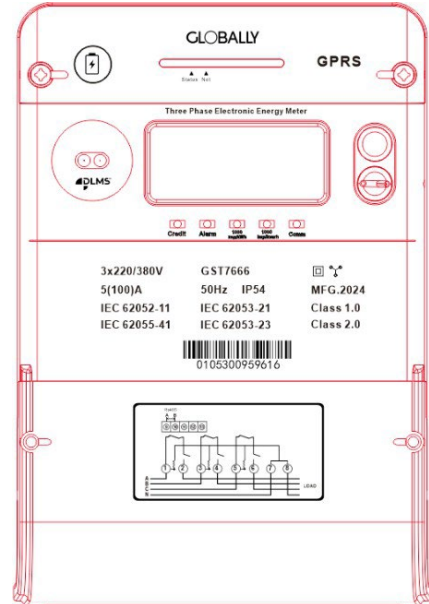


2. Three Phase Four Wire Whole Current Energy Meter

Picture

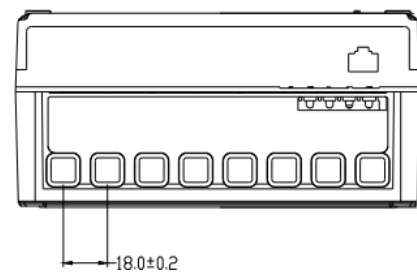
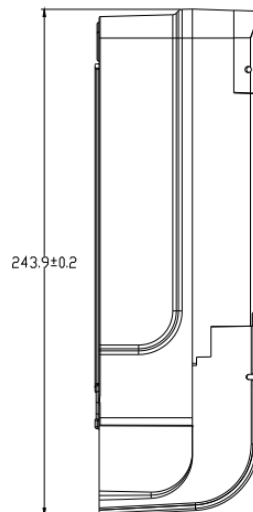
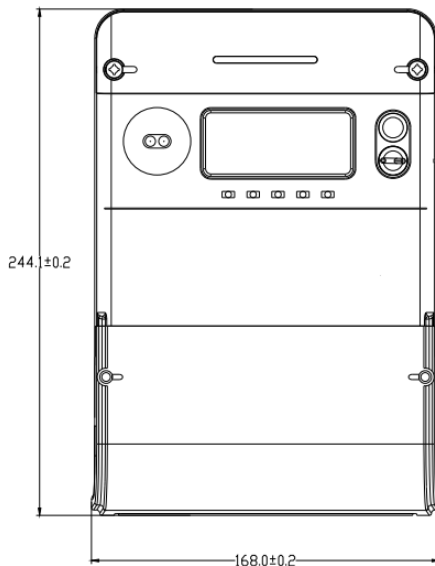


Face-plate











Dimensions

244*168*79mm



NO	Configuration Item	Technical description
	METER MODEL	ESM1-3P11
1	Basic Parameters	
1.0	Service type	Three-phase four-wire (3P4W) , Direct-connected
1.1	Rated Voltage (Un)	3*240V/416V (3*168V to 3*288V)
1.2	Basic Current (Ib)	5A
1.3	Maximum Current (Imax)	100A
1.4	Starting Current	20mA
1.5	Constant	1600imp/kWh
		1600imp/kvarh
1.6	Frequency	50Hz (±5%)
1.7	Accuracy Class :	Active accuracy: Class 1
		Reactive accuracy: Class 2
1.8	Designed wire connections	3-ph,4 wire, 8 Clamping Cage Terminals
		L1L1L2L2L3L3NN
1.9	Consumption	≤ 1.8 W @Voltage circuit;
		≤ 4.0 VA @Voltage circuit;
		≤ 0.5VA @Current circuit
		Other: NA
1.10	Communication Interface	optical
		RS485
		Uplink: GPRS
1.11	Output-LED	Active pulse
		Reactive pulse
		Alarm
		Credit
		Comm
1.12	Measure element	Phase+Neutral
1.13	Relay	3 Poles 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
2	Measurement Configuration	

2.1	Active: Import/export active energy	$ Ai = +A $; $ Ae = -A $;
2.2	Reactive: Import/export reactive energy:	$ Qi = +Q $; $ Qe = -Q $;
2.3	Basis of meter balance credit decreament	$ Ai + Ae $
2.4	RMS	Voltage, Current, Power , Frequency, Power factor
5	Events Parameters	
5.1	Overvoltage threshold value	1.2Un(Default)
	Overvoltage Enter Define delay	30S
	Overvoltage Exit Define Delay	30S
5.2	Undervoltage threshold value	138V(Default)
	Undervoltage estimate delay	30S
5.3	Current reverse Enter Define Delay	30S
5.4	Bypass threshold value	12.5%
5.5	Bypass Enter Define Delay	30S
5.6	Overload threshold value	23KW (Default)
	Overload Enter Define Delay	30S
	Overload Recover Define Delay (the first to fourth time)	150S
	Overload Recover Define Delay (the fifth time)	30mins
5.7	Terminal cover open detecting time	1S
5.8	Meter cover open detecting time	1S
5.9	Strong magnetic field detecting time	10S
5.1	Module cover open detecting time	1S
6	Display	
6.1	Display type	LCD 6+2
6.2	LCD size	73*36.5mm
6.3	Main character size	12*6mm
6.4	Display Area	70*29.5mm
6.5	Main Symbol	
		Relay Status
		Online status
		Quadrant
		Battery Status
		Tariffs
		Reversal current

		Magnetic field
		Alarm
6.6	Auto-scroll sequence	Total active energy (kWh)
		Total Instantaneous active power (kW)
		Total reactive energy (kVarh)
		A phase Voltage
		B phase Voltage
		C phase Voltage
		A phase Current
		B phase Current
		C phase Current
		Meter ID
6.7	manual display	Same as Auto-scroll sequence
6.8	Display at Battery	Default no display
7	Freeze Parameters	
7.1	Daily freezing time	00 hour 00 minute
7.2	Monthly freezing time	01 day 00 hour
8	Load profile	
8.1	Energy Load profile	
8.2	Capture object	Time Stamp
		Total active energy
		positive active energy
		reverse active energy
		positive reactive energy
reverse reactive energy		
8.3	Interval of load profile	60 min, 45days FIFO
8.4	Grid quality load profile	
8.5	Capture object	Time Stamp
		A phase voltage
		B phase voltage
		C phase voltage
		A phase current
		B phase current
		C phase current
		A phase reverse active power
		B phase reverse active power
		C phase reverse active power
		A phase positive reactive power
		B phase positive reactive power
		C phase positive reactive power
		Power Factor

		Frequency
8.7	Interval of load profile	15 min, 31days FIFO
9	Max Demand (MD) calculation	
9.1	Max Demand (MD) objects	Measure import/export active MD
9.2	Demand calculation method	Interval
9.3	Demand period:	15 min
9.4	Sliding period :	15min
10	Relay state	
10.1	Power off	Disconnect
10.2	Credit is exhausted	Disconnect
10.3	Meter cover open	Disconnect
10.4	Terminal cover open	Disconnect
10.5	Module cover open	
10.6	Overvoltage	Disconnect
10.7	Undervoltage	Disconnect
10.8	Current Reverse	Disconnect
10.9	Overload	Disconnect
10.10	Bypass	Disconnect
11	Event log	
11.1	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
		Charge Token
Management Token		
Phase sequence event		
battery low event		
12	Others	
12.1	Default meter working mode when delivered	Postpaid mode
12.2	Time Zone	UTC/GMT+3
12.3	Firmware update(Y-Mode)	Y-MODE
	Firmware update(Image-transfer)	Image-transfer DLMS Class 18
12.4	Terminal cover	Long type transparent

12.6	Phase sequence detection	Alarm
12.7	Dual source	It measures and stores Active Energy of national grid (Electricity Board EB) source as well as alternative Distribution Generation source (DG)
12.8	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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