PZ72(L)-DE

PZ series intelligent DC energy meter is designed for applications such as DC panels, solar power, telecommunications base stations, and charging posts. This series of instruments can measure voltage, current, power, forward and reverse power in DC system. It can be used for local display, and connected with industrial control equipment, computers, form a measurement and control system. And it has a variety of external excuse functions for the user to choose: RS485 communication interface, Modbus-RTU protocol, relay alarm output, digital input/output. According to different requirements, through the instrument panel keys, you can set the ratio, communication parameters.



The product meets the relevant technical requirements of the standard Q/GDW1825-2013 DC power meter specification，GB/T29318-2012 Non-vehicle charging electric energy metering for electric vehicles，Q/GDW364-2009 Single-phase energy meter specification.

Functions

Type	Display	Shape	Basic Function	Optional Function
PZ72L-DE	LCD display	72 Square	DC: voltage、current、power、energy	1、RS485 (/C) 2、12V power output① (/V) 3、RS485 + 2DO (/KC) 4、RS485 + 2DI2DO (/KC) 5、RS485 + 4DI2DO② (/KC) 6、RS485 + 2DO + 12V power output (/KVC) 7、RS485 + 12V power output (VC) The above functions can have the following two optional functions at the same time: 8、Auxiliary power 20-60V (/ZD) 9、Multiple rate (F)
PZ72-DE	LED display			
PZ96L-DE	LCD display	96 Square		
PZ96-DE	LED display			

Note: ①The function of 12V power output and DI can't be selected at the same time；

②Only PZ96 (L) -DE has 4DI2DO function.

Electrical Performance

Input voltage	DC voltage	Input range	Direct access： 0～100V,0～500V,0～1000V
		Input resistance	≥6kΩ/V
	DC voltage	Input range	Indirect access：0-2500A(External Shunt or Hall Current Sensor, the range can be set)
		Shunt	75mV
		Hall Current Sensor	0～20mA、0～5V
		Power consumption	≤1mW
	Overload	It can work at normal status at 1.2 times of full load, and can continued work 1 second at 2 times of full load.	
Accuracy class		0.5class	
Pulse constant		Voltage and current specifications：750V、300A，Default pulse constant：100imp/kWh	
		Voltage and current specifications：1000V、300A，Default pulse constant：100imp/kWh	

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

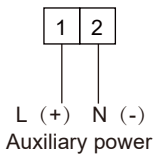
Function	Measuring	Voltage、Current、Power	
	Calculate	Current total electricity、Current positive energy、Current reverse power	
	Multiple rate	Four time zones、two time table、fourteen time points、four multiple rates. (PZ72L-DE support only)	
	Historical data statistics	Last 12 months of historical electricity(multiple rate electricity).(PZ72L-DE support only)	
	DI、DO	PZ72 has two digital outputs and two digital inputs, PZ96 has two digital outputs and four digital inputs. DI(Collect and display local switch status information、Realize remote transmission by RS485)、DO(Relay output, can achieve "remote control" and alarm output)	
	Display	LCD(the backlight delay time can be adjusted) or LED	
	Communication	RS485、Half duplex、Photoelectric isolation、Modbus-RTU / DL/T645-07、Band:1200/2400/4800/9600、Infrared：1200	
	DI、DO	DI	Dry contact input, Meter built-in power supply, photoelectric isolation
		DO	Two relay outputs, Normally open contact, capacity:2A/30VDC or 2A/250VAC
Working power	Voltage range	85～265VAC/DC、50/60Hz；20～60VDC	
	Power consumption	≤2W	
Insulation resistance		≥100MΩ	
Power frequency withstand voltage		3kV/1min（RMS）(between the power supply binding post and the signal binding post)	
Environment	Temperature	working：-25℃～+60℃；storage：-20℃～+70℃	
	Humidity	≤ 93%RH，No condensation, no corrosive gases	
	Altitude	≤ 2500m	

Dimension

Outline(unit:mm)	Panel Size		Housing Size			Cut-out	
	Width	Height	Width	Height	Depth	Width	Height
72 square	75	75	66	66	98	67	67
96 square	96	96	86	86	92	88	88

wiring

■ auxiliary power terminal



■ Signal input terminal

The current signal sampling line must use shielded twisted pair.

◆ Sampling current with shunt，connection between shunt and instrument as shown in figure 4:

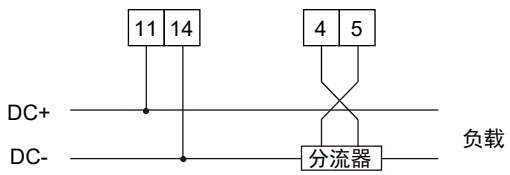


Figure 4 outside shunt wiring diagram

Note: If the shunt is installed in DC+, you need to note the common positive connection method in the order before ordering

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

◆ Sampling current with Hall Current Sensor, connection between Hall current sensor(Powered separately) and instrument as shown in figure 5:

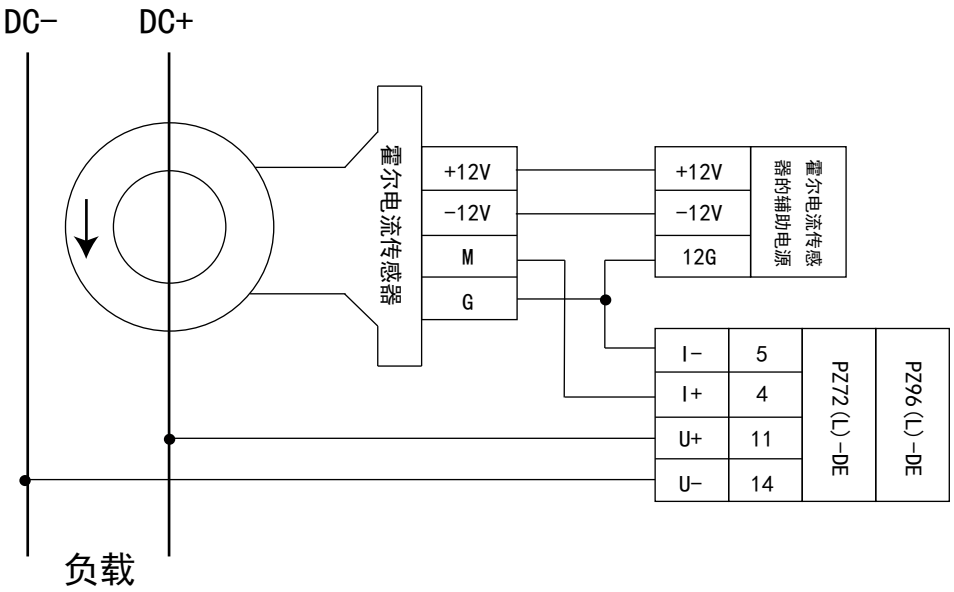


Fig 5 Typical wiring diagram of using Hall current sensor

Notes: Figure 5 is typical wiring diagram using hall current sensor, figure is only for reference ,if not accordance with the actual wiring diagram of Hall current sensor, please refer to the wiring diagram shown in the instructions of Hall current transducers that are actually needed.

◆ Sampling current with Hall current sensor, connection with Hall current sensor (selection function of instrument : 12V power supply output power supply) and instrument as shown in figure 6:

The wiring shown in the figure is only applicable to Hall current sensors with a power supply range of ±12V.

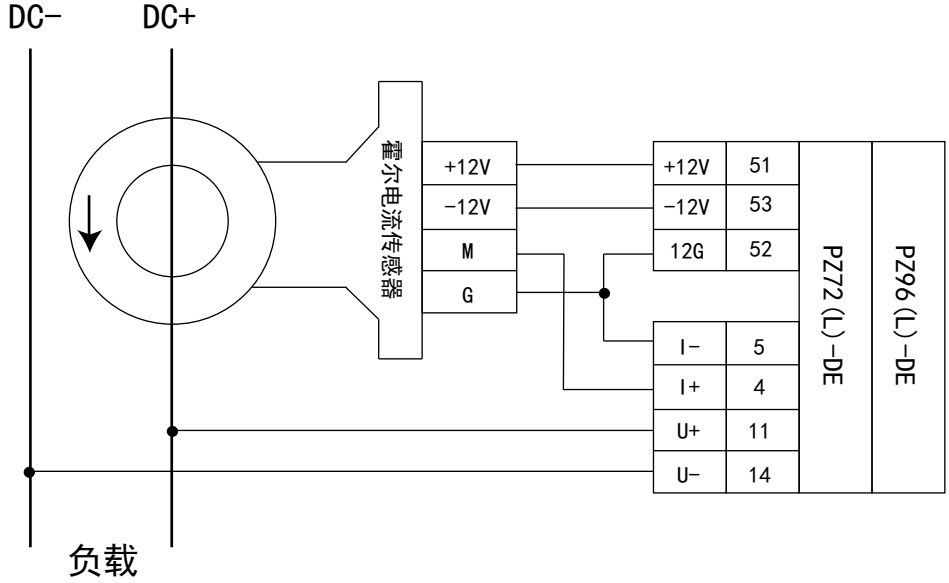


Figure 6 Typical wiring diagram of using Hall current sensor
(Powered by the optional function “12V power output” of the meter)

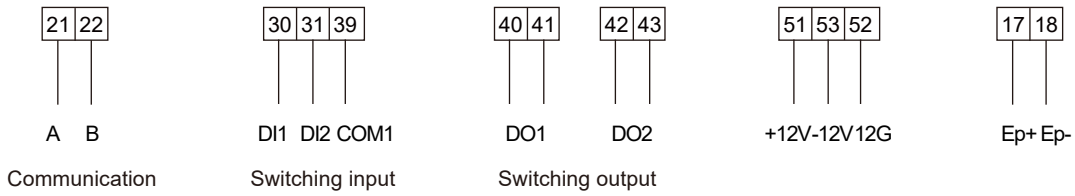
Notes: 1、Because there is no isolation between the voltage signal port and the current model port in the instrument. when wiring , please note that the voltage between the negative end of the voltage signal and negative end of the current signal should not be greater than 5V.

2、In actual use, when the voltage and current signals are all positive or negative, the power will be expressed as positive, and the electric energy will be expressed as kWh; when the voltage and current are positive and negative, the power will be expressed as negative, and the electric energy will be expressed as kWh. The electric energy is measured by positive and negative separately, and does not affect each other.

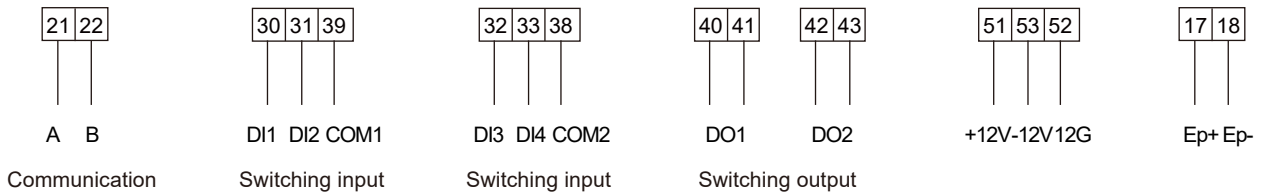
LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

■ Additional functional terminals

◆ PZ72（L）-DE



◆ PZ96（L）-DE



Notes: 1、This wiring is only for reference , the specific wiring shall be based on the wiring diagram on the instrument;

2、Can choose either switching input function or 12V power supply function;

Operation

Button icon	Key Name	Function
SET	Menu key	Entry/exit menu
◀	Left arrow key	Check power parameters、Left shift and scintillation shift in programming interface
▶	Right arrow key	Check power parameters、Left shift and scintillation shift in programming interface
↵	Programming definition key	Check power parameters、Left shift and scintillation shift in programming interface