9999.9W, otherwise the electric power resolution is 1W. Electric Energy: 0-99999kwh, the display of electric energy resolution is 0.01kwh when measure electric engery between 0-999.99kwh, the display of electric energy resolution is 0.1kwh when measure electric engery between 1000.0-9999.9kwh and the display of electric energy resolution is 1kwh when measure electric engery larger than 9999.9kwh
Speed	2 times per second
Size	54×80×64
Installation	Din-Rail

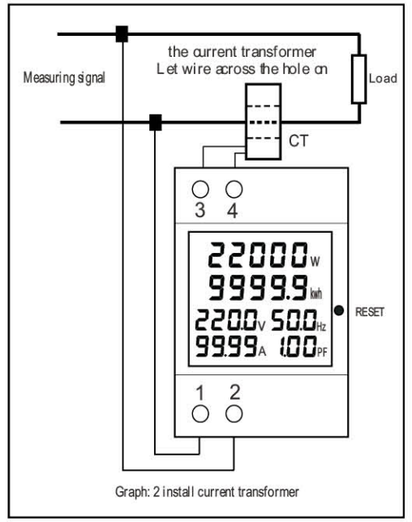
ANDELI
数字式多功能电表
DIN-Rail Multi-Function Digitial Meter

Application Method

1. Connect the measure voltage to the 1 and 2 terminal
2. Connections of meter with internal current transformer as graph 1. Make the wire through the hole in the meter and the direction chose arbitrarily.
3. Connections of meter with external current transformer as graph 2. Make the wire through the hole in the meter, and connect the two wires of the secondary transformer to the 3 and 4 terminal.
4. When power on, the meter display the measure parameters.
5. When power on, you can press the button of SAM CK last for 5 seconds, then the electric energy will to be zero and start to cumulate when release the button. And when power off, the meter can save the value of electric energy and go on cumulating data when the meter power-on next.



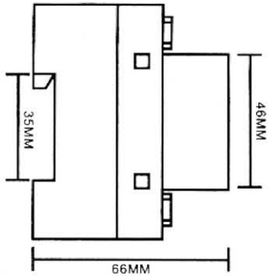
Graph 1. Connect graph when AC current lower than 100A



Graph: 2 install current transformer

Attention

The meter can only use for measure 45-65Hz AC city electricity.



FUNCTION

Number	Function	
1	Overvoltage protection/switchable	
2	Undervoltage protection/switchable	
3	Overcurrent protection/switchable	
4	Continuous overcurrent counting/switchable	
5	Temperature protection	Default internal temperature, external temperature protectfor housing needs to reserve holes
6	Measurement	The maximum total measurement is 99999999999 degrees, which is obtained fr(nn), 1 degree meter (pc), and ten thousand degree meter (hh). Use the+key to switch and view
7	Multifunctional display	Voltage, current, frequency, visible power, active power, power factor, 0.000 degree metering, celsius temperature, fahrenheit temperature,+key switching
8	Knife switch function	When the protection function is turned off, the relay remains in its origiate without any further action, but the switch button is still effective
9		Overvoltage 130-300v, undervoltage 80-210v
10	Manual/Automatic Recovery	After manually protecting the output, it must be manuall;y turned on.
11	Energy saving mode	When the protector is not active, reduce the brightness ofthe digital tube to save energy

PARAMETER

Number	Entry	Effective value	Unit	Accuracy	Explain
1	Effective voltage range	AC 80.0~300.0	V	1%	Can be calibrated for higher accuracy
2	Effective current range	AC 0.001~63.00	A	1%	Can be calibrated for higher accuracy
3	frequency range	35.00~75.00	Hz	1%	Can be calibrated for higher accuracy
4	Timer range	1~9999	S	1%	User settings
5	Action time	0.1~10.0	S	1%	User settings
6	Active power measurement range	0.1~999999999.9	degrees	1%	0.1 degree count
7	Power range	0.1~13860.0	W	1%	Calculated at 220V/63A, the local power consumption is than 1 watt, and thded in the measurement results
8	Power factor	0.001~1.000		1%	This parameter is meaningless at low power.
9	Celsius temperature	-40.0~85.0	℃	1%	The default protector has an internal temperature, and the outer temperatuneeds to reserve holes
10	Fahrenheit temperature	-40~185	F	1%	The default protector has an internal temperature, and the outer temperatueeds to reserve holes

POWER ON

Number	Function	Explain
1	Power on self-test	The digital tube displays 8.8.8 when turned on, and the LED indicator light is on for 1 second
2	Status display	The first digit of the digital tube displays the overvoltage protection st'y' Enable overvoltage protection. "-': Turn off overvoltage protection
		On the second digit of the digital display, the undervoltage protection stas'y' enabling undervoltage protection-": disabling undervoltage protection
		On the third digit of the digital tube, the overcurrent protection status das "y: Enable overcurrent protection."-": Turn off overcurrent protection
		Protection function turned off, skipping status display
		Auto reset off, skip status display, power on standby
		The status display is constrained by the power on delay. If the power on dater than 3 seconds, the remaining power on time will be displayed next

SET

Number	Option code	Option	Max	Min	Default	Unit	Explain	
1	P-1	Power on delay	999	1	5	S		
2	P-2	Recovery delay	999	1	30	S		
3	P-3	Overvoltage	300	230	270	V	Overvoltage shutdown greater than 300	
4	P-4	Overvoltage recovery value	295	225	265	V		
5	P-5	Undervoltage	210	80	170	V	Close undervoltage below 80	
6	P-6	Undervoltage recovery value	215	85	175	V		
7	P-7	Overvoltage action delay	10.0	0.1	0.5	S		
8	P-8	Voltage correction	+9.5%	-9.5%	0	V	Suggest keeping default 0	
9	P-9	Overcurrent protection	63. 0	1.0	63.0	A	Close overcurrent greater than 63.0	
10	P10	Overcurrent action delay	10.0	0.1	1.0	S		
11	P11	Continuous overcurrent counting	20	0	0	order	0: Turn off counting	
12	P12	Current correction	+9.5%	-9.5%	0	A	Suggest keeping default 0	
13	P13	Frequency correction	+2.5%	-2.5%	0	Hz		
14	P14	Active power correction (calibration)	+5.0%	-5.0%	0	KW	Suggest keeping default 0	
15	P15	Temperature correction	+5.0%	-5.0%	0	℃	Temperature protection: 75℃,return to 65℃. No option for setting fixed parameters.	
16	P16	Pre-set battery level	999	0	0	kWh	When the battery level exceeds the preset value, overcharge protection is triggered. It is set to be disabled by default.	
17	P17	Protection function switch	on	off	on		On: The protector is working properly	Off: The protector has no action
18	P18	Automatic reset	on	off	on		On: Self recovery	Off: manual recovery
19	P19	Energy saving mode	on	off	off		On Jurn on the brightness reduction of the digital tube	Off: Close
20	P20	Enter password	999	0	112		The parameters cannot be modified when the entered password does not match the set password.	
21	P21	Set password	999	0	112		Modify this value to change the password.	

ANDELI
三显多功能电表
instructions

OTHER OPERATIONS

Number	Function	Explain
1	Switch Display	During normal operation, short press the+key to switch display
2	On/Off	Short press the power button to operate
3	Set Exit	If you want to exit early during the setup process, short press the powver button to save and exit
4	Setting error	When setting parameters abnormally, the protector will remain in a protedcted state. If it cannot be resolved, please contact the factory
5	Set tuning	+/-Short press up/down 1 key, long press up/down 10 key
6	List reference	When it is necessary to adjust the table parameters, please have a profess1. The error of the table has been reasonably controlled within+-% 1, and to adjust it
7	Local power consumption	The active power consumption of this machine is between 0.2~1.W, which is also included in the meter measurement
8	Pulse light/tachometer	A measurement of 1000imp and 0.001 degrees can be considered as a tachometere 1000 revolutions is 1 degree and can measure relatively small active power
9	About Metrology	The measurement results of this machine are for reference only aand do not serve as a basis for standards
10	Reset Settings	Press and hold the power button (4th button) for 5 seconds in standby nhode to turn on the device
11	Clear measurement	Long press the minus key (third key) for 5 seconds to complete

Matters needing attention

1. The equipment must be installed by qualified professionals.
2.Beforeoperating the device,disconnect all power supplies and do not touch any terminal when the power supply is connected.
3.Verify that terminals are properly connected.
4.No matter whether the equipment is in normal operation,do not disassemble or repair otherwise,producers and sellersNo responsibility is accepted.
5.Do not use the equipment in places that may be corroded by gas,strong sunlight and rain.
6.Clean equipment with a dry cloth.
7.Failure to comply with these instructions will result in serious injury or serious accident.

Product characteristics

1.microcontroller-based
2.Digital display of operating voltage and current values
3.Prevent the electrical set voltage is too high/too low current,three-phase asymmetry and phase sequence error
4.Voltage measurement accuracy2%
5.Key setting parameter
6.LED indicates overvoltage/undervoltage and overcurrent faults
7.6 modules.DIN rail mounting
Error code recording : When a fault occurs, it shall be indicated by a specific number or code identifying the type of fault
For example : Code 1 ⟶ Overvoltage , Code 2 ⟶ Undervoltage, Code 3 ⟶ Overcurrent
Inrush Current Protection: nrush current protection preverhts the device from tripping due to the high but short-duration surge current that occurs when equipment such as motors or transformers are first energized(ON/OFF)

ANDELI
三相四线过欠压过流保护器
Three-phase, four-wire overvoltage, undervoltage and overcurrent protector

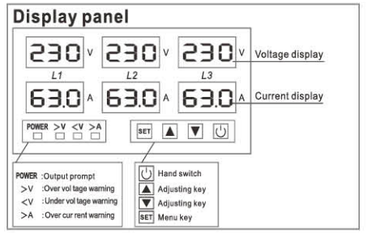
Technical data

Rated supply voltage	AC230V
Operating voltage range	AC120V-300V
Rated frequency	50/60Hz
lag	Overvoltage and asymmetry:5V Undervoltage:5V
Asymmetric delay	10s
Voltage measurement accuracy	≤2%(On the whole spectrum)
Rated insulation voltage	450V
Output contact	3NO
Electrical life	10^5
Mechanical life	10^5
Protection class	Ip20
Pollution degree	3
altitude	<2000m
Operating temperature	-5℃-40℃
humidity	≤50%or40℃(Condensation free)
Storage temperature	-25℃~55℃

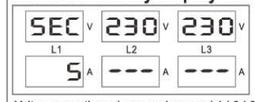
Parameter setting

Set character	Technical parameter	Set range	Default value	Step forward	Function description
P-1	Power-on delay time	1s-600s	5s	1s	The time required after the external power supply is cut off is used Power on when power is restored.
P-2	Protection recovery delay	1s-600s	30s	1s	After voltage and current recovery, automatic resetTime required
P-3	Overvoltage protection value	230V-300V	270V	1V	When the voltage is above the set value. The protector will cutBroken line
P-4	Overvoltage recovery value	225V-295V	265V	1V	The protector will be automatic when the voltage falls below the set valueReset,and the value must be less than the overcharge Voltage protection value greater than 5V
P-5	Undervoltage protection value	120V-210V	170V	1V	When the voltage falls below the set value,the protector willCut the line.
P-6	Undervoltage recovery value	125V-215V	175V	1V	The protector will be automatic when the voltage is higher than the set valueReset,the set value must begreater than the undervoltage protection currentThe pressure is over 5V
P-7	Voltage protection action delay	0.1s-10s	0.5s	0.1s	When the voltage is below or above the set value,the protection actionThe time required to do it
P-8	Three-phase voltage unbalance value	20V-100V	50V	1V	When the error ratio between the three phase voltage is setIf the value deviates,the protector will cut the line
P-9	Three-phase voltage unbalance recovery value	5V-95V	20V	1V	When the three-phase voltage unbalance value is less than the set value,The protector will reset automatically
P10	Three-phase voltage calibration	-9.5V~9.5V	0V	1V	Correct three-phase voltage error
P11	Phase-sequence switch	On/off	ON	1A	Three-phase voltage sequential protection
P12	Overcurrent protection value	1~63A~100A	63A/100A	0.1s	Protector when the current is higher than the set value will cut the line
P13	Overcurrent protection operation time	0.1s~10s	0.5s	1	When the current is higher than the set value,the protection movesThe time required to do it
P14	Number of continuous overcurrent protection	0~20	OFF	1	When the number of consecutive passes
P15	Three phase current error value	-9.5A~9.5A	0		Correct the three phase current error value

Display panel

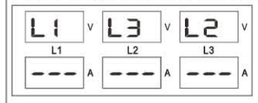


Reset/start delay display



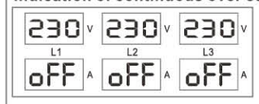
Voltage operating values are shown on L1-L2-L3 and on current during the start of delay counting on L2 Value display; After the delay is over, the output relays close and they will open normally

Phase sequence error indication



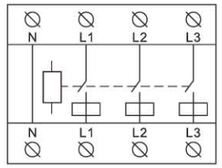
When a phase fault occurs, L1-L3-L2 is displayed, and the protector is disconnected from the output power supply

Indication of continuous over current faults



Continuous over current fault indication
Disconnect overload device
Start the relay after manual reset

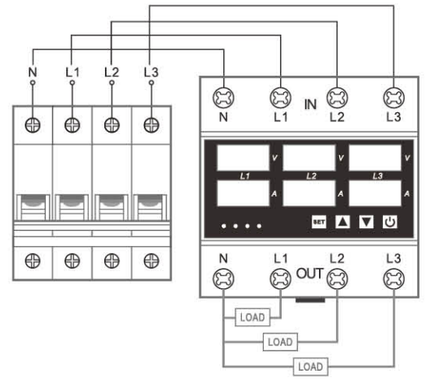
Electrical symbol



Product status statement

1.If a voltage fault is detected during the relay's reset/start delay count,the output relay turns on and the fault indicating LED lights up.
2.The operating voltage and current values will be displayed on the screen when the relay is operating normally.If a voltage or current fault is detected,the output relay turns on and the fault indication LED lights up.
3.Voltage failure:If the input voltage is detected to trip back to Hys after a voltage failure;During counting the relay will automatically reset reset/start delay fault indicator light off working voltage and current value flashing screen.
4.Current failure:When the relay fails due tocurrent trip,it will reset automatically. Reset/start delay during counting,failure indicator LED off operating voltage and current value flashing on the screen.

Wiring diagram
(Wiring is for reference only,subject to the actual)



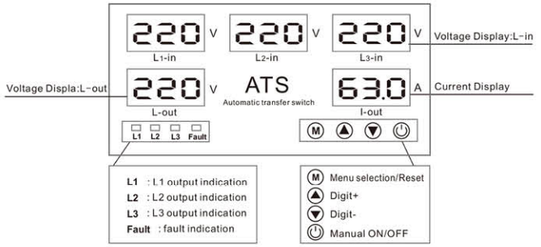
Technical parameter

Supply terminals	N,L1,L2,L3
Rated supply voltage	AC3*220V(N-L1/L2/L3)
Rated frequency	40/50/60/70Hz
Umax setting range	230-300V
Umin setting range	140-210V
Auto-reclosing delay(Ton)	1-600s
Return delay to priority phase	1-600s
Switch delay to reserve phases	<0.2s
Voltage hysteresis	5V
Overvoltage trip delay	0.1s;≥350V:0.02s
Undervoltage trip delay	0.1s:≥350V:0.02s
Voltage accuracy	<1%
Max.operating phase voltage	350V
Rated operating current	63A
Max.operating current	80A
Pollution degree	3
Electrical life	10^5
Mechanical life	10^8
Altitude	≤2000m
Ambient temperature	-25℃~+50℃
Permissable relative humidity	≤50%at40℃(without condensation)
Storage temperature	-25℃~+55℃
Conductor size	0.5mm²~1mm²

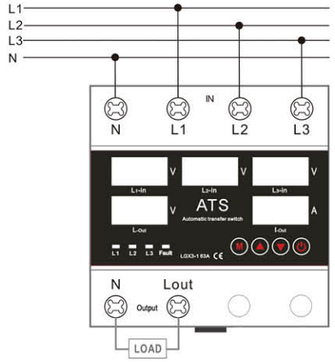
Product Description

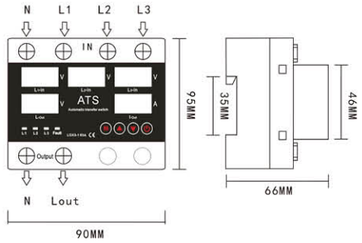
1.Automatic Transfer Switch:with"Priority"phase
2.Microcontroller based
3.Parameter setting by knobs
4.Overvoltage and undervoltage protection
5.Overcurrent protection
6.LED indication for operating voltage
7.Din-rail mounting
8.Net weight:378g
9.Size:90*95*66mm(W*L*H)

Front-face panel

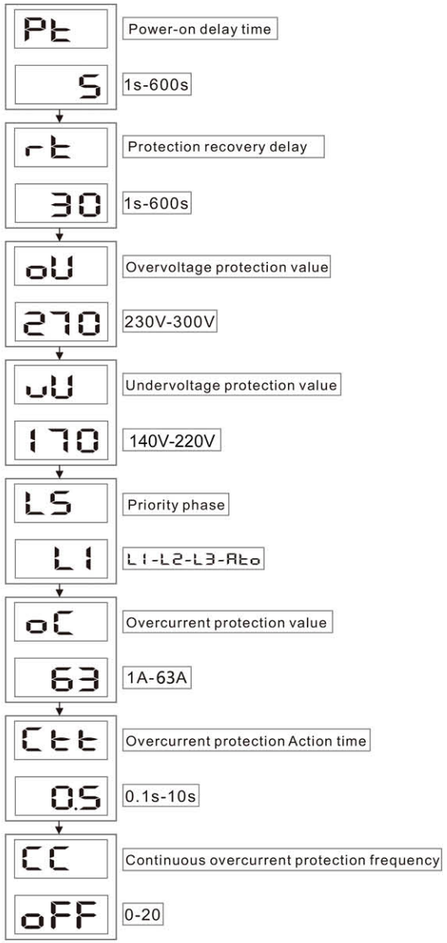


Wiring diagram/Dimensional Drawing





Setup menu



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Product Description

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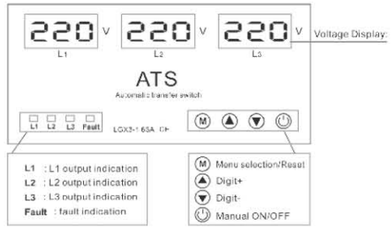
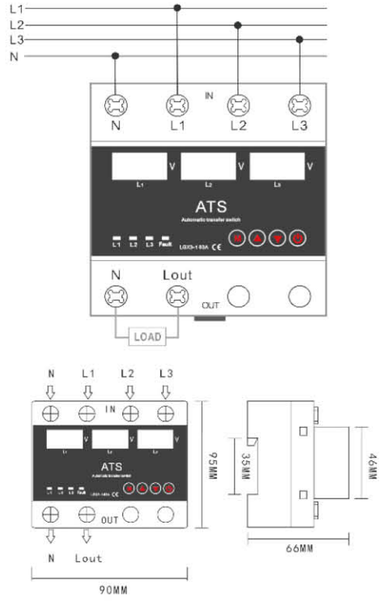
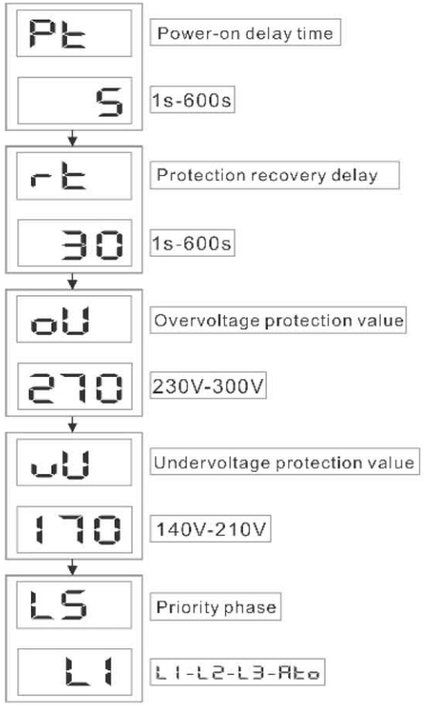


Wiring diagram/Dimensional Drawing



Setup menu



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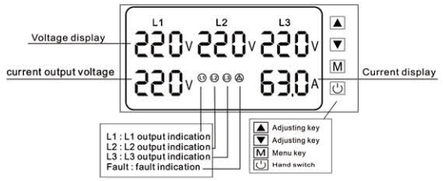

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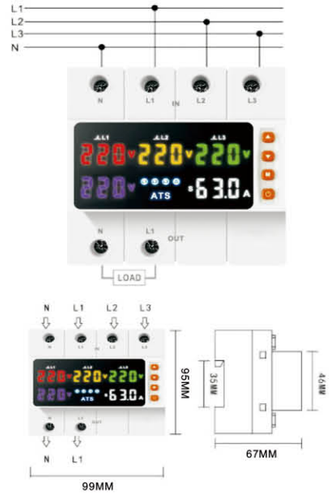

Setup menu