

BAYLAN

ELECTRICITY METERS



BTK.10 - BTK.20 - BTK.30 - BTK.40 Three Phase 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 is 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.

TECHNICAL SPECIFICATIONS

Model Name	BTK.10	BTK.20	BTK.30	BTK.40
Meter Type	3 Phase, 4 Wire Import	3 Phase, 4 Wire Import	3 Phase, 4 Wire Import-Export	3 Phase, 4 Wire Import-Export
Connection type	Direct	X5	Direct	X5
Accuracy Class	Active Class C Reactive Class 2	Active Class C Reactive Class 2	Active Class C Reactive Class 2	Active Class C Reactive Class 2
Meter Constant	1000 imp/kWh 1000 imp/kVArh ind. 1000 imp/kVArh kap.	10000 imp/kWh 10000 imp/kVArh ind. 10000 imp/kVArh kap.	1000 imp/kWh 1000 imp/kVArh ind. 1000 imp/kVArh kap.	10000 imp/kWh 10000 imp/kVArh ind. 10000 imp/kVArh kap.
Nominal Voltage (Un)	3x230/400 V	3x230/400 V 3x57,7/100 V	3x230/400 V	3x230/400 V 3x57,7/100 V
Operating Voltage Range	0,8Un-1,15Un	0,8Un-1,15Un	0,8Un-1,15Un	0,8Un-1,15Un
Reference Frequency	60 Hz ±%5	60 Hz ±%5	60 Hz ±%	60 Hz ±%5
Starting Current (Ist)	20mA	5mA	20mA	5mA
Minimum Current (Imin)	0,15 A	0,05 A	0,15 A	0,05 A
Transitional Current (Itr)	0,5 A	0,25 A	0,5 A	0,25 A
Nominal Current (In)	5 A	5 A	5 A	5 A
Maximum Current (Imax)	100 A	10 A	100 A	10 A
Load Profile	21 Channel/180 Days (15 Min.)		35 Channel/180 Days (15 Min.)	
IP Rating	IP54 (Outdoor)			
Protective Class	Two (2)			
Humidity Ratio	Max. %95			
Operating Temperature	-40 °C, +70 °C (3K7)			
Storage Temperature	0°C, +30°C			
Mechanical Env. Class	M1			
Electromagnetic Env. Class	E2			
Voltage Circuit Power Cons.	< 2W, 10 VA			
Current Circuit Power Cons.	< 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			

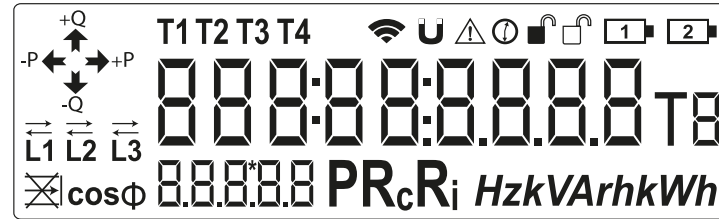
GENERAL FEATURES

- 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 (15-30-60 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.



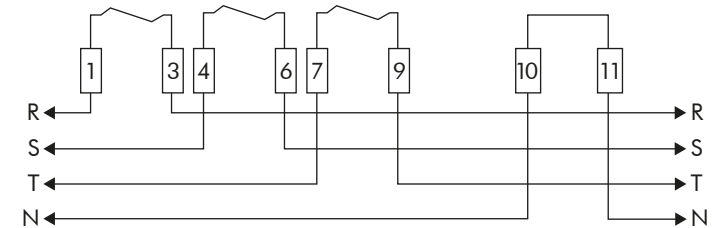
- RTC Error
- Low battery.
- RTC battery low.
- Communication
- If the top cover is opened, it will flash on the screen and it will not be lost under any circumstances.
- If the terminal cover is open, it will be displayed continuously on the screen. If it is flashing, it indicates that the terminal 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.
- Indicates the tariff slice.
- The display shows which tariff consumption information is available.
- It shows the energized phases and current directions.
- Indicates that information about the demand is displayed.
- Indicates that information about the inductive energy is displayed.
- Indicates that information about the capacitive energy is displayed.
- Indicates that information about the power factor is displayed.
- Quadrant symbol
- Show units

LCD INFORMATION

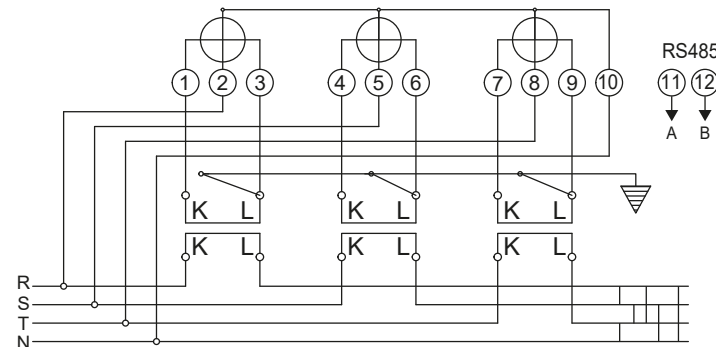
Main Menu	Obis code	Unit
Date information	0.9.2	day:month:year
Time information	0.9.1	hour:minute:second
Total import energy consumption	1.8.0	kWh
Import energy consumption in 1st Tariff	1.8.1	kWh
Import energy consumption in 2nd Tariff	1.8.2	kWh
Import energy consumption in 3rd Tariff	1.8.3	kWh
Import 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
Max. import demand information	1.6.0	kW
Max. import demand date information	1.6.0	day:month:year
Max. import demand time information	1.6.0	hour:minute
Max. export demand information*	2.6.0	kW
Max. export demand date information*	2.6.0	day:month:year
Max. export demand time information*	2.6.0	hour:minute

WIRING DIAGRAM:

BTK.10 and BTK.30 the inner diameter of the phase and neutral bushes of the is 7,5 mm.



BTK.20 and BTK.40 the inner diameter of the phase and neutral bushes of the is 6,0 mm.



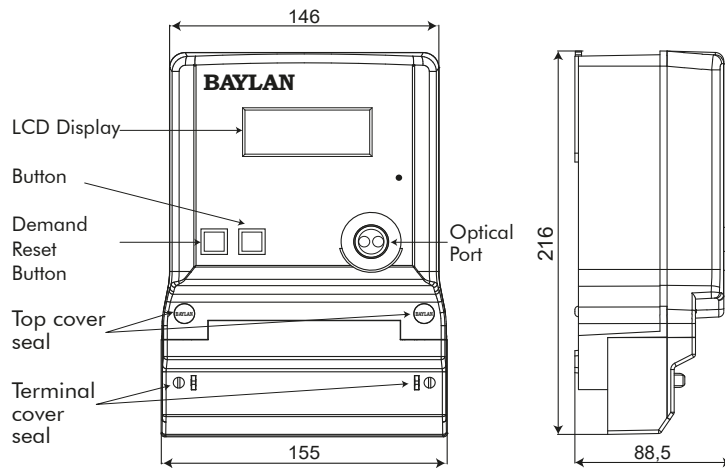
LCD INFORMATION

Main Menu		
Information	Obis code	Unit
Serial no	0.0.0	
Program version	0.2.0	
Main software verification code		
Measurement software verification code		
Top cover opening date	96.70	day:month:year
Top cover opening time	96.70	hour:minute
Terminal cover opening date	96.71	day:month:year
Terminal cover opening time	96.71	hour:minute
Instant voltage of L1 phase	32.7.0	V
Instant voltage of L2 phase	52.7.0	V
Instant voltage of L3 phase	72.7.0	V
Instant current of L1 phase	31.7.0	A
Instant current of L2 phase	51.7.0	A
Instant current of L3 phase	71.7.0	A
Instant frequency	14.7.0	Hz
Cosφ of L1 phase	33.7.0	-
Cosφ of L2 phase	53.7.0	-
Cosφ of L3 phase	73.7.0	-
Instant absolute active power	16.7.0	kW
Instant absolute inductive reactive power	4.7.0	kVAr
Instant absolute capacitive reactive power	3.7.0	kVAr
Past Month Total Import Energy	1.8.0*1	kWh
Past Month Tariff 1 Import Energy	1.8.1*1	kWh
Past Month Tariff 2 Import Energy	1.8.2*1	kWh
Past Month Tariff 3 Import Energy	1.8.3*1	kWh
Past Month Tariff 4 Import Energy	1.8.4*1	kWh
Past Month Total Export Energy*	2.8.0*1	kWh
Past Month Tariff 1 Export Energy*	2.8.1*1	kWh
Past Month Tariff 2 Export Energy*	2.8.2*1	kWh
Past Month Tariff 3 Export Energy*	2.8.3*1	kWh
Past Month Tariff 4 Export Energy*	2.8.4*1	kWh
Past Month Maximum Import Demand	1.6.0*1	kW
Past Month Maximum Import Demand Date	1.6.0*1	day:month:year
Past Month Maximum Import Demand Time	1.6.0*1	hour:minute
Past Month Maximum Export Demand*	2.6.0*1	kW
Past Month Maximum Export Demand Date*	2.6.0*1	day:month:year
Past Month Maximum Export Demand Time*	2.6.0*1	hour:minute

* Meters which capable of measuring export power.

INSTALLATION INSTRUCTION:

1. Energy must be cut off when assembling and disassembling the meter.
2. Phase connection and neutral connection must be done according to the connections diagram. (When making connections, it is necessary to make sure that the ends of the cables are properly opened, the screws in the connection terminals are tight enough so that they do not damage the conductors, and there is no faulty connection).
3. Make sure that the meter terminal cover closes without tension.
4. Meter starts working only when installed and energized, thus the screen starts displaying informations.
5. If lock symbol 2 appears on the display, the terminal cover is not installed correctly.



BAYLAN		CE
EU DECLARATION OF CONFORMITY		
Manufacturer Name	Baylan Ölçü Aletleri San. Tic. Ltd. Şti.	
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Phone	+90 232 497 97 00	
Web	www.baylan.com.tr	
We declare that the production at under mentioned meets MID directive requirements as determined with EU type approval certificate and we also declare to give this declaration to our customer for each production conformity		
EU Type Approval Notified Body Number	1783	
EU Type Approval Notified Body Name	Türk Standartları Enstitüsü	
EU Type Approval Number	1783-MID-050 (BTK 10) 1783-MID-052 (BTK 20) 1783-MID-053 (BTK 30) 1783-MID-054 (BTK 40)	
Module D Approval Notified Body Number	1783	
Module D Approval Notified Body Name	Türk Standartları Enstitüsü	
Module D Approval Number	1783-MID-034	
Type or Model Name	BTK.10 Electronic Electricity Meter BTK.20 Electronic Electricity Meter BTK.30 Electronic Electricity Meter BTK.40 Electronic Electricity Meter	
to which this declaration relates is in conformity with the following standard(s) other normative document(s) following the provisions of		
Directive Number and Name	2014/32/EU Measuring Instruments (MID) Directive 2014/30/EU Electromagnetic Compatibility (EMC) Directive 2014/35/AB The Low Voltage (LVD) Directive	
Related Standard(s)	EN ISO 50470-1: 2006 EN ISO 50470-3: 2006 CENELEC R46-1:2012 CENELEC R46-2:2012 WELMEC Guide 5.4	
Place	Date of declaration	Name and signature or equivalent marking of authorized person
İZMİR / TURKEY	14.11.2018	
BAYLAN ÖLÇÜ ALETLERİ SAKARYA VE TİC. LTD. ŞTİ. A.O.S.B.10053 SK. NO:6 CİĞİLİ-İZMİR Tel: 232 497 97 00 Fax: 232 497 97 01 CİĞİLİ Y.D. No: 609/9591 Mersis No: 0150000097100018 İbrahim BAYLAN General Manager		
MF:9101	Revizyon Tarihi: 20.05.2017	Sayfa:1/1

WARRANTY CONDITIONS

- 1) Warranty period starts after delivery date of the product, and valid for 5 years.
- 2) Products and all spare parts are under the guarantee of our company.
- 3) In case the meter is defective, the consumer shall be deemed to have the right to inspect the goods within the scope of Article 11 of the Act on the Protection of Consumer No 6502;
 - a- Withdraw the contract
 - b- Request reduction from sales price
 - c- Request free repair
 - d- Right to request that the sold product be replaced with a indefective duplicate.
- 4) If the consumer chooses the right of free repair from these rights; the manufacturer must bear the cost of labour, the cost of replacing parts without any charge to the make repair. The consumer can also use the free repair right against the manufacturer. The seller and producer are jointly responsible for using this right of the consumer.
- 5) In case the customer uses the right for free repair;

* Another failure during warranty period

* Exceeding the target time to get repair;

* If repairs are not possible, by a report by an authorized service station, dealer,

manufacturer or importer. Consumer may request to replace the meter with the one which freed from defects, discount the price regarding the defect ratio or refund the meter price from the seller. The seller can not refuse the consumer's request. If this request is not fulfilled, the seller and producer are jointly liable.

6) The repair period of the goods can not exceed 20 business days. This period starts from the delivery date of the goods to the authorized service station on the date of notification to the authorized service station or vendor within the warranty period, and to the authorized service station if the goods are out of guarantee period. If the malfunction can not be fixed within 10 working days, until the completion of the repair of the goods, has to allocate another product with similar characteristics to the use of customer. In case of malfunction within the warranty period, the period of repair will be added to the warranty period.

7) Defects arising from unauthorized use of the goods are not covered by the guarantee.

8) The consumer may apply to the Consumer Arbitration court or the Consumer Court where the settlement is located or where the consumer transaction is made during the disputes that may arise in connection with the exercise of the rights arising from the guarantee.

9) In case of Warranty Certificate is not issued by the seller, the consumer may apply to the General Directorate of Protection of the Consumer and the Market Surveillance of the Ministry of Customs and Trade.

NOTICE

Baylan Ölçü Aletleri San. ve Tic. Ltd. Şti.

This guarantee which is provided by Baylan Ölçü Aletleri San ve. Tic. Ltd Şti. does not cover the remedies that may arise from normal or unintended use of the device as well as,

- 1- Damages and failures due to misusage,
- 2- Damages and failures occurring, after delivery to the user, during transportation, loading and unloading,
- 3- Failure to make the installation according to the installation and operating instructions and faulty connections,
- 4- Products for which the warranty label is torn or seals are broken,
- 5- Fire, lightning, flood and earthquake (natural disasters), malfunctions and damages due to improper environment and accidents,
- 6- In the event of unauthorized intervention of the device for repairing,
- 7- In case of the warranty label is damaged.

The repair cost is charged to customer. The warranty is valid only for the product failure within warranty period specified below. Warranty is invalid; when the original serial number on the device is removed, destroyed or tampered with, or warranty certificate is damaged.

BAYLAN WARRANTY CERTIFICATE		PRODUCT	
MANUFACTURER COMPANY	SELLER COMPANY	Warranty Period	: 5 Years
Brand : BAYLAN ÖLÇÜ ALETLERİ San. ve Tic. Ltd. Şti.	Brand :	Max. Time To Repair	: 20 day
Address : A.O.S.B. 10053 Sk. No:6 Cigli-İZMİR	Address :	Serial No	:
Tel : 0.232.4979700	Tel :		
Fax : 0.232.4979751	Fax :		
E-mail : info@baylanellektrik.com	E-mail :		
Date :	Invoice Date and No		
Signature : İbrahim BAYLAN	Date :		
Stamp :	Signature		
	Stamp		
	Type : Electronic Electricity Meter		
	Brand : BAYLAN		
	Model : BTK.10 - BTK.20 - BTK.30 - BTK.40		

The use of this document was authorized by Republic Of Turkey Ministry of Customs and Trade, Directorate General of Consumer Protection and Market Surveillance according to The Law on Consumer Protection No. 4077, and Application of the Guarantee Certificate communicate based on this law. It is valid for all models in production.

* The serial number will be the same as the number written on the meter and will be filled by the vendor.