

# Energom-207 DC Branch Circuit Power Meter



## Application

- DC load management
- Data Center Power Manage
- Telecommunication Power Manage
- DC Insulation resistance monitoring

## DC power system voltage

- DC 240V
- DC -48V

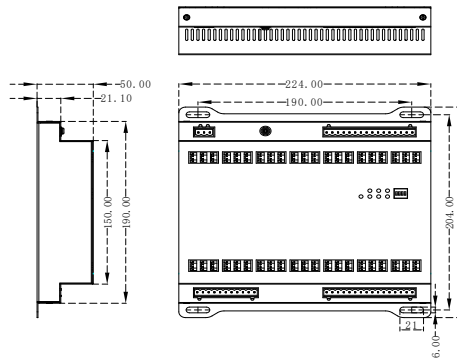
## Function

- **Measuring:** 1 main circuit + 42 branch circuits, Hall sensor zero point calibration
- **DI:** 4 status inputs (dry contact) for Main breaker and Lightning protection switch,
- **DO:** 2 relay outputs for alarm, 1 pulse output
- **Settable Pre-Alarm function:**
  - Main circuit:** Alarm for voltage (lo-limit, hi-limit), current (lo-lo-limit, lo-limit, hi-limit, hi-hi-limit), breaker status.  
(Option alarm for Insulation resistance (lo-limit) and temperature)
  - Branch circuit:** Alarm for current (lo-lo-limit, lo-limit, hi-limit, hi-hi-limit), breaker status. Option Insulation resistance
- **Communication:** RS485, support Modbus-RTU protocol
- **Optional Hall Sensor input for Main circuit:** 100A, 200A, 400A, 600A, 800A, 1600A
- **Optional Hall Sensor input for Branch circuit:** 50A, 100A, 200A, 400A, 600A
- **Hall sensor zero point calibration**
- **Optional main and branch circuit status monitor**
- **Temperature and isolation monitor**
- **Historical kWh record:** kWh yearly consumption of last 10 years,  
kWh monthly consumption of last 12 months

## Measurement

Main Circuit Measuring & Alarm	Accuracy	Branch Circuit Measuring & Alarm	Accuracy
➤ Voltage --U & U to Earth (240VDC, -48VDC)	( 0.2% )	➤ Current – I, Max I, Demand I & I max,	( 0.5% )
➤ Current – I, Max I, Demand I & I max	( 0.5% )	➤ Power– Active Power, Demand P & Pmax	( 0.5% )
➤ Power– Active Power, Demand P & Pmax	( 0.5% )	➤ Active energy – kWh	( 1.0% )
➤ Active energy – kWh	( 1.0% )	➤ Insulation resistance (optional)	( 0.5% )
➤ Insulation resistance (optional)	( 0.5% )		
➤ Temperature (optional)	( 0~120°C )		

## EnergOM-207 & Accessories:



Unit: mm

### ◆ Hall Sensor

>> Hall Sensor for Main Circuit (Spilt core)



**HOS Series**  
100A,200A,400A,600A,800A,1600A  
(Power: +/- 12VDC)

>> Hall Sensor for Branch Circuit (Solid core)

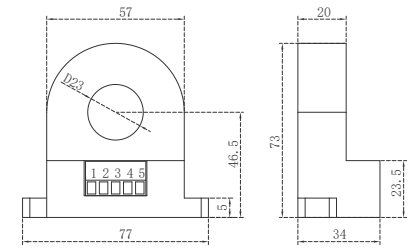
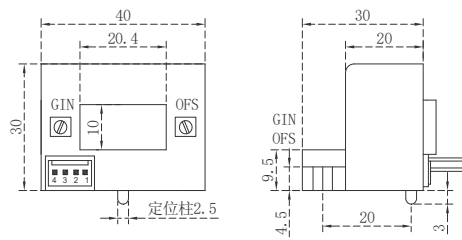
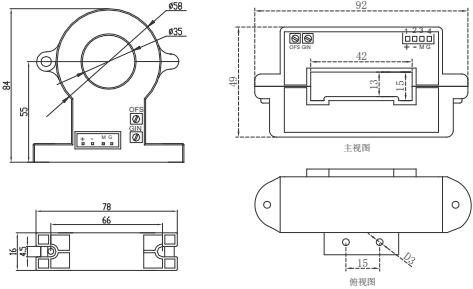


**LDCT Series**  
50A,100A,200A  
(Power: +/- 12VDC)

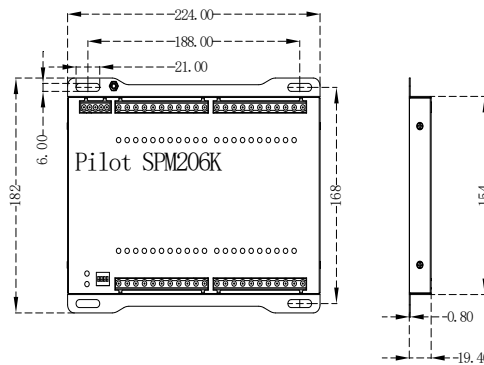
>> Hall Sensor for Isolation Measure



**LDC10M**  
10mA (For Branch Circuit)

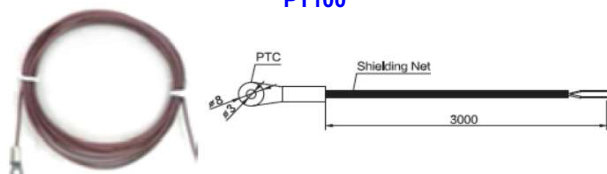


### ◆ Optional DI Module



Unit: mm

### ◆ Optional Temperature Sensor



**PT100**

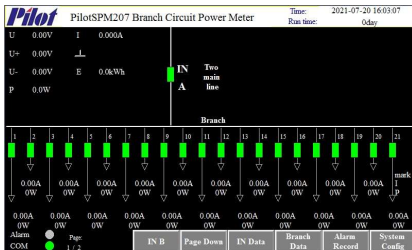
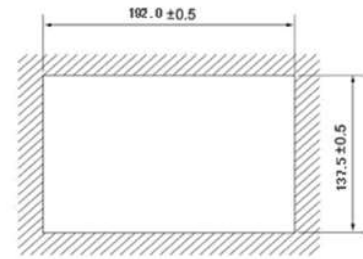
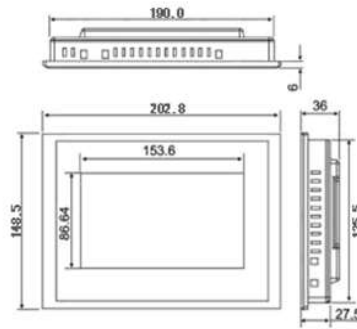
Unit: mm

Unit: mm

◆ **Optional Display Module**

1) HMI: 7" touch screen LCD. One HMI monitors max. 2 units of PilotSPM207 main module

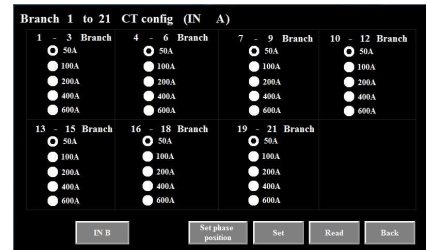
Resolution ratio: 800×480



Circuit diagram

Project	1	2	3	4	5	6	Unit
mark							
V	0	0	0	0	0	0	V
I	0	0	0	0	0	0	A
Max. I	0	0	0	0	0	0	A
Dist. I	0	0	0	0	0	0	A
Max. dist. I	0	0	0	0	0	0	A
P	0	0	0	0	0	0	W
Dist. P	0	0	0	0	0	0	W
Max. dist. P	0	0	0	0	0	0	W
Total kWh	0	0	0	0	0	0	kWh
Load current	0.00	0.00	0.00	0.00	0.00	0.00	%

Real time measurement



Branch Circuit Configuration

IN	A	Set (Module-1)
COM add:	IR Nam	IR Nam
IR Nam	Read rate:	Parity:
SD breakdown		SD breakdown
IN DI alarm	OUT DI alarm	S2 alarm mode
S4 alarm mode		S4 alarm mode
Relay-1	Relay-2	DI-1 function
DI-2 function	DI-3 function	DI-4 function
CT Primary	2	Current hi limit(A)
Temp. hi limit(C)	0	
Voltage hi limit(V)	0	Current hi limit(A)
Temp alarm return(C)	0	
Voltage hi limit(V)	0	V-positive alarm (V)
0	0	V-negative alarm (V)

Parameter and Alarm Setting

Date	Time	Alarm description
2021-07-20	16:06:29	Main line A communication outage
2021-07-20	16:06:23	PowerOn Record

History and Alarm record

Year XXXX	Branch 1 to 42	Yearly kWh monthly	Min bar	0 kWh				
Branch line	1	2	3	4	5	6	7	Unit
Energy data	0	0	0	0	0	0	0	kWh
Branch line	8	9	10	11	12	13	14	Unit
Energy data	0	0	0	0	0	0	0	kWh
Branch line	15	16	17	18	19	20	21	Unit
Energy data	0	0	0	0	0	0	0	kWh
Branch line	22	23	24	25	26	27	28	Unit
Energy data	0	0	0	0	0	0	0	kWh
Branch line	29	30	31	32	33	34	35	Unit
Energy data	0	0	0	0	0	0	0	kWh
Branch line	36	37	38	39	40	41	42	Unit
Energy data	0	0	0	0	0	0	0	kWh

History Energy Record

**Technical Specification:**

<b>Main circuit</b>	1 circuit,	<b>Communication</b>	RS485 port Baud rate: 2400, 4800, 9600, 19200, 38400
<b>Branch circuit</b>	42 circuit	<b>DI module</b>	Main Income Circuit 4DI: dry contact DI module for branch circuit: dry or wet for option. Wet contact signal DC240V, or DC-48V
<b>Power supply</b>	DC48V (36~60), DC 240V (110~370), power consumption <20W	<b>Relay output capacity</b>	250Vac/5A or 30Vdc/5A
<b>MTBF</b>	≥50000h	<b>IP index</b>	Main Module: IP20 HMI (Front board): IP65
<b>Service life</b>	10 years	<b>Insulation Resistance</b>	≥100MΩ IEC62052-11
<b>Rated voltage</b>	DC 240V or -48V Range: 10%~120%, Accuracy: 0.5%	<b>Environment</b>	Operation: -10°C ~ +55 °C Storage : -25°C ~ +70 °C Humidity: 5%~95%, non-condensing
<b>Rated incoming circuit current</b>	Range: 1%~120%, Accuracy: 0.5%		
<b>Rated outgoing circuit current</b>	Range: 1%~120%, Accuracy: 0.5%		
<b>Active power and Active energy</b>	Main circuit Accuracy: 1% Branch circuit Accuracy: 1%		

## Order Information

Energom-207		Order code		Description
Main module	Energom -207-42-	C1	Branch Circuit Rated Current: 50A	
		C2	Branch Circuit Rated Current: 100A	
		C3	Branch Circuit Rated Current: 200A	
		C4	Branch Circuit Rated Current: 400A	
		C5	Branch Circuit Rated Current: 600A	
Rated Voltage Input	X1 X2	Rated Voltage: DC 240V Rated Voltage: DC -48V		
Optional module	Energom201V	HMI - 7" touch screen LCD		
	Energom-206K-21	Branch Circuit DI Module: 21 channel (3 option power: DC 240V, DC -48V, DC 24V)		
	Energom-206K-42	Branch Circuit DI Module: 42 channel (3 option power: DC 240V, DC -48V, DC 24V)		
Accessory	Main circuit hall sensor (Split core)	HOS-XXX- AQ11	100A	Φ35mm inner hole, Voltage output Power: +/- 12VDC
			200A	
		HOS-XXX-AK1	400A	42*15mm square hole, Voltage output Power: +/- 12VDC
			600A	
	HOS-XXX- AK2	800A	64*16mm square hole, Voltage output Power: +/- 12VDC	
	HOS-XXXX- AK4	1600A	100*42mm square hole, Voltage output Power: +/- 12VDC	
	Branch circuit hall sensor (Solid core)	LDCT-XXX-K1	50A	20.4*10mm square hole, Voltage output Power: +/- 12VDC
			100A	
			200A	
	KF2510-4P-2.5	Branch hall sensor cable, Length: 2.5m, 4 Pin		
	Leakage current hall sensor	LDC10M	Φ23mm inner hole, 10mA For measuring branch circuit insulation, power supply DC12V	
	Temperature sensor	MS6-PT100B-3000	PT100	
24VDC Relay	MY2N-GS	Switch HMI main /back up power supply Select when there has 2 main input circuit.		

