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National
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Guidance document - Pattern approval of point of sales systems

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About this guide

Point of sale (POS) systems used in connection with a measuring instrument to buy or sell goods or services (referred to as in use for trade) must be pattern approved by the National Measurement Institute (NMI) and verified by a servicing licensee. This guide helps suppliers and verifiers understand the pattern approval and verification process for these systems. It includes information about historical systems and requirements.

See our website for an overview of [point of sale systems and requirements](#).

Background

In 1983, the National Standards Commission (now the NMI) introduced a general supplementary certificate of approval (S1/0) for auxiliary indicating devices. S1/0 specified requirements for auxiliary printing and indicating devices that connected to a measuring instrument in use for trade. These devices duplicated the measurement data displayed by the measuring instrument and were used to calculate price. They included ticket and label printers, point of sale (POS) systems, secondary indicators and summing indicators. In 1992, an update to this certificate of approval was re-issued as S1/0/A.

When these certificates were released, POS systems were primarily a single simple cash register, connected to a weighing instrument, which performed basic price computation functions. During the 1990's POS systems evolved to include additional functionality, including management and stock control functions, and became software-based systems consisting of a processor, visual display unit (VDU) and printer.

In 2011, following a review of S1/0/A and a period of consultation, the National Measurement Institute (NMI) introduced a new scheme for the pattern approval of point of sale systems.

On 1 August 2012, S1/0/A was replaced by *General Supplementary Certificate of Approval No S1/0B*, for the approval of simple printers and indicators, and document *NMI M 7 - Pattern Approval Specifications for Point of Sale Systems*, for the approval of POS systems.

Simple printers and indicators (including summing indicators) are required to be compliant with S1/0B, but are not required to be pattern approved by NMI. They may be self-assessed by the manufacturer/supplier for compliance with S1/0B, and checked for correct function when they are connected to a verified measuring instrument.

Since 1 August 2012, newly installed or modified POS systems are required to be compliant with NMI M 7 and pattern approved. Following successful evaluation, a supplementary certificate of approval and unique approval number (in the form 'NMI S***') will be issued by NMI for the POS system.

Definition

A POS system is defined as a component of a measuring instrument that is:

- approved for use for trade
- used for creating labels, receipts or documents
- able to convert the result of a measurement made by the measuring instrument
- **not** able to control the measuring instrument or affect its metrological performance.

'Convert the result of the measurement' means that it performs some calculation on the measurement such as price computation or subtraction of stored tare etc.

POS systems are required to be verified prior to being used for trade. Further information on this can be found on our [Servicing licensee pages](#).

Frequently asked questions

1. What is a simple printer or indicator?

A simple printer or indicator is a simple electronic device that indicates or prints, and is interfaced to a measuring instrument approved for use in trade, to duplicate (but not calculate) price, unit price and/or measurement data.

2. What do I need to do if I have a simple printer or indicator?

Simple printers and indicators need to meet the requirements in the *General Certificate of Approval S1/0B*. Devices purporting to comply with this approval shall be marked in a clear and permanent manner, in one easily accessible location on the main body of the device, with:

- the manufacturer's or importer's name or mark (*)
- a serial number or other unique identifier
- the NMI approval number NMI S1/0B.

The instrument does not need to be submitted to NMI for pattern approval.

3. What is (and is not) a POS system?

A POS system is a component of a measuring instrument approved for use for trade, which typically creates labels, or transaction records. It is capable of converting the result of a measurement on the measuring instrument but not capable of controlling it, or affecting its metrological operation.

These are systems that connect to approved measuring instruments and do more than just replicate the measurement data. They may perform functions such as price computation based on measurement data, or subtraction of a tare value. Such systems typically consist of a controller, display and associated control software. They are external to the measuring instrument but are connected to it digitally.

Auxiliary devices or systems that have the following functions are not POS systems and should be submitted to NMI for pattern approval against the relevant requirements document (e.g. NMI R 76, NMI R 117, etc.). This includes devices that can do any of the following:

- Control a function of the measuring instrument/s.
- Modify the indication of the measured quantity on the measuring instrument primary indicator.
- Store calibration or other measurement related data for use by the measuring instrument.
- Control self-service arrangements for fuel dispensers.

4. What do I need to do if I have a POS system?

POS systems need to meet the requirements of NMI M 7 and be assessed by NMI for compliance against these requirements where, on satisfactory evaluation, a supplementary certificate of approval will be issued.

Read more about the [pattern approval process](#).

Once a certificate of approval has been issued, the POS system must be verified before being used for trade. Further information can be found in the table of POS verification requirements in Appendix 1

5. What about instruments that are currently installed?

Any system that is compliant with S1/0/A, and was installed prior to 1 August 2012, may continue to be used for trade for as long as the system remains unchanged.

If changes are made to the system, it must be assessed against the relevant pattern approval document, i.e. NMI M 7.

NMI M 7 approval is required if there are:

- changes to the method of price computation or manipulation of the measurement data
- changes to the software controlling the ticket or label formatting
- other software changes that relate to the measurement operation
- hardware changes such as replacement of processor, display, printer etc., unless the replacement is the same or equivalent type.

Changes to pricing data, product look-up tables (PLU tables) or similar do not require NMI M 7 approval, provided none of the changes described above are required.

6. Does every POS system need to be assessed by NMI?

No - the certificate of approval will be for a family of POS systems. A family of devices will cover a single model or series of models, or single software version or series of software versions, provided they are not substantially different in their operation.

7. Can I change the hardware in my POS system?

The hardware can be changed within the scope of the certificate of approval. For example, the replacement of a printer with an equivalent printer would be allowed, but addition of a printer to a system that was not approved with one, would not be.

Where equivalent components are permitted in the certificate of approval, the changed components must ensure the system maintains compliance with the requirements of NMI M 7. For example, if the model of customer display is changed to a version that is smaller in size, the new model must still comply with character height requirements, and not cut off or truncate any of the required information.

8. Can I change the software in my POS system without requiring re-approval?

NMI M 7 allows the POS software to be split into 'legally relevant' and 'not legally relevant'. If the software has been split in this way, the changes to the 'not legally-relevant' portion are allowed as described in the certificate of approval. For example, drivers would not be documented in the certificate of approval and could therefore be changed.

9. Can a POS system replace the primary indicator on the connected instrument?

No, the POS system is an addition to a measuring instrument. Any changes to the measuring instrument would require an amendment to the certificate of approval for that instrument. The measuring instrument's primary indicator should still be accessible for verification purposes.

10. I am a software developer: Can I get approval for just POS software?

No. A POS system consists of both hardware and software, which have to be assessed together to determine compliance with NMI M 7. Submitters of POS systems must ensure hardware components and software configurations are correct before authorising the marking of the certificate of approval number on a POS system to be verified for trade use.

11. How long will the assessment of a POS system take?

Time scales depend on the workload of the Pattern Approval Laboratory and the complexity of the system, but typically allow 8-12 weeks. The Pattern Approval Unit can provide more accurate time scales at the time of application.

12. How much will it cost?

Costs depend on the complexity of the system, but estimated costs for a typical POS system can be found on the [Pattern approval page](#).

13. Are the NMI M 7 requirements only applicable to retail weighing POS systems?



No - these requirements are applicable to all systems that meet the definition of POS, including those connected to weighbridges.

QUESTIONS

Any questions or comments can be sent to:

- Email: patternapproval@measurement.gov.au
- Or call: 1300 686 664

Appendix 1 - POS verification requirements: before and after 1 August 2012.

	POS systems installed before 1 August 2012	POS systems installed after 1 August 2012	Simple printers and indicator installed before 1 Aug 2012	Simple printers and indicators installed after 1 August 2012	Measuring instrument attached to a POS system
Certificate of Approval	General Supplementary Certificate S1/0/A	POS system's supplementary certificate of approval (SXXX)	General Supplementary Certificate S1/0/A	General Supplementary Certificate S1/0/B	Instrument's certificate of approval (e.g. NMI 6/4C/XXX)
Compliance marking requirement – data plate	<p>Manufacturer's mark or name Serial number NMI Approval number S1/0/A</p> <p>Attached to the controller of each POS system by anyone authorised by the submitter or by the verifier of the measuring instrument to which the POS is attached.</p>	<p>Submitters name or mark Serial number NMI Approval number SXXX</p> <p>Location of the data plate will be detailed in the certificate of approval but will normally be on the POS controller. The data plate can be attached by anyone authorised by the submitter.</p>	<p>Manufacturer's mark or name Serial number NMI Approval number S1/0/A</p> <p>Attached to each device in a visible location by anyone authorised by the submitter.</p>	<p>Manufacturer's mark or name Serial number NMI Approval number S1/0B</p> <p>Attached to each device in a visible location by anyone authorised by the submitter. Devices which form part of a POS system do not need to be labelled with S1/0B.</p>	<p>Manufacturer's mark, or name written in full Indication of accuracy class Pattern approval number for the instrument Maximum capacity Minimum capacity Verification scale interval e = Maximum subtractive tare T = - Serial number of the instrument</p> <p>Location of the data plate will be detailed in the certificate of approval and can be attached by anyone authorised by the submitter.</p>
Licence class required for verification.	Servicing licence with the subclass of the measuring instrument to which the POS is attached (i.e. 6.1, 6.2, 6.3, 6.4, 5.1, 10.1 etc).	These POS systems should be verified under a servicing licence with subclass 18.2.	Servicing licence with the subclass of the measuring instrument to which the printer or indicator is attached (i.e. 6.1, 6.2, 6.3, 6.4, 5.1, 10.1 etc).	Servicing licence with the subclass of the measuring instrument to which the printer or indicator is attached (i.e. 6.1, 6.2, 6.3, 6.4, 5.1, 10.1 etc).	Measuring instruments are to be verified under a servicing licence with the relevant subclass (e.g. 6.1, 6.2, 6.3, 6.4, 5.1 or 10.1).
Verification test procedures	As described in the National Instrument test Procedures (NITP) for the measuring instrument to which the POS is connected.	As described in the certificate of approval for the POS system.	As described in the NITP for the measuring instrument to which the printer or indicator is connected.	As described in the NITP for the measuring instrument to which the printer or indicator is connected.	NITP relevant to the measuring instrument
Verification marking requirements	None on the POS. A single verification mark is applied to the weighing instrument when it is verified.	 <p>The label bearing a verifier's mark should be applied to the POS controller in a position that is easily found by a trade measurement inspector.</p>	None on the printer or indicator. A single verification mark is applied to the weighing instrument when it is verified.	None on the printer or indicator. A single verification mark is applied to the weighing instrument when it is verified.	 <p>The label bearing a verifier's mark should be applied to the measuring instrument in a position that is easily found by a trade measurement inspector.</p>
Sealing requirements	None required.	Described in certificate of approval - generally none required.	None required.	None required.	Described in certificate of approval.