



TECHNICAL SPECIFICATION

NCEM C62-321

June 2022

Indoor Meter Box

Contents

1. Application field	3
2. Establishment conditions.....	3
3. Constructive features	3
3.1 Generalities	3
3.2 Types of boxes	3
3.3 Constitution	3
3.4 Enclosure.....	4
Type AHC 430	6
Type AVC 300	9

1. Application field

This document defines specifications for boxes for indoor individual energy metering equipment to be used where low voltage electricity is supplied by CEM.

These boxes are briefly referred to as meter boxes.

2. Establishment conditions

The meter boxes shall be installed near the supply point of client's installation, in a suitable location and easily accessible.

Location and environment for meter installation shall comply with the requirements defined in Annex 10.2 of NCEM C14-100.

If the building is located in a low-lying flooding area (as defined by MSAR Government), the installation height of the boxes should meet the requirements defined in Annex 12 of NCEM C14-100.

3. Constructive features

3.1 Generalities

The meter boxes shall be designed and constructed in such a way as to ensure, in normal use, the correct operation of the equipment installed therein and the necessary safety conditions.

3.2 Types of boxes

For the purpose of this section, the following types of meter boxes are considered:

- Type AHC 430 - Horizontal meter box, direct-connected metering;
- Type AVC 300 - Vertical meter box, direct-connected metering;

The meter boxes shall obey the indication in the attached figures, considering that the indicated dimensions are understood as minimum.

3.3 Constitution

The meter boxes consist of 2 different parts:

- a) Enclosure, intended to ensure the protection of the equipment installed therein;

b) Installation plate intended to be used for fixing metering apparatus, and attached to the enclosure in a removable manner.

3.4 Enclosure

The enclosure (including the transparent glass window) shall be flame retardant and should have the shape and dimensions shown in the attached figures and be constructed of:

- a) Plywood board with a minimum 12mm thickness for direct-connected metering;
- b) Galvanized sheet steel, with a minimum 1.5 mm thickness a galvanizing thickness of not less than 20 um, for indirect-connected metering;

Type of Box	Enclosure		
	Width	Height	Depth
AHC 430	430	380	230
AVC 300	300	540	230

- Characteristics of metal enclosures

The metal enclosure shall be protected against corrosion by observing the following:

- A zinc-rich primer coating (zinc powder or zinc chromate), a wash-primer coating and a finish enamel coating should be applied successively to the carefully cleaned and degreased sheet. A coating of finish marine type enamel shall be applied (Transocean Marine Paint, Hammer-Tone finish, color 916-05, or equivalent type from another manufacturer, but of similar color).

The hinges, bolts, nuts and washers shall preferably be of stainless material or be protected against corrosion by galvanizing or electrolytic plating of a minimum 12 µm thickness applied prior to assembly. After assembly, all screws should be painted with a finish coating.

The opening for passage of electrical conduits should be painted, immediately after its execution, with a coat of primer of the type used in the painting of the meter box.

The passage of the electrical conduits will be carried out using nozzles or stoppers for tube, according to cross-sections of tube, and in thermoplastic material. For multicore cable, it will be carried out using cable glands of suitable diameter.

- Characteristics of Wood Enclosures

The external surface of the wooden enclosure should be protected with paint finish, according to building architecture.

Iron hinges, handles and screws shall be protected against corrosion by galvanizing or electrolytic plating, with a minimum 12 µm thickness.

- Installation plate

The installation plate should have the shape and dimensions shown in the attached figures and be constructed of bakelite plate with 5 mm thickness.

- Energy metering equipment (to be supplied and installed by CEM)

- a) For direct-connected metering

- Service circuit breaker for limiting contracted apparent power
- Single phase or three-phase active energy meter

- b) For indirect-connected metering

- Simple rates (Group A)

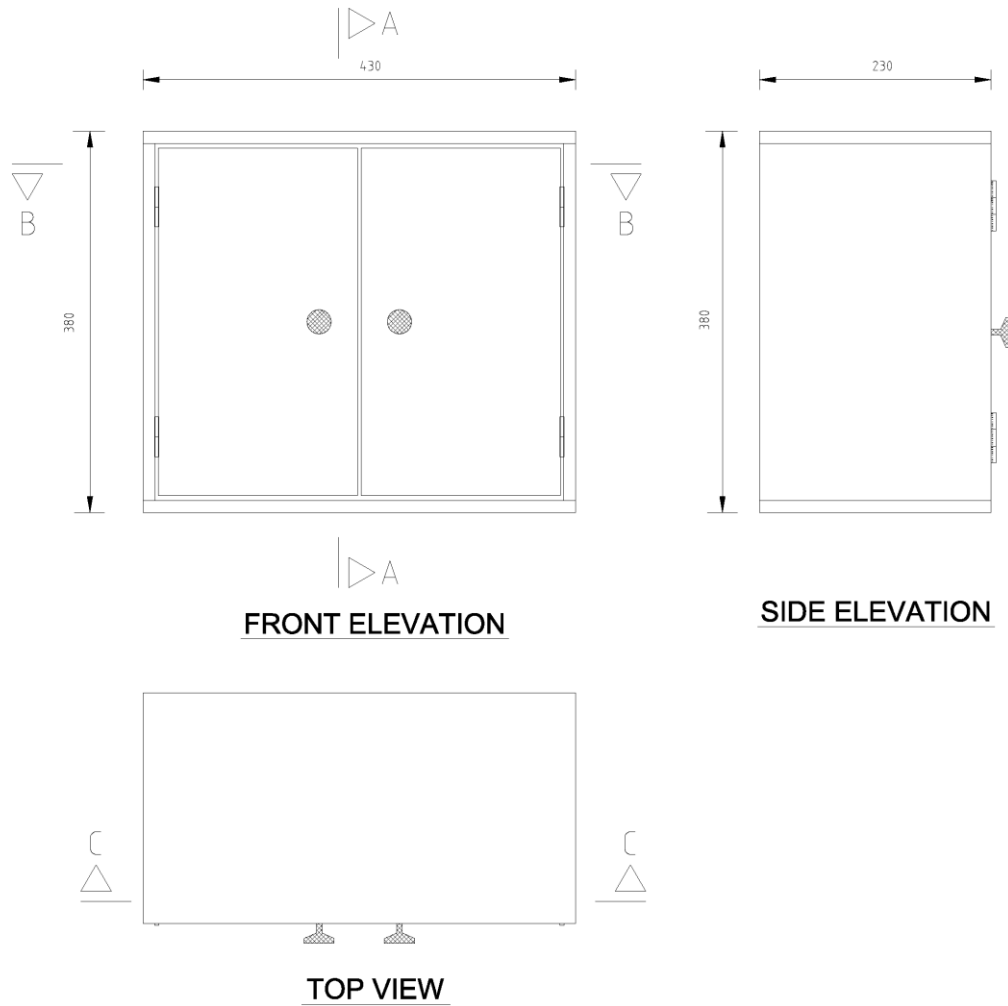
- Three-phase active energy meter

- Double rates (Group B and C)

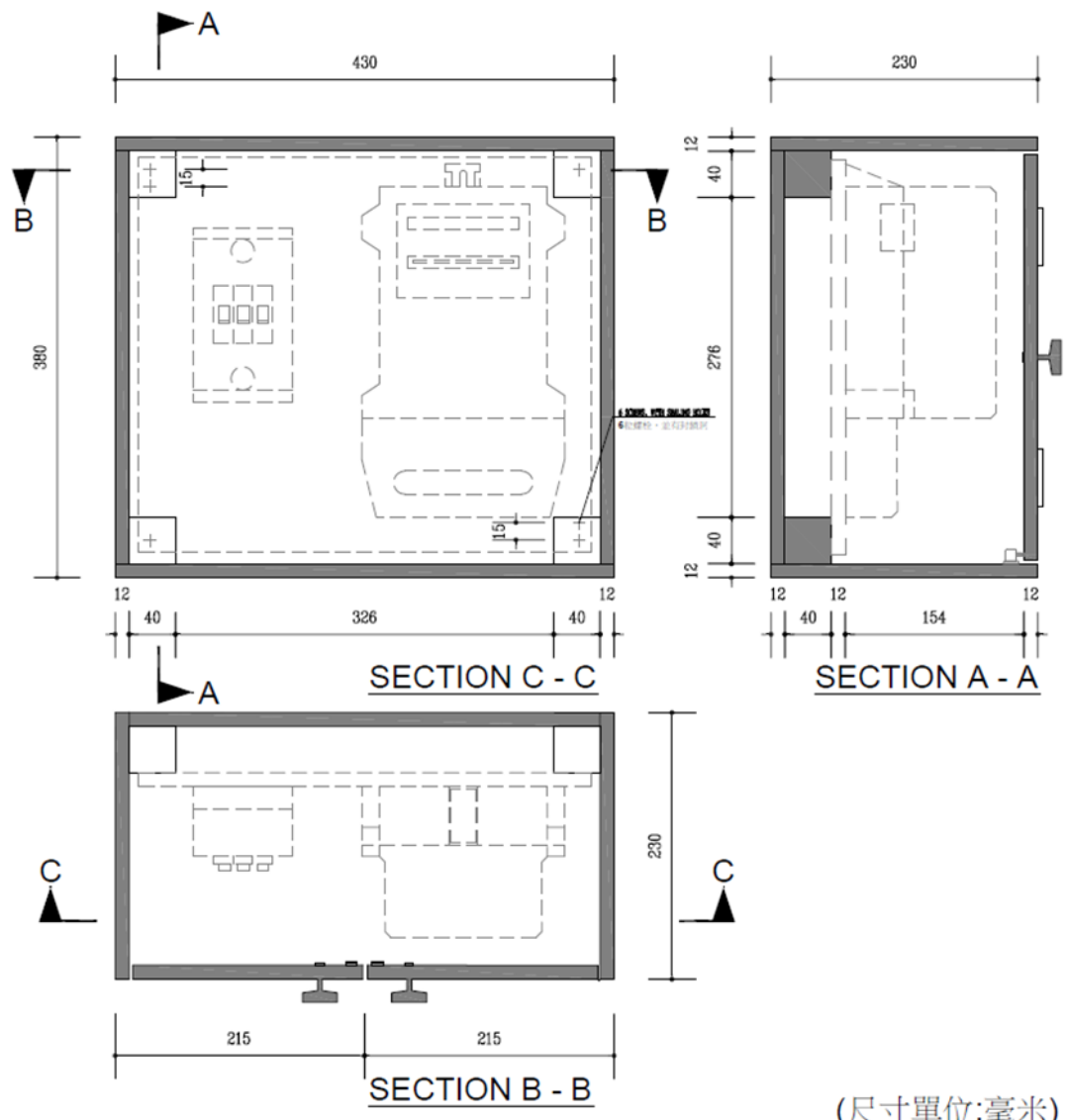
- Three-phase energy meter
- Terminal strip

Horizontal meter box, direct-connected metering
Type AHC 430

Invólucro
(dimensões em mm)

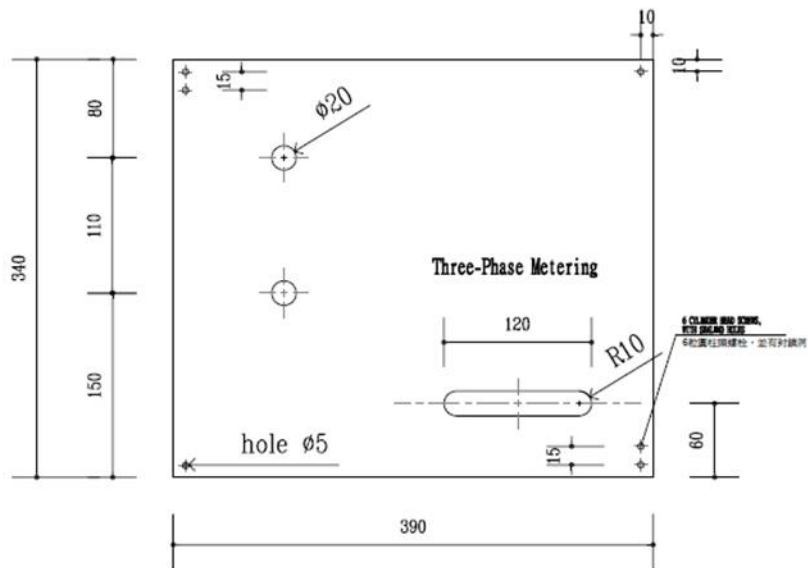
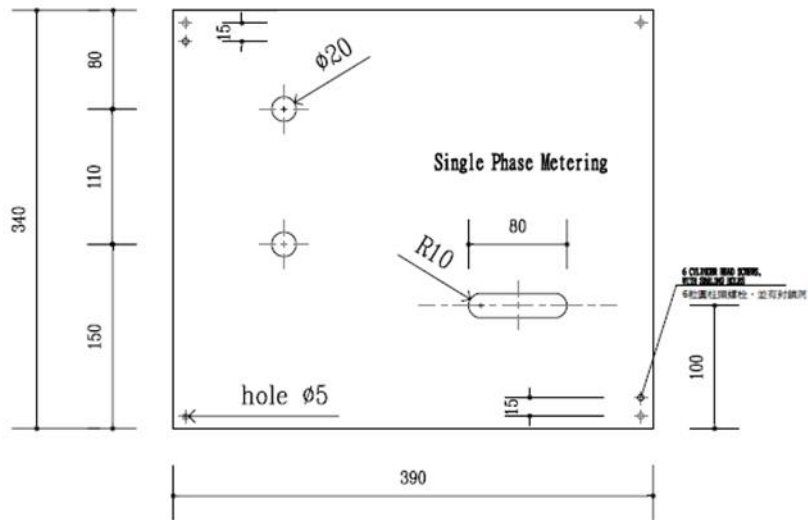


Type AHC 430
Enclosure
(dimensions in mm)



Type AHC 430

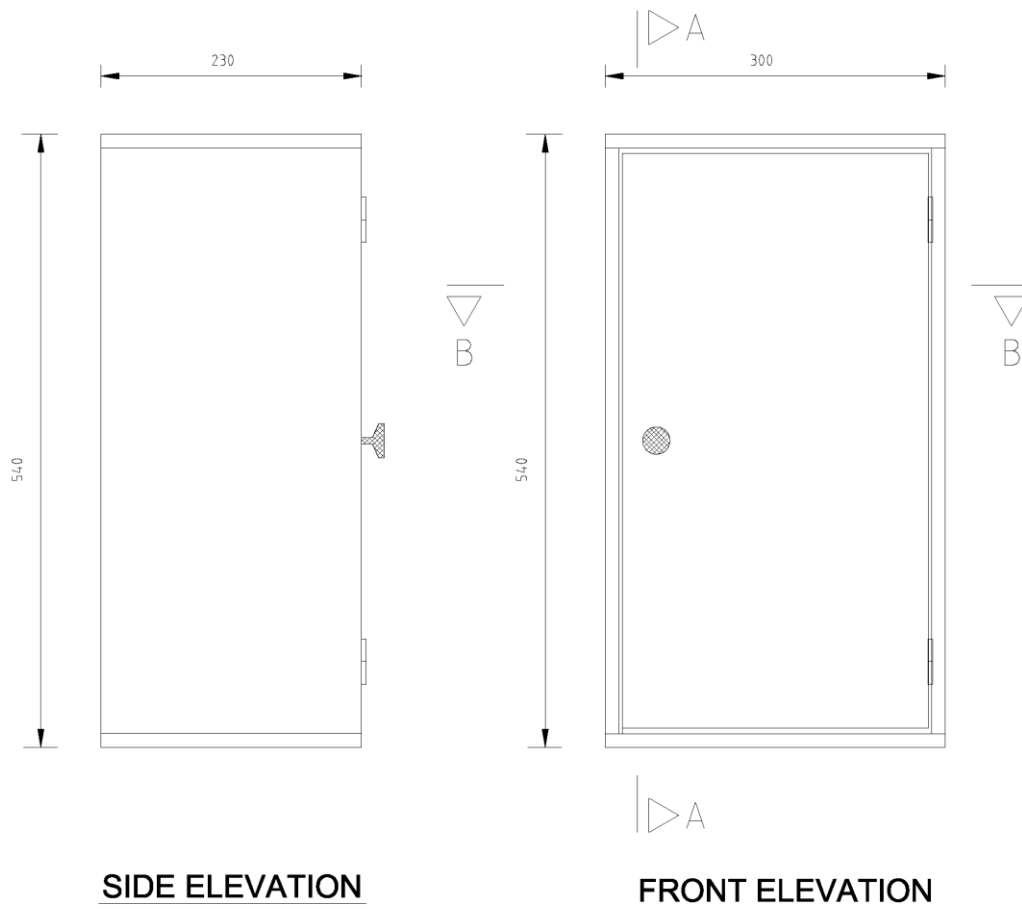
Installation plate (dimensions in mm)



(尺寸單位:毫米)

Vertical meter box, direct-connected metering
Type AVC 300

Enclosure
(dimensões em mm)



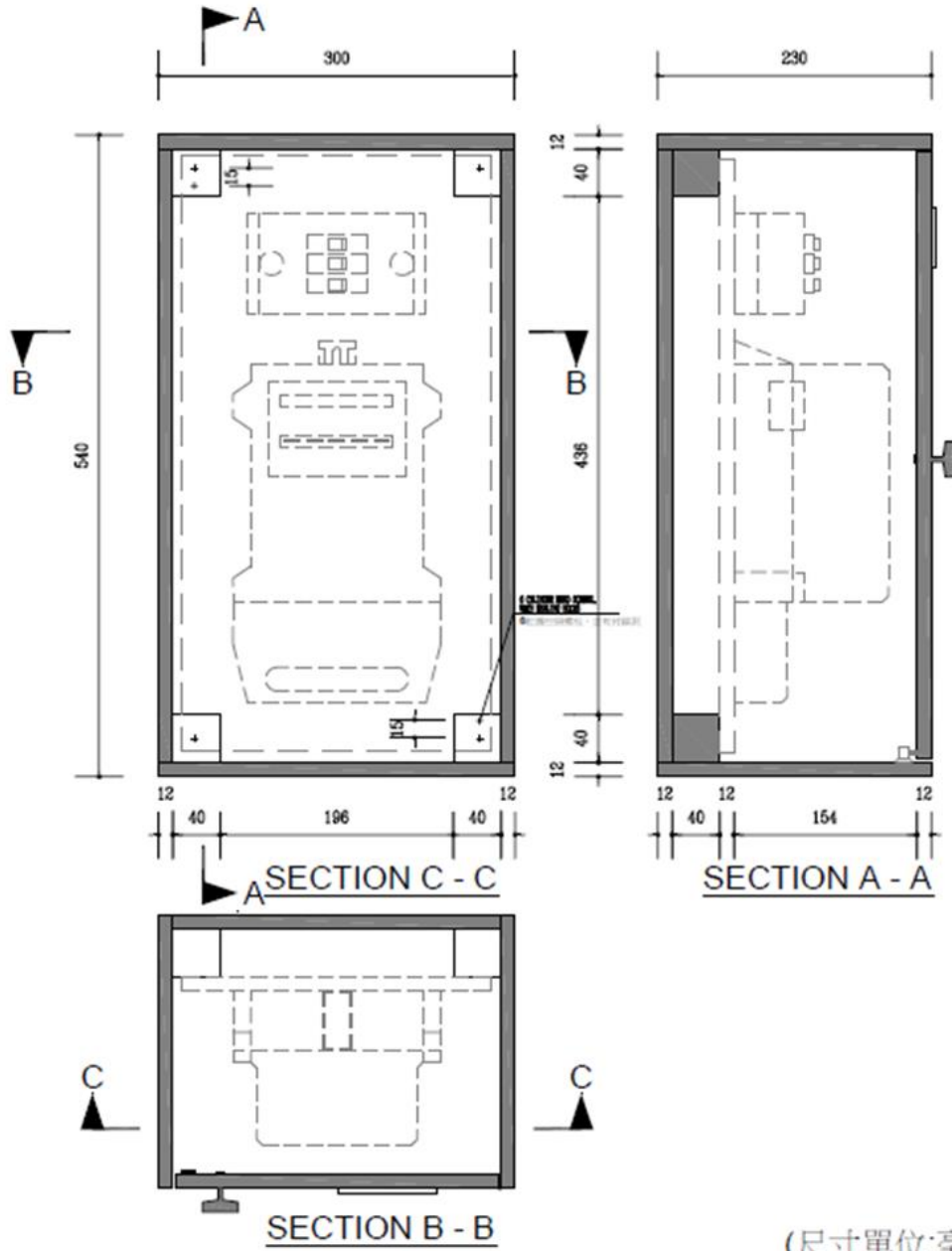
SIDE ELEVATION

FRONT ELEVATION

TOP VIEW

Type AVC 300

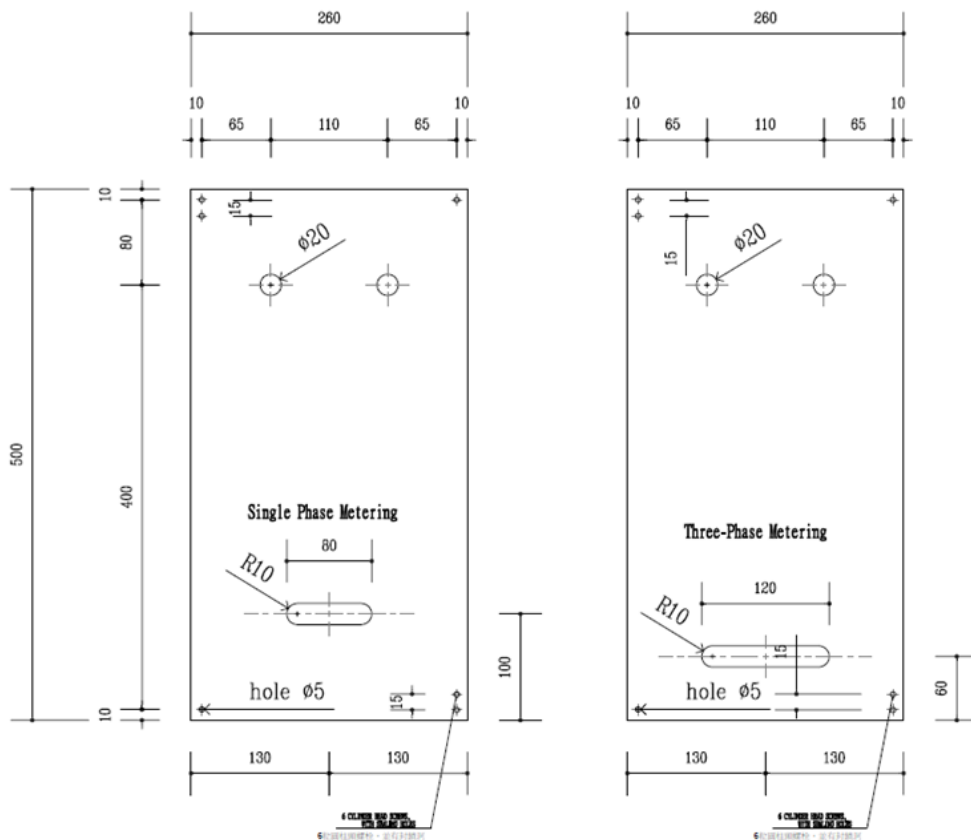
Enclosure
(dimensions in mm)



(尺寸單位:毫米)

Type AVC 300

Installation plate (dimensions in mm)



INSTALLATION PLATE

INSTALLATION PLATE

(尺寸單位:毫米)