



Australian Government

Department of Industry,
Science and Resources

**National
Measurement
Institute**

36 Bradfield Road, West Lindfield NSW 2070

**Supplementary Certificate of Approval
NMI S770**

VARIANT 2 and 3 VALID FOR VERIFICATION PURPOSES UNTIL 1 December 2023

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.

Beacon Business Systems Model Beacon POS Control System for Fuel Dispensers for Motor Vehicles

submitted by Beacon Business Systems Pty Ltd
2/55-59 Avenue Rd
Camberwell VIC 3124

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 *Measuring Systems for Liquids Other than Water*, dated June 2011.

The approval of variant 3 has been granted with reference to document NMI M 7, *Pattern Approval Specifications for Point of Sale Systems*, dated June 2012.

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 & Variant 1 provisionally approved – interim certificate issued	9/10/18
1	Pattern approved – Variant 1 removed – certificate issued	24/04/19

Document History (cont...)

Rev	Reason/Details	Date
2	Pattern amended (Compatible controller variations) – Variant 1 provisionally approved – certificate issued	24/06/20
3	Pattern Amended (subject to review change) - Variant 1 approved – certificate issued	14/12/20
4	Variants 2 & 3 provisionally approved – certificate issued	08/02/22
5	Variant 4 approved – certificate issued	23/08/22
6	Variants 2 & 3 amended (interim validity date) – Variant 5 approved – certificate issued	21/09/23

CONDITIONS OF APPROVAL

General

Instruments purporting to comply with this approval shall be marked with pattern approval number 'NMI S770' and only by persons authorised by the submittor.

Instruments purporting to comply with this approval and currently marked 'NMI PS770' may be re-marked 'NMI S770' but 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

Certain aspects of this instrument (in particular transaction record printing formats) are able to be configured by the user. Whilst NMI believes that acceptable formats can be achieved for typical basic sales modes, it is also possible for the instrument to be configured to produce unacceptable formats, and use of some formats may be inappropriate for different sales modes. It is the responsibility of the user to ensure that acceptable and appropriate formats are used in any particular situation.

Special Conditions of Approval: (Provisional Approval – Variant 2 and 3)

Provisional approval variant 2 and 3 are limited to ten (10) locations only, the locations of which may be obtained from the National Measurement Institute. The submitter shall advise the **National Measurement Institute – Pattern Approval Unit** in writing of the proposed location or serial number of each instrument prior to it being initially verified.

Instruments purporting to comply with variant 2 or 3 of this approval shall be marked with approval number 'NMI PS770' and only by persons authorised by the submitter. (Note: The 'P' in the approval number may be a temporary marking.)

The variation to the approval will remain provisional pending completion of satisfactory testing and evaluation. In the event of unsatisfactory performance the approval may be cancelled (or altered).

The submitter shall implement such modifications as required by NMI. In the event that such modifications (if any are required by NMI) are not made to the satisfaction of NMI, this approval may be withdrawn.

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 S770

1. Description of Pattern **provisionally approved 9/10/18** **approved 24/04/19**

A Beacon Business Systems model Beacon POS point of sale control system to provide an attended self-service facility for compatible (#) approved fuel dispensers for motor vehicles. The fuel dispensers are controlled by the Beacon POS point of sale system through the Wayne Fuelling Systems model Fusion 6000 controller as described in approval NMI S730.

1.1 Key Features

- The system is approved for environmental class A, a climate-controlled environment between 5°C and 30°C.
 - The system can provide a self-serve arrangement for compatible (#) approved fuel dispensers.
 - The system allows post-payment or pre-payment deliveries; in the latter case the fuel dispenser must incorporate a pre-set device.
 - The system allows up to two transactions per fuel dispenser, i.e. current sale on the fuel dispenser and a stored transaction.
 - The system may facilitate mixed-mode operation for unattended self-service mode. A control system that is approved for unattended self-service operation must be interfaced to the Beacon POS point of sale control system for operation in this mode.
 - Additional POS consoles may be interfaced for multi-attended self-serve operation.
 - The nominal supply voltage is 240 V AC.
- (#) 'Compatible' is defined to mean that no additions/changes to the hardware/software specified in this approval are required for satisfactory operation of the system.

1.2 System Description

The Beacon Business Systems model Beacon POS point of sale (POS) system (Figure 1) comprises:

(i) Point of Sale (POS) Console

The point of sale console comprises a Shuttle model DH170 or equivalent (*) PC-based device using a Microsoft Windows operating system running Beacon POS software and Beacon Global Fuel Interface (BGFI) software version 1.x.x.x. The BGFI software version number is displayed by selecting the Admin Menu button followed by the Help then About button.

An uninterruptible power supply (UPS) that supports USB/HID power device class standard is connected to the point of sale console.

- (*) 'Equivalent' is defined to mean other proprietary equipment of the same or better specifications requiring no changes to the software specified in this approval for satisfactory operation of the system.

(ii) Electronic Indications

An FEC Aerotouch model 17" LCD touch sensitive computer monitor or equivalent (*) is connected to the POS console to provide an indication for the operator (Figure 2).

A Philips V-Line 200V4 computer monitor or equivalent (*) is connected to the POS Console and provides an indication for the customer (Figure 3).

(iii) Printing Devices

A Citizen CTS-S310 receipt printer or equivalent (*) is connected to the POS console. A typical record is shown in Figure 4.

(iv) Flowmeter Controller

The Point of Sale console interfaces to the Wayne Fuelling Systems model Fusion 6000 controller or compatible controller variations, as described in approval NMI S730.

(v) Additional System Facilities

In addition, the model Beacon POS point of sale control system may include point of sale facilities including cash drawers, a magnetic card or barcode reader and EFT facility. The facilities shall not interact with the console in a way that would cause an incorrect indication of the measured volume or price.

(*) 'Equivalent' is defined to mean other proprietary equipment of the same or better specifications requiring no changes to the software specified in this approval for satisfactory operation of the system.

1.3 Checking Facilities

(i) Uninterruptible Power Supply (UPS)

The system monitors the condition of the UPS and if an error or power failure is detected a visual warning is displayed on the operator's screen. The ability to store a result in memory and authorise a second delivery will be prevented until the detected error condition is resolved.

(ii) Customer Display

If the connection to the customer display is interrupted or an error occurs with the customer display a message is displayed on the operators display and the ability to store a result in memory and authorise a second delivery will be prevented until the detected error condition is resolved.

1.4 Descriptive Markings

The POS controller is marked in a clear and permanent manner, in one location, with the following information:

Submittor's name or mark
Serial number or other unique identifier
Pattern approval number	NMI S770

1.5 Verification Provision

Provision is made for the application of a verification mark.

2. Description of Variant 1 **provisionally approved on 24/06/20**
approved on 14/12/20

With the Flowmeter Controller of the pattern described in **1.2 System Description** replaced by a DOMs Model PSS5000 controller or compatible controller variations, as described in approval NMI S748.

This variation includes all checking facilities as described in **1.3 Checking Facilities** of this Certificate.

Note: A PIPI display is not mandatory as described in certificate NMI S748 clause **1.3 Checking Facilities - (ii) Customer Display (PIPI)**.

3. Description of Variant 2 **provisionally approved on 08/02/22**

With the Beacon POS point of sale control system providing unattended self-service facility through an interface to the P97 MPAA Cloud Server and the P97 Mobile Application (Figure 5).

The P97 mobile application operates on a compatible internet connected device, e.g. a smartphone, and allows authorisation of fuel dispensers by registered customers with a P97 customer account.

The P97 mobile application identifies the customer site location using GPS coordinates to determine the availability of fuel dispensers for authorisation.

Customers select a product and a pre-set amount, where the available dispenser incorporates a pre-set device, the dispenser is authorised to dispense providing all applicable criteria is met. Upon the completion of the fuel delivery the value of the fuel delivered is then charged to the customers registered account.

The P97 application shall not interact with the console in a way that would cause an incorrect indication of the measured volume or price.

Note: No printed receipt is provided by the P97 mobile application. A receipt is available for printing via the customers registered email or upon request from the site management.

4. Description of Variant 3 **provisionally approved 08/02/22**

The pattern now to provide certain additional facilities for transactions when interfaced to compatible (#) NMI-approved measuring instruments granted with reference to document NMI M 7.

4.1 Key Features

- The system provides point of sale arrangements for a Mettler Toledo model VIVA self-indicating non-automatic weighing instrument (approval NMI 6/4C/239) or other compatible (#) NMI-approved measuring instruments.
- The system receives measurement data from the output interface of the approved measuring instrument and computes prices using a product look up (PLU) facility.
- The system computes total price for multiple items including non-measured items and is approved for use for transactions direct to the public.

- (#) 'Compatible' is defined to mean that no additions/changes to the hardware/software specified in this approval are required for satisfactory operation of the system.
- Manually entered measurement data shall be indicated as such on a printed transaction record.
- The POS controllers may be connected in a network to share common PLU data, for totalisation, and to accumulate and retrieve management information.

4.2 System Description

The Beacon Business Systems model Beacon point of sale (POS) system (Figure 6) comprises:

(i) POS Controller

The Beacon Business Systems model Beacon POS controller comprises a Shuttle model DH170 or equivalent (*) PC-based device that operates a Microsoft Windows-based operating system running Beacon POS software version 3.xx software. The software version number is displayed by selecting the Admin Menu button followed by the Help then About button.

(ii) Electronic Indications

Indications shall satisfy the requirements of document NMI M 7, *Pattern Approval Specifications for Point of Sale Systems*.

FEC Aerotouch model 17" LCD touch sensitive computer monitor or equivalent (*) is connected to the POS controller to provide an indication for the operator (Figure 2).

A Philips V-Line 200V4 computer monitor or equivalent (*) is connected to the POS controller and provides an indication for the customer (Figure 3)

Information additional to that required by document NMI M 7, including totalisation details and product images, may also be indicated.

(iii) Printing Devices

Transaction records shall satisfy the requirements of document NMI M 7, *Pattern Approval Specifications for Point of Sale Systems*.

A Citizen CTS-S310 printer or equivalent (*) is connected to the controller to provide transaction record printing facility. A typical record is shown in Figure 10.

- (*) 'Equivalent' is defined to mean other proprietary equipment of the same or better specifications requiring no changes to the software specified in this approval for satisfactory operation of the system.

5. Description of Variant 4

approved on 23/08/22

With the Flowmeter Controller of the pattern described in **1.2 System Description** replaced by a Wayne Fueling Systems Model Fusion V3 controller or compatible controller variations, as described in approval NMI S832.

6. Description of Variant 5

approved on 21/09/23

With the Flowmeter Controller of the pattern described in **1.2 System Description** replaced by an Invenco Model C1-100 controller or compatible controller variations, as described in approval NMI S821.

TEST PROCEDURE No S770

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

Points 2-6 are required at commissioning, thereafter they may be conducted at the discretion of the inspecting officer.

1. Check the Beacon POS software version number.
2. Check that the unit price change for the grade of fuel is implemented to the allocated fuel dispensers when they are available for authorisation.
3. Check that the system identifies, displays and prints the correct data for the corresponding number allocated to the fuel dispenser.
4. Authorise a delivery and check that the delivery details on the fuel dispenser agree with the receipt obtained.
5. Check that when the customer display is disconnected from the Point of Sale console, a warning message is displayed on the operators' screen. Ensure that the ability to authorise a stored delivery is not possible while the customers' display is disconnected.
6. A pre-paid delivery is only possible for fuel dispensers with pre-set facility. For a pre-paid delivery check that the amount displayed on the fuel dispenser equals the pre-paid amount.

For variant 3 (weighing POS systems)

The POS system shall be tested in addition to any tests specified in the approval documentation for the measuring instrument/s to which the POS system is connected, as appropriate

The POS system shall be tested in the normal operational mode of the instrument and device, not in 'training mode' or any other management mode.

Maximum Permissible Error

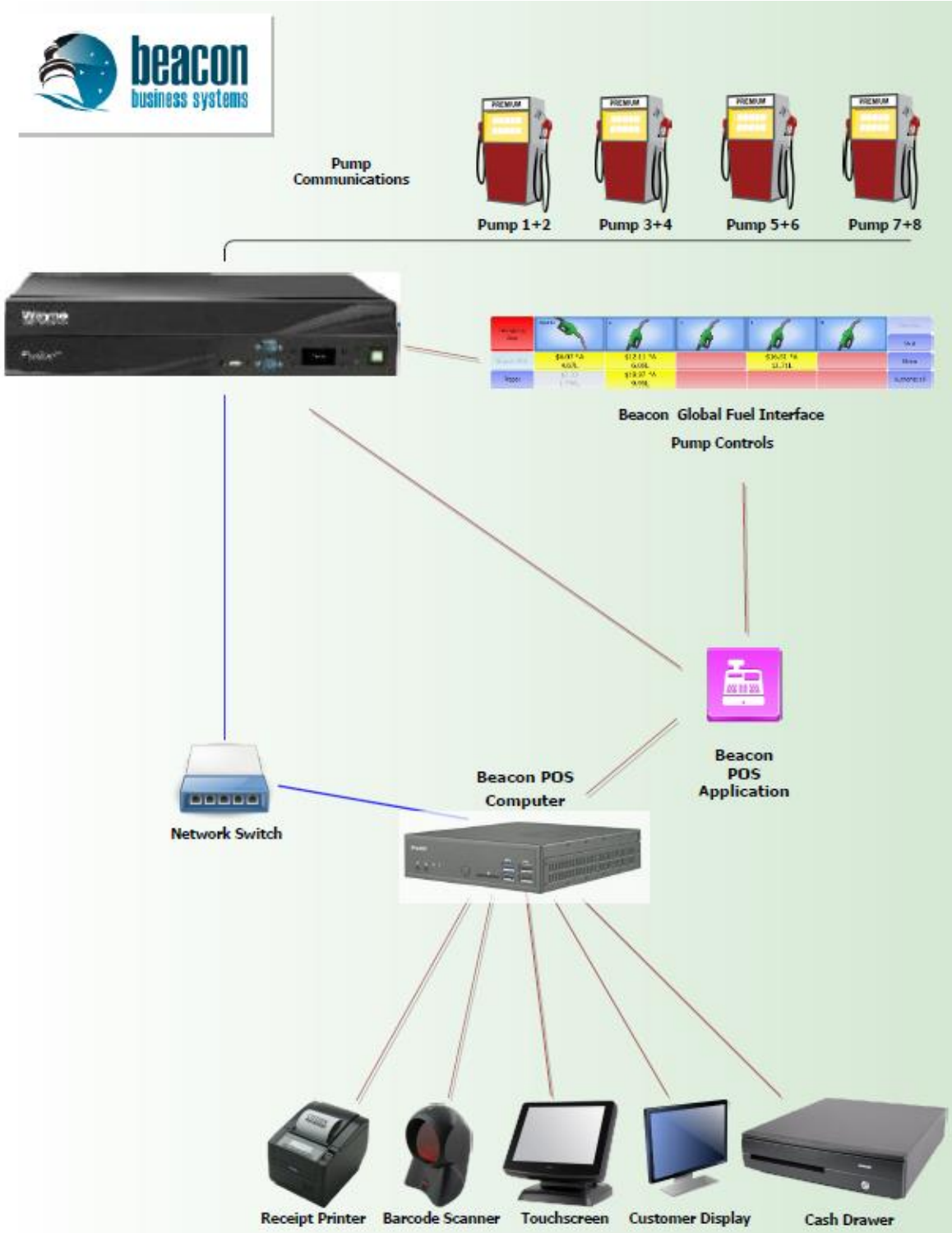
The maximum permissible error for price computation is ± 0.5 cent.

TESTS

1. Check the software version number/s.
2. Check that the POS system faithfully reproduces the measurement data in the same units and scale interval as the connected approved measuring instrument, e.g. test by using a PLU without a stored tare.
3. Check that the system performs correct price computation, and computes and indicates a correct unrounded subtotal. For cash payment methods, check that any rounding calculation is correct.

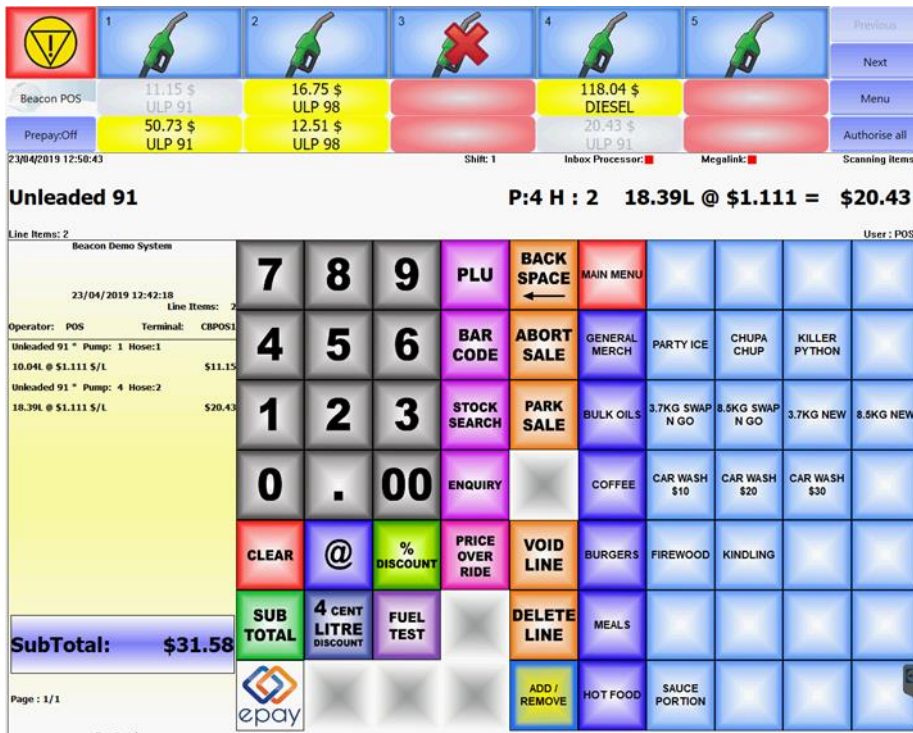
4. Manually enter some pre-determined measurement data and ensure that the printed transaction record clearly indicates the transaction as such.
5. For network systems check to ensure that the measurement data printed on the transaction record is correctly reproduced.
6. Ensure that electronic indications and printed information are in accordance with document NMI M 7.

FIGURE S770 – 1



Point of Sale (POS) System

FIGURE S770 – 2



Typical operators display

FIGURE S770 – 3



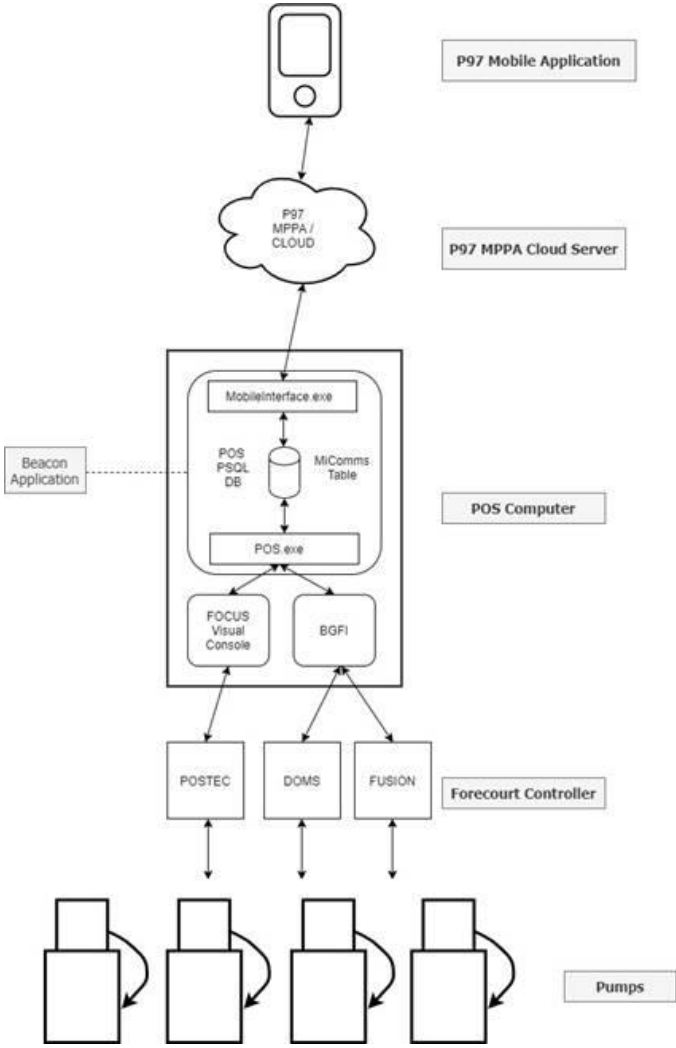
Typical customers display

FIGURE S770 – 4



A Typical Receipt

FIGURE S770 – 5



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