Australian Government
Department of Industry, Science and Resources

National Measurement Institute

36 Bradfield Road, West Lindfield NSW 2070

Certificate of Approval

NMI 14/2/130

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.

Schreder Australia Pty Ltd model Owlet IV Nema Aus 80SW Luminaire Controllers Class 1 Electricity Meter

submitted by Schreder Australia Pty Ltd
4A 21-23 South St
RYDALMERE NSW 2116

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	14/09/26

CONDITIONS OF APPROVAL

General

Instruments purporting to comply with this approval shall be marked with approval number 'NMI 14/2/130' 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.

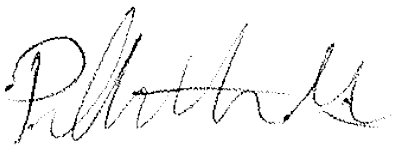
Special – Street light metering

This approval is conditional on remote data access being made available to parties to the trade and NMI. Data access must include:

- Measurement data (kWh)
- Mandatory descriptive markings (as specified in this approval)
- Verification information:
    - Copy of the applicable Batch Verification Certificate, or
    - Status of individual verification including verification mark information.
- Location information (to be able to identify the specific location of the street light).

In the event that remote data access is not made available to parties to the trade and NMI, the Chief Metrologist (or their delegate) may vary, cancel or withdraw this approval other than on application in accordance with Part 8 of the *National Measurement Regulations 1999*.

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



Phillip Mitchell
A/g Manager
Policy and Regulatory Services

TECHNICAL SCHEDULE No 14/2/130

1. Description of Pattern **approved on 14/09/26**

A Schreder Australia Pty Ltd model Owlet IV Nema Aus 80SW Luminaire Controllers single phase class 1 direct connected static watt hour meter (Figure 1) used to measure electrical energy.

This pattern of meter is intended for use as a street light meter (Figure 2).

There are two kinds of devices covered by this pattern: DATALIFT and MESHNODE. The differences between DATALFT and MESHNODE relate to communication. DATALIFT use mesh network to aggregate information from a cluster of MESHNODEs.

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 −10 to 55 °C
  - limit range of operation −40 to 70 °C
- Rated voltage 240 V AC
- Rated currents: Basic current, I_b 1 A
  Maximum current, I_{max} 8 A
- Meter constant 1 Wh/imp
- Accuracy class 1

1.2 Features/Functions

- NEMA socket.
- Internal crystal clock.
- Measurement in positive direction only.

1.3 Verification Provision

Provision is made for the application of a verification mark.

Verification information is available through the remote indicating device (EXEDRA Platform) – see clause 1.7 for more information.

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. Encryption and tamper resistance protects the calibration data.

See clause 1.7 for more information relating to the remote indicating device (EXEDRA Platform).

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:

Manufacturer's mark, or name written in full	……..
Model designation	……..
Serial number	……..
Pattern approval mark	NMI 14/2/1xx
Number of phases	……..
Number or wires	……..
Reference frequency	…….. Hz
Meter constant	……..
Rated voltage	…….. AC
Rated currents:	I_b …… A
	I_{max} ……. A
Accuracy class	...

Note: the indicating device is remote and the markings are also accessible for viewing though the remote indicating device. See clause 1.7 for more information.

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.

1.7 Remote indicating device – EXEDRA Platform

Measurement data and related information is available through the Schreder EXEDRA Platform. Information available through the EXEDRA Platform includes:

- Measurement data (kWh)
- Mandatory descriptive markings (as specified in clause 1.5)
- Verification information:
    - Copy of the applicable Batch Verification Certificate, or
    - Status of individual verification including verification mark information.
- Location information.

The metering devices and the EXEDRA Platform provide controls to ensure measurement data is authentic and verifiable. This includes:

1. Unique identifier physically marked on metering device and displayed in EXEDRA.
2. Protection and encryption of calibration factors.
3. Protected transmission of data from authenticated devices to EXEDRA using protected communications.
4. Read-only measurement records: Metering telemetry is presented in EXEDRA as read-only.
5. Any faults or missing data are visible in EXEDRA.
6. EXEDRA users can identify metering devices (nodes) using unique identifier or location, and can access, view and export measurement data and related information.

1.8 Energy measurement includes usage by the controller

The meter measures energy consumed by itself (the controller) and energy consumed by the luminaire. This means a small amount of power (about 2 W) is measured and recorded while the luminaire is off.

TEST PROCEDURE No 14/2/130

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).

Electricity meters shall be verified in accordance with the following National Instrument Test Procedures:

- NITP 14.0 – Utility Meters – general requirements
- NITP 14.2 – Utility Meters – electricity meters

No load Test

The no load test needs special consideration because energy measurements include consumption by the meter (controller) and the load (luminaire).

The no-load test may be performed by reversing the line and load connections.

NOTE: NMI reserves the right to vary this procedure. Any such variation shall be notified in writing by NMI.

FIGURE 14/2/130 – 1

(a) Schreder Australia Pty Ltd model Owlet IV Nema Aus 80SW Luminaire Controllers (the Pattern) – DATALIFT

(b) Schreder Australia Pty Ltd model Owlet IV Nema Aus 80SW Luminaire Controllers (the Pattern) – MESHNODE

FIGURE 14/2/130 – 2

Typical installations

~ End of Document ~