



Australian Government  
Department of Industry,  
Innovation and Science

## National Measurement Institute

# Certificate of Approval

## NMI 14/2/86

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 i-Credit 510 Class 1 Electricity Meter

submitted by           Secure Meters (Australia) Pty Ltd  
258 Darebin Road  
FAIRFIELD   VIC   3078

**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 *Electricity Meters. Part 1: Metrological and Technical Requirements*, July 2012.

This approval becomes subject to review on 1/07/21, and then every 5 years thereafter.

### DOCUMENT HISTORY

Rev	Reason/Details	Date
0	Pattern approved – interim certificate issued	3/06/15
1	Pattern amended (validity) – interim certificate issued	3/12/15
2	Pattern approved – certificate issued	11/04/16
3	Variant 2 approved – certificate issued	9/01/17

## CONDITIONS OF APPROVAL

### General

Instruments purporting to comply with this approval shall be marked with pattern approval number 'NMI 14/2/86' and only by persons authorised by the submitter.

It is the submitter'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*.

A handwritten signature in black ink, appearing to read 'A Rawlinson', with a horizontal line underneath.

**Dr A Rawlinson**

TECHNICAL SCHEDULE No 14/2/86

**1. Description of Pattern** **approved on 3/06/15**

A Secure model i-Credit 510 single phase class 1 direct connect static watt hour meter (Figures 1 and 2) 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
- Rated voltage 230 V AC
- Rated currents:
  - Basic current,  $I_b$  10 A
  - Maximum current,  $I_{max}$  100 A
- Meter constant 1 Wh/imp
- Accuracy class 1

**1.2 Features/Functions**

- Two (2) elements
- Electronic (LCD) digital indicator
- ANSI optical port
- Two pulse output LEDs for Wh and Varh
- Bottom connect rectangular base
- Internal synchronous and crystal clock

**1.3 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 14/2/86
Number of phases	...
Number of wires	...
Reference frequency	... Hz
Meter constant	...
Rated voltage	... AC
Rated currents:	$I_b$ ... A
	$I_{max}$ ... A
Accuracy class	Class 1

#### **1.4 Verification Provision**

Provision is made for the application of a verification mark.

#### **1.5 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).

#### **2. Description of Variant 1 approved on 11/04/16**

Similar to the pattern but having some, or all, of the following features/functions.

- One (1) element
- Optional integrated 100 A mains supply contactor
- Optional integrated load control relays (2 A, 31.5 A or 60 A)
- Optional integrated ripple control receiver
- Field replaceable AMI communication module

#### **3. Description of Variant 2 approved on 9/01/17**

A Secure model i-Credit 511 electronic single phase class 1 direct connect static watt hour meter used to measure electrical energy. This variant has the same Field of Operation and Features as the pattern except:

- 1 or 2 elements
- Optional fitted cellular communication module

### **TEST PROCEDURE**

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.

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

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

Evidence of verification shall be confirmed via the meter serial number and certificate of verification issued by a utility meter verifier in accordance with NITP 14.

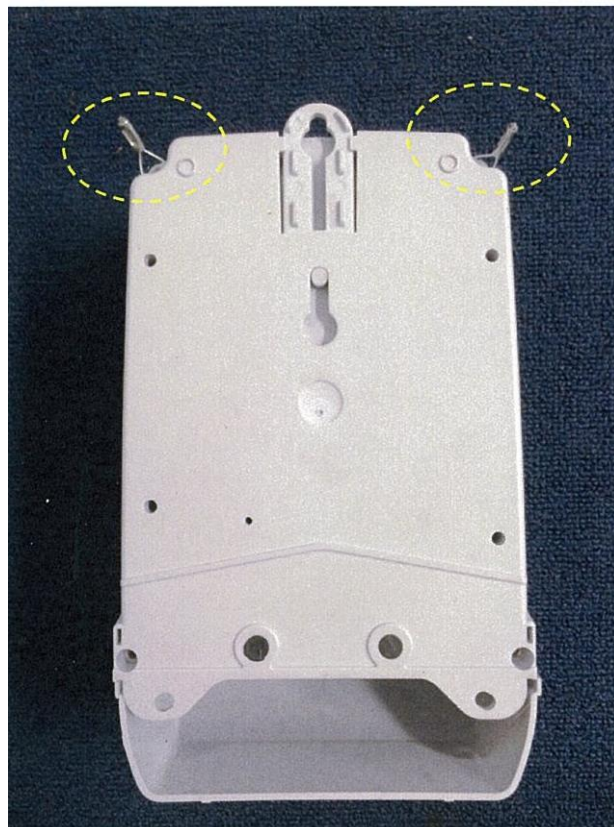
**NOTE:** NMI reserves the right to vary this procedure. Any such variation shall be notified in writing by NMI.

FIGURE 14/2/86 – 1



Secure Model i-Credit 510 Electricity Meter (The Pattern)

FIGURE 14/2/86 – 2



Model i-Credit 510 Showing Typical Mechanical Sealing (The Pattern)



FIGURE 14/2/86 – 3



Secure Model i-Credit 511 Electricity Meter (Variant 2)

~ End of Document ~