

Saudi Electricity Company



الشركة السعودية للكهرباء

SEC DISTRIBUTION CONSTRUCTION STANDARD

SDCS-02

DATE: January 2009G

SDCS-02

**CONSTRUCTION STANDARD
FOR
UNDER GROUND NETWORK**

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PART 5

INSTALLATION OF FIBERGLASS REINFORCED LOW VOLTAGE SERVICE CABINET FOR 800 A CONSUMERS



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1 Introduction

This construction standard specifies the minimum requirements for the 800 Amps consumer service cabinet as per specification No. 42-SDMS-02 latest revision, intended to be installed on the foot path / leveled or unlevelled roads.

This standard is intended to assist the field engineers and technicians to achieve uniform standard in construction to ensure a satisfactory and economical level of service without operating restrictions so that the operational errors are minimized for safety and reliability of the system.

2 Revisions and additions

This construction standard is subject to revision as new material and methods of construction are developed. The latest revision of this construction standard shall be applicable.

3 Service conditions and system parameters

For installation of the 800 Amps consumer service cabinet, the service conditions and system requirements shall be as given in the latest revision of SEC General Requirements for All Equipment/Material Specification No. 01-SDMS-01.

4 Installation

The following points are required to be considered at site during the installation of the 800 Amps consumer service cabinet:

- 4.1 The minimum clearance between the 800 Amps consumer service cabinet and any other utility service such as telephone and water boxes shall not be less than 2 m.
- 4.2 The 800 Amps consumer service cabinet should be easily accessible from the front in the consumer's boundary without any obstruction.
- 4.3 The 800 Amps consumer service cabinet shall not be located on the top of sewerage systems or water tanks.
- 4.4 The area assigned for installing the 800 Amps consumer service cabinet shall be finished clean regardless the finishing of the surrounding area.



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- 4.5 Bottom part of the 800 Amps consumer service cabinet shall be direct buried to the ground and back filled, after fixing the bottom legs with unarmored fine cement mortar.
- 4.6 The fixation of the 800 Amps consumer service cabinet into the frame shall be in such a way that the used tools and fasteners will not damage the body of the cabinet.
- 4.7 All incoming / outgoing cables and the pilot cable used for the remote meter box shall pass underground through the cable trench.
- 4.8 Incoming SEC cables shall be 2x (4x300mm²), aluminum terminated parallel on the terminals of the MCCB as indicated in specification No. 37-SDMS-01 latest revision. The looping connection to feed another consumer is not allowed.
- 4.9 Connection at the feeding substation low voltage distribution panel shall be done on any two neighbors out going MCCBs.
- 4.10 The two MCCBs shall be labeled together with a traffolyte rectangular label 250x100 mm engraved with consumer information in white on red background to differentiate these MCCBs from the others. The same trafolyte label to be added also in a visible place at the outside of the service cabinet door.
- 4.11 Consumer cables shall be fixed with tinned copper lugs, in case of using copper cables, and bi-metallic lugs in case of using aluminum cables. Cable lugs shall be as per SEC specification 12-SDMS-02 latest revision.

5 Earthing

- 5.1 Earthing shall be done as per SEC construction standard SDCS-03 (part 1 latest revision).
- 5.2 Earthing wires to be connected on neutral busbar in any convenient location by the use of copper cable lugs.
- 5.3 All internal metal parts to be checked, bonded together and connected to the neutral busbar.



5 Drawings

The following drawings are attached to this standard:

- Fig. 1 800 Amps consumer service cabinet on finished road level
- Fig. 2 800 Amps consumer service cabinet on non finished road level
- Fig. 3 800 Amps consumer service cabinet base detail
- Fig. 4 800 Amps base cement fixing
- Fig. 5 800 Amps consumer remote meter box
- Fig. 6 Traffolyte label plate details



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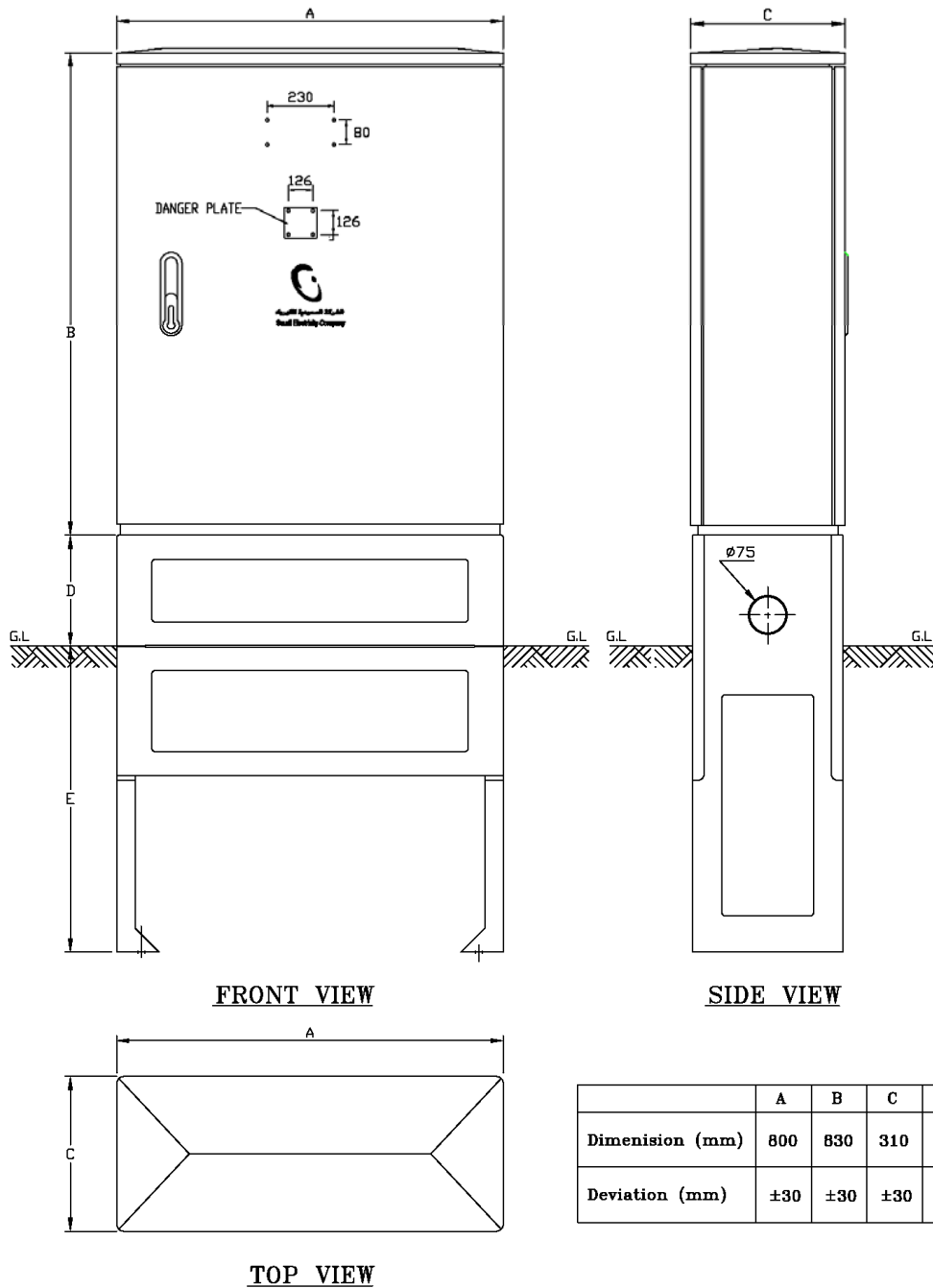


FIG.01 800 AMPS CONSUMER SERVICE CABINET
INSTALLATION ON FINISHED ROAD LEVEL



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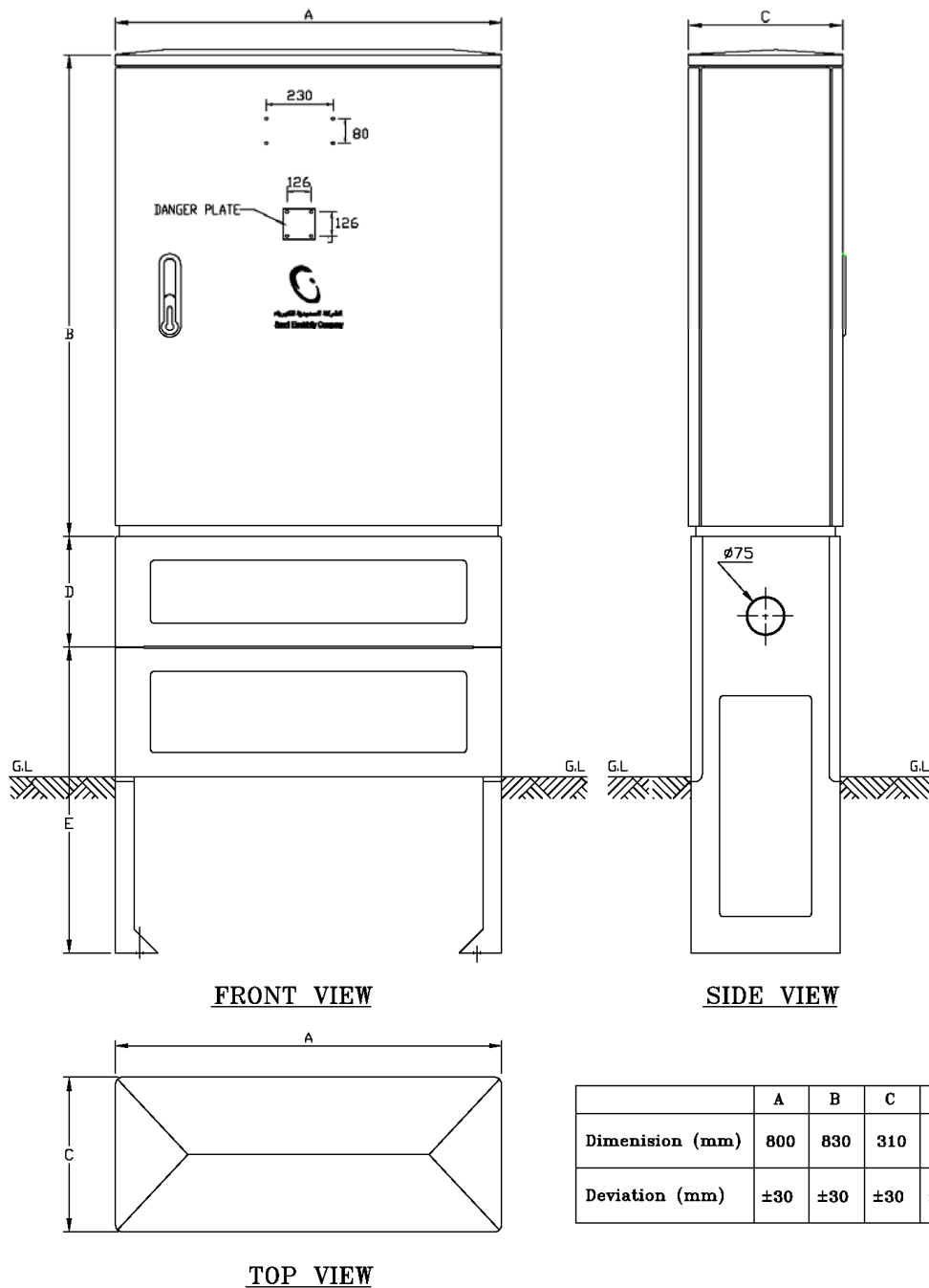


FIG.02 800 AMPS CONSUMER SERVICE CABINET
INSTALLATION IN CASE OF ROAD UNLEVELED (UNDER CONSTRUCTION)



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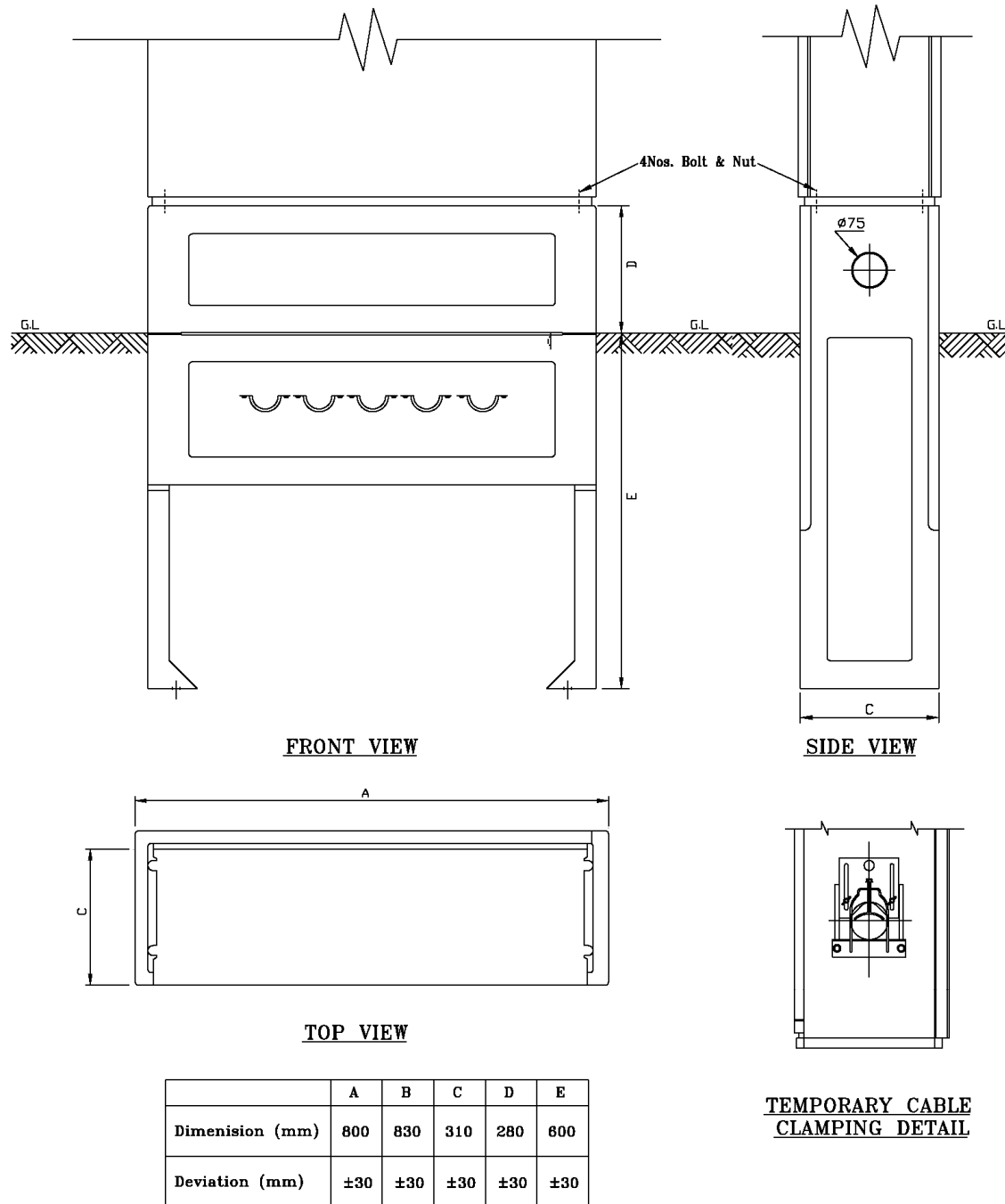
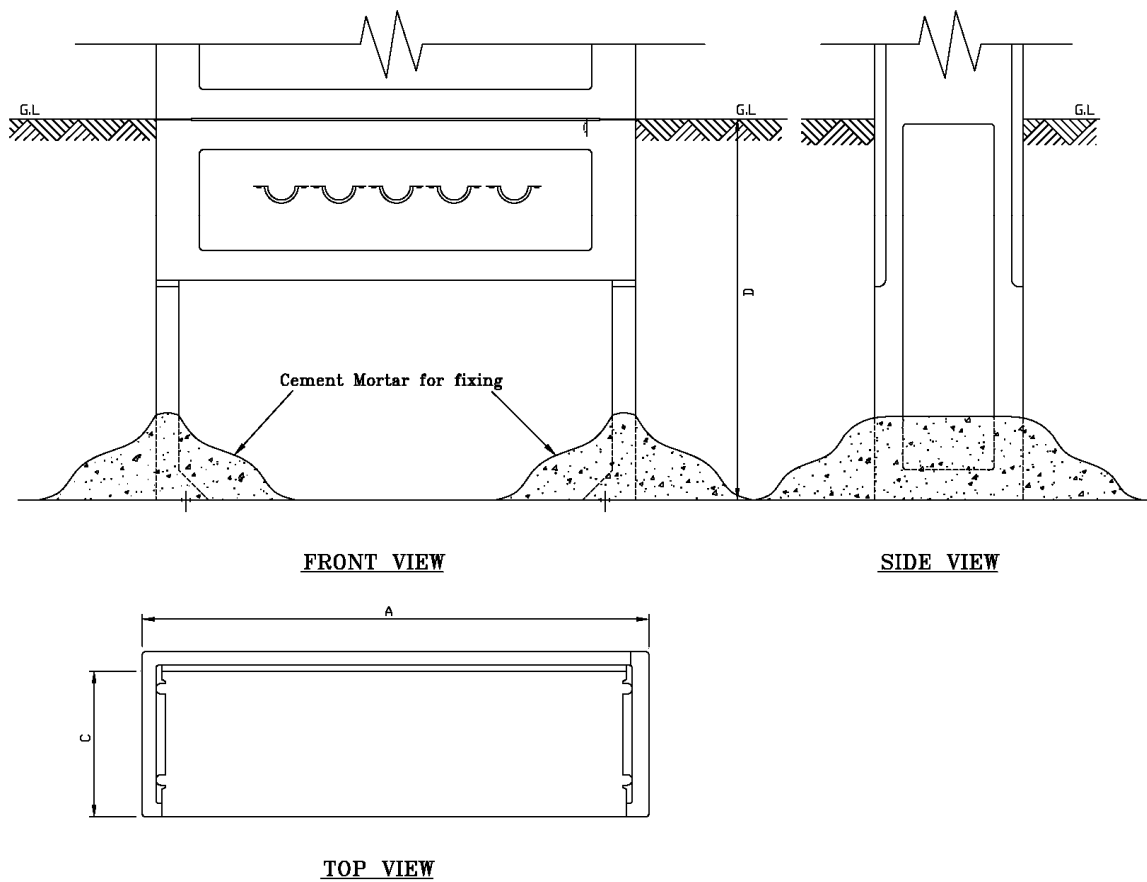


FIG.03 800 AMPS CONSUMER SERVICE CABINET BASE DETAIL



	A	B	C	D
Dimension (mm)	800	830	310	600
Deviation (mm)	±30	±30	±30	±30

FIG.04 800 AMPS CONSUMER SERVICE CABINET BASE CEMENT FIXING

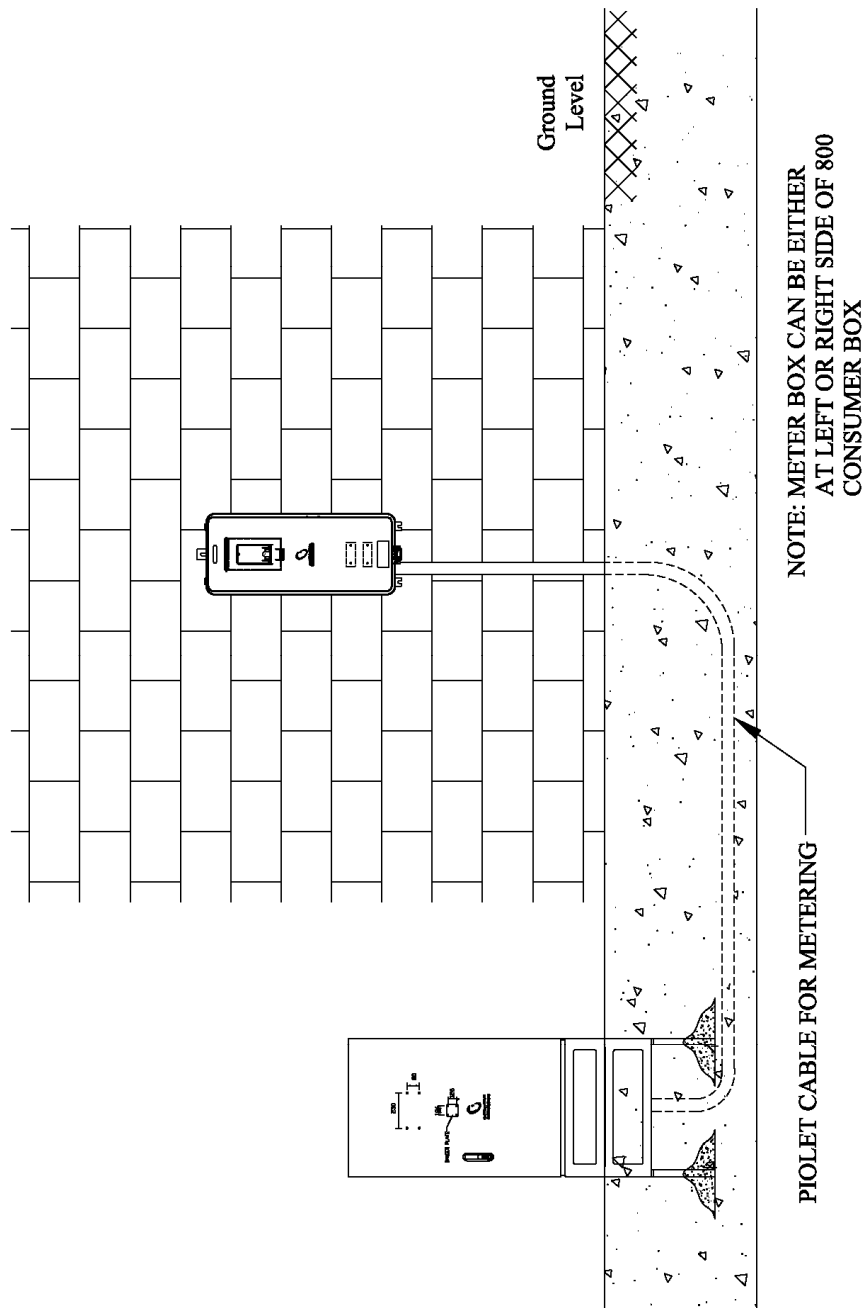
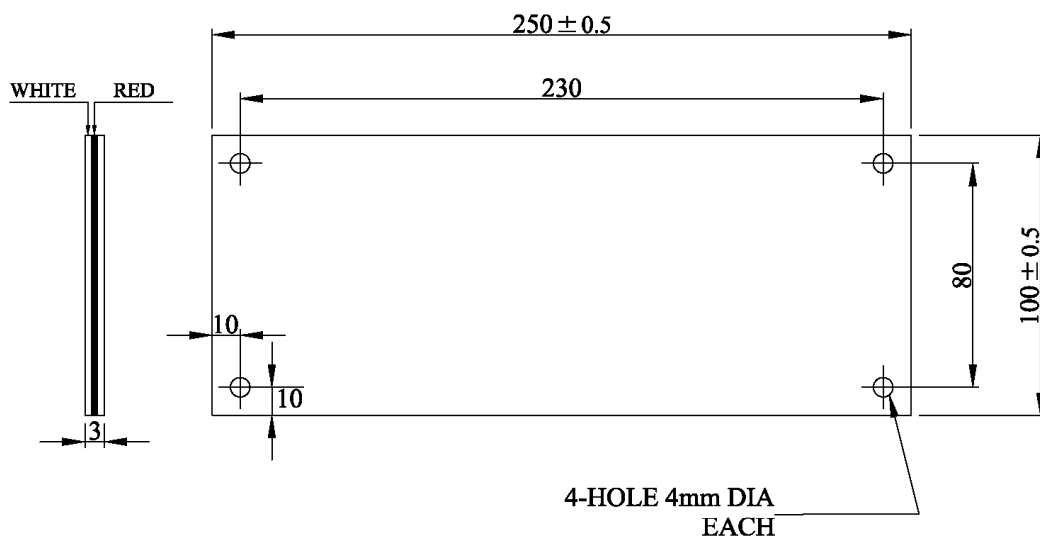


FIG.05 INSTALLATION OF THE REMOTE METER BOX

**NOTES:**

1. DIMENSIONS ARE IN MILLIMETERES.
2. METERIAL TRAFFOLYTE WHITE - RED - WHITE THICKNESS 3mm.
3. THIS PLATE WILL BE USED TO ENGRAVE LETTERS AND NUMBERS BY USING ENGRAVING MACHINE.

FIG.06 TRAFFOLYTE LABLE PLATE DETAILS