



Australian Government
**National Measurement
Institute**

Bradfield Road, West Lindfield NSW 2070

Cancellation
Certificate of Approval
No 14/2/10

Issued by the Chief Metrologist under Regulation 60
of the
National Measurement Regulations 1999

This is to certify that the approval for use for trade granted in respect of the
ZSG Model SWHM 12 11.11 Electricity Meter

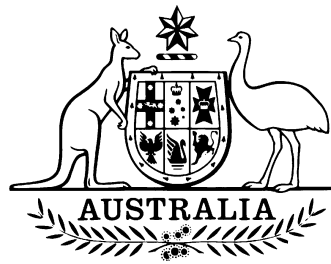
submitted by Ampere Electrical Manufacturing Co P/L
 174-176 High Street
 Prahran VIC 3181

has been cancelled in respect of new instruments as from 1 March 2011.

Signed by a person authorised by the Chief Metrologist
to exercise his powers under Regulation 60 of the
National Measurement Regulations 1999.

A handwritten signature in black ink that reads 'C Davies'.

14/2/10
7 October 2002



National Standards Commission

12 Lyonpark Road, North Ryde NSW

Certificate of Approval

No 14/2/10

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of the
National Measurement Regulations 1999

This is to certify that an approval for use for trade has been granted in respect of the

ZSG Model SWHM 12 11.11 Electricity Meter

submitted by Ampere Electrical Manufacturing Co P/L
174-176 High Street
Prahran VIC 3181.

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.

CONDITIONS OF APPROVAL

This approval becomes subject to review on 1 August 2007, and then every 5 years thereafter.

Instruments purporting to comply with this approval shall be marked NSC No 14/2/10 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 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 11 July 2002

- A ZSG model SWHM 12 11.11 single phase Class 1 electronic direct connected static watt hour meter used to measure electrical energy.

Variant: approved 11 July 2002

1. A ZSG model SWHM 12 22.11 meter.

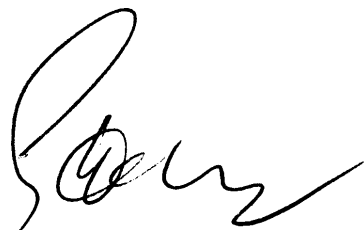
Technical Schedule No 14/2/10 describes the pattern and variant 1.

FILING ADVICE

The documentation for this approval comprises:

Certificate of Approval No 14/2/10 dated 7 October 2002
Technical Schedule No 14/2/10 dated 7 October 2002 (incl. Test Procedure)
Figures 1 and 2 dated 7 October 2000

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 14/2/10

Pattern: ZSG Model SWHM 12 11.11 Electricity Meter.

Submittor: Ampere Electrical Manufacturing Co P/L
174-176 High Street
Prahran VIC 3181.

1. Description of Pattern

A ZSG model SWHM 12 11.11 single phase Class 1 electronic direct connected static 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 230 V AC
- Rated currents: Basic current, I_b 5 A
Maximum current, I_{max} 20 A
- Accuracy index 1
- Must be installed with a 20 Amp short circuit protection device on the supply side of the meter.

1.2 Features/Functions

The pattern has a single element, two input terminals, two passive pulse output terminals, a single LED status display and an electromechanical digital indicator having a maximum display of 99999.9 kW h (Figure 1).

1.3 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 14/2/10
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 index	...

1.4 Verification/Certification

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

1.5 Sealing Provision

The case components are joined during manufacture and access to the calibration points requires destruction of the case, therefore no other sealing is required.

2. Description of Variant 1

A ZSG model SWHM 12 22.11 single phase Class 1 electronic direct connected static watt hour meter (Figure 2) which is similar to the pattern except in a larger housing and with the following features:

- Rated currents: Basic current, I_b 10 A
 Maximum current, I_{max} 65 A
- Two input terminals with a common neutral
- Must be installed with a 63 Amp short circuit protection device on the supply side of the meter.

TEST PROCEDURE

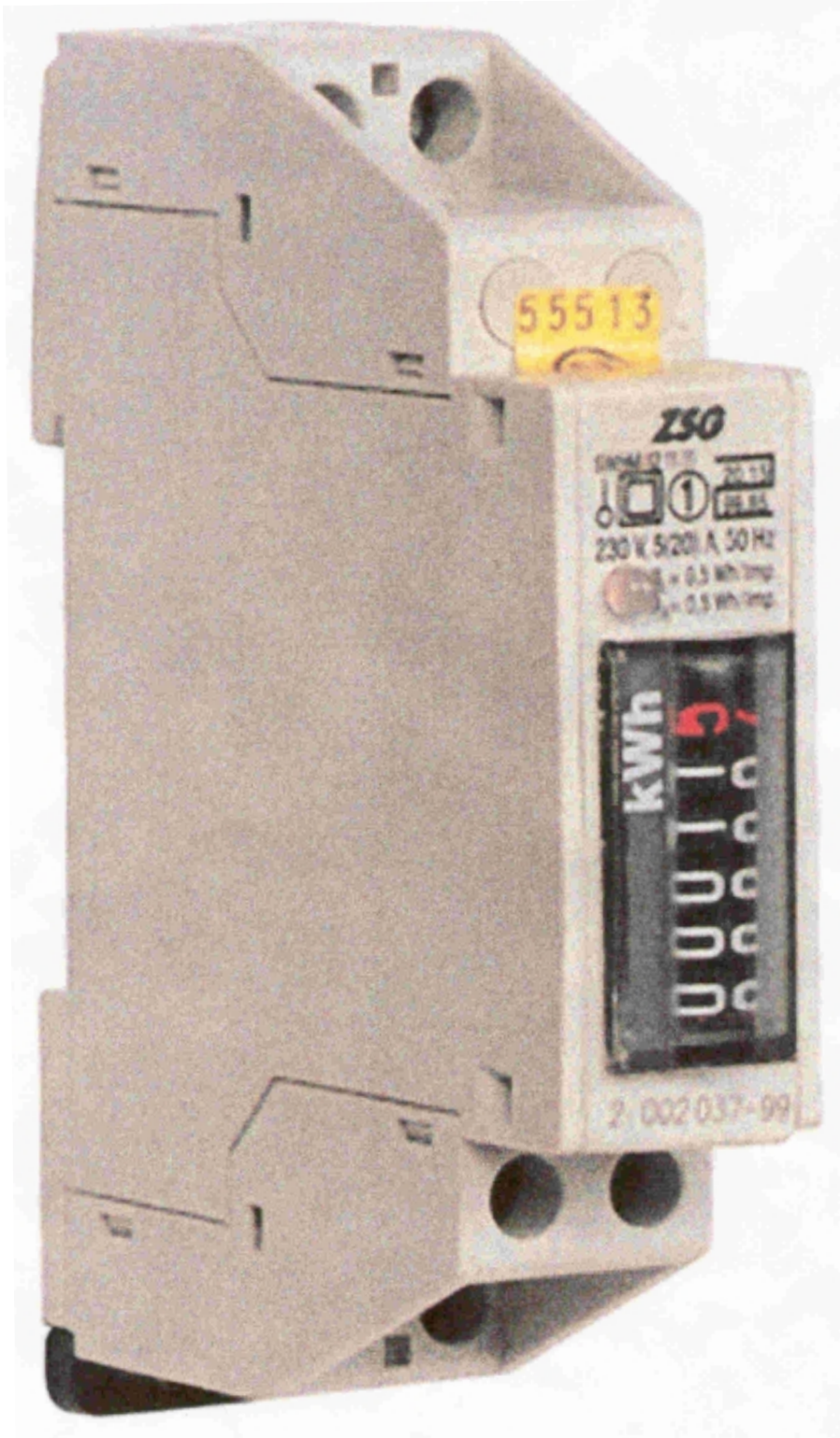
Instruments tested for initial verification shall comply with the certificate of approval and technical schedule, and the maximum permissible errors for initial and subsequent verifications/certifications at the operating conditions in effect at the time of verification.

TESTS

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 14/2/10 - 1



ZSG Model SWHM 12 11.11 Electricity Meter

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FIGURE 14/2/10 - 2



ZSG Model SWHM 12 22.11 Electricity Meter