Australian Government
Department of Industry, Science and Resources

National Measurement Institute

36 Bradfield Road, West Lindfield NSW 2070

# Certificate of Approval

# NMI 14/2/96

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.

Secure Model Liberty 120 Class 1 Electricity Meter

submitted by Secure Meters (Australia) Pty Ltd
39 -41 Fennel Street
Port Melbourne VIC 3207

**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 document NMI M 6-1 *Active-Energy Electricity Meters. Part 1: Metrological and Technical Requirements*, June 2022.

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 approved – interim certificate issued | 18/05/16 |
| 1 | Pattern approved – certificate issued | 12/07/16 |
| 2 | Details of submittor amended, certificate updated, Pattern amended (information added), Variant 1 & 2 approved – certificate issued | 23/05/25 |

# CONDITIONS OF APPROVAL

## General

Instruments purporting to comply with this approval shall be marked with pattern approval number 'NMI 14/2/96' 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 14/2/96

## 1. Description of Pattern

**approved on 18/05/16**
**amended on 23/05/25**

A Secure model Liberty 120 single phase class 1 direct connect 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: 1
- Number of wires: 2
- Reference frequency: 50 Hz
- Reference ambient temperature ranges:
  - specified range of operation: −10 to 60 °C
  - limit range of operation: −20 to 70 °C
- Reference voltage: 230 V AC
- Reference currents: Basic current, $I_b$: 10 A
  Maximum current, $I_{max}$: 100 A
- Meter constant: 3200 imp/kWh
- Accuracy class: 1

### 1.2 Features/Functions

- One (1) element
- Integrated 100 A mains supply contactor
- Electronic (LCD) digital indicator with a maximum display of 9999999.9 kWh
- Measurement in both positive and negative directions (import and export)
- ANSI optical port
- Two pulse output LEDs for Wh and Varh
- Bottom connect rectangular base
- Field replaceable communication module
- Internal synchronous and crystal clock

### 1.3 Verification Provision

Provision is made for the application of a verification mark.

### 1.4 Sealing Provision

The meter is sealed during manufacture. Provision is made for the terminal cover to be sealed by the application of one or more mechanical seals (Figure 2).

### 1.5 Descriptive Markings

Instruments are marked with the following data, together in one location, in the form shown at right:

| | |
|---|---|
| Manufacturer's name or mark | ... |
| Model designation | ... |
| Serial number | ... |
| Pattern approval mark | NMI 14/2/96 |
| Number of phases | ... |
| Number or wires | ... |
| Reference frequency | ... Hz |
| Meter constant | ... |
| Rated voltage | ... AC |
| Rated currents: | $I_b$ ... A |
| | $I_{max}$ ... A |
| Accuracy class | 1 |

### 2. Description of Variant 1 **approved on 23/05/25**

The pattern is approved with an alternative communications module which replaces 3G/4G with CATM1/NBIoT communications. Applicable meters are marked accordingly and designated as 'Skyline-i 591' (Figure 3).

### 3. Description of Variant 2 **approved on 23/05/25**

The pattern and variants are approved with a specified range of operation of −10 to 55 °C.

## TEST PROCEDURE

Instruments tested for 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.

The maximum permissible errors are specified in the *National Trade Measurement Regulations 2009* (Cth).

Electricity meters shall be verified in accordance with the following National Instrument Test Procedures:

- NITP 14.0 – Utility meters – general requirements
- NITP 14.2 – Utility meters – electricity meters

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

FIGURE 14/2/96 – 1


Secure Model Liberty 120 Electricity Meter

FIGURE 14/2/96 – 2


Model Liberty 120 Showing Typical Mechanical Sealing

FIGURE 14/2/96 – 3


Secure Liberty 120 Skyline-i 591 (Variant 1)

~ End of Document ~