



Australian Government
Department of Industry,
Innovation and Science

National Measurement Institute

Certificate of Approval

NMI 14/2/85

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.

Em-Lite Model EMC1.w Class 1 Electricity Meter

submitted by AMS International Technologies Pty Ltd
Level 2, 79-85 Oxford Street
Bondi Junction NSW 2022

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 1/07/20, and then every 5 years thereafter.

DOCUMENT HISTORY

Rev	Reason/Details	Date
0	Pattern & variants 1 & 2 approved – interim certificate issued	3/06/15
1	Pattern & variants 1 & 2 amended (validity) – interim certificate issued	3/12/15
2	Pattern & variants 1 & 2 approved – certificate issued	8/03/16

CONDITIONS OF APPROVAL

General

Instruments purporting to comply with this approval shall be marked with pattern approval number 'NMI 14/2/85' 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*.



Dr A Rawlinson

TECHNICAL SCHEDULE No 14/2/85

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

An Em-Lite model EMC1.w single phase class 1 direct connect static watt hour meter (Table 1 and 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 -25 to 60°C
 - limit range of operation -25 to 70°C
- Rated voltage 220-240 V AC
- Rated currents:
 - Basic current, I_b 10 A
 - Maximum current, I_{max} 100 A
- Meter constant 1000 imp/kWh
- Accuracy class 1

1.2 Features/Functions

- Two (2) elements
- Electronic (LCD) digital indicator
- Two/dual disconnect relays
- 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 14/2/85
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

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 1).

2. Description of Variant 1 approved on 3/06/15

Certain models of the EMA1.* series meters as listed below, which are similar to the pattern and having the same features/functions except that they are now fitted with only one (1) elements.

3. Description of Variant 2 approved on 3/06/15

Various models of the EM series, similar to the pattern and variant 1 but now fitted with one or more relays as indicated by the model number suffixes as listed in Table 1 below: (The pattern is shown in **bold**).

TABLE 1 – Approved Model Designations for Relays

MODEL NUMBER	RELAYS, etc.
EMA1.az	no relays
EMA1.z	single disconnect relay
EMC1.z	dual disconnect relays
EMA1.y	single disconnect relay + 2A volt free relay
EMC1.y	dual disconnect relays + 2A volt free relay
EMA1.x	single disconnect relay + external hub connections
EMC1.x	dual disconnect relays + external hub connections
EMA1.w	single disconnect relay + 2A volt free relay + external hub connections
EMC1.w	dual disconnect relays + 2A volt free relay + external hub connections

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 14/2/85 – 1



Em-Lite Model EMC1.w (Including Provision for Mechanical Sealing)

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