



Australian Government
Department of Industry, Science,
Energy and Resources

National Measurement Institute

36 Bradfield Road, West Lindfield NSW 2070

Certificate of Approval

NMI 14/2/65

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 Mk10E Electricity Meter

submitted by EDM I Pty Ltd
51 Alfred Street
Fortitude Valley QLD 4006

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 approved – certificate issued	6/09/13
1	Variant 1 approved – interim certificate issued	21/12/15
2	Variant 1 approved – certificate issued	22/06/16
3	Variants 2 & 3 approved – certificate issued	15/02/22

CONDITIONS OF APPROVAL

General

Instruments purporting to comply with this approval shall be marked with pattern approval number 'NMI 14/2/65' 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 14/2/65

1. Description of Pattern **approved on 6/09/13**

An EDM1 model Mk10E electronic polyphase current transformer (CT) operated 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 or 60 Hz
- Reference ambient temperature ranges:
 - specified range of operation -25 to 60°C
 - limit range of operation -25 to 70°C
- Rated voltage 240 V AC
- Rated currents:

Rated current, I_n	5 A
Maximum current, I_{max}	20 A
- Meter constant 1 Wh/imp
- Accuracy class 0.5 or 1

1.2 Features/Functions

- Three (3) elements
- Measurement in both positive and negative directions (export and import)
- Electronic (LCD) digital indicator
- 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 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 14/2/65
Number of phases	...
Number or wires	...
Reference frequency	... Hz
Meter constant	...
Rated voltage	... AC

Rated currents:	$I_n \dots A$
	$I_{max} \dots A$
Accuracy index	Class ...

1.5 Sealing Provision

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

2. Description of Variant 1 approved on 21/12/15

An EDM1 model Atlas Mk10E electronic polyphase current transformer (CT) operated static watt hour meter used to measure electrical energy.

This variant has the same Field of Operation and Features/Functions as the pattern except that it has an extended capacity modem power supply, and the rated currents are either the same as the pattern or as follows:

- Rated currents: Rated current, I_n 1 A
Maximum current, I_{max} 4 A

3. Description of Variant 2 approved on 15/02/22

An EDM1 model Atlas Mk10E electronic polyphase current transformer (CT) operated static watt hour meter used to measure electrical energy.

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

- Number of wires 3 or 4
- Rated currents: Rated current, I_n 1 A
Maximum current, I_{max} 4 or 10 A
- Accuracy class 0.2

The first four (4) characters of the model number to be denoted as '1E03' or '1E23'

Note: 3 phase 3 wires configuration not suitable for individual phase measurements. Meters with 3 phase 3 wires configuration to be used exclusively for total energy measurements.

4. Description of Variant 3 approved on 15/02/22

An EDM1 model Atlas Mk10E electronic polyphase current transformer (CT) operated static watt hour meter used to measure electrical energy.

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

- Number of wires 3 or 4
- Rated currents: Rated current, I_n 5 A
Maximum current, I_{max} 6 or 20 A
- Accuracy class 0.2

The first four (4) characters of the model number to be denoted as '1E03' or '1E23'

Note: 3 phase 3 wires configuration not suitable for individual phase measurements. Meters with 3 phase 3 wires configuration to be used exclusively for total energy measurements.

TEST PROCEDURE No 14/2/65

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 14/2/65 – 1



EDMI Model Mk10E Class 0.5 Electricity Meter
(Including Typical Mechanical Sealing)

Figure 14/2/65 – 2



Variant 2 of the EDM I Model Mk10E Class 0.2 Electricity Meter

Figure 14/2/65 – 3



Variant 3 of the EDM I Model Mk10E Class 0.2 Electricity Meter

~ End of Document ~