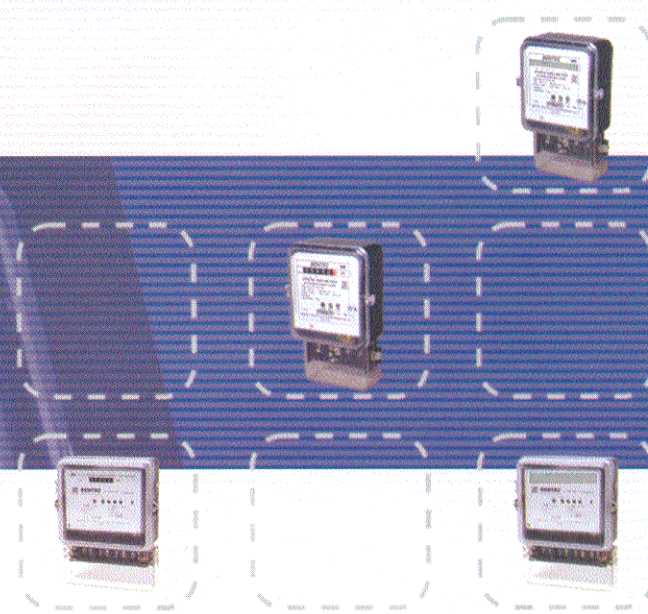


BENTEC



<http://www.bentecindia.com>



Bentec Electricals & Electronics Pvt. Ltd.
AN ISO 9001-2000 COMPANY



SINGLE & POLY PHASE STATIC ENERGY METER

INTRODUCTION

BENTEC ELECTRICALS & ELECTRONICS (P) LTD. is a major manufacturer of energy meter in india the main products includes single phase & three phase long life energy meters & electronic energy meters with temper proof function.

The company has a technical staff with strong technical & engineering capability, able to develop & produce multi type energy meters with the design of high reliability, emc & heating the internationally advanced special IC & Chip components & long life capacitors are introduced in the production of meters & technical properties confirm to IEC 1036/IS 13779.

The company has a production capacity of 1.2 million meters. The quality control system is in conformity to ISO 9001. The products have high precision, good reliability & no deviation.

FEATURES

- Totally tamper proof design and construction
- Accuracy better than class 1.
- Wide Dynamic Operating Range.
- Flame retardant and High impact Polycarbonate case.
- Complies with the requirement of IS13779 and CBIP Tech. Report No. 88.
- Withstands DC influence effect and External Magnetic induction effects.
- Precise measurement of forward & reverse power & maximum demand.
- Precise measurement of voltage & current.
- Items & sequence in display can be customized.
- Last six months maximum demand can be stored in meter memory.
- Bright LED Display.
- Required no frequent calibration like conventional meter.
- Tamper & fraud Detection & visual annunciation through LED.
- Metrology indication through LED for easy calibration.
- Meter operates even under very low loads.
- Digital Technology ensures reliability & accuracy even under extreme condition of temperature & humidity.
- Photoelectric output testing terminal is available checking for any errors.
- Data output terminal is available (RS232/Optical Port).
- Records kept & displayed in terms of active energy, max demand with date & time.
- Reading while power is off.
- True RMS Voltage, current & Power measurements.



SINGLE PHASE ELECTRONIC ENERGY METER PBO1

- Type: PB-12-2 ● Ref. Standard IS 13779/1999/CBIP-88
- Rated voltage : 240 V ● Rated Current : 5-20A
- Power consumption <8VA ● Accuracy class : 1.0

FEATURES

1. Measurement of power
2. High Accuracy: 1.0 Class
3. High Overload capacity : 6 times of basic current
4. High reliability
5. Low power consumption, tamper proof, light weight, small size
6. SMT & re-flow technology adopted, Immune to various disturbance. EMC can comply with requirement of IEC 1036/IS13779.
7. LCD/Stepper motor type of display mechanism,
8. Power and and different tamper indicator
9. Pilfer-proof meter box can be supplied for outdoor installation.



SINGLE PHASE MULTIFUNCTION ELECTRONIC ENERGY METER PBMFSO2

- Type : PB-12-1 ● Accuracy class : 1.0
- Rated voltage : 240 V ● Rated Current : 5-30A
- Power consumption <8VA

Main Features:

1. Measurement of Active Power
2. High Accuracy: 1.0 Class
3. High Overload capacity: 6 times of basic current
4. High reliability
5. Low power consumption
6. SMT and re-flow technology adopted, Immune to various disturbance. EMC can comply with requirement of IEC 1036/IS13779.
7. Power and different tamper indicator
8. LCD type of display mechanism.
9. Display parameter:
 - a. LCD check
 - b. Date and time display
- 9A AUTO SCROLL DISPLAY PARAMETER
 - a. Current KWh (energy) measurement Z
 - b. Instantaneous KWh (MD)
 - c. Instantaneous Voltage
 - d. Instantaneous Current
- 9B DISPLAY PARAMETER: BY PUSH BUTTION
 - a. Cumulative KWh reading for last six month
 - b. Instantaneous KWh (MD) for last six month
10. Anti tamper feature: Normal /Earth /Neutral missing feature (Single Wire System)
11. Additional battery for reading the display during power off condition (through push button mode) using chargeable/ non chargeable battery can also be supplied.
12. RS 232 communication port /optical port





THREE PHASE ELECTRONIC ENERGY METER PBT01.

- Type : PB-12-3 ● Ref.Standard IS 13779/1999/CBIP-88
- Rated voltage : 240X3V ● Rated Current :10-40A
- Power consumption <8VA ● Accuracy class : 1.0

Main Features:

1. Measurement of Power
2. High Accuracy: Class 1.0
3. High Overload capacity: 6 times of basic current
4. SMT and re-flow technology adopted, Immune to various disturbances. EMC can comply with requirement of IEC 1036/IS 13779.
5. Date and time display
6. Instantaneous KWh Display
7. Additional Battery backup (Optional).
8. Power and different tamper indicator
9. Communication Port (Optional)
10. Last Six Month MD Storage (Optional)
11. Power and different tamper indicator.

BENTEC ELECTRONIC TRIVECTOR METERS

Electronic energy meters with mixed signal micro controller Design, Non-Volatile Memory, Tamper Evident Features, communication facility, High accuracy class and Meeting the requirements of International Standards.

FEATURES

- Mixed Signal Micro Controller Design achieves real time computing and very high BAUD rates (IEC-62053-21/23), 9.6 kbps or higher resulting in a quick downloading of data and at the same time permitting advance communication with PSTN, PLC, GPRS, Low Power Radio.
- Modbus RTU Protocol implemented for AMR/3rd party access.
- 8 separate ADC channels for accurate measurement of total energy, thus elevating the need for filtering algorithms for ADC multiplexing errors.
- Realtime phase compensation (sample basis) by using DFT techniques.
- 4 Quadrant Metering, with active/reactive, import/export.
- Time of use metering up to configurable TOU slots, 8 tariffs and 4 seasons.
- TOU function is supported by RTC chip with an accuracy of up to 5 minutes per year. RTC with 32.768 KHz external crystal with a stability of better than ± 10 PPM.
- Detects all types of tampers, frauds and anomalies & prevents energy pilferage.
- Active and Reactive / Apparent pulse outputs. (optional - Potential free pulse outputs)
- 90 days load profile with KWh, KVAh Lag, KVAh Lead, KW, KVA demand, average voltages & average currents, PF, frequency for integration period of 30 minutes.
- 12 months history of billing parameters.
- Configurable parameters viz. TOU tables Maximum Demand integration period persistence time for tamper registration and restoration, apparent calculation method.
- Supporting software. The product is shipped with an efficient meter reading programme and a highly user-friendly base station software power vision for METER data reading and processing.
- Battery backup for meter reading in the event of power outage.
- Immune to very strong magnetic and radiated / conducted electromagnetic disturbance.

SPECIFICATIONS OF BENTEC WHOLE CURRENT METERS 3 phase, 4 wire, class 1 whole current (5-100A), time of use static electricity meter conforming to Standards IES 62053-11, IEC 62053-21/23, IEC 62054, IS 13779:99

Model	:	PBMFT01
Metering System	:	3 phase, 4 wire (Direct connected Meter)
System Voltage	:	3 x 240 V ac (phase to neutral)
Current	:	
I basic (Amp)	:	10 10 20 50 5
I max (Amp)	:	40 60 100 100 40
Class of Accuracy	:	1.0
Rated Frequency	:	50 Hz \pm 5%
Starting Current (%Ib)	:	As per IEC 62053-21 / IS 13779
Burden	:	
a) voltage circuit	:	As per IEC 62053-21 / IS 13779
b) Current circuit	:	As per IEC 62053-21 / IS 13779
Calibration Output	:	Bright Red LED to indicate Energy Registration / Calibration





Display & measuring parameters :	Enhanced LCD display. The display parameters may be configured, based on customer requirement. Active Energy (KWh), 3 phase line to neutral voltage in volts, 3 phase line currents in Amps, inst. load(kw), Max.Demand (KW/KVA), inst.power factor.
Demand Integration Period :	15,30 or 60 minutes (Programmable). Sliding window demand computation is also available.
Date Storage :	32 K+256 K bytes of non volatile memory a retention of Minimum 10 years without power.
Communication add an options :	Optical port hardware compatible to IEC 62056-21 , isolated RS232/ RS485 for Remote data transfer, low power radio (433 MHz ISMBand)
Tamper & Anomaly Detection :	Missing potential, Voltage unbalance, Current Reversal, current unbalance, Over load and power on/ off events,Magnetic Tamper detection, current bypass, Open, Short detection
Effect of :- Self-Heating	
Reversed phase Seq.	Within the Specified limits as per IEC-62053-21 / IS - 13779
External Magnetic Induction :	



SPECIFICATIONS OF BENTEC ELECTRONIC TRIVECTOR METERS 3 PHASE, 4 WIRE, CLASS 0.5S (-/5A & -/1A), TIME OF USE STATIC ELECTRICITY METER CONFORMING TO Standards IES 62053-11, IEC 62053-21/23, IEC 62054, IS 13779:99

Model :	PBTVO2
metering System :	3 phase, 4 wire (LT:ct operated, Ht:CT/PT operated)
System Voltage :	3 x 240 V ac (phase to neutral) 3 x 63.5 V ac (phase to neutral)
Current	
I basic (Amp) :	1 5
I max (Amp) :	2 10
Class of Accuracy :	0.5
Rated Frequency :	50 Hz±5%
Starting Current (%Ib) :	As per IEC 62053-22 / IS 14697
Burdena)	
a) voltage circuit :	As per IEC 62053-22 / IS 14697
b) Current circuit :	As per IEC 62053-22 / IS 14697
Calibration Output :	Bright Red LED to indicate Energy Registration /Calibration
Display & measuring parameters :	Enhanced LCD display. The display parameters may be configured, based on customer requirement. Active Energy (KWh), 3 phase line to neutral voltage in volts, 3 phase line currents in Amps, inst. load(kw), Max.Demand (KW/KVA), inst.power factor.
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Effect of :- Self-Heating	
Reversed phase Seq.	Within the Specified limits as per
Wave form	IEC-62053-21 / IS - 13779
External Magnetic Induction	

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150 Upen Banerjee Road, Kolkata - 700060,INDIA
 Tel : (+91) (33) 2401 4211 / 7421, Fax : (+91)(33) 2401 7422
 E-mail :info@bentecindia.com
 Website: http://www.bentecindia.com
 Branch Office :
 Ahemadabad : (079) 26741926,30941205,9327000304
 Bangalore : (080) 51282090/2290,9845007857
 Chennai : (044) 24320707,9884484013
 New Delhi : (011) 5152 0610/11/12,9313361540
 Hyderabad : (040) 24600333,9391010813
 Lucknow : 9839171414
 Mumbai : (022) 56989044/45,9324287963

Area Distributor