



PROGRAMMING MANUAL ENERGY METER EM-3060



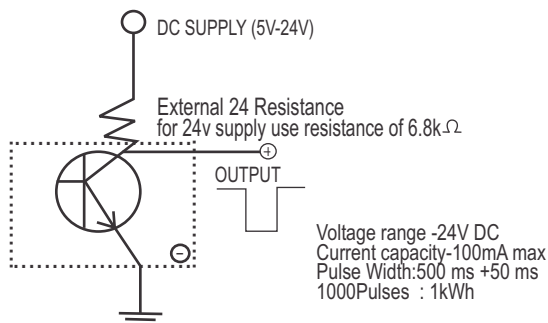
FEATURES

- ▲ 12x1 row Lcd display for energy.
- ▲ Universal Voltage Input & Current.
- ▲ Universal auxiliary supply.
- ▲ CT ratio / PT ratio on site programmable.
- ▲ All energy value measured.
- ▲ Auto scaling & scrolling.
- ▲ True RMS measurement.
- ▲ RS-485 communication RTU-modbus.
- ▲ White and Green backlight.
- ▲ Generator energy value measured.

MODELS

- ▲ EM-3060 - kWh, RS485
- ▲ EM-3061 - kWh, Gen kWh, kVAh, kVAh, RS485
- ▲ EM-3062 - kWh, Gen kWh, kVAh, kVAh, kW, kVA, kVAh, PF, RS485
- ▲ EM-3063 - kWh, Gen kWh, kVAh, kVAh, kW, kVA, kVAh, PF, V, A, Hz, RS

OPEN COLLECTOR PULSE OUTPUT



TECHNICAL SPECIFICATIONS

Parameter	Range
Accuracy	Class 1
Measurement	True RMS / 4 Quadrant 3 phase 4 wire / 1 phase 2 wire
Input Voltage	50 - 500V ...45...65Hz
PT ratio	11kv, 22kv/110v
Burden	0.2VA Max. per phase
Input Current	50mA - 6Amps
CT ratio	5A - 5500Amps
Burden	0.2VA Max. per phase
Auxiliary Supply	80 - 300 V AC 40- 70Hz
Burden	230V AC (Default) 3VA Max
Display resolution	12x1 row for integrated value. LCD display with white Backlit. Display update in 1sec.
Humidity	5% to 95% non condensing
Operating Temperature	-10°C to +55°C
Storage Temperature	-25°C to +70°C
Communication	RS 485- RTU modbus Protocol
Baud Rate	9600 bps
Isolation	2kv
Dimension Bezel	96x96mm - 54mm Depth.
Panel Cutout	90' x 90' mm.
Mounting	Flush mounting with side clamps.

DISPLAY PARAMETERS

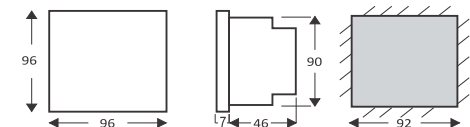
Parameters	Description	Icon
Power Factor(system)	R, Y, B phase wise Average of R, Y, B	PF Avg
Active Power	R, Y, B phase wise Total of R, Y, B	kWatts Σ
Apparent Power	R, Y, B phase wise Total of R, Y, B	kVA Σ
Reactive Power	R, Y, B phase wise Total of R, Y, B	kVAh Σ
Energy	Active Energy EB Generator Energy Active Energy Total Reactive Energy total Apparent Energy VAF	kWh GEN, kWh Tot, kWh kVAh kVAh VLn, Amps, Hz

MECHANICAL INSTALLATION

For Installing the meter

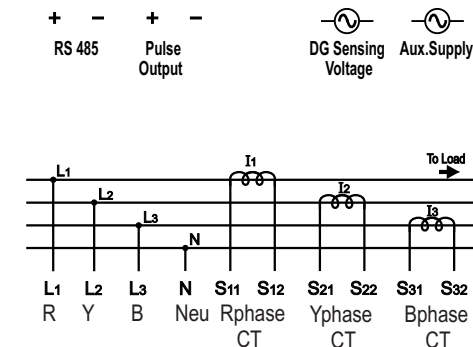
- ▲ Prepare panel cutout with proper dimension as shown below

Dimensions are in Millimeters



- ▲ Push the meter into the panel cutout, Secure the meter in its place by pushing the clamp on the rear side. The screws of panel of the clamp, must be in the farthest forward slot.
- ▲ For proper sealing, tighten the screws evenly with required torque.

CONNECTION DIAGRAM



TEST CERTIFICATE

S.No.	TEST	TEST CONDITION				STATUS
1	Insulation	a)Voltage Circuit and Earth b)Current Circuit and Earth				Complied
2	H V Test	2kV for 1min a)Voltage Circuit and Earth b)Current Circuit and Earth				Complied
3	Accuracy Test	Parameter	100%	50%	5%	Complied
		PF	Less than 1 st elect.			Complied
		kW	Within 0.5%			Complied
		kVA	Within 0.5%			Complied
		V	Within 0.5%			Complied
		A	Within 0.5%			Complied
F	Less than 0.1Hz			Complied		

Ref Calibration standards

1. MTE SWS 1.3 class 0.1

S.No. 26664 ☒

S.No.39822 ☒

2. YEW 2533E 31 class 0.1

S No 26BU006513 ☐

>12 months WARRANTY

Tested by :

Approved by :

Date :

KEY FUNCTIONS

Programming Mode - Into setup
RUN Mode - Into main screen

- ▶ SET UP key, To go into setup menu and exit from programming mode.
SET-UP key to move the cursor from left to right in programming mode.
- ▲ UP key, To scroll the value 0 to 9 in programming mode.
UP key, To scroll the pages in Run Mode.
UP key, Press 7 seconds continuous scroll ON.
- ▼ DOWN key, To scroll the value 9 to 0 in programming mode.
DOWN key, To scroll the pages in Run Mode.
DOWN key, Press 7 seconds continuous scroll OFF.
- ↵ ENTER key, To complete the operation in programming mode, once done,press enter
ENTER key, To scroll the Energy parameters in Run Mode.

MENU'S

<i>PASS</i>	Password		<i>CLPEb</i>	Clear EB energy
<i>CTPP</i>	CT primary		<i>SURE</i>	Sure to conform
<i>CTSC</i>	CT secondary		<i>CLPDG</i>	Clear DG energy
<i>PTPP</i>	PT primary		<i>OLdEb</i>	View old EB energy
<i>PTSC</i>	PT secondary		<i>OLddG</i>	View old DG energy
<i>dEU Id</i>	RS-485 Meter ID		<i>LLdCON</i>	Lcd contrast adjust

PROGRAMMING MODE

Press ▶ SET-UP key on Run mode for about 2seconds continuously, the unit will therefore enter into Programming mode such as shown below.

PASS Then enter the password, which was set at your end. The default factory password is 0000. Once password entered, then Press ▲ UP key to set CTPR,CTSC, PTPR,PTSC,Clear energy value, RS 485 ID set and User password.

SETTING CT RATIO

Once password entered, The display indicates CT Primary value.

CTPP Then press enter, the display indicates the default factory set value **0005**.Here set CT primary value by pressing ▶ ▲ ▼ keys, until desired CT primary value received, Press enter key to complete the operation.

Then Press ▲ UP key to set CT secondary value.The default factory set value **0005**
Then Press ▶ set up key to back into RUN mode.

SETTING PT RATIO

Once password entered, then Press ▲ UP key 2 time to set PT Primary.The display indicates

PTPP Then press enter, the display indicates the default factory set value **0220**.Here set PT primary value by pressing ▶ ▲ ▼ keys, until desired PT primary value received, Press enter key to complete the operation.

PTSC Then Press ▲ key to set PT secondary value .The display indicates **PTSC**
Then press enter, the display indicates the default factory set value **0220**.Here set PT secondary value by pressing ▶ ▲ ▼ keys, until desired PT secondary value received, Press enter key to complete the operation.Then Press ▶ set up key to back into RUN mode.

CLEAR EB ENERGY VALUE

Once password entered, then Press ▲ UP key 4 time to clear EB energy value ,
Then display indicates

CLPEb On pressing enter key once, the display indicates
SURE Then Press enter key once(Press enter key twice the old EB energy get Cleared),
EB energy value will be cleared. Then Press ▶ set up key to back into RUN mode.

CLEAR DG ENERGY VALUE

Once password entered, then Press ▲ UP key 5 time to clear DG energy value ,
Then display indicates

CLPDG On pressing enter key once, the display indicates
SURE Then Press enter key once(Press enter key twice the old DG energy get Cleared),
DG energy value will be cleared. Then Press ▶ set up key to back into RUN mode.

OLD EB ENERGY VALUE

Once password entered, then Press ▲ UP key 6 time to see old EB energy value ,
Then display indicates

OLdEb On pressing enter key once, the display indicates old Eb energy value
Then Press enter key again, . Then Press ▶ set up key to back into RUN mode.

OLD DG ENERGY VALUE

Once password entered, then Press ▲ UP key 7 time to see old DG energy value ,
Then display indicates

OLddG On pressing enter key once, the display indicates old DG energy value
Then Press enter key again, . Then Press ▶ set up key to back into RUN mode.

SETTING METER ID FOR RS-485

Once password entered, then Press ▲ UP key 8 time to set RS-485 meter ID,Display indicates
dEU Id Then press enter, the display indicates the default value factory set 001.Here set RS-485 meter ID by pressing ▶ ▲ ▼ keys, until desired value is received,
Press enter key to complete operation. Then Press ▶ key to back into Run mode.

SETTING LCD CONTRAST

Once password entered, then Press ▲ UP key 9 time to set lcd contrast .Display indicates
LLdCON Then press enter, the display indicates the default value factory set 2.
Here set contrast by pressing ▶ ▲ ▼ keys, until desired value is received,
Press enter key to complete operation. Then Press ▶ key to back into Run mode.

SETTING METER PASSWORD

Once password entered, then Press ▲ UP key 10 time to set meter password,
The display indicates **PASS**

PASS Then press enter, the display indicates the default factory set value **0000**. Here set password by pressing ▶ ▲ ▼ keys, until desired value is received,
Press enter key to complete operation. Then Press ▶ setup key to back into run mode.

RS-485 PORT

Optional, when supplied RS-485 computer communication port.

REGISTER MAP

Data Bits : 8

Baud rate : 9600Bps

Stop bits : 1

Parity : None(half duplex)

Data type : Float

S.No	Parameters	Address
1	CT multiplier	41001
2	PT multiplier	41003
3	kWh multiplier	41005
4	Active Energy kWh	41007
5	Apparent Energy kVAh	41009
6	Active Power kW-L1	41011
7	Active Power kW-L2	41013
8	Active Power kW-L3	41015
9	Power Factor PF1	41017
10	Power Factor PF2	41019
11	Power Factor PF3	41021
12	Re active Power kVA1	41023
13	Re active Power kVA2	41025
14	Re active Power kVA3	41027
15	Apparent Power kVA1	41029
16	Apparent Power kVA2	41031
17	Apparent Power kVA3	41033