

**Dubai Electricity & Water Authority**  
**(Consumer Service Department – Ref: IMS / W-NOC / 04)**  
**IMS (Intelligent Metering System)**

**IV. Communication: Field Requirements of Civil, Electrical, etc. related to Water Meter & Data Concentrator**

**i) Residential and Commercial Buildings:-**

- A. 1) IP 55, PVC box in water metering room (each floor) with mounting plate for fixing the water meter communication-interfacing units.
- Size of the IP 55, PVC box shall be minimum 50cm (L) x 40cm (W) x 15cm (D) (for up to 10Nos. water meters).
  - Mounting height of the PVC box shall be minimum 2 mtrs. from the finished floor level and clearance from the water service points shall be minimum 2 mtrs, if no separation / partition is available between the same.
- 2) Electricity connection, single phase with flex outlet supply in the above PVC box for the PLC (power line carrier) communication with the water meter communication interface units.
- Flex outlet supply shall be connected to the same area SMDB, through a separate PVC conduit with 3C/2.5 sq.mm cable and protective devices.
  - Protective devices shall be fitted in the SMDB cabinet with 30mA, 2 poles ELCB & 6Amps SP MCB set.
  - Clearance between electricity and water service points shall be minimum 2 mtrs, if no separation / partition is available between the same.
- B. 1) IP 55 enclosure (GRP type) on the wall or inner side of the compound wall adjacent to the main water meter chamber with mounting plate for fixing the main water meter communication-interfacing unit and calculator part.
- Size of the IP 55 enclosure shall be minimum 40cm (L) x 30cm (W) x 20cm (D)
  - Mounting height of the IP 55 enclosure shall be 2 mtrs. from the finished floor level
- 2) Electricity connection, single phase with flex outlet supply in the above IP 55 enclosure on the wall or inner side of the compound wall for PLC (power line carrier) communication with the main water meter communication-interfacing unit.
- Flex outlet supply shall be connected to the ground floor DB-LL, with armored cable and protective devices.
  - Armoured cable size shall be minimum 3 core, 2.5 sq.mm
  - Protective devices shall be 30mA, 2 poles ELCB + 6Amps SP MCB set.
- 3) 2Nos. PVC conduits between the main water meter chamber and the above IP 55 enclosure on the wall or inner side of the compound wall with pulling rope.
- Size of the PVC conduits shall be minimum 25mm for length up to 6 mtrs and minimum 32mm required for length more than 6 mtrs.

- C. 1) Electricity connection, three phase with flex outlet supply for each data concentrator in LV room from the respective LV panels with 5C/2.5 sq.mm cable and protective devices.
- Location of the data concentrator in LV room shall be adjacent to the entrance for direct access.
  - Minimum space requirement for one data concentrator is 40cm (H) x 30cm (W).
  - Flex outlet supply for data concentrator shall be installed at a height of 125cm from the finished floor level
  - For two or more data concentrators, clearance between the 3ph. flex outlet supply from the respective LV panels shall be minimum 30cm.
  - Protective devices shall be provided in the LV panel-metering compartment with 4Amps fuse + carrier set - 3Nos & neutral connector.
- 2) PVC conduit between MDF / main telephone room and LV room with necessary junction boxes and pulling rope for interconnecting the telecommunication cable with data concentrator.
- Size of the PVC conduit shall be minimum 32mm for length up to 6mtrs and minimum 50mm required for length more than 6mtrs.
  - Size of the PVC junction boxes shall be minimum 20mm x 20mm.
  - Junction box in the MDF / main telephone room shall be adjacent to the main telephone control panel.
  - Junction box in the LV room shall be adjacent to the data concentrator location.
  - Additional junction boxes shall be provided in every 10mtrs interval, if the distance between the MDF / main telephone room and LV room is more.

**ii) Villa Complex:-**

- A. 1) 25mm PVC conduit between the electrical and water metering cabinets of respective premises with necessary junction boxes and pulling rope.
- Heavy duty PVC conduit shall be provided for the under ground installations (Refer Annexure: 5)
  - Additional PVC junction boxes (size: 100mm x 100mm) shall be provided in every 6mtrs interval, if the distance between the electricity and water metering cabinets is more.

**Note:** Refer the attached annexure: 1, 2, 3, 4, 5 & 6.