



Australian Government  
Department of Industry, Science,  
Energy and Resources

## National Measurement Institute

36 Bradfield Road, West Lindfield NSW 2070

### Certificate of Approval

### NMI 14/2/67

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.

EDMI Model Mk7A Electricity Meter

submitted by EDM I Pty Ltd  
162 South Pine Road  
Brendale QLD 4500

**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 (the Pattern and Variants 1 & 2) and with reference to Pathway 2 (Variant 3), 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 & variant 1 approved – certificate issued	6/09/13
1	Pattern & variant 1 reviewed and variant 2 approved – certificate issued	14/06/18
2	Variant 3 approved – certificate issued	25/05/22

## CONDITIONS OF APPROVAL

### General

Instruments purporting to comply with this approval shall be marked with pattern approval number 'NMI 14/2/67' 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.

Auxiliary devices used with this instrument shall comply with the requirements of General Supplementary Certificate No S1/0B.

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 14/2/67

### 1. Description of Pattern

approved on 6/09/13

An EDMI model Mk7A (\*) electronic single phase direct connect static watt hour meter (Figure 1) used to measure electrical energy.

(\* - the full model number may have additional alphanumeric characters, e.g. the full model number may be in the form '7A11-A344-29-F211-7L02-6011'. This number may also have a '2000-' prefix.)

#### 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 or 3
- Reference frequency 50 or 60 Hz
- Reference ambient temperature ranges:
  - specified range of operation -25 to 60°C
  - limit range of operation -40 to 70°C
- Rated voltage 240 V AC
- Rated currents: Rated current,  $I_b$  5 or 10 A
  - Maximum current,  $I_{max}$  100 A
- Meter constant 1 Wh/imp
- Accuracy class 1

#### 1.2 Features/Functions

- One (1) element
- ANSI Type 2 optical interface
- Liquid crystal digital indicator having a maximum display of 9999999.9 kW h
- Measurement in both positive and negative directions (export and import)
- Eight (8) time of use registers
- Load profiling memory (log intervals of from 1 to 60 minutes)
- Internal battery
- High capacity modem power supply
- With synchronous and crystal clocks
- Bottom connect rectangular base

#### 1.3 Verification Provision

Provision is made for the application of a verification mark.

#### 1.4 Sealing Provision

Provision is made for the instrument to be sealed by the application of one or more mechanical seals (Figure 1).

## 1.5 Descriptive Markings and Notices

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 14/2/67
Number of phases	...
Number of wires	...
Reference frequency	... Hz
Meter constant	...
Rated voltage	... AC
Rated currents:	$I_b$ ... A
	$I_{max}$ ... A
Accuracy index	Class ...

## 1.6 Harmonics

Instruments purporting to comply with this approval are suitable for use where the harmonics do not exceed those specified in pathway 1 of NMI M 6-1:2020 for the pattern and variants 1 & 2 and AS 62052.11:2018 for variant 3.

### 2. Description of Variant 1

**approved on 6/09/13**

An EDM1 model Mk7A electronic single phase direct connect static watt hour meter (Figure 1) used to measure electrical energy.

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

- Two (2) elements – 2<sup>nd</sup> element has a maximum current rating,  $I_{max}$  of 40 A
- Flag protocol and port
- 100 A disconnect relay
- 60 A load control relay
- Two 2 A relays
- RS 232 or RS 485 communications
- Two input channels and one input/output channel (S0 when configured as output)

### 3. Description of Variant 2

**approved on 14/06/18**

An EDM1 model Mk7A electronic single phase direct connect 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:

- Reference frequency 50 Hz
- Rated voltage 220 to 240 V AC
- One (1) or Two (2) elements
- Optional 100 A supply relay and/or 40 A load control relay
- ANSI or Flag optical interface
- IO options including 2 A relay output, inputs and RS232/RS485 communications.
- Extended capacity modem power supply

- Direct relay drive circuitry
- First four (4) characters of the model number – ‘7A13’

#### **4. Description of Variant 3**

**approved on 25/05/22**

An EDM1 model Mk7A electronic single phase direct connect 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 and variants 1 & 2 except for the following:

- HongFa transformers used in place of VAC transformers.

#### **TEST PROCEDURE No 14/2/67**

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*.

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 14/2/67 – 1



EDMI Model Mk7A Class 1 Electricity Meter  
(Including Typical Mechanical Sealing)

FIGURE 14/2/67 – 2



Variant 2 of the EDM I Model Mk7A Class 1 Electricity Meter



FIGURE 14/2/67 – 3



Variant 3 of the EDM I Model Mk7A Class 1 Electricity Meter

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