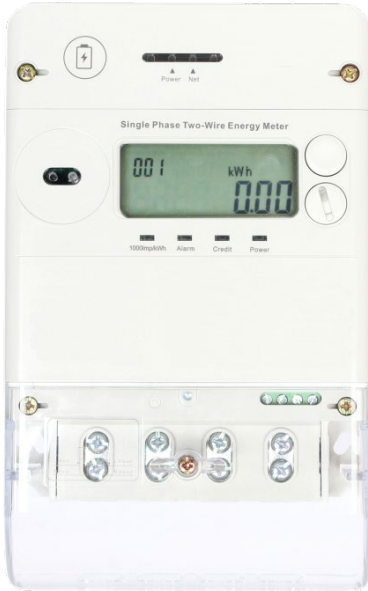
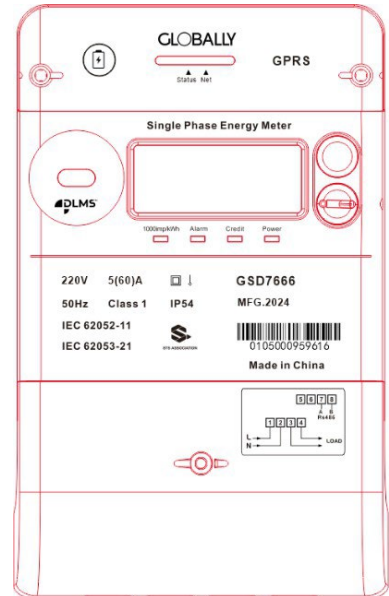


# 1. Single Phase Two Wire Smart Electricity Meter

**Picture**

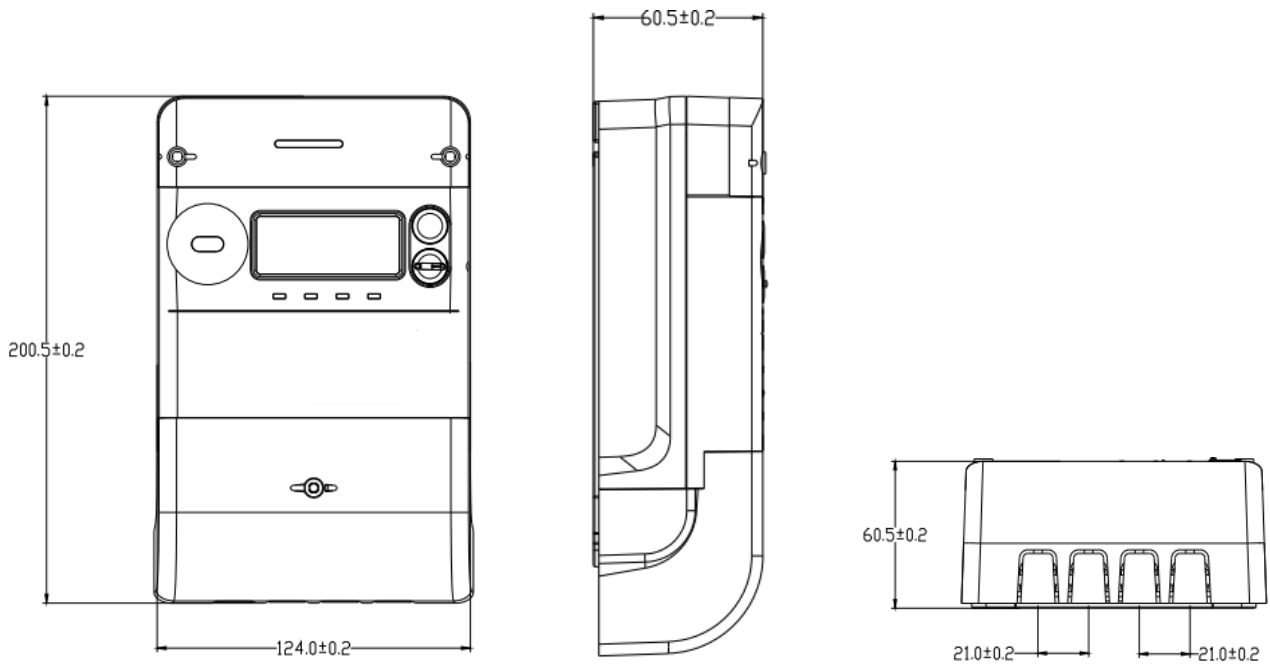


**Face- plate**




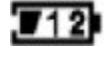






## Dimensions

200\*124\*60mm



NO	Configuration Item	Technical description
	<b>METER MODEL</b>	<b>ESM1-1P11</b>
<b>1</b>	<b>Basic Parameters</b>	
1.0	Service Type	Single phase two wire (1P2W), Direct connected
1.1	Rated Voltage (Un)	240V, (168V to 288V)
1.2	Basic Current (Ib)	5A
1.3	Maximum Current (Imax)	100A
1.4	Starting Current	20mA
1.5	Constant	1600imp/kWh
1.6	Frequency	50Hz (±5%)
1.7	Accuracy Class :	Active accuracy: Class 1 Reactive accuracy: Class 2
1.8	Designed wire connections	1-ph,2 wire LNNL
1.9	Consumption	≤1.5 W @Voltage circuit; ≤10 VA @Voltage circuit; ≤0.5 VA @Current circuit
1.10	Communication Interface	optical Uplink: GPRS
1.11	Output-LED	Active pulse Alarm Credit Reactive pulse
1.12	Measure element	Phase+Neutral
1.13	Relay	1 Pole on Phase
1.14	Output-Buzzer	Buzzer
1.15	IP protect	IP54
1.16	Meter cover	V2
1.17	Terminal Block	V0
1.18	Operation temperature&Humidity	-40°C~70°C; ≤95%
1.19	Limit temperature range of storage	-40°C~85°C;
1.20	Backlight	White color
1.21	Assembly	Screw+seal
1.22	Battery life / type	10 years (internal built-in battery)/ Lithium type
1.23	Terminal connection	Bottom-connected
1.24	Meter and modem life	15 years
1.25	Data retention	13 months
<b>2</b>	<b>Measurement Configuration</b>	
2.1	Active: Import/export active energy	Ai  =  +A  ;  Ae  =  -A ;

2.2	Reactive: Import/export reactive energy:	$ Q_i  =  +Q $ ; $ Q_e  =  -Q $ ;
2.3	Basis of meter balance credit decreament	$ A_i  +  A_e $
2.4	RMS	Voltage, Current, Power , Frequency, Power factor
<b>3</b>	<b>Events Parameters</b>	
3.1	Overvoltage threshold value	1.2Un(Default)
	Overvoltage Enter Define delay	30S
	Overvoltage Exit Define Delay	30S
3.2	Undervoltage threshold value	0.6Un
	Undervoltage estimate delay	30S
3.3	Current reverse Enter Define Delay	30S
3.4	Bypass threshold value	12.5%
3.5	Bypass Enter Define Delay	30S
3.6	Overload threshold value	13.8KW
	Overload Enter Define Delay	30S
	Overload Recover Define Delay (the first to fourth time)	150S
	Overload Recover Define Delay (the fifth time)	30mins
3.7	Terminal cover open detecting time	1S
3.8	Meter cover open detecting time	1S
3.9	Strong magnetic field detecting time	30S
3.10	Module cover open detecting time	1S
<b>4</b>	<b>Display</b>	
4.1	Display type	LCD 6+2
4.2	LCD size	60*31mm
4.3	Main character size	10.6*4.6 mm
4.4	Display area	57*26mm
4.5	Main Symbol	
		Relay Status
		Online status
		Quadrant
		Battery Status
		Tariffs
		Reversal current
		Magnetic field

		Alarm
4.6	Auto-scroll sequence	Total Active Energy (kWh)
		Active Power
		Total Reactive Energy (kVarh)
		Voltage
		Current
		Meter ID
4.7	manual display	Same as Auto-scroll sequence
4.8	Display at Battery	Default no display
<b>5</b>	<b>Freeze Parameters</b>	
5.1	Daily freezing time	00 hour 00 minute
5.2	Monthly freezing time	01 day 00 hour
<b>6</b>	<b>Load profile</b>	
6.1	Energy Load profile	
6.2	Capture object	Time Stamp
		Total active energy
		positive active energy
		reverse active energy
		Positive reactive energy
		reverse reactive energy
6.3	Interval of load profile	60 min(configurable), 45days FIFO
6.4	Grid quality load profile	
6.5	Capture object	Time Stamp
		Voltage
		current
		Active Power
		Reactive power
		Power Factor
		Frequency
6.6	Interval of load profile	15 min (configurable), 31days FIFO
<b>7</b>	<b>Max Demand (MD) calculation</b>	
7.1	Max Demand (MD) objects	Measure import/export active MD
7.2	Demand calculation method	Interval
7.3	Demand period:	15 min(configurable)
7.4	Sliding period :	15min
<b>8</b>	<b>Relay state</b>	
8.1	Power off	Disconnect
8.2	Meter cover open	Disconnect
8.3	Terminal cover open	Disconnect
8.4	Module cover open	
8.5	Overvoltage	Disconnect

8.6	Undervoltage	Disconnect
8.7	Current Reverse	Disconnect
8.8	Overload	Disconnect
8.9	Bypass	Disconnect
<b>9</b>	<b>Event log</b>	
9.1	Events	Meter cover open
		Terminal cover open
		Module cover open
		Communication module change
		Reverse
		Bypass
		Power off
		Under voltage
		Over voltage
		Over load
		Relay on/off
		Magnetic influence event
		Over Current
		Management Token
battery low event		
<b>10</b>	<b>Others</b>	
10.1	Default meter working mode when delivered	Postpaid mode
10.2	Time Zone	UTC/GMT+3
10.3	Firmware update(Y-Mode)	Y-MODE
	Firmware update(Image-transfer)	Image-transfer DLMS Class 18
10.4	Terminal cover	Long type transparent
10.5	Phase sequence detection	Alarm
10.6	Dual source	It measures and stores Active Energy of national grid (Electricity Board EB) source as well as alternative Distribution Generation source (DG)
10.7	Standards	IEC 62052-11, IEC 62053-21, IEC 62053-24, IEC 50470-1, IEC 50470-3, IEC 62056-21, IEC 62056-46, IEC 62056-51, IEC 62056-53, IEC 62056-61.

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