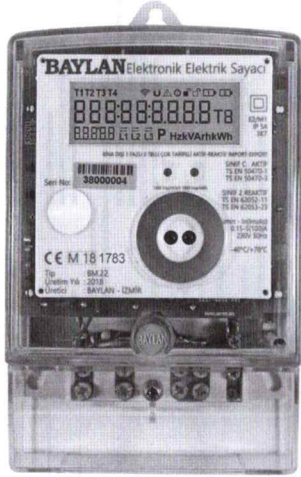


BAYLAN

ELECTRICITY METERS



BM.21 - BM.22 - BM.31 - BM.32

Single Phase Active Electronic Electricity Meters

User Manual

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IMPORTANT POINTS AND SAFETY

- Wiring the meter up to the network must be done by the person who has knowledge about both technical and safety warnings.
- The meter parts which are carrying voltage must not be touched for any reasons, electricity must be cut off while both wiring on and wiring off to the network.
- The outer surface of the meter must not be cleaned with cleaning agents containing abrasives.
- The suitability of the meter type to be installed should be checked by authorised personnel. Otherwise, your meter will be damaged due to incorrect meter selection and connection. The meters in this case are out of guarantee.
- Calibration and programming of the meter are done during manufacturing. Marketing is provided after each meter quality check. There is no maintenance or programming that the user can do.
- BAYLAN Electronic Electricity Meters are a superior technology product in compliance with world standards. All technical information and documents are in the company's own Intellectual properties and copyright's.

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TECHNICAL SPECIFICATIONS

Model Name	BM.21	BM.22	BM.31	BM.32
Meter Type	1Phase, 2 Wire Import	1Phase, 2 Wire Import	1Phase, 2 Wire Import-Export	1Phase, 2 Wire Import-Export
Accuracy Class	Active Class C	Active Class C Reactive Class 2	Active Class C	Active Class C Reactive Class 2
Meter Constant	1000 imp/kWh	1000 imp/kWh 1000 imp/kVArh	1000 imp/kWh	1000 imp/kWh 1000 imp/kVArh
Load Profile	4 Channel 180 Days (15 Min.)	17 Channel 180 Days (15 Min.)	5 Channel 180 Days (15 Min.)	29 Channel 180 Days (15 Min.)
Connection Type	Direct			
Nominal Voltage (Un)	230V			
Operating Voltage Range	[0,8Un, 1,15Un]			
Reference Frequency	50 Hz ±%5			
Starting Current (Ist)	20 mA			
Minimum Current (Imin)	0,15 A			
Transitional Current (Itr)	0,5 A			
Nominal Current (In)	5 A			
Maximum Current (Imax)	100 A			
IP Rating	IP54 (Outdoor)			
Protective Class	Two (2)			
Humidity Ratio	Max. %95			
Operating Temperature	-40 °C, +70 °C (3K7)			
Mechanical Environment Class	M1			
Electromagnetic Environment Class	E2			
Voltage Circuit Power Consumption	<1W, 2VA			
Current Circuit Power Consumption	< 4 VA			
Electrostatic Discharges	Contact discharge 8kV, air discharge 15kV			
Impulse Voltage	6 kV			
LCD Display	6+3, With Backlight			
Communication	Optical and RS485 (300-19200 Baud) (EN 62056-21)			
Battery Life	≥ 10 years / 4 years			
RTC Accuracy	< 0,5sec/day (EN 62054-21)			
Standard	EN 50470-1, EN 50470-3, EN 62053-23			

GENERAL FEATURES

- Eight different time zones can be set during the day and saved in one of four different tariffs. It is possible to create different time zones and different tariffs for 4 different day types (weekdays, saturday, sunday and public holidays).
- Automatic daylight save implementation.
- Tariff informations, meter date and time, daylight saving time can be changed by authorized personnel.
- If the top cover is opened, it records the opening date and time.
- If the terminal cover is opened, it records the first opening date for each month and the total number of openings in that month. The last 12 months are stored in memory.
- In the case of magnetic tampering, it records the start, end times and total magnetic tamper duration.
- The meter records the consumed energy for each tariff in the last 12 months, the maximum demand in the last 12 months and the date and time of the demand.
- The meter records the last 10 of voltage connection faults and current connection faults.
- The meter records the start and end dates of the last 99 of short and long power cuts.

- Programmable load profile period (1...60 min.).
- Programmable max. demand period (15-30-45-60 min.). With communication, it is possible to reset a demand once in a month. (Only the meters which capable of measuring reactive power.)

READING THE INFORMATION ON THE METER

- When the meter is powered, the main informations of the meter displayed sequentially with 5 second periods. By pressing the button, the next information can be switched quickly. If the button is pressed for 5 seconds, the meter screen switches to the sub menu. Waits for the button to be pressed again to display the next information. If the button is not pressed for 30 seconds or the button pressed for 5 seconds, meter display returns to the main menu.
- When during power cuts, it is necessary to press the button to see the information on the screen. Each press displays the next information.
- All the datas that the meter records and the datas which display on LCD can be read from the meter with the communication interfaces. When during power cuts, the button must be pressed to wake up the meter to read.



- RTC Error
- Low battery.
- RTC battery low.
- It is visible during communication.

HzkVArhkWh Units

- If the top cover is opened, it will flash on the screen and it will not be lost under any circumstances.
- If the terminal cover is open, it will be displayed continuously on the screen. If it is flashing, it indicates that the terminal cover has already been switched on and off.
- Blinks during magnetic intervention. Continuous display on the screen indicates that a magnetic interference has been made before.
- T1 T2 T3 T4 Indicates the tariff slice.
- T8 The display shows which tariff consumption information is available.
- L1 L2 L3 It shows the energized phases and current directions.
- P Indicates that information about the demand is displayed.

LCD INFORMATION

Main menu	Obis code	Unit
Date information	0.9.2	day:month:year
Time information	0.9.1	hour:minute:second
Total import energy consumption	1.8.0	kWh
Import energy consumption in 1st Tariff	1.8.1	kWh
Import energy consumption in 2nd Tariff	1.8.2	kWh
Import energy consumption in 3rd Tariff	1.8.3	kWh
Import energy consumption in 4th Tariff	1.8.4	kWh
Total export energy consumption	2.8.0	kWh
Export energy consumption in 1st Tariff *	2.8.1	kWh
Export energy consumption in 2nd Tariff *	2.8.2	kWh
Export energy consumption in 3rd Tariff *	2.8.3	kWh
Export energy consumption in 4th Tariff *	2.8.4	kWh
Ri Inductive Reactive Energy (+)**	5.8.0	kVARh
Rc Capacitive Reactive Energy (-)***	6.8.0	kVARh
Ri Inductive Reactive Energy (-)***	7.8.0	kVARh
Rc Capacitive Reactive Energy (+)**	8.8.0	kVARh

