



Australian Government
Department of Industry,
Science and Resources

**National
Measurement
Institute**

36 Bradfield Road, West Lindfield NSW 2070

**Certificate of Approval
NMI 14/2/116**

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.

Tyco Electronic (TE) model DRS-45-1P-NMI Class 1 Electricity Meter

submitted by TE Connectivity Australia Pty Ltd
 Lot 1/4 Reaghs Farm Rd
 MINTO NSW 2566

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 approved – certificate issued	06/06/24

CONDITIONS OF APPROVAL

General

Instruments purporting to comply with this approval shall be marked with approval number 'NMI 14/2/116' 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*.



Mario Zamora
Acting Manager
Policy and Regulatory Services

TECHNICAL SCHEDULE No 14/2/116

1. Description of Pattern **approved on 06/06/24**

A Tyco Electronic (TE) model DRS-45-1P-NMI single phase Class 1 direct connected static watt hour meter used to measure electrical energy (Figure 1).

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 55 °C
 - limit range of operation -25 to 55 °C
- Rated voltage 230 V AC
- Rated currents: Basic current, I_b 5 A
Maximum current, I_{max} 45 A
- Meter constant 1000 imp/kWh
- Accuracy class 1

1.2 Features/Functions

- One (1) element
- DIN-rail mounting
- Liquid crystal digital indicators having a maximum display of 999999.9 kWh.
- Measurement in both positive and negative directions (import and export)
- Communications (RS 485, modbus)

1.3 Verification Provision

Provision is made for the application of a verification mark.

1.4 Sealing Provision

Provision is made for the sealing devices and parameters that have a metrologically significant effect and that determine the measurement result by the application of mechanical seals (Figure 1) and solid state sealing.

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 (Figure 2):

Manufacturer's mark, or name written in full
Model designation
Serial number
Pattern approval mark	NMI 14/2/116
Number of phases
Number of 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	...
	Indoor use only

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.

TEST PROCEDURE No 14/2/116

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 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 14/2/116 – 1



Tyco Electronic (TE) model DRS-45-1P-NMI Electricity Meter (the pattern, including typical mechanical sealing)

FIGURE 14/2/116 – 2



Tyco Electronic (TE) model DRS-45-1P-NMI Electricity Meter (side view / example of mandatory markings)

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