



Australian Government  
Department of Industry, Science,  
Energy and Resources

## National Measurement Institute

36 Bradfield Road, West Lindfield NSW 2070

### Certificate of Approval NMI 14/2/106

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.

Landis & Gyr Pty Ltd T/A Landis+Gyr model E420 S11RA Electricity Meter

submitted by Landis & Gyr Pty Ltd T/A Landis+Gyr  
241 O'Riordan St, Level 10  
MASCOT NSW 2020

**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 Pathway 1 in the document NMI M 6-1, *Active-Energy Electricity Meters, Part 1: Metrological and Technical Requirements*, July 2020.

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	27/11/18
1	Pattern amended and variant 1 approved – certificate issued	8/03/19
2	Variants 2, 3, 4 and 5 approved – certificate issued	15/06/20
3	Variant 1 amended and variants 6, 7, 8, 9 & 10 approved – certificate issued	18/08/21

## CONDITIONS OF APPROVAL

### General

Instruments purporting to comply with this approval shall be marked with approval number 'NMI 14/2/106' 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.

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 14/2/106

**1. Description of Pattern**

**approved on 27/11/18**

A Landis & Gyr model E420 S11RA single phase Class 1 direct connected 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 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 or 240 V AC
- Rated currents: Basic current,  $I_b$  10 A
  - Maximum current,  $I_{max}$  100 A
- Meter constant 1000 imp/kWh
- Accuracy class 1

**1.2 Features/Functions**

- Liquid crystal digital indicator.
- Internal crystal clock and synchronous clock.
- Measurement in both positive and negative directions (export and import).

**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 marked with the following data, together in one location:

Manufacturer's mark, or name written in full	.....
Model designation	.....
Serial number	.....
Pattern approval mark	NMI 14/2/106
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 <sub>b</sub> ..... A
	I <sub>max</sub> ..... A
Accuracy class	...

## 1.6 Harmonics

Instruments purporting to comply with this approval are suitable for use where the harmonics do not exceed those specified in pathway 1 of NMI M 6-1:2020.

### 2. Description of Variant 1

**approved on 8/03/19**

A Landis & Gyr model S11LA single phase class 1 direct connected static watt hour meter used to measure electrical energy.

This variant has the same field of operation and features/functions as the pattern, except the integrated radio communications circuit is for LTE (Gridstream LTE Cat-M1 (HL7749)) rather than Gridstream-RF.

### 3. Description of Variant 2

**approved on 15/06/20**

A variant of variant 1 with the same field of operation and features/functions as variant 1, except it has a shortened terminal block and cover (Figure 2). This variant is identified by catalogue no.: S11LA10DN\*#\*XXX-XXX, where # is "S".

Table 1 summarises the catalogue numbers that identify variant 1, variant 2 and subsequent variants.

Table 1

Variant	Catalogue number
Variant 1	S11LA10DN*#*XXX-XXX where "#" is a "N"
Variant 2	S11LA10DN*#*XXX-XXX where "#" is an "S"
Variant 3	S11LA10DN*#*XXX-XXX where "#" is a "6"
Variant 4	S11LA10DN*#*XXX-XXX where "#" is an "8"
Variant 5	S11LA10DN*#*XXX-XXX where "#" is a "1"

### 4. Description of Variant 3

**approved on 15/06/20**

A variant of variant 2 with the same field of operation and features/functions as variant 2 except with a plug-in adaptor kit and a maximum current (I<sub>max</sub>) of 50 A associated with a 63 A miniature circuit breaker. This variant is identified by catalogue no.: S11LA10DN\*#\*XXX-XXX, where # is "6".

The plug-in adaptor kit and 63 A miniature circuit breaker are shown in Figure 3.

### 5. Description of Variant 4

**approved on 15/06/20**

A variant of variant 2 with the same field of operation and features/functions as variant 2 except with a plug-in adaptor kit and a maximum current (I<sub>max</sub>) of 63 A associated with an 80 A miniature circuit breaker. This variant is identified by catalogue no.: S11LA10DN\*#\*XXX-XXX, where # is "8".

The plug-in adaptor kit and 80 A miniature circuit breaker are shown in Figure 4.

### 6. Description of Variant 5

**approved on 15/06/20**

A variant of variant 2 with the same field of operation and features/functions as variant 2 except with a plug-in adaptor kit and a maximum current ( $I_{max}$ ) of 80 A associated with a 100 A miniature circuit breaker. This variant is identified by catalogue no.: S11LA10DN\*#\*XXX-XXX, where # is "1".

The plug-in adaptor kit and 100 A miniature circuit breaker are shown in Figure 5.

## 7. Description of Variant 6

**approved on 18/08/21**

A variant of variant 1 with the same field of operation and features/functions as variant 1, except the integrated radio communications circuit is LTE radio type HL7800 (Figure 6).

Table 2 summarises the catalogue numbers that identify variant 6, variant 7 and subsequent variants.

Table 2

Variant	Catalogue number
Variant 6	S11LX10DN*#*XXX-XXX where "#" is a "N"
Variant 7	S11LX10DN*#*XXX-XXX where "#" is an "S"
Variant 8	S11LX10DN*#*XXX-XXX where "#" is a "6"
Variant 9	S11LX10DN*#*XXX-XXX where "#" is an "8"
Variant 10	S11LX10DN*#*XXX-XXX where "#" is a "1"

## 8. Description of Variant 7

**approved on 18/08/21**

A variant of variant 6 with the same field of operation and features/functions as variant 6 except it has a shortened terminal block and cover (Figure 7). This variant is identified by catalogue no.: S11LX10DN\*#\*XXX-XXX, where # is "S".

## 9. Description of Variant 8

**approved on 18/08/21**

A variant of variant 7 with the same field of operation and features/functions as variant 7 except with a plug-in adaptor kit and a maximum current ( $I_{max}$ ) of 50 A associated with an 63 A miniature circuit breaker. This variant is identified by catalogue no.: S11LX10DN\*#\*XXX-XXX, where # is "6".

The plug-in adaptor kit and 63 A miniature circuit breaker are shown in Figure 3.

## 10. Description of Variant 9

**approved on 18/08/21**

A variant of variant 7 with the same field of operation and features/functions as variant 7 except with a plug-in adaptor kit and a maximum current ( $I_{max}$ ) of 63 A associated with a 80 A miniature circuit breaker. This variant is identified by catalogue no.: S11LX10DN\*#\*XXX-XXX, where # is "8".

The plug-in adaptor kit and 80 A miniature circuit breaker are shown in Figure 4.

## 11. Description of Variant 10

**approved on 18/08/21**

A variant of variant 7 with the same field of operation and features/functions as variant 7 except with a plug-in adaptor kit and a maximum current ( $I_{max}$ ) of 80 A associated with a 100 A miniature circuit breaker. This variant is identified by catalogue no.: S11LX10DN\*#\*XXX-XXX, where # is "1".

The plug-in adaptor kit and 100 A miniature circuit breaker are shown in Figure 5.

#### TEST PROCEDURE No 14/2/106

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.

Meters shall be verified in accordance with NITP 14 *National Instrument Test Procedures for Utility Meters*.

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

FIGURE 14/2/106 – 1



Landis+Gyr Pty Ltd model E420 S11RA Electricity Meter (The Pattern) including typical mechanical sealing.

FIGURE 14/2/106 – 2



Landis+Gyr Pty Ltd model E420 S11LA Electricity Meter (Variant 2).

FIGURE 14/2/106 – 3



Plug-in adaptor kit and 63 A miniature circuit breaker associated with variants 3 & 8.

FIGURE 14/2/106 – 4



Plug-in adaptor kit and 80 A miniature circuit breaker associated with variants 4 & 9.

FIGURE 14/2/106 – 5



Plug-in adaptor kit and 63 A miniature circuit breaker associated with variant 5 & 10.

FIGURE 14/2/106 – 6



Landis+Gyr Pty Ltd model E420 S11LX Electricity Meter (Variant 6)

FIGURE 14/2/106 – 7



Landis+Gyr Pty Ltd model E420 S11LX Electricity Meter with shortened terminal block (Variant 7)

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