14/2/2
7 January 2002

National Standards Commission

12 Lyonpark Road, North Ryde NSW

Certificate of Approval

No 14/2/2

Issued 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

Nilsen Model EMS2610-B Electricity Meter

submitted by Nilsen Industrial Electronics
43 Sheehan Road
Heidelberg West VIC 3081.

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.

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CONDITIONS OF APPROVAL

This approval expires in respect of new instruments on 1 July 2002.

Instruments purporting to comply with this approval shall be marked NSC No 14/2/2 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 Commission 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 the Commission's Document NSC P106.

The Commission reserves the right to examine any instrument or component of an instrument purporting to comply with this approval.

DESCRIPTIVE ADVICE

Pattern: approved 8 June 2001

- A Nilsen model EMS2610-B single phase Class 1 electronic watt hour meter used to measure electrical energy.

Variant: approved 8 June 2001

1. Other models of the EMS2600e series.

Technical Schedule No 14/2/2 describes the pattern and variant 1.

FILING ADVICE

The documentation for this approval comprises:

Certificate of Approval No 14/2/2 dated 7 January 2002
Technical Schedule No 14/2/2 dated 7 January 2002 (incl. Test Procedure)
Figures 1 to 3 dated 7 January 2002

Signed by a person authorised under Regulation 60 of the National Measurement Regulations 1999 to exercise the powers and functions of the Commission under this Regulation.

TECHNICAL SCHEDULE No 14/2/2

Pattern: Nilsen Model EMS2610-B Electricity Meter.

Submittor: Nilsen Industrial Electronics
43 Sheehan Road
Heidelberg West VIC 3081.

1. Description of Pattern

A Nilsen model EMS2610-B single phase Class 1 electronic direct connected watt hour meter (Figure 1) used to measure electrical energy.

1.1 Field of Operation

• Number of phases		1
• Number of wires		2
• Reference frequency		50 Hz
• Reference ambient temperature ranges:		
specified range of operation		-10 to 60°C
limit range of operation		-25 to 70°C
• Rated voltage		240 V AC
• Rated currents:	Basic current, I_b	15 A
	Maximum current, I_{max}	100 A
• Accuracy index		1

1.2 Features/Functions

- 1 element
- 1 optical port
- liquid crystal display
- 1 RS232 communications port

1.3 Verification/Certification

Provision is made for the application of a verification/certification mark.

1.4 Sealing Provision

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

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1.5 Markings

Instruments are marked with the following data, together in one location:

Manufacturer's name or mark	...
Model designation	...
Serial number	...
Pattern approval mark	NSC No 14/2/2
Number of phases	...
Number or 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 index	...

2. Description of Variant 1

Other models of the EMS2600 series, having different features/functions to the pattern. Note that EMS2600 is the basic series number – the full model number has a variety of additional alphanumeric characters, as identified below:

EMS26@#-$****, where

- @ is the number of measuring elements, either 1 or 2
- # is the number of controlled circuit relays, either 0, 1 or 2
- $ is the type of connection, either B (for bottom) or P (for plug-in - see Figure 3)
- **** refers to different combinations of non-metrological functions and firmware, and may be any combination of numeric characters.

Instruments may be fitted with a number of optional features/functions including ripple receiver, serial communications port, 10 V AC power supply for external equipment, and pulse inputs for up to 3 channels.

TEST PROCEDURE

Instruments tested for initial verification shall comply with the certificate of approval and technical schedule, and the maximum permissible errors for initial and subsequent verifications/certifications at the operating conditions in effect at the time of verification.

TESTS

The following tests shall be carried out in accordance with the Commission's document NSC M 6*, Pattern Approval and Initial Verification of Electricity Meters and Associated Transformers*.

1. AC Voltage Test - at initial verification only.
2. Running with no load - at subsequent verifications/certifications.
3. Starting.
4. Accuracy.

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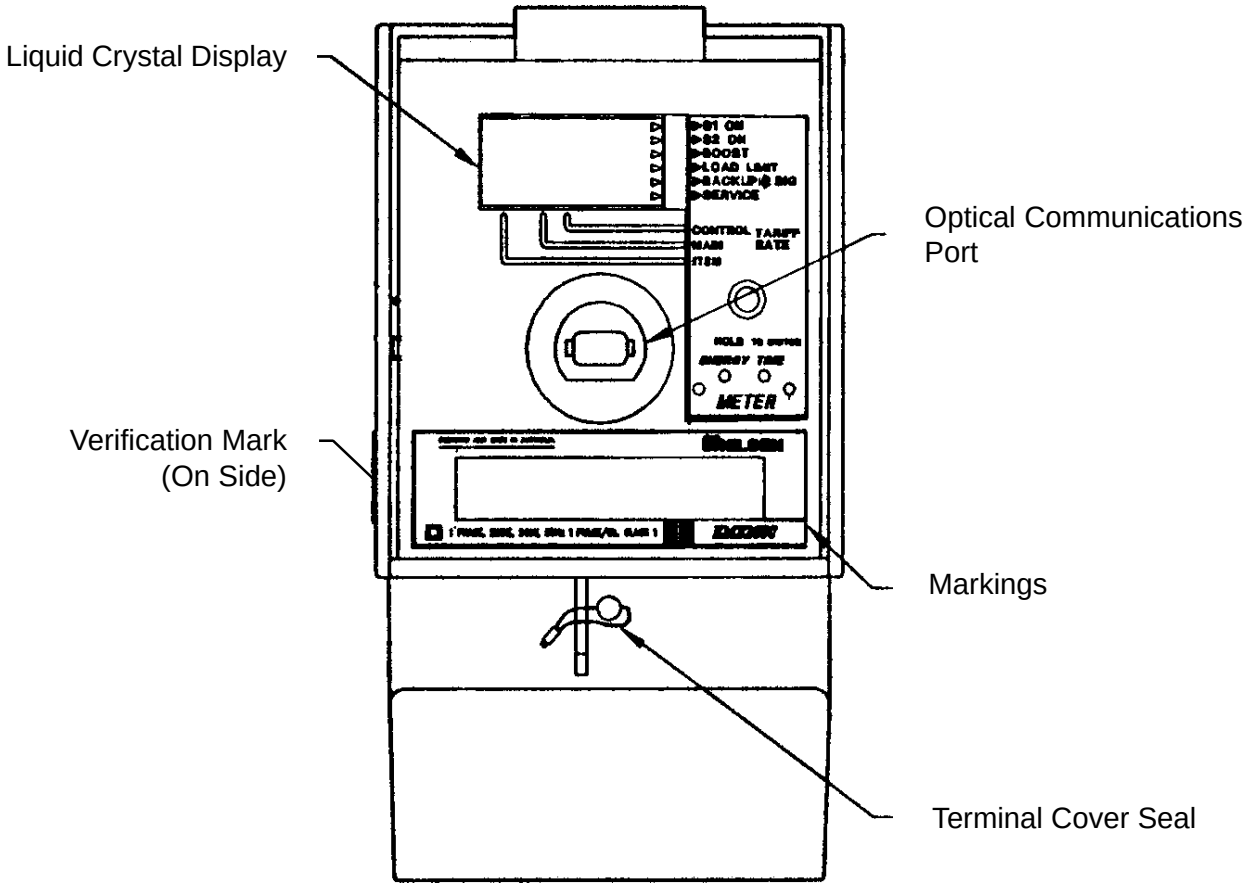
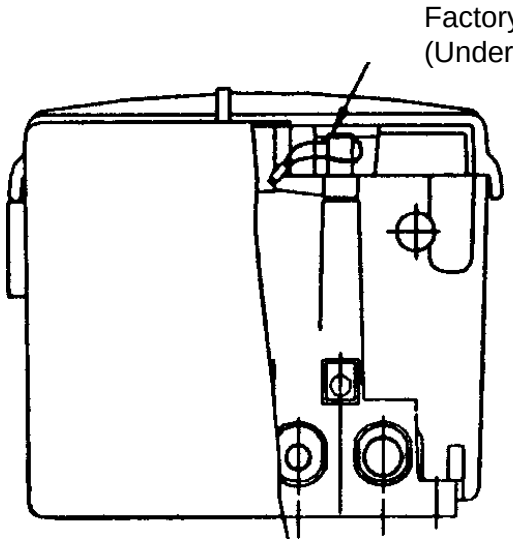
FIGURE 14/2/2 - 1

Nilsen Model EMS2610-B Electricity Meter

FIGURE 14/2/2 - 2





Nilsen Model EMS2610-B Electricity Meter

FIGURE 14/2/2 - 3

Nilsen Model EMS2610-P Electricity Meter