



Australian Government

National Measurement
Institute

Bradfield Road, West Lindfield NSW 2070

Supplementary Certificate of Approval

NMI S565

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.

Hectronic Model TA 2331 Control System for Liquid-measuring Systems

submitted by Liquip International Pty Ltd
 13 Hume Road
 Smithfield NSW 2164

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 R 117-1, Measuring Systems for Liquids Other than Water, dated July 2004.

This approval becomes subject to review on 1/07/17, and then every 5 years thereafter.

DOCUMENT HISTORY

Rev	Reason/Details	Date
0	Pattern provisionally approved – interim certificate issued	7/06/12
1	Pattern approved – certificate issued	27/09/12

CONDITIONS OF APPROVAL

General

Instruments purporting to comply with this approval shall be marked with approval number 'NMI S565' and only by persons authorised by the submitter.

Instruments incorporating a component purporting to comply with this approval shall be marked 'NMI S565' in addition to the approval number of the instrument, and only by persons authorised by the submitter.

Instruments purporting to comply with this approval and currently marked 'NMI PS565' may be re-marked 'NMI NSC S565' but 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.

Auxiliary devices used with this instrument shall comply with the requirements of General Supplementary Certificates No S1/0/A or No S1/0B.

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, consisting of a series of loops and a long horizontal stroke at the bottom.

TECHNICAL SCHEDULE No S565

1. Description of Pattern provisionally approved on 7/06/12 approved on 27/09/12

The pattern is a Hectronic model TA 2331 control system (Figure 1) to provide unattended self-service facility for compatible (#) NMI-approved fuel dispensers/liquid-measuring systems for registered account customers only.

(#) 'Compatible' is defined to mean that no additions/changes to hardware/software are required for satisfactory operation of the system.

1.1 Field of Operation

The field of operation of the measuring system is determined by the following characteristics:

- Power supply (nominal 240 V mains) Range 204 V to 264 V AC
- Maximum input frequency 400 Hz
- Liquid temperature range -10°C to 50°C
- Environment temperature range (Class C) -25°C to 55°C
- Accuracy class Class 0.5
- For use by registered clients

1.2 Features/Functions

The model TA 2331 control system has features including:

- (i) A 4 line alphanumeric liquid-crystal display (Figure 2) which provides a six-digit indication of the measured volume of a flowmeter.
- (ii) A Piezo keypad and function keys.
- (iii) An identification tag reader/magnetic card reader.
- (iv) Any uninterruptible power supply (UPS) is used that is capable of maintaining power for sufficient time to complete a transaction in the event of a power failure, typically 15 minutes or a total of at least 5 minutes in one or several periods controlled manually during one hour after failure.

The volume displays up to a maximum of 9999.99 L in 0.01 L increments

The model TA 2331 operates using software version 2331.75.130.xxx (refer to the manufacturer's instructions on how to view the version number).

The delivery operation is authorised either automatically from a vehicle identification tag or manual entry from the keypad.

Each model TA 2331 provides control and monitoring for up to a maximum of eight (8) fuel dispensers.

The delivery operation is completed either when the nozzle is returned to its holster, activating a nozzle switch which in turn shuts off the relays which control the pumps/solenoid valves, or when a defined idle timeout period expires while no flow is detected.

1.3 Receipt/Journal Printer

A Hectronic model 2331.90082002 or equivalent (*) receipt printer is used. The system monitors the condition of the printer and if an error is detected, a visual warning is displayed on the operators' screen.

The control system is approved for use with a Liquip model ERP100/ERP200 pulse generator as described in the documentation of approval NMI S351, or any other compatible (#) NMI-approved measurement transducer.

- (*) 'Equivalent' is defined to mean other proprietary equipment of the same or better specifications requiring no changes to software for satisfactory operation of the system.
- (#) 'Compatible' is defined to mean that no additions/changes to hardware/software are required for satisfactory operation of the system.

1.4 Checking Facilities

- (i) An automatic segment test for the volume display is performed at the start of each delivery.
- (i) The controller monitors the presence and correct transmission of signal from the measurement transducer and to the volume display. In the event of detecting a fault the instrument stops the delivery and prevents further deliveries until the fault is corrected.
- (iii) In the event of a power failure, the indication is maintained by the uninterruptible power supply (UPS).

1.5 Verification Provision

Provision is made for the application of a verification mark.

1.6 Sealing Provision

A calibration switch secures parameters relating to measurement operation.

The calibration switch has provision for sealing by means of a metal cover which prevents switching and is sealed by destructible labels as shown in Figure 3.

1.7 Descriptive Markings and Notices

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

Manufacturer's name or mark	Hectronic
Model number	TA 2331
Serial number
Pattern approval mark	NMI No S565
Year of manufacture
Environmental class or Environment temperature range	class C or -25°C to 55°C

The minimum measured quantity is marked or displayed on the face of the indicator in the form 'Minimum Delivery 2 L'.

TEST PROCEDURE No S565

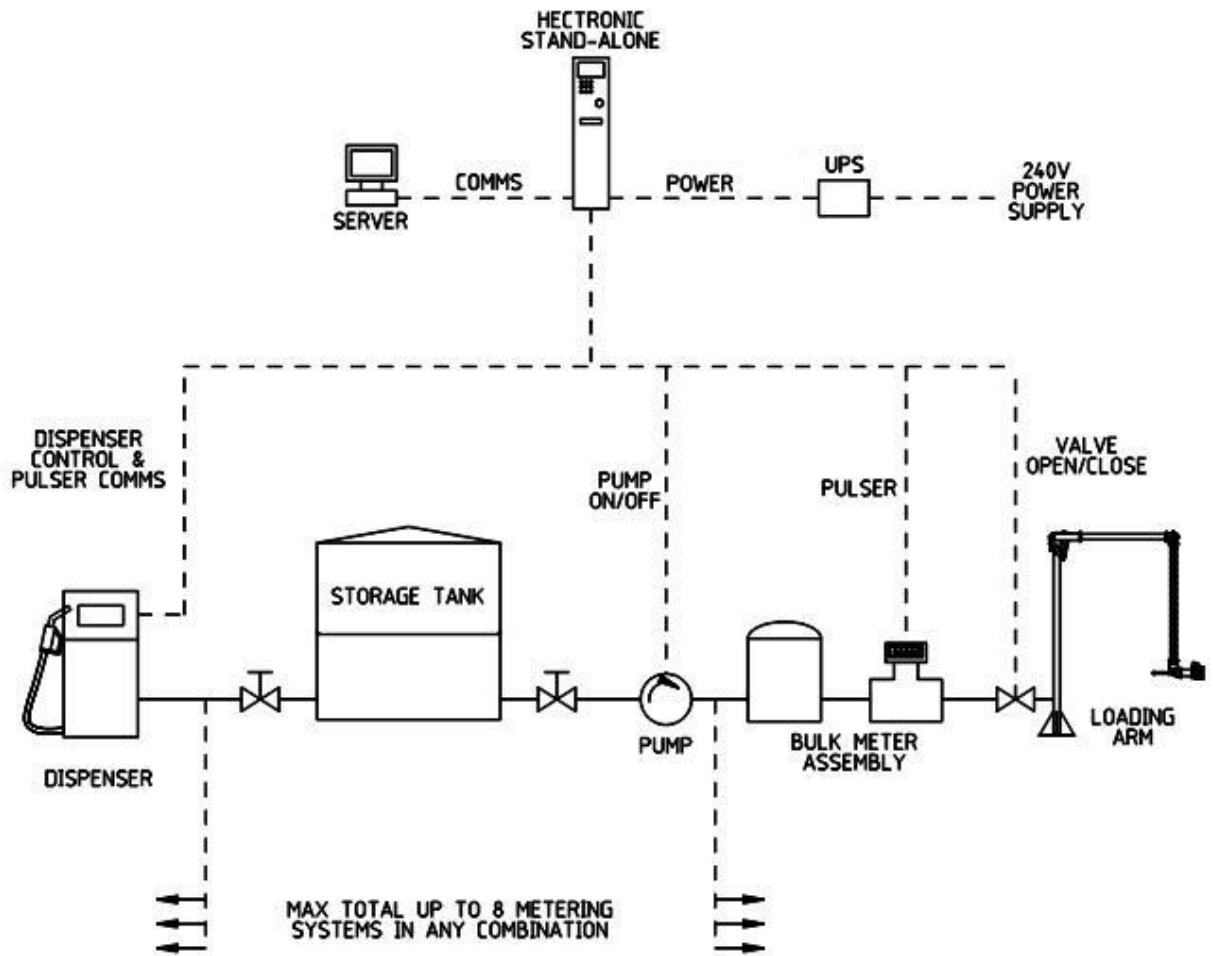
Instruments shall be tested in conjunction with any tests specified in the approval documentation for the instruments (fuel dispensers) to which the pattern is connected, as appropriate, and in accordance with any relevant tests specified in the National Instrument Test Procedures.

The instrument shall not be adjusted to anything other than as close as practical to zero error, even when these values are within the maximum permissible errors.

Maximum Permissible Errors

The maximum permissible errors applicable are those applicable to the fuel dispensers to which the instrument approved herein is fitted, as stated in the approval documentation for the fuel dispensers or in Schedule 1 of the *National Trade Measurement Regulations 2009*.

FIGURE S565 – 1



Hectronic Model TA 2331 Control System

FIGURE S565 – 2



Hectronic Model Stand-Alone Control/Display Unit

FIGURE S565 – 3



Typical Mechanical Sealing

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