



S231
18/12/87

NATIONAL STANDARDS COMMISSION

NATIONAL MEASUREMENT (PATTERNS OF INSTRUMENTS) REGULATIONS

REGULATION 9

SUPPLEMENTARY CERTIFICATE OF APPROVAL No S231

This is to certify that an approval for use for trade has been granted in respect of the pattern of the

Production Engineering Model Micro-M Driveway Flowmeter Control System

submitted by Production Engineering Co Ltd
 Station Road
 Marton New Zealand.

CONDITIONS OF APPROVAL

General:

This approval is subject to review on or after 1/12/92.

This approval expires in respect of new instruments on 1/12/93.

Instruments purporting to comply with this approval shall be marked NSC No S231.

This approval may be withdrawn if instruments are constructed other than as described in the drawings and specifications lodged with the Commission.

Auxiliary devices used with this instrument shall comply with the requirements of General Supplementary Certificates Nos S1/0 and/or S2/0, as appropriate.

Special:

This instrument may only be used for central unit price setting of driveway flowmeters which have been Commission-approved with that facility.

Signed

Executive Director

Descriptive Advice

Pattern: approved 5/11/87

- Production Engineering model Micro-M driveway flowmeter control system.

Technical Schedule No S231 describes the pattern.

Filing Advice

The documentation for this approval comprises:

Supplementary Certificate of Approval No S231 dated 18/12/87
Technical Schedule No S231 dated 18/12/87
Test Procedure No S231 dated 18/12/87
Figure 1 dated 18/12/87



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TECHNICAL SCHEDULE No S231

Pattern: Production Engineering Model Micro-M Driveway Flowmeter
Control System

Submitter: Production Engineering Co Ltd
Station Road
Marton New Zealand

1. Description of Pattern

The pattern is for use in Commission-approved driveway flowmeter systems, with up to 10 driveway flowmeters, either as approved in NSC approval No 5/6A/68A, or when fitted with Commission-approved Production Engineering Retron 80 indicators (as approved in NSC approval No S101) and has other facilities including:

- a vendor's console and indicator (Figure 1);
- a remote purchaser's indicator;
- a service module;
- central unit price setting (refer to the Conditions of Approval);
- self-evident error detection;
- preset facility which may be used for prepay, postpay or monitor (attendant-operated) transactions,
- optional switching unit, to allow the operator to electrically disconnect any flowmeter from the console.

1.1 Remote Purchaser's Indicator

This is located near the control console and repeats the control console indications.

1.2 Service Module

This contains the computer program elements, interlocks, power supplies and communication lines to the driveway flowmeters.

A switch on the module may be used to shut down the entire system. This switch (which is the requirement of other authorities) may, when operated, cause some loss of data, necessitating the operator retrieving such data from the flowmeters. This switch may be located separately from the service module; it should not be located near the control console.

1.3 Marking

The console is marked with the following data, together in one location:

Manufacturer's name or mark	
Serial number	
Model number	
NSC approval number	S231

1.4 Verification Provision

Provision is made for a verification mark to be applied.



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TEST PROCEDURE No S231

The following tests should be conducted in conjunction with any tests specified in the approval documents for the driveway flowmeters to which this instrument is connected.

1. Postpay Mode

At the console, authorise one or more driveway flowmeters.

- (i) Deliver sufficient liquid to cause the price and volume indicators to move significantly off zero.
- (ii) Stop the pump motor by returning the nozzle to its hang-up position.
- (iii) Remove the nozzle from its hang-up position and check that the computer does not reset to zero and that the pump motor does not start.
- (iv) At the console, check that the price and volume displayed are the same as the price and volume recorded from the driveway flowmeter.
- (v) Repeat steps (i) to (iv) for a number of driveway flowmeters.

2. Prepay Mode

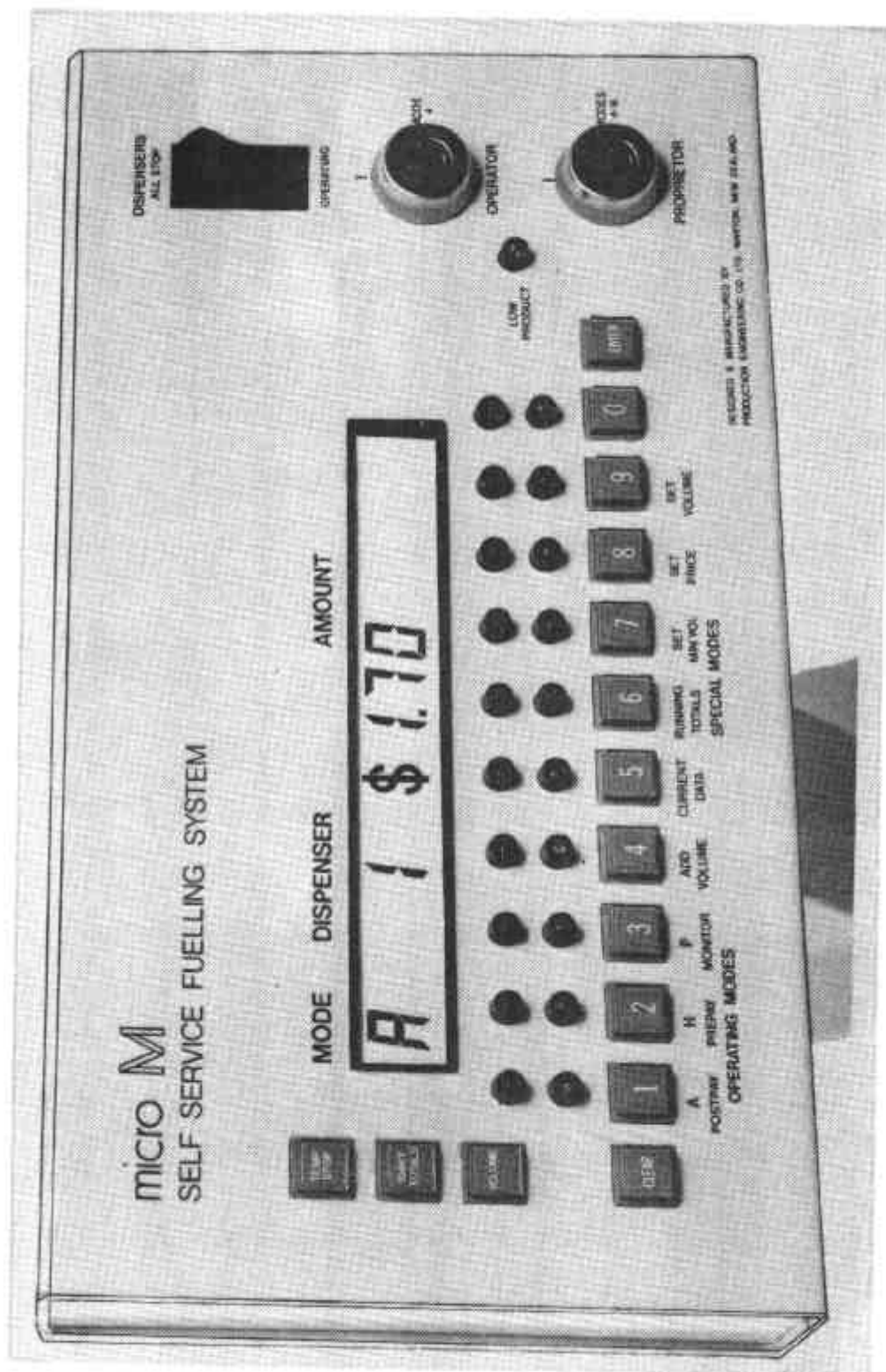
- (i) Conduct a suitable prepay test on one or more driveway flowmeters. Observe that the flowmeter stops at the preset value, and that when the nozzle is hung-up, the corresponding red status LED is not illuminated.
- (ii) For a partially completed delivery, observe that when the nozzle is hung-up, the corresponding red status LED flashes slowly, and the driveway flowmeter cannot be authorised for at least three minutes after the nozzle has been hung-up.
- (iii) If there is a driveway flowmeter on site to which a preset panel and indicator are not fitted and/or there is no remote purchaser's indicator connected, attempt to authorise a prepay delivery at the console. This should not be possible.

3. Central Unit Price Setting (where applicable)

- (i) Conduct a price change for one or more grades of fuel. Observe that the displays on the corresponding driveway flowmeter blank for one minute after the price change, and that the driveway flowmeter cannot be authorised during this period.
- (ii) Attempt to change the price of a grade of fuel whilst a delivery is in progress. This should not be possible.

FIGURE S231 - 1

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Micro-M Control Console