



Australian Government  
Department of Industry, Science,  
Energy and Resources

**National  
Measurement  
Institute**

36 Bradfield Road, West Lindfield NSW 2070

**Certificate of Approval  
NMI 14/2/93**

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.

Microstar Model P2000-T Electricity Meter

submitted by Microstar Australia Pty Ltd  
6/167, Princes Highway  
Hallam VIC 3803

**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 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	22/03/16
1	Pattern amended (added Class 0.5) – certificate issued	30/05/16
2	Certificate amended to include bi-directional measurement, change in address and update review date	30/03/21

## CONDITIONS OF APPROVAL

### General

Instruments purporting to comply with this approval shall be marked with pattern approval number 'NMI 14/2/93' 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 14/2/93

**1. Description of Pattern** **approved on 22/03/16**

A Microstar model P2000-T 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 3 or 4
- Reference frequency 50 Hz
- Reference ambient temperature ranges:
  - specified range of operation -20 to 60°C
  - limit range of operation -25 to 75°C
- Rated voltage 3x57.5/100 - 3x240/415 V AC
- Rated currents:
  - Basic current,  $I_n$  1 A
  - Maximum current,  $I_{max}$  10 A
- Meter constant 4000 imp/kWh
- Accuracy class 0.2 or 0.5

**1.2 Features/Functions**

- Three (3) elements
- Electronic (LCD) digital indicator
- Bottom connect rectangular base
- Internal crystal clock
- Measurement in positive and negative direction

**1.3 Verification Provision**

Provision is made for the application of a verification mark.

**1.4 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).

## 1.5 Descriptive Markings

Instruments are marked with the following data, together in one location, in the form shown at right:

Manufacturer's name or mark	Microstar Electric Co Ltd
Model designation	...
Serial number	...
Pattern approval mark	NMI 14/2/93
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 ... (i.e. 0.2 or 0.5)

### 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.

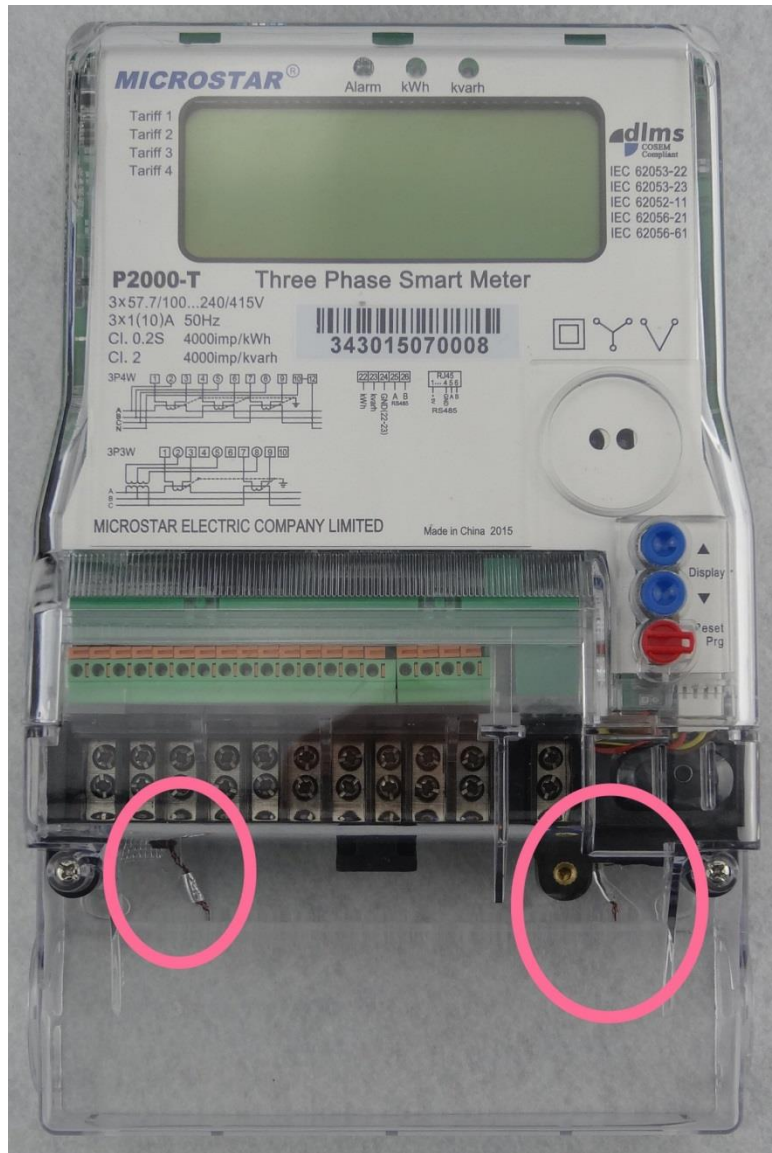
The maximum permissible errors are specified in the *National Trade Measurement Regulations 2009* (Cth).

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 14/2/93 – 1



Microstar Model P2000-T (Including Typical Mechanical Sealing)

~ End of Document ~