

ELECTRICITY DISTRIBUTION DIRECTORATE

DESCRIPTION S-4246 A

DOMESTIC METER CABINET

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1. INTRODUCTION

This specification determines the requirements of the Electricity Distribution Directorate - EDD in respect of material, design, manufacture, inspection and supply of Meter Cabinet, to be used in the customer residence supplied by Electricity Distribution Directorate, Kingdom of Bahrain.

1.1 “EWA”- throughout this specification will mean the Electricity and Water Authority, Kingdom of Bahrain.

1.2 “DIRECTORATE”- throughout this specification will mean the Electricity Distribution Directorate, Electricity and Water Authority, Kingdom of Bahrain.

1.3 “EDD”- throughout this specification will mean the Electricity Distribution Directorate, Electricity and Water Authority, Kingdom of Bahrain.

1.4 “EDD 721-0-0”- throughout this specification will mean EDD specification with the title “Classification of service conditions for supply of equipment / materials” and amendments there-of which is in force.

1.5 “METER CABINET”- throughout this specification will mean Meter Cabinet or Cabinet with single occupancy structures shall be limited to one meter.

2. SCOPE

2.1 This description specifies the requirements for Meter Cabinet and its accessories. It includes materials and conformity control. It applies to meter cabinet complete with single or three phase meters.

3. SYSTEM DETAILS

3.1 LV Distribution System

System details shall be as per CL 3.1 “LV Distribution System” Type SD 1 to EDD 721-0-0.

4. ENVIRONMENTAL AND SERVICE CONDITIONS

4.1 Environmental conditions shall be to Table 1 of EDD 721-0-0.

4.2 Service conditions shall be as Outdoor/Outdoor Type EC 3 of EDD 721-0-0.

5. STANDARDS

5.1 The following referenced standards/documents are indispensable for the application of this description:

5.2 BS 6399-2 : Materials Temperature.

5.3 IEE Wiring Regulations : Requirements for electrical installation.

5.4 Bahrain regulations for electrical installation.

6. GENERAL ARRANGEMENT

6.1 Meter Cabinet shall be provided by Customer.

6.2 Meter cabinet shall be generally as per the Drawing of this description of sufficient dimensions with frame and hinges shall be provided in all premises. The Meter cabinet shall have locking arrangements.

6.3 The fixing of the Meter Cabinet is completely under the responsibility of customer.

6.4 The Meter Cabinet shall be located outdoor in boundary customer wall at easy accessible place that can be reached by EWA staff at any time without requirements permission.

6.5 An adequate and suitable vertical solid surface shall be provided in the meter cabinet to facilitate the installation and inspection of meter and other accessories such as marine plywood.

6.5.1 Marine plywood shall be fire retardant or equivalent.

6.6 The Cabinet shall be supplied with six numbers of Brass Screws (80mm LG) minimum and rawl plugs compatible with the screws complete in one packet for fixing the cabinet.

6.7 Meter Cabinet shall be inspected and approved by Constructions Section – EDD.

7. METHOD OF DESIGN

- 7.1** The Meter Cabinet shall be designed and complied with EDD specifications, regulations and requirements.
- 7.2** The Materials shall comply with the appropriate grades of International Standards.
- 7.3** The Meter cabinet shall be dust proof, vermin proof and weather protected (IP45) and shall be provided with suitable locking arrangement.
- 7.4** The Meter cabinet shall be provided with rubber gaskets for windows and door for sealing purpose.

8. CONSTRUCTION DETAILS

The Meter cabinet shall mainly consist of the following:

8.1 DOOR AND FRAME:

- 8.1.1** The Meter cabinet door and frame shall be made from 1.5 mm thickness Aluminium materials.
- 8.1.2** The door leaf shall be side-hinged.
- 8.1.3** The door leaf shall be provided with louvers as shown in figure 1.
- 8.1.4** Window provisions shall be provided at the door as indicated in figure 1 and clause no. 8.4 of this description.
- 8.1.5** The frame shall be made from single section Aluminium material.
- 8.1.6** The frame corners shall be supported by Aluminium triangles sheets located at the back of the frame.
- 8.1.7** Materials such as plastic and polyethylene shall not be used for any jointing or corners in manufacturing the cabinet.
- 8.1.8** The frame shall be provided with six holes for fixing purpose.
- 8.1.9** Top canopy shall be provided with minimum 20 degree slope.
- 8.1.10** Hinges shall be heavy duty from non-corrosive materials such as stainless steel or aluminium hiding inside the cabinet to prevent opening from outside.

8.2 LOCK ARRANGEMENTS:

8.2.1 A suitable hole shall be made as indicated in figure 1 for lock fixing.

8.2.2 Lock shall be provided and fixed by EDD. It is EDD responsibility to provide the customer by ONE key for her/his use.

8.2.3 The availability and control of lock stock is the responsibility of EDD.

8.2.4 The lock cost shall be charged to the customer as an addition service connection cost.

8.3 LOUVERS:

8.3.1 The door shall consist of two louvers, the lower louvers shall consist of seven Aluminium plates and the upper louvers shall consist of three Aluminium plates.

8.3.2 The inner side of the louvers shall be covered by Aluminium mesh.

8.4 WINDOW:

8.4.1 Window with tempered clear transparencies glass of 6 mm thickness and 120 mm (width) x 80 mm (height) for meter reading shall be fixed at the top left side of the door, as shown in figure 1.

8.5 EARTHING:

8.5.1 Two earthing terminals shall be fixed between the door and the frame (one at the top and the second at the bottom). The two earthing terminals shall be provided with earthing lugs, 2 spring washers, bolts and nuts M6 X 35 LG.

8.5.2 Provisioning for earthing point shall be made from copper terminals and fixed in the frame of the Meter Cabinet to be connected to the main earth.

8.5.3 The earthing points shall be fitted properly and directly contact the aluminium under painting to insure good conductivity.

8.5.4 All accessories such as bolts, nuts, rivets etc... shall be non-corrosive materials.

8.6 DUCT PROVISION:

8.6.1 In the case of overhead service a provision holes for duct shall be arranged at the top right corner and in case of underground service the hole should be at the right bottom corner as shown in figure 1.

8.6.2 Minimum of 76 mm diameter ducts holes shall be provided for underground incomer service and minimum of 50 mm diameter holes ducts shall be provided for overhead incomer service.

8.7 PAINING AND COLORING:

8.7.1 Painting of the Meter cabinet shall be of high quality materials matching the customer building colour.

9. SIZE AND DIMENSIONS:

The Meter cabinet dimensions shall be as follows:

TABLE 1: METER CABINET DIMENSIONS

No.	Cut-out Ratings (A)	No. of Phases	Cabinet Size (mm)	Marine Plywood Thickness (mm)	Incomer Ducts Diameter (mm)
1	60	Single	700(H) x 800(W) x 150(D)	12.5	50.08
2	60	Three	700(H) x 800(W) x 150(D)	20	76.2
3	100	Three	800(H) x 1000(W) x 200(D)	20	101.6
4	160	Three	1000(H) x 1000(W) x 200(D)	20	152.4
5	250	Three	1200(H) x 1500(W) x 250(D)	20	152.4

10. VISUAL INSPECTION

It is EDD responsibility to inspect and approve the cabinet at final stage at the time of electrical installation inspection. Therefore, the customer is responsible to get full details from EDD before installing the cabinet.

11. INSTALLATION:

11.1.1 The minimum Height from the finished floor to the bottom of the meter cabinet shall be 750 mm.

11.1.2 The maximum height from the finished floor to the top of the meter cabinet shall be 2000 mm.

11.1.3 Opening window shall facilitate reading the meter in comfortable standing on the ground without using step or stair. Therefore, the centre of Meter's opening window to ground shall be 1650 ±100 mm.

12. DRAWINGS

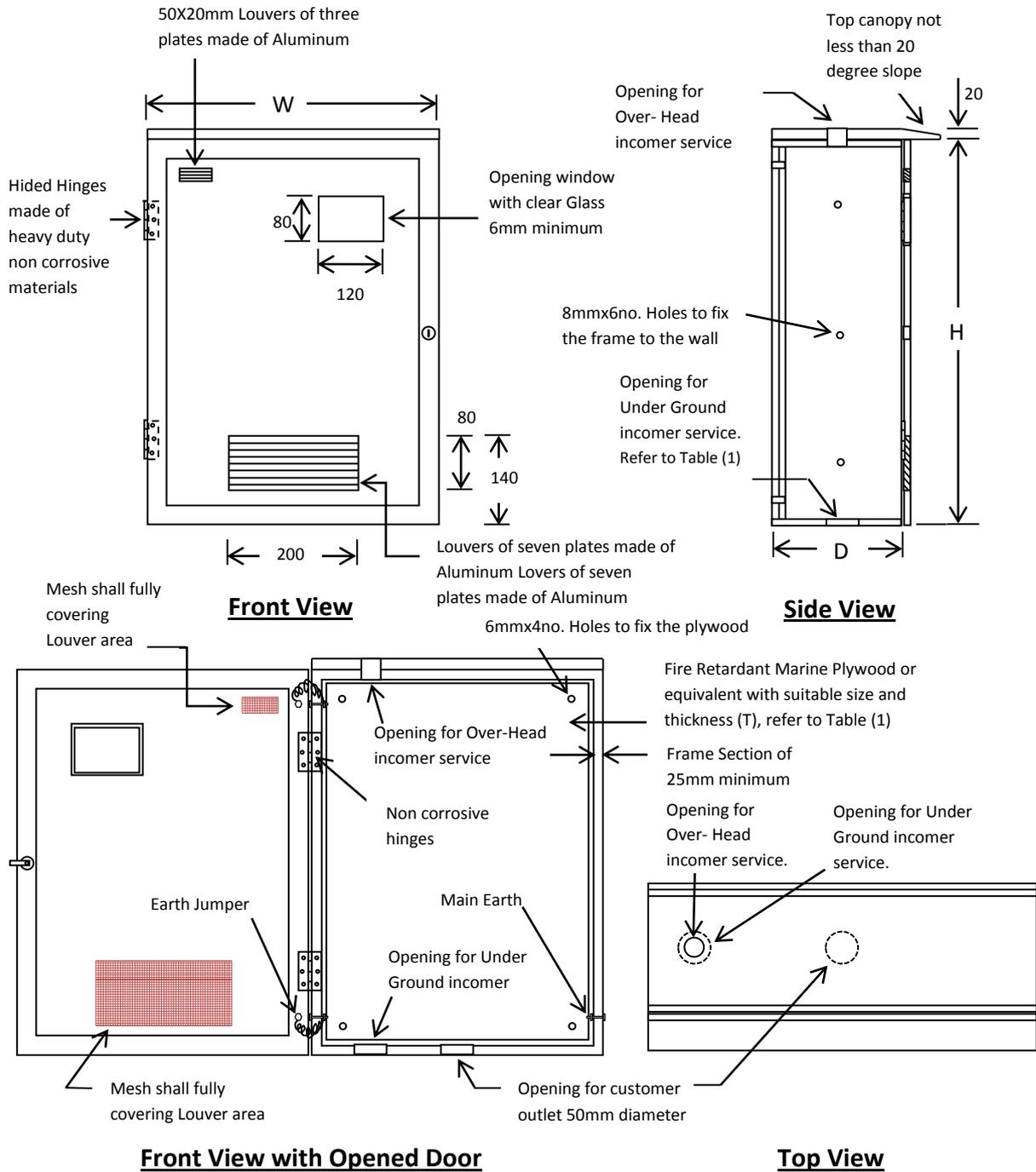


Figure (1): METER CABINET DIMENSIONS DETAILS