



CS-CSI-P1/C4

Low Voltage Electricity & Water  
Installations Regulations



# ADVANCED METERING

INFRASTRUCTURE CODE 2016



His Highness  
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**ADVANCED METERING  
INFRASTRUCTURE CODE  
(AMI)**

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# Advanced Metering Infrastructure Code (AMI)

## Amendment to the Regulations for the Installation of Electrical wiring to accommodate the Advanced Metering Infrastructure (AMI) components “Additional Field Requirements for AMI”

In addition to Kahramaa Installations regulations, the below shall be considered for Advanced Metering Infrastructure system (AMI); additional Drawing named “Advanced Metering Infrastructure Layout” shall become a part of the Building Permit document submission for Kahramaa approval.

### A. Multi meter case for MSB connection / Multi meter case for LV panel

1) In each / typical floors, provide Two embedded 32 mm PVC conduit (2 nos. x 32 mm) between each group Electricity meters of (max 12 meters) and the corresponding group of Water meters (Between both groups) with pulling rope and the following embedded junction boxes (provide access panels on false ceiling, if required).

- a. In electricity metering room near to the Main Distribution Board, install 2 Nos. 150mm x 150mm x 100mm size end junction box to connect with the 2 No.s 32 mm PVC conduits.
- b. In water metering room near corresponding Water meter cabinet, install 2 Nos. 150mm x 150mm x 100mm size end junction box to connect with the 2 No.s 32 mm PVC conduits .
- c. Install 32 mm conduit to connect the above 2 Nos. end Junction Boxes at water metering room (in item b above) to corresponding water meters cabinets Up to 3 cabinets maximum, each of the 2 nos. end junction boxes should be connected to each water meter cabinet (when cabinet does not exist stop at group of meters with 150x150x100 mm end Junction box) and all conduits should have a pulling rope (every cabinet suppose to have 4 meters only).
- d. For every conduit; Install pulling junction boxes in every 10-15mtr distance / corner portions.

2) Provide 1 x 32 mm embedded heavy-duty PVC conduit with 5c. 2.5mm<sup>2</sup> cables (R, Y, B, N & E) for ‘interconnecting power supply’ between the main water meter chamber and nearest ground floor electrical room / LV room and Provide another 1 x 32 mm embedded heavy-duty PVC conduit between the main water meter chamber and The MDF with pulling rope with the following embedded junction boxes:

(Proper waterproofing is required for the conduits in main water meter chamber and building retaining wall)

- a. Install IP65, 150mm x 150mm x 100mm size end junction box near to the Main Distribution Board / LV panel in ground floor electrical room with a 32 mm PVC conduit connecting with pulling rope at Main LV panel and Install IP65, 150mm x 150mm x 100mm size end junction box near to the ‘MDF’.
- b. In main water meter chamber, install 2 nos. IP65, 100mm x 100mm x 50mm size end junction box on high level and ensure the connection to the 2 nos. 32 mm heavy duty conduits mentioned in point 2 above.
- c. Install pulling chamber / junction box in every 20-25mtr distance / corner portions.

3) In main LV room a 500mm (Height) x 500mm (Width) provision required on the wall with 100mm x 100mm x 50mm size surface mount type junction box for each data concentrator (AMI Device);. Following additional requirements are to be incorporated.

- a. Install embedded conduit with 5c. 2.5mm<sup>2</sup> cables (R, Y, B, N & E) from the LV panel-metering compartment to the data concentrator junction box on the wall. Each data concentrator requires a 3ph+N supply from the respective main LV panels, each LV panel will have a Data Concentrator.
- b. Distance between the data concentrator junction boxes shall be minimum 300mm, if two or more main LV panels are in the main LV room.

4) Provide embedded 38mm PVC conduit for between the MDF panel and main LV rooms with pulling rope and the following embedded junction boxes (provide access panels on false ceiling, if required).

- a. Install 150mm x 150mm x 100mm size end junction box 30 cm from MDF.
- b. Install 150mm x 150mm x 100mm size end junction box in main LV room, near to data concentrator.
- c. In case of more than one concentrator in main LV room (More than one Main LV panel), install 100mm x 100mm x 50mm size Junction box near to each data concentrator and install and connect 25 mm conduit between these 100mm x 100mm x 50mm size Junction boxes and the 100mm x 100mm x 50mm size end junction box in main LV room.
- d. Install embedded pulling junction boxes in every 10-15mtr distance / corner portions.

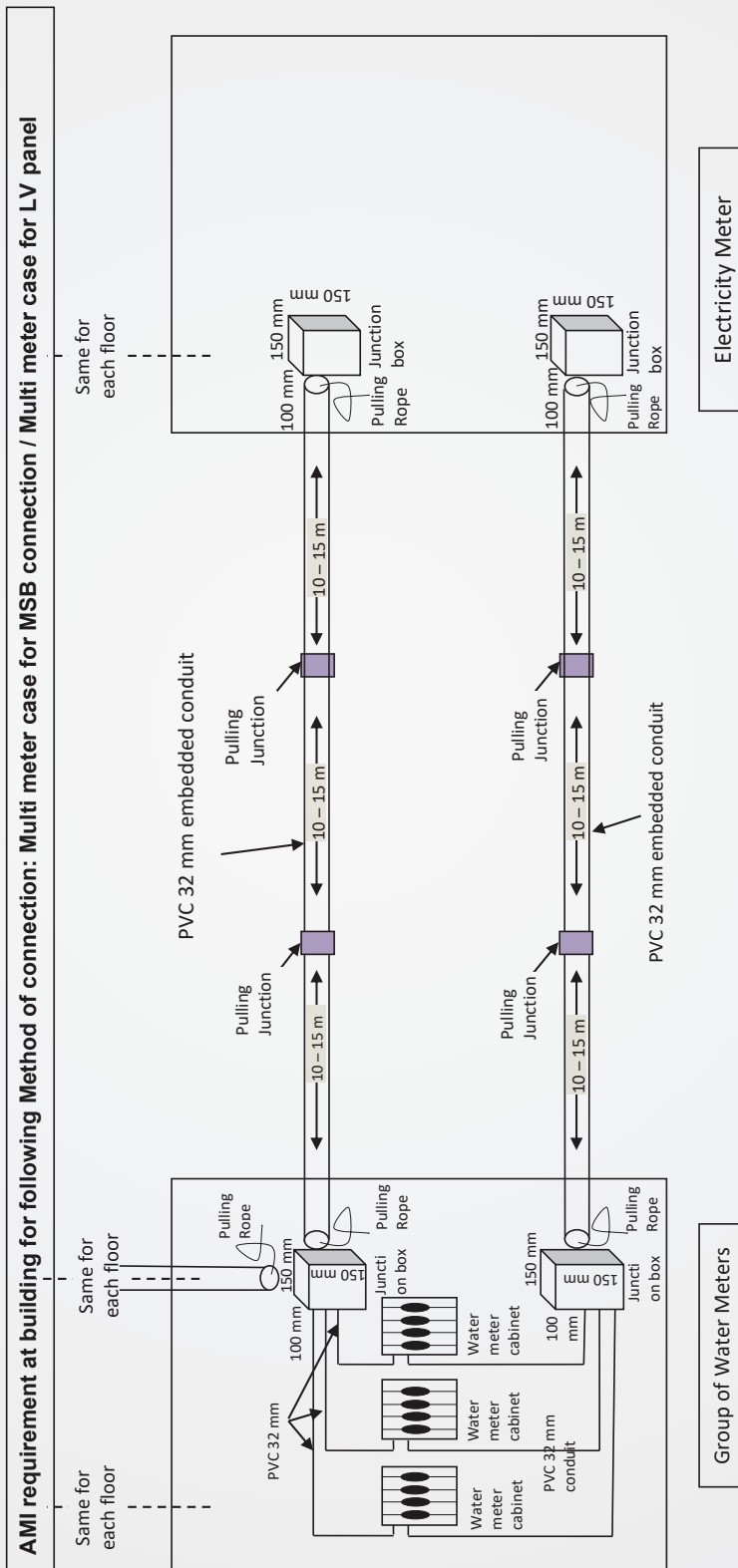
#### **B. Service Cabinet / Electric room connection / Single meter case for MSB / Single meter case for LV panel connection**

1) Provide 2 Nos. embedded 25mm PVC conduit between the electrical and water metering cabinets and fix at allocated opening in both cabinets of respective premises (use pipe/cable entrance only in case of no allocated opening) with pulling rope and install IP65, 100mm x 100mm x 50mm size embedded pulling junction boxes in every 20mtr distance / corner portions.

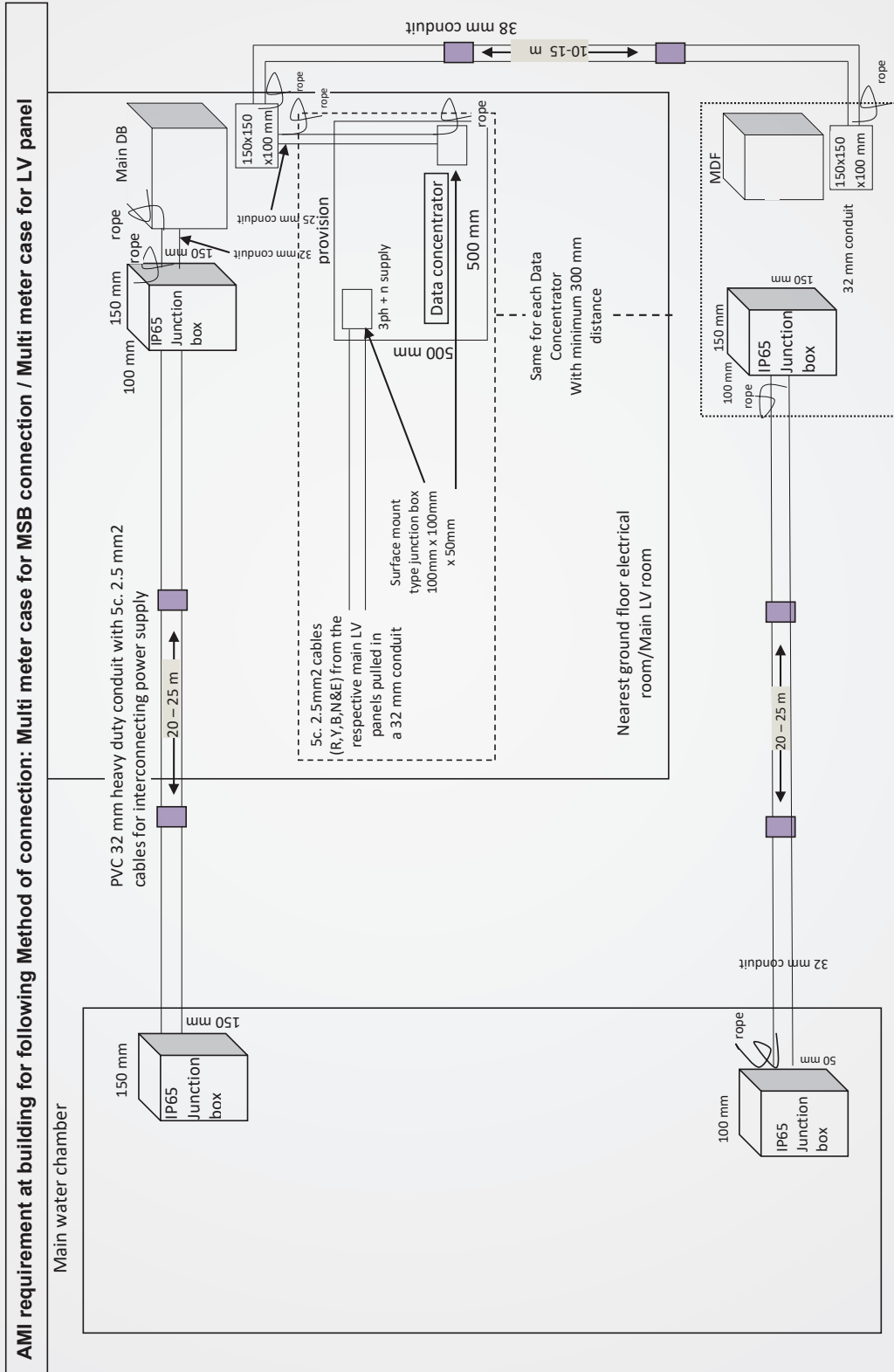
2) Provide 1 Nos. embedded 25mm PVC conduit between Landlord water meter and Landlord Electric meter locations with pulling rope and install IP65, 100mm x 100mm x 50mm size embedded pulling junction boxes in every 20mtr distance / corner portions.

**Note:** In all cases; Distant from relevant eclectic meter should not exceeds 90 meters.

### Field Requirements for AMI (Item A-1)



## Field Requirements for AMI (Item A-2, 3& 4)





### Field Requirements for AMI( Item B)

