



Australian Government  
Department of Industry,  
Science and Resources

**National  
Measurement  
Institute**

36 Bradfield Road, West Lindfield NSW 2070

**Certificate of Approval  
NMI 14/2/30A**

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 Mk7C 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 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 and variant 1 approved – certificate issued	9/08/10
1	Variant 2 and variant 3 approved – certificate issued	6/12/17
2	Variant 4 approved and pattern amended (clocks added) – certificate issued	22/11/24

## CONDITIONS OF APPROVAL

### General

Instruments purporting to comply with this approval shall be marked with approval number 'NMI 14/2/30A' 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*.



**Darryl Hines**  
Manager  
Policy and Regulatory Services

## TECHNICAL SCHEDULE No 14/2/30A

### 1. Description of Pattern

**approved on 09/08/10  
amended on 22/11/24**

An EDM1 model Mk7C (\*) electronic single phase Class 1 direct connect static watt hour meter (Table 1 and 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 '7C10-A212-20-C211-0A02-0000'. 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
- Reference frequency 50 Hz
- Reference ambient temperature ranges:
  - specified range of operation -10 to 60 °C
  - limit range of operation -25 to 70 °C (#)
- Rated voltage 240 V AC
- Rated currents: Basic current,  $I_b$  10 A  
Maximum current,  $I_{max}$  100 A
- Meter constant 1000 imp/kWh
- Accuracy class 1

(#) Instruments are approved for outdoor use.

#### 1.2 Features/Functions

- One (1) element.
- ANSI Type 2 optical interface (AS1284.10 compliant).
- Liquid crystal digital indicator having a maximum display of 9999999.9 kW h.
- Measurement in both positive and negative directions (export and import).
- Export active energy measurement (Class 1).
- Eight (8) time-of-use registers.
- Load profiling memory (log intervals of from 1 to 60 minutes).
- Internal battery.
- 100 A disconnect relay.
- Bottom connect rectangular base.
- Internal crystal clock and synchronous clock.

#### 1.3 Verification Provision

Provision is made for the application of a verification mark.

### 1.4 Sealing Provision

Provision is made for the calibration adjustments to be sealed by the application of a mechanical seal (Figure 2).

### 1.5 Descriptive Markings

Instruments are clearly and permanently marked with the following data, in the vicinity of the indicating device, in the form shown right:

Manufacturer's mark, or name written in full	.....
Model designation	.....
Serial number	.....
Pattern approval mark	NMI 14/2/30A
Number of phases	.....
Number or wires	.....
Reference frequency	..... Hz
Temperature limits (if other than -10 to 60 °C)	.... to .... °C
Meter constant	.....
Rated voltage	..... AC
Rated currents:	$I_b$ ..... A
	$I_{max}$ ..... A
Accuracy class	...

### 1.6 Harmonics

Instruments purporting to comply with this approval are suitable for use where the harmonics do not exceed those specified in NMI M 6-1:2022.

## 2. Description of Variant 1 approved on 09/08/10

With certain other optional features/functions including:

- Flag protocol or ANSI protocol and port.
- RS 232, RS 485 and/or LON PLC communications.
- Various combinations of up to four input/output channels (active or passive when configured as input and S0 or Relay when configured as output).

## 3. Description of Variant 2 approved on 06/12/17

An EDM1 model Mk7C electronic single phase Class 1 direct connected static watt hour meter (Figure 3) used to measure electrical energy. This variant has the same Field of Operation and Features/Functions as the pattern except as listed below:

- Rated currents: Basic current,  $I_b$  5 A or 10 A
- Rated voltage 220 - 240 V AC
- Reference ambient temperature ranges:
  - specified range of operation -25 to 60 °C
  - limit range of operation -40 to 70 °C
- First four characters of Manufacturing code 7C13
- Higher capacity modem supply
- Direct relay drive circuitry

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

**approved on 06/12/17**

An EDM1 model Mk7C electronic single phase Class 1 direct connected static watt hour meter used to measure electrical energy. This variant has the same Field of Operation and Features/Functions as the pattern and its variants 1 and 2, with the addition of a plug-in base adaptor which allows the meter to be plugged in to a meter socket.

#### **5. Description of Variant 4**

**approved on 22/11/24**

An EDM1 model MK7C electronic single phase direct connect static watt hour meter used to measure electrical energy. This variant has the same Field of Operation and features as variant 2 or variant 3 except as listed below:

- Changed R56 2M0 T/H resistor to R167, R168, R169 & R170 470k SMD resistors.

### TEST PROCEDURE No 14/2/30A

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).

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 14/2/30A – 1



EDMI Model Mk7C Electricity Meter

FIGURE 14/2/30A – 2



Showing Typical Sealing

FIGURE 14/2/30A – 3



Variant 2 of EDM I model Mk7C Class 1 Electricity Meters



FIGURE 14/2/30A – 4



Variant 2 of EDM I model Mk7C Class 1 Electricity Meters showing the manufacturing code '7C13'

FIGURE 14/2/30A – 4



Variant 3 of EDM I model Mk7C Class 1 Electricity Meters with the plug-in base adaptor

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