

KBK ELECTRONICS (PVT.) LTD.





ELECTRONIC METERING PRODUCTS RANGE

KBK offers wide range of metering products our all meters are available in uni- and Bi- directional as well as conventional and Prepayment type connection.

RESIDENTIAL ENERGY METERS

- » 1 Phase, 2 Wire Static Meter (Accuracy Class: 1.0)
- » 1 Phase, 2 Wire RF/GPRS/3G/4G/PLC enabled Smart Meter (Accuracy Class: 1.0)
- » 3 Phase, 4 Wire Whole Current RF/GPRS/3G/4G/PLC enabled Smart Meter (Accuracy Class: 1.0)

COMMERCIAL ENERGY METERS

- » 3 Phase, 4 Wire Whole Current Static Meter (Accuracy Class: 1.0)
- » 3 Phase, 4 Wire Whole Current RF/GPRS/3G/4G/PLC enabled Smart Meter (Accuracy Class: 1.0)

INDUSTRIAL ENERGY METERS

- » 3 Phase, 4 Wire HT-TOU Static Meter (Accuracy Class: 1.0)
- » 3 Phase, 4 wire LT-TOU Static Meter (Accuracy Class: 1.0)
- » 3 Phase, 4 wire HT-TOU GPRS/3G/4G/PLC enabled Smart Meter (Accuracy Class: up to 0.2)
- » 3 Phase, 4 wire LT-TOU GPRS/3G/4G/PLC enabled Smart Meter (Accuracy Class: up to 0.2)
- » 3 Phase, 4 wire LT/HT Wide-Range GPRS/3G/4G/PLC enabled Smart Meter (Accuracy Class up to 0.2)

SINGLE PHASE ELECTRONIC METER

The HXE 12 Electronic single Phase Meter are designed for measurement of electric energy flowing in any directions for domestic and commercial customers in single phase two wires or single phase three wire networks. The meters are comply with the IEC 62052-11 & 62053-21 standard for accuracy class 1 and meters are manufactured in compliance with the ISO 9001 - 2015, ISO 14001 and OHSAS 18001 standards.

METERING SYSTEM

The metering system employs a high quality special measuring IC. The metering elements is shielded against strong external magneticfields up to 0.7 Tesla and is protected against over voltages and high frequency disturbances. Such a design of metering element assures excellent metering features, high metering reliability, negligible effect of influence qualities and requires no recalibration over meters' entire life span.

METER HOUSING

Ergonomically designed meter security box is made of Fire retardant polycarbonate which makes the meter housing stronger throughout the life. It assures double insulation and IP54 protection level against dust and water penetration. REGISTERATION

The 7-Segment LCD having 8 digits with a digit

height of 10mm. Measurement data are displayed up to eight-digit values (all integers or with one to three decimals available). The identification codes or system are also displayed. INDICATORS

LED/LCD indicators on meter front cover for indicating power status, temper conditions and pulse output for meter testing & calibration.





KBK

"Our Mission of delivering high quality Products and Services resulted in exceeding of useful life of our energy meter that averages for almost 20 years

COMMUNICATION INTERFACES

The meter is equipped with an infrared optical port for meter local setting and data downloading. It complies with the IEC 61107 standard. Meters can be equipped with RS232 interface for meter remote reading and programming.

TARIFF AND MD REGISTRATION

The meter enables energy registration in four tariffs. Up to twelve periods can be defined in a day in which a certain tariff is valid. Four types of day with different tariff programs, 12 seasons (holidays) per year can be defined. Demand can be set in a range from 1 to 60 minutes by step of 1 minute.



TECHNICAL DATA

Model/Type of Meter	HXE12 / HXE12GK
Accuracy class	1.0
ICD display	2.0 8 digits
Basic current	
Maximum current	10A
Operating voltage	40A 2/10\/(+20% -30%)
Overload capacity	2400 (12070, -3070)
i) For the consideration of Accuracy	104
ii) For the thermal consideration	40A
Power Lossos	JUA
i) Potential circuit	<10\//\ 2.0\\/
i) Current circuit	<1\/A
Enconsulation dotails	24VA
i) Current concer	one chunt one CT
i) Class of insulation	Class II
II) Class of Itisulation	CIdSS II
i) Impulso Voltago	9147
i) AC Voltage Test	
II) AC VOIdge Test	4KV
Material details of the following items	>>>) \[2
	Opagua PC
i) Cover	table PC Transparent
ii) Cover	
in/Terminal Plack	Laple PC Transparent
v) Terminal	
VI)Printed Circuit Board (PCB)	-K-4
Clock accuracy	20 mmm
Clock accuracy	zzo ppm
Ballery Shell Life	LO YEARS
Type of terminals	Pressure Plate
Energy Recording	DSOIUTE/BI-DIRECTINAL
Communication Module	r/GPKS/3G/4G/PLC
Opπcal Port A	vallable (GPRS)

The microcontroller is a 16 bit processor, records energy in up to 4 tariffs, records events and enables meter setting and data downloading via the infrared communication port and RS 232 or RS 485 serial interface(if it is built-in). All measuring data and parameters are stored in a non-volatile memory (EEPROM).

POLY PHASE ELECTRONIC METER

HXE34 and HXE 34W (Whole Current) type Three Phase Electronic electricity meters are designed for measurement of active and reactive energy as well as maximum demand, multi-tariff for domestic, commercial and industrial customers in three phase networks. The meters can 00000041 be connected directly, via CT or CT and PT. They comply with IEC 62053-21 standards and are manufactured in compliance with the ISO 9001-2015, ISO 14001 and OHSAS 18001 standards.

METERING SYSTEM

The metering element is specially designed energy measuring at large scale. The metering elements are protected against over-voltages and high frequency disturbance. Such a design of the measuring elements assures excellent and long-term stable metering features, negligible effect of influence quantities and high meter reliability. Therefore the meters do not require any calibration over their entire life-span.

METER HOUSING

Ergonomically designed housing is made of Fire retardant polycarbonate and can be recycled at the end of the meter life. It assures double-insulation and IP51 (for LT & HT TOU) and IP 54 (for Whole Current) protection against dust and water penetration. The meter cover is made of transparent polycarbonate and is fixed with two or three sealing screws. The terminal cover is fixed with two sealing screws. It is fixed with two sealing screws. Three Phase Whole Current Meters are housed in Security Boxes Made of Fire Retardant Polycarbonate whereas upper and lower parts of Security Boxes are welded together through high frequency Ultra Sonic welding Techniques LCD DISPLAY

The 7-segment LCD is 8-digit, measuring data are displayed as eight digit value (all integers or with one or two decimals). The identification codes of displayed data are four-digit, its height is 8mm. Symbol of energy flow direction, flags of a valid tariff and meters status are also displayed.



TIME-OF-USE REGISTRATION



A demand period of 5, 10, 15, 20, 30 or 60-minute can be set. The meters are automatically reset for billing purpose monthly. They can be also reset at any time by pressing the reset pushbutton.

The meters enable registration of energy in different tariff changing over schedules, Time of changing over tariffs are set with hour and minute with resolution 1 minute. It is possible for to set up to 24 periods over a day in which one or more tariff is valid.



TECHNICAL DATA

Model/Type of Meter HXE34W/WB/GK
HXE34GK / HXE310GK
Accuracy class1.0, 0.5, 0.2LCD display8 digitsBasic current1A/5A/10AMaximum current2A/10A/100AMinimum starting current1mA/10mA/40mALT operating voltage3 x 230 / 400VHT operating voltage3 x 63.5 / 110VOverload capacity1
i) For the consideration of Accuracy 10A/100A
ii) For the thermal consideration 12A/120A
Power Losses i) Potential circuit ≤8VA/10VA, 1.5/2W ii) Current circuit ≤2.5VA/4VA
i) Current sensor Shunt or CT
ii) Class of insulation
Dielectric Strength
i) Impulse Voltage
ii) AC Voltage Test 4kV
Insulation resistance of meter>>5MΩ
Material details of the following items
i) Base PC & Fiber Glass
ii) Cover PC & Fiber Glass
iv) Ierminal Block PC & Fiber Glass
v) Ierminal Blade Copper (Tin/Nickel Plate)
VI)Printed Circuit Board (PCB)
lemperature rise of meter
Clock accuracy $\pm 20 \text{ ppm}$
Battery Shelt Life > 15 years
LOAD PROTIING
IP Glass
Type of terminals Pressure Plate/ Tube

Energy Recording .. Absolute/Bi-Directinal Communication Module RF/GPRS/3G/4G/PLC Optical Port ... Available

DIVERSE RANGE OF DEVICES

SOLUTIONS ACCORDING TO LOCAL REQUIREMENTS

KBK Electronics has a wide portfolio in general electric metering devices and we offer all ranges of electronic meters for residential, commercial and industrial customers



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The meters is equipped with an infrared optical communication port for meter local setting and data downloading. Meters also supports RS 232 or RS 485 serial interface for communication, DLMS/ COSEM, 3G, 4G & PLC communciation modules are also supported for remote meter reading and paramterization.



THREE PHASE LT/HT WIDE RANGE METER

HXE310GK series is new generation three phase smart meter with modular design for Industry, commercial and resident application with plug and play communication module.

HXE310GK provides increased cost-effective for you with its excellent measuring capabilities, precision, succinct design and reliability.

> Plug & Play Communication Module

> Accuracy range from 1.0 to 0.2 Class

PREPAYMENT SMART METER

HXE310-P is a three phase meter used in split or built-in prepayment metering system. It complies with STS standard and communicates with a CIU by Mbus or PLC for energy consumption monitoring and credit charging.

> STS standard protocol ensures secure operating system

> Internal switch relay for load demand control

> Pre-payment and Post-payment mode switchable for convenience

BI-DIRECTIONAL ENERGY METER

HXE34WB Bi-directional meter has monitoring feature designed expressly for renewable energy applications, allowing measurement of power imported from the utility grid as well as power exported from the renewable energy source (e.g. Solar Panels, SPP, CPP, Small Hydal,

> STS standard protocol ensures secure operating system

> Internal switch relay for load demand control



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