

# Power Analyzer

Front size: 72x72mm, 80x80mm, 96x96mm, 120x120mm



## 1. General

PZ96 Series power analyzer specializes in measuring the data of all kinds of electric networks, such as the currents, the voltages, the powers, the energies etc... It can be used for local display, or it is connected with the control equipment in measuring and controlling system. They comply EN 61326:2006 and EN 61010-1:2001. They are a kind of programmable analyzer. With the 4 key on the front, we can set parameters, such as CT/VT ratio, baudrate etc... They have many auxiliary options, RS-485 (Modbus-RTU), analog output, D/DO and alarm, multi tariffs energies etc..

They are a kind of analyzer with excellent cost performance, They are widely being used in different kinds of control system, SCADA system and power management system.

## 2. Technical feature

Technical parameter		Value
Input	Network	1P2W.3P3W.3P4W
	Frequency	45Hz ~ 65Hz
	Voltage	AC 100V, 400V (programmable)
		Overload: 480V (continuous); 800V during 30s
		Consumption: < 0.2VA
	Current	Rating: AC 1A, 5A (programmable)
		Overload: 6A (continuous); 50A during 30s
Consumption: < 0.2VA		
Thermal drift	<200ppm	
CT/VT ratio		CT and VT ratio can be programmable
Options	Analog output (M)	DC 0 ~ 20mA, 4 ~ 20mA (Load capacity: < 600Ω)
		DC 0 ~ 5V, 1 ~ 5V ( ILoad capacity: > 1kΩ)
	Digital output (DO)	NO-NC contact relay (to control the status of switches) Contact capacity: AC 250V/3A, DC 30V/3A
	Digital input (DI)	Dry contact Input (with 5V power) (to display the switches' status)
	Alarm output (J)	Alarm of over voltage, under voltage and over current The hysteresis and the delay can be programmable
	Communication (C)	RS485 (Modbus-RTU protocol)
	Pulse output	pulse outputs (open-collector), Pulse constant: 10000, 40000, 160000 imp/kWh
	Multi tariff kWh (/F)	up to 4 tariffs and 8 time zones in one day
Display (L)		LED, LCD
Precision		0.5 (F: 0.05Hz; kVar: 1)
Power supply		AC/DC 85 ~ 270V; Consumption < 4VA
Isolation		2kVAC/min (voltage input / power; between current inputs)
		1.5kVAC/min (outputs / power)
Isolation resistor		input / housing and output / housing >100MΩ
Environment		Work T: -20C ~ +55C
		Storage T: -20C ~ +70C
		Relative humidity: 5% ~ 95% (no condensation)
		Altitude: < 2500m

POWER ANALYZER

## 3. Specification

### Single Phase

Type	Panel size	Display	Measurement	Options
PZ72-E	72x72mm	LED	U, I, F, P, Q, S, PF, kWh, kvarh, kVAh	RS485 + 2DI + 2DO RS485 + 2DI + 2 pulse outputs RS485 + 1 analog outputs + 2 pulse outputs
PZ72L-E		LCD		
PZ80-E	80x80mm	LED		
PZ80L-E		LCD		

### Three Phase

Type	Panel size	Display	Measurement	Options
PZ72-E3	72x72mm	LED	VL1,VL2,VL3 VL12,VL23,VL31 AL1,AL2,AL3,F, P,P1,P2,P3, Q,Q1,Q2,Q3,S,S1, S2,S3,PF,PF1,PF2, PF,MD kW, +/-kWh,+/-kvarh	RS485 + 1 pulse output
PZ80-E3	80x80mm	LED		RS485 + 2DI + 2DO
PZ80L-E3		LCD		RS485 + 4DI + 1 pulse output RS485 + 1 analog outputs + 2 pulse outputs
PZ96-E3	96x96mm	LED		RS485 + 2DI + 2DO RS485 + 4DI + 1 pulse output RS485 + 2 analog outputs + 2 pulse outputs
PZ96L-E3		LCD		RS485 + 2DI + 2DO RS485 + 4DI + 2DO RS485 + 4DI + 1 pulse output RS485 + 2 analog outputs + 2 pulse outputs
PZ42-E3	120x120mm	LED		RS485 + 8DI + 4DO RS485 + 8DI + 2 pulse output RS485 + 2 analog outputs + 2 pulse outputs
PZ42L-E3		LCD		RS485 + 8DI + 2DO RS485 + 2 analog outputs + 2 pulse outputs

## 4. Outlines



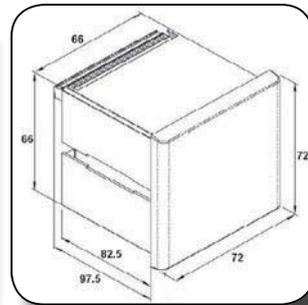
PZ72-E



PZ72L-E



PZ72-E3



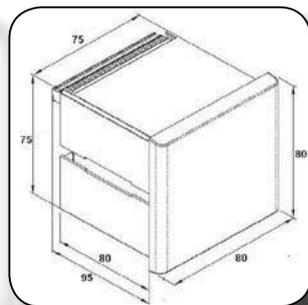
72x72mm



PZ80-E3



PZ80L-E3



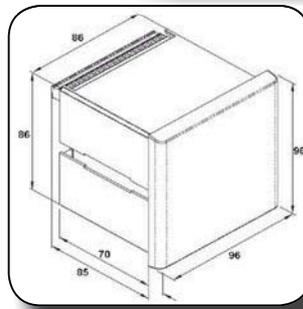
80x80mm



PZ96-E3



PZ96L-E3



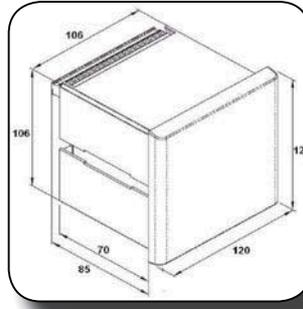
96x96mm



PZ42-E3



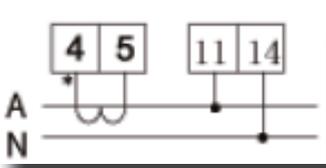
PZ42L-E3



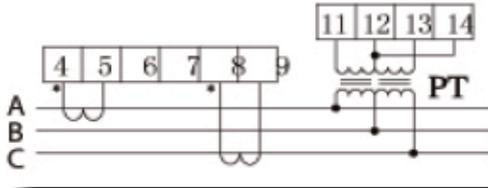
42x42mm

## 5. Wiring

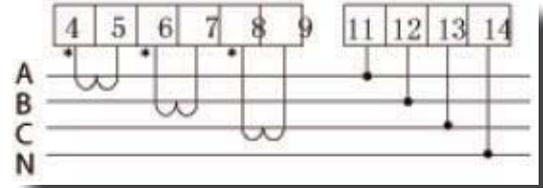
### 6.1 Input



Single Phase

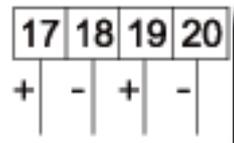


3P3W

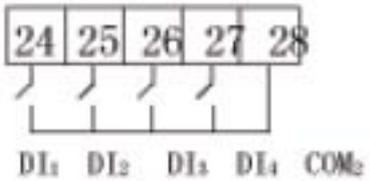


3P4W

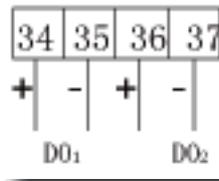
### 6.2 Options



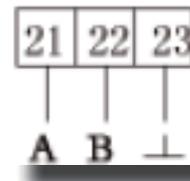
2 pulse outputs



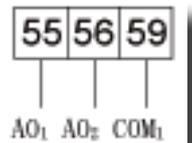
4 DI



2 DO

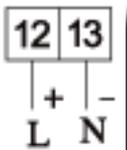


RS485



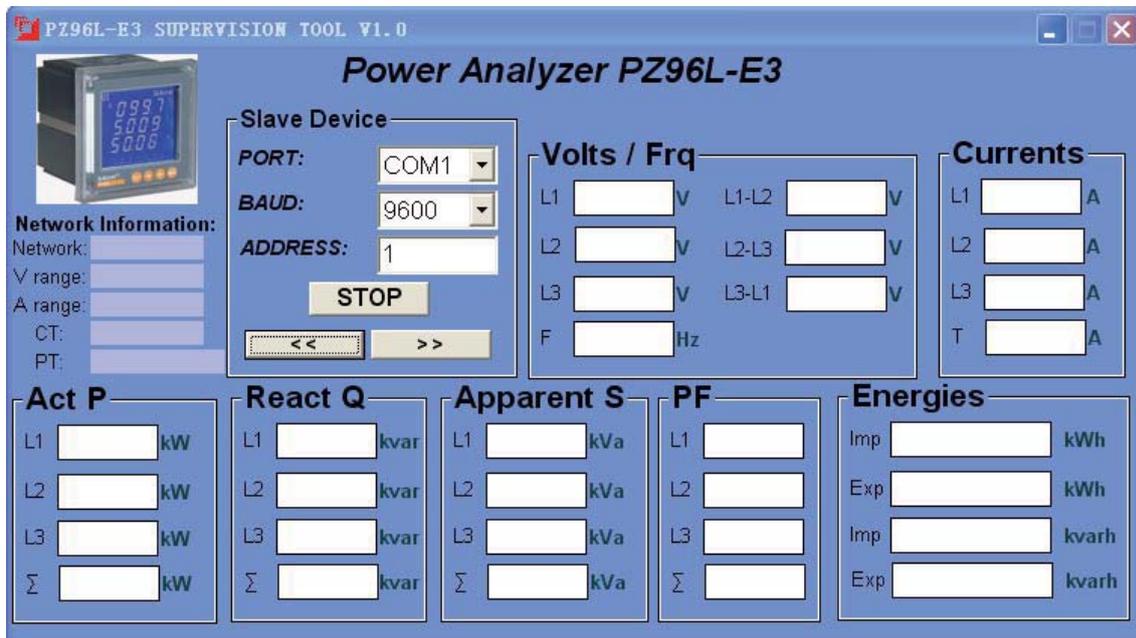
2 analog outputs

### 6.2 Power supply



## 6. Softwares

We have one free software for every our analyzer, so that our customers who choose RS485 communication can read analyzer or a group of analyzers on PC (under Windows system). The customers can get these softwares on the disc of our package or by downloading from our website ([www.acrel.cn](http://www.acrel.cn)).



Operation:

- 1). Install the software corresponding to analyzer you use.
- 2). Press Windows "Start" --- "Program" --- "PZ analyzers" file --- software
- 3). When you click the software, you can see a form like the picture as above, then you choose the COM port connecting with analyzer and the baud rate in analyzer setting.
- 4). Choose the analyzer device address, then press "START" button to begin reading analyzer data.
- 5). If with good connection, there will be data in every data frame; If there is no data in the data frames, you have to check the connections or the analyzer setting.
- 6). Press "<<" and ">>" buttons to read different analyzer on the same LAN.
- 7). If you want to change the software baud rate, you have to press "STOP" at first.

## 7. Order example

When your order, please inform us the detail information of analyzer. For example the range of current inputs and voltage inputs and options you need.

For example1:

Need the 3 phase LCD display power analyzer on 96x96mm size with RS485 communication, 2DI/2DO, the current range is 0-5A, the voltage range is 3x230/400V.

The product type is **PZ96L-E3 (RS485, 2DI/2DO, 5A, 3x230/400V)**

For example2:

Need the single phase LED display power analyzer on 72x72mm size with RS485 communication, one 4-20mA analog output, the current range is 0-5A, the voltage range is 230.

The product type is **PZ72-E (RS485, one 4-20mA, 5A, 230V)**