Australian Government
Department of Industry, Innovation and Science

National Measurement Institute

# Certificate of Approval

# NMI 14/2/104

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.

Zhejiang Reallin Electron Co. Ltd model Reallin DIN Rail D1002 Class 1 Direct connected Electricity Meter

submitted by Formway Group Metering
Building 2, 112 Darlington Drive
Yatala QLD 4207

**NOTE:** This Certificate relates to the suitability of the pattern of the instrument for use as a legal measuring instrument 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 01/03/23, and then every 5 years thereafter.

DOCUMENT HISTORY

| Rev | Reason/Details | Date |
|---|---|---|
| 0 | Pattern and variant 1 approved – Certificate issued | 20/02/18 |
| | | |

CONDITIONS OF APPROVAL

## General

Instruments purporting to comply with this approval shall be marked with pattern approval number ‘NMI 14/2/104’ and only by persons authorised by the submittor.

It is the submittor’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**

TECHNICAL SCHEDULE No 14/2/104

## 1. Description of Pattern approved on 20/02/18

A Zhejiang Reallin Electron Co. Ltd model Reallin DIN Rail D1002 single phase class 1 direct connected static watt hour meter (Figures 1, 2 and 3) 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 70°C
  - limit range of operation -25 to 70°C
- Rated voltage 230 V AC
- Rated currents: Basic current, $I_b$ 5 A
  Maximum current, $I_{max}$ 100 A
- Meter constant 1000 imp/kWh
- Accuracy class 1

### 1.2 Features/Functions

- One (1) element
- Internal crystal clock
- Liquid crystal digital indicator having a maximum display of 999999 kWh

### 1.3 Verification Provision

Provision is made for the application of a verification mark.

### 1.4 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 14/2/104 |
| 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 … |

### 1.5 Sealing Provision

Provision is made for the instrument to be sealed by the application of mechanical seals (Figure 2).

## 2. Description of Variant 1 approved on 20/02/18

A Zhejiang Reallin Electron Co. Ltd model Reallin DIN Rail D1002X single phase class 1 direct connected statis watt hour meter (Figure 1) used to measure electrical energy.

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

- Rated currents: Maximum current, $I_{max}$ 80 A
- Additional internal relay
- No pulse output

TEST 0PROCEDURE No 14/2/104

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 14/2/104 – 1


Zhejiang Reallin Electron Co. Ltd model Reallin DIN Rail D1002 Electricity Meter (The Pattern) with short terminal cover

FIGURE 14/2/104 – 2


Typical Mechanical Sealing

FIGURE 14/2/104 – 3


Zhejiang Reallin Electron Co. Ltd model Reallin DIN Rail D1002 Electricity Meter (The Pattern) with long terminal cover

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