Australian Government
Department of Industry, Science, Energy and Resources

National Measurement Institute

36 Bradfield Road, West Lindfield NSW 2070

Certificate of Approval

NMI 14/2/102

Issued by the Chief Metrologist under Regulation 60
of the
National Measurement Regulations 1999

This is to certify that an approval for use for trade has been granted in respect of the instruments herein described.

CET ELECTRIC TECHNOLOGY INC. model CET PMC-340-BA35XAE Class 1 Direct connected Electricity Meter

submitted by CETA Australia Pty Ltd
2/40 Douglas Street
Milton QLD 4064

NOTE: This Certificate relates to the suitability of the pattern of the instrument for use for trade only in respect of its metrological characteristics. This Certificate does not constitute or imply any guarantee of compliance by the manufacturer or any other person with any requirements regarding safety.

This approval has been granted with reference to Pathway 1 in the document NMI M 6-1, *Active-Energy Electricity Meters Part 1: Metrological and Technical Requirements*, July 2020.

This approval is subject to review at the decision of the Chief Metrologist in accordance with the conditions specified in the document NMI P 106.

DOCUMENT HISTORY

Rev	Reason/Details	Date
0	Pattern and Variant 1 approved – certificate issued	05/12/17
1	Variants 2 & 3 approved – certificate issued	07/03/18
2	Figures for pattern and variants amended	11/09/18
3	Pattern amended (measurement in negative direction) and variants 4 & 5 approved – certificate issued	29/03/22

CONDITIONS OF APPROVAL

General

Instruments purporting to comply with this approval shall be marked with approval number 'NMI 14/2/102' and only by persons authorised by the submittor.

It is the submittor's responsibility to ensure that all instruments marked with this approval number are constructed as described in the documentation lodged with the National Measurement Institute (NMI) and with the relevant Certificate of Approval and Technical Schedule. Failure to comply with this Condition may attract penalties under Section 19B of the National Measurement Act and may result in cancellation or withdrawal of the approval, in accordance with document NMI P 106.

Signed by a person authorised by the Chief Metrologist to exercise their powers under Regulation 60 of the *National Measurement Regulations 1999*.

Darryl Hines
Manager
Policy and Regulatory Services

TECHNICAL SCHEDULE No 14/2/102

1. Description of Pattern approved on 05/12/17

A CET ELECTRIC TECHNOLOGY INC. model CET PMC-340-BA35XAE poly phase class 1 direct connected static watt hour meter (Figure 1) used to measure electrical energy.

1.1 Field of Operation

The field of operation of the measuring system is determined by the following characteristics:

- Number of phases 3
- Number of wires 4
- Reference frequency 50 Hz
- Reference ambient temperature ranges:
  - specified range of operation -25 to 70 °C
  - limit range of operation -25 to 70 °C
- Rated voltage 230 V AC
- Rated currents: Basic current, I_b 20 A
  Maximum current, I_{max} 100 A
- Meter constant 100 imp/kWh
- Accuracy class 1

1.2 Features/Functions

- Liquid crystal digital indicator having a maximum display of 99999999.99 kWh
- DIN-rail mounting
- Crystal controlled internal clock
- Communications via Modbus RTU
- Measurement in both positive and negative directions

1.3 Verification Provision

Provision is made for the application of a verification mark.

1.4 Sealing Provision

Solid State Sealing only (Figure 1).

1.5 Descriptive Markings

Instruments are marked with the following data, together in one location:

Manufacturer's mark, or name written in full	……..
Model designation	……..
Serial number	……..
Pattern approval mark	NMI 14/2/102
Number of phases	……..
Number or wires	……..
Reference frequency	…….. Hz
Temperature limits (if other than -10 to 60$_o$C)	.... to ….°C
Meter constant	……..
Rated voltage	…….. AC
Rated currents:	I_b …… A
	I_{max} ……. A
Accuracy class	...

2. Description of Variant 1 **approved on 05/12/17**

A CET ELECTRIC TECHNOLOGY INC. model CET PMC-340-BB35XAE poly phase class 0.5 CT connected static watt hour meter (Figure 2) used to measure electrical energy.

The variant has the same Field of Operation and Features and Functions as the pattern except for the following:

- Rated currents: Rated current, I_n 5 A
  Maximum current, I_{max} 6 A
- Meter constant 1000 imp/kWh
- Accuracy class 0.5

3. Description of Variant 2 **approved on 07/03/18**

A CET ELECTRIC TECHNOLOGY INC. model CET PMC-340-BA35XAE poly phase class 1 direct connected static watt hour meter (the pattern) used to measure electrical energy, also known as IPD3100C with appropriate markings (Figure 3).

4. Description of Variant 3 **approved on 07/03/18**

A CET ELECTRIC TECHNOLOGY INC. model CET PMC-340-BB35XAE poly phase class 0.5 CT connected static watt hour meter (variant 1) used to measure electrical energy, also known as IPD3005C with appropriate markings (Figure 4).

5. Description of Variant 4 **approved on 29/03/22**

A CET ELECTRIC TECHNOLOGY INC. model CET PMC-340-BA35XAE poly phase class 1 direct connected static watt hour meter (the pattern) used to measure electrical energy.

The variant has the same Field of Operation as the pattern except for the following:

- Meter constant 100 imp/kWh or 500 imp/kWh

The variant has the same Features and Functions as the pattern except for the following:

- Firmware version V.1.00.03
- Additional meter constant is user configurable using menu system on LCD screen (Figure 5).

Note: Only meters with the updated Firmware version to be used for selecting additional meter constant.

6. Description of Variant 5 approved on 29/03/22

A CET ELECTRIC TECHNOLOGY INC. model CET PMC-340-BB35XAE poly phase class 0.5 CT connected static watt hour meter (variant 1) used to measure electrical energy, used to measure electrical energy.

The variant has the same Field of Operation as variant 1 except for the following:

- Meter constant 1000 imp/kWh, 3200 imp/kWh or 5000 imp/kWh

The variant has the same Features and Functions as variant 1 except for the following:

- Firmware version V.1.00.03
- Additional meter constant is user configurable using menu system on LCD screen (Figure 6).

Note: Only meters with the updated Firmware version to be used for selecting additional meter constant.

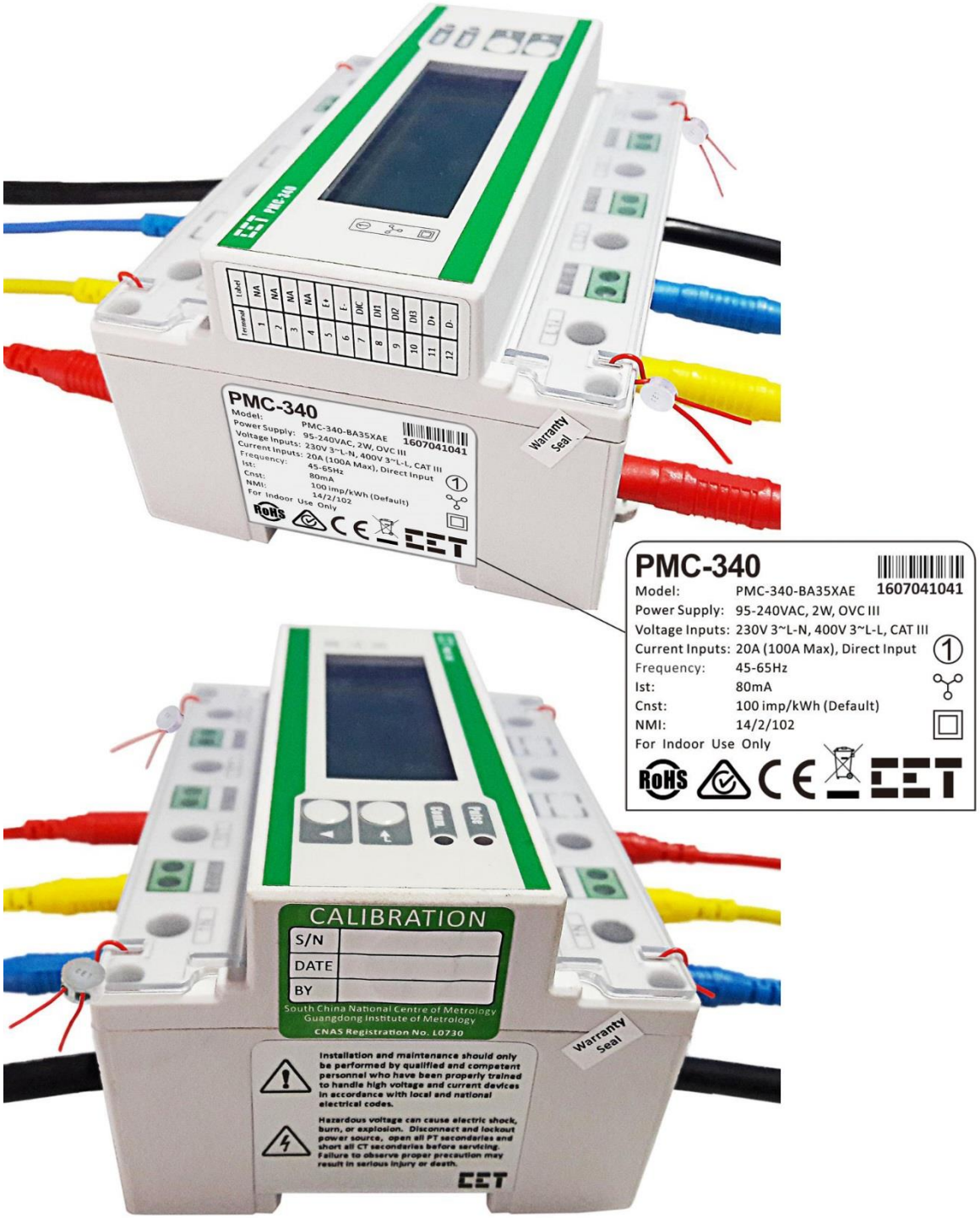
TEST PROCEDURE No 14/2/102

Instruments tested for initial verification shall comply with the certificate of approval and technical schedule, and the maximum permissible errors for verifications at the operating conditions in effect at the time of verification.

Meters shall be verified in accordance with NITP 14 *National Instrument Test Procedures for Utility Meters*.

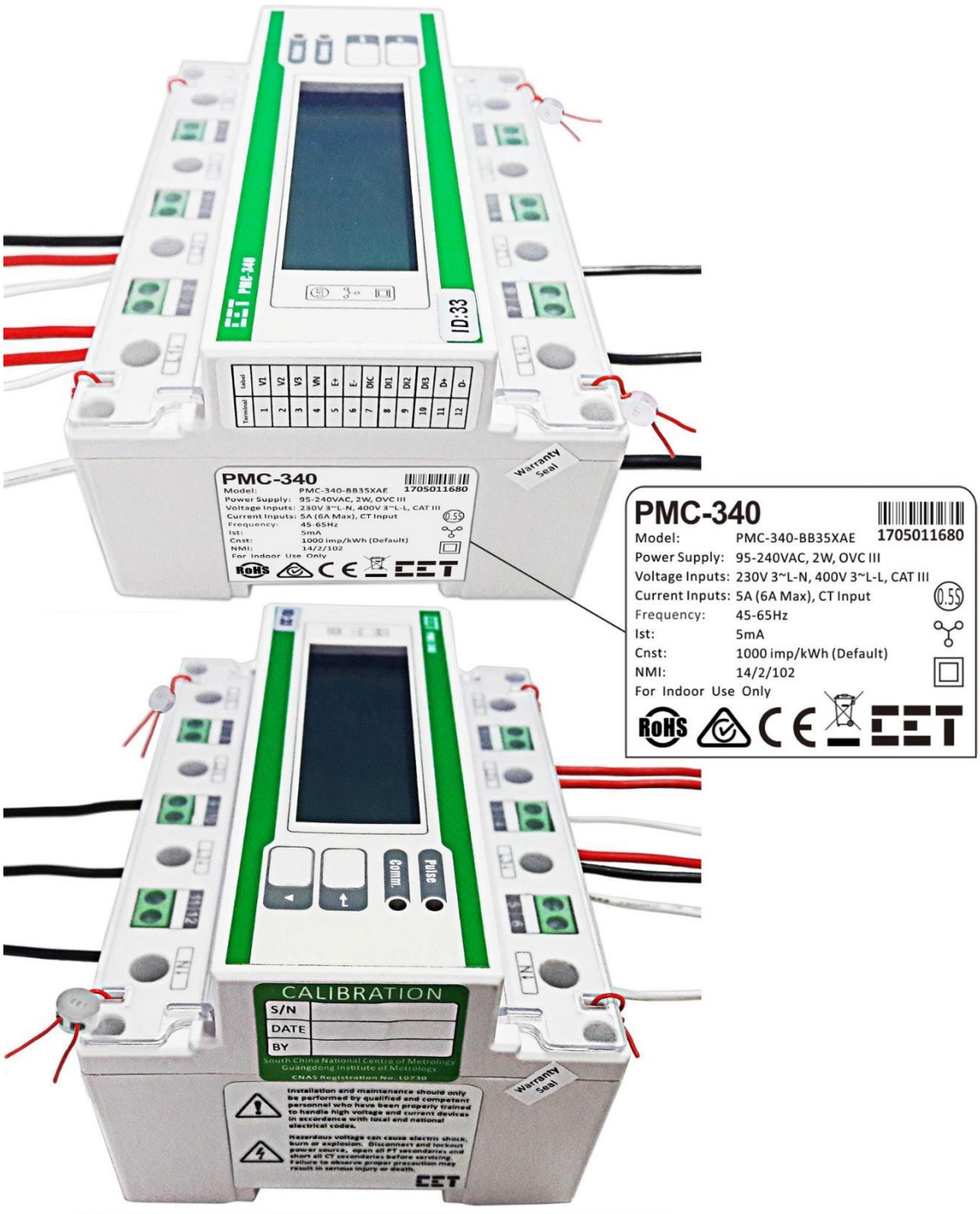
NOTE: NMI reserves the right to vary this procedure. Any such variation shall be notified in writing by NMI.

FIGURE 14/2/102– 1



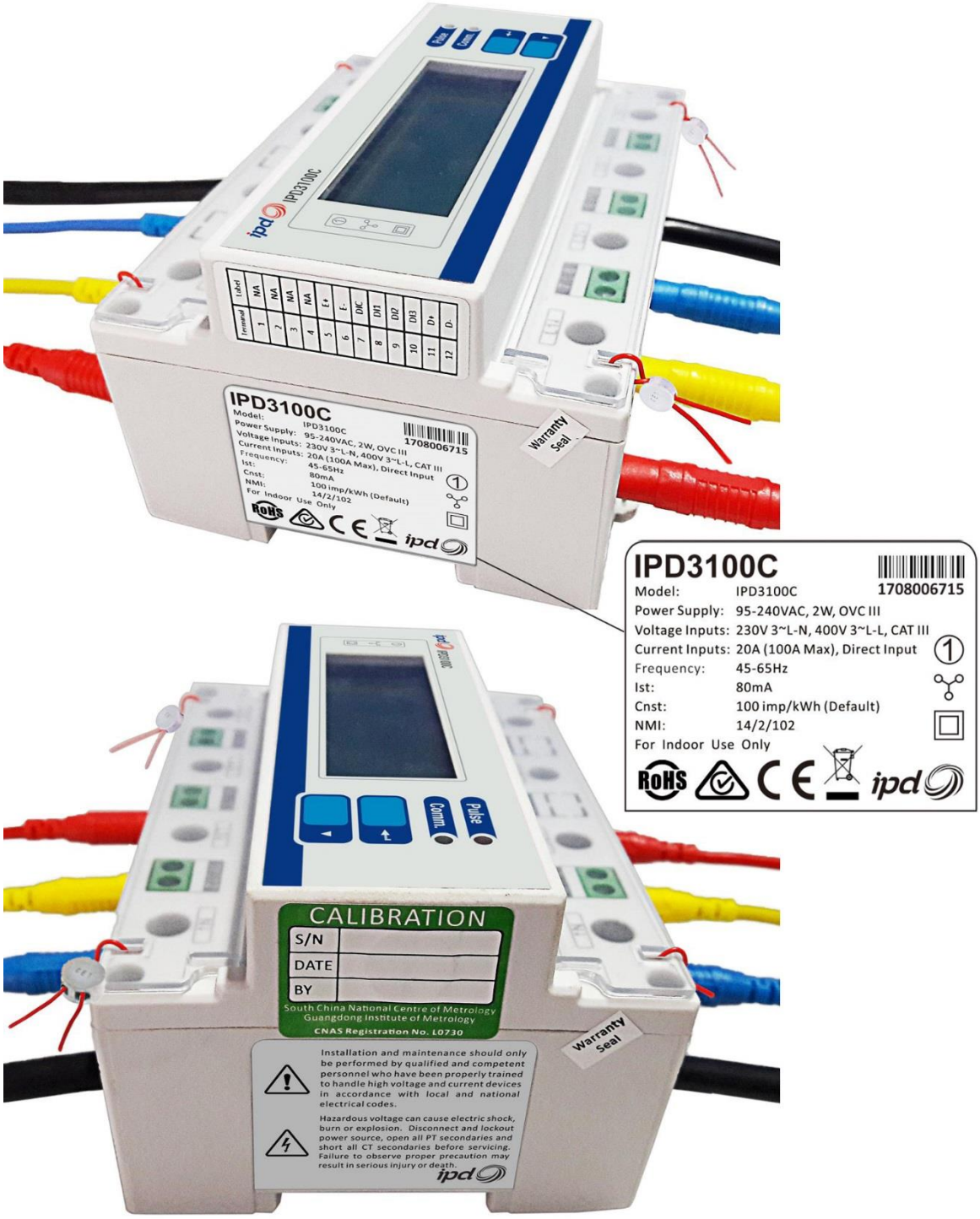
CET ELECTRIC TECHNOLOGY INC. model CET PMC-340-BA35XAE Class 1 Direct connected Electricity Meter showing markings

FIGURE 14/2/102 – 2



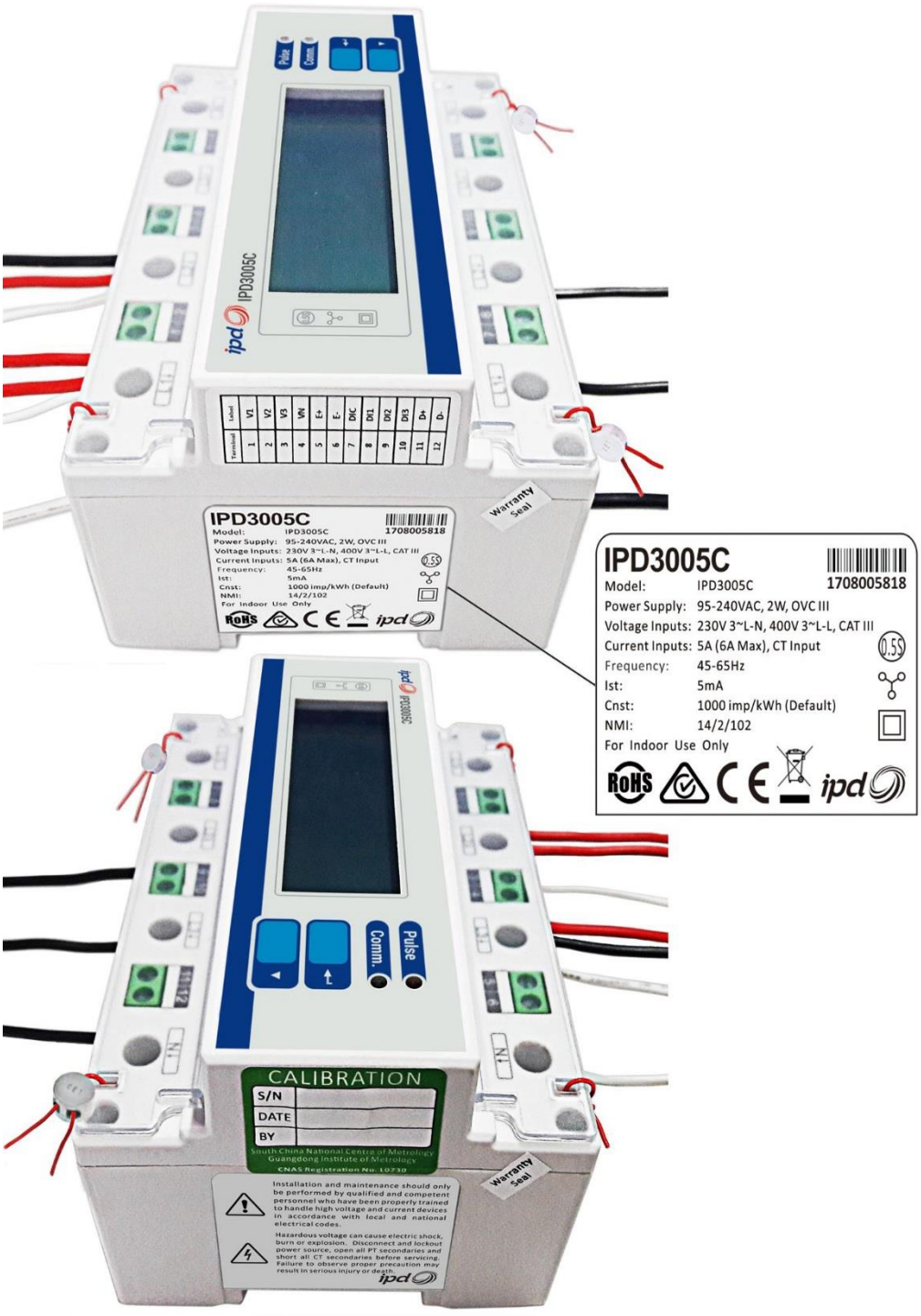
CET ELECTRIC TECHNOLOGY INC. model CET PMC-340-BB35XAE Class 0.5 CT connected Electricity Meter showing markings

FIGURE 14/2/102 – 3



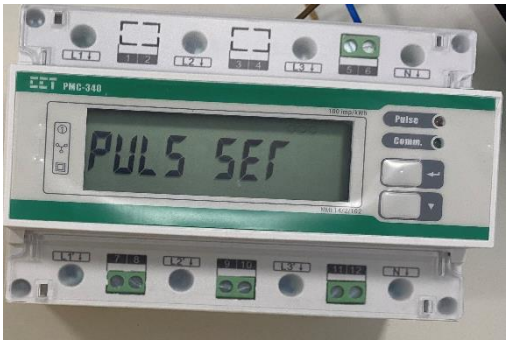
CET ELECTRIC TECHNOLOGY INC. model IPD3100C Class 1 Direct connected Electricity Meter showing markings

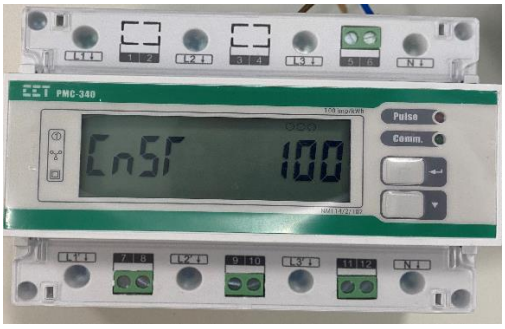
FIGURE 14/2/102 – 4

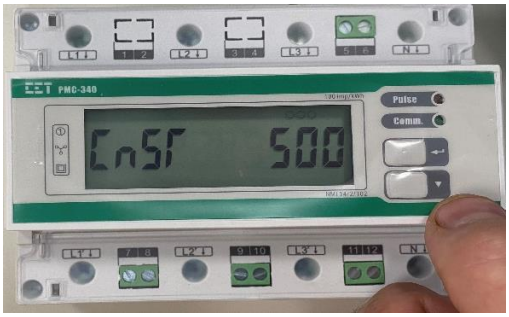


CET ELECTRIC TECHNOLOGY INC. model IPD 3005C Class 0.5 CT connected Electricity Meter showing markings

FIGURE 14/2/102 – 5

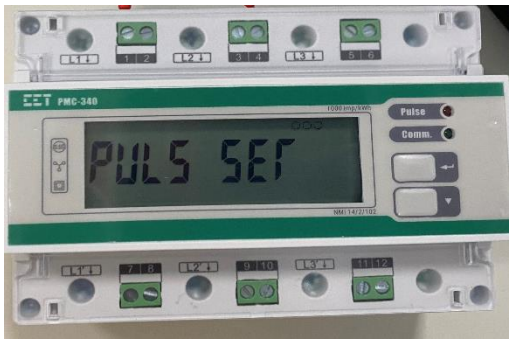


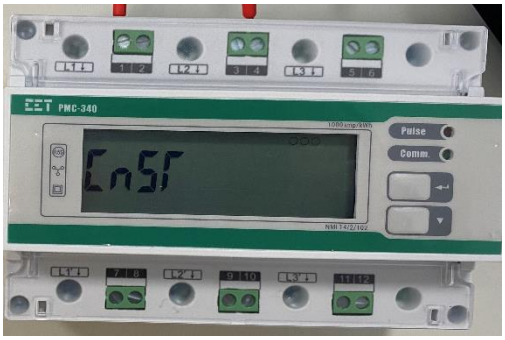


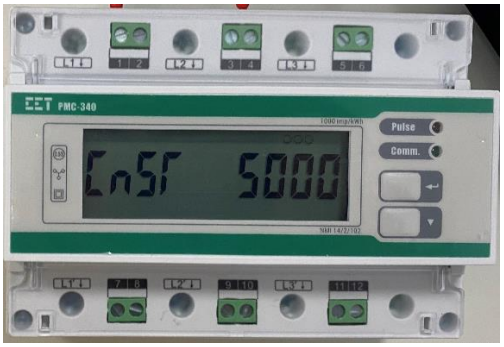


CET ELECTRIC TECHNOLOGY INC. model CET PMC-340-BA35XAE Class 1 Direct connected Electricity Meter with user configurable additional meter constants

FIGURE 14/2/102 – 6







CET ELECTRIC TECHNOLOGY INC. model CET PMC-340-BB35XAE Class 0.5 CT connected Electricity Meter with user configurable additional meter constants

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