

BANGLADESH RURAL ELECTRIFICATION BOARD

PBS INSTRUCTION: 100-39
BREB INSTRUCTION: 500-10

**STANDARDS FOR THE POWER UTILIZATION
OF THREE-PHASE METER**

BANGLADESH RURAL ELECTRIFICATION BOARD
PBS INSTRUCTION 100-39/ BREB INSTRUCTION 500-10

Approval Date: 30/12/1981
Revision Date : 19/02/2020

SUBJECT: STANDARDS FOR THE POWER UTILIZATION OF THREE-PHASE METERS

I. PURPOSE

To set forth the standards for the proper utilization of three phase meters.

II. GENERAL

The following guidelines will be used by consultants, BREB personnel and PBS personnel in determining the type of meter to be used for each three-phase load connected.

III. EQUIPMENT AVAILABLE FOR METERING THREE-PHASE CONSUMERS

(a) Meter equipment required for three phase consumers are given below as a guideline-

KWH Demand meter	Class 100/200
KWH Demand meter	Class 10/20
Current transformer, 11KV	5:5, 10:5, 15:5, 30:5, 50:5, 100:5, 150:5, 300:5
Current transformer, 33KV	50:5, 100:5, 150:5, 200:5, 300:5, 400:5, 500:5
Potential transformer, 11KV	6350:240 (Phase to ground)
Potential transformer, 33 KV	33000/($\sqrt{3}$:240) (Phase to ground)

7 Terminal meter socket 1s for 100/200 class meter

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STANDARDS FOR THE POWER UTILIZATION OF THREE-PHASE METERS				
Date of Origin	Revised by	Approved by	Page No.	Revision No.
30/12/1981	BREB	BREB Board	Page 1 of 3	5
Revision Date: 27/02/1984, 20/06/1984, 14/11/1996, 01/09/2013 & 19/02/2020				

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13 Terminal meter socket 1s for 10/20 class meter

- (b) Usually 7.5 KW or above load are connected through three phase supply. Metering instruments will not be required for this type of load are given below-

SL No.	Description of Load (KW)	Required Metering Instrument
01	7.5 - 50	Class 100/200 Meter

- (c) To connect load above 50 KW, PBS will install primary metering as per rule of BERC. 2.5% additional unit (for transformer loss) will be added with secondary metering unit, where primary metering is not possible above 50 KW load, but the tariff and other charges will be applicable as per MT (Medium Tension, 11 KV) consumer.

Considering the load suggested CT ratios for MT (11 KV) are given below-

Load (KW)	CT Ratio (11KV)
Above 50 to 75	5:5
Above 75 to 150	10:5
Above 150 to 250	15:5
Above 250 to 450	30:5
Above 450 to 750	50:5
Above 750 to 1,000	100:5
Above 1,000 to 2,000	150:5
Above 2,000 to 5,000	300:5

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Date of Origin	Revised by	Approved by	Page No.	Revision No.
30/12/1981	BREB	BREB Board	Page 2 of 3	5
Revision Date: 27/02/1984, 20/06/1984, 14/11/1996, 01/09/2013 & 19/02/2020				

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Considering the load suggested CT ratios for HT (High Tension, 33 KV) are given below-

Load (KW)	CT Ratio (33 KV)
Above 1,000 to 2,000 (If any)	50:5
Above 2,000 to 5,000 (If any)	100:5
Above 5,000 to 8,000	150:5
Above 8,000 to 11,000	200:5
Above 11,000 to 15,000	300:5
Above 15,000 to 20,000	400:5
Above 20,000 to 30,000	500:5

(d) Selection of CT ratio: CT ratio should be selected in such a way that load current must less than the CT current and CT current should not so much higher than load current.

(e) Abnormality of HT meter:

(i) In case of abnormality and/ or dispute (such as faulty connection, tempering etc.) in HT metering, the meter shall be removed. For future reference and analysis, before removal of HT meter, available data (such as voltage, current, power factor, phase angle, present load etc.) shall be recorded. Signature of consumer on the record sheet should be taken.

(ii) Before removal of HT meter internal data must be down loaded with the help of the software of that meter and preserved for analysis and legal protection.

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STANDARDS FOR THE POWER UTILIZATION OF THREE-PHASE METERS				
Date of Origin	Revised by	Approved by	Page No.	Revision No.
30/12/1981	BREB	BREB Board	Page 3 of 3	5
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