

## National Standards Commission



### Supplementary Certificate of Approval

**No S145A**

Issued under Regulation 9  
of the  
National Measurement (Patterns of Measuring Instruments) Regulations

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

Keytronic Model 700E Flowmeter Control System

submitted by Fuel Management Systems Pty Ltd  
4 Stoney Rise Road  
Devonport TAS 7310.

**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.

#### CONDITIONS OF APPROVAL

This approval is subject to review on or after 1 June 1995.  
This approval expires in respect of new instruments on 1 June 1996.

Instruments purporting to comply with this approval shall be marked NSC No S145A and only by persons authorised by the submittor.

Instruments incorporating a component purporting to comply with this approval shall be marked NSC No S145A in addition to the approval number of the instrument.

It is the submitter's responsibility to ensure that all instruments marked with this approval number are constructed as described in the drawings and specifications lodged with the Commission 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 the Commission's Document 106.

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

The Commission reserves the right to examine any instrument or component of an instrument purporting to comply with this approval.

#### DESCRIPTIVE ADVICE

**Pattern:** approved 21 May 1990

- . A Keytronic model 700E flowmeter control system for use with Commission-approved driveway flowmeters fitted with Eclipse model MVR 79 flowmeter indicators.

**Variant:** approved 21 May 1990

1. A model 700M control console for use with flowmeters which are Commission-approved for use with Veeder-Root 767191 series pulse generators.

Technical Schedule No S145A describes the pattern and variant 1.

**Variants:** approved 8 August 1991

2. With a model K700 management console. (Also known as an Email model Keytech 50 console.)
3. With an ISO card-reader.

Technical Schedule No S145A Variation No 1 describes variants 2 and 3.

**Variant:** approved 16 June 1993

4. For use with a Commission-approved Email model Task driveway flowmeter control system.

**Variants:** approved 16 June 1993

5. For use with Commission-approved driveway flowmeters fitted with Production Engineering model Retron 80 flowmeter indicators.

Technical Schedule No S145A Variation No 2 describes variants 4 and 5.

**Variants:** approved 10 August 1994

6. For use with any Commission-approved driveway flowmeter fitted with an Email MPP driveway flowmeter indicator.

**Variants:** approved 17 October 1994

7. For use with certain Commission-approved driveway flowmeters.
8. For use with a Commission-approved Email model Mk III control console and with certain Commission-approved driveway flowmeters.
9. For use with a Commission-approved Email model Touch Vision control system and with Gilbarco multi-product driveway flowmeters.
10. For use with a touch-button reader.

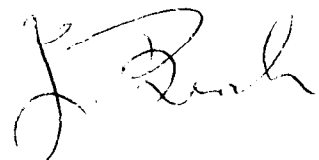
Technical Schedule No S145A Variation No 3 describes variants 6 to 10.

#### FILING ADVICE

Supplementary Certificate of Approval No S145A dated 31 August 1993 is superseded by this Certificate and may be destroyed. The documentation for this approval now comprises:

Supplementary Certificate of Approval No S145A dated 30 November 1994  
Technical Schedule No S145A dated 4 July 1990 (incl. Test Procedure)  
Technical Schedule No S145A Variation No 1 dated 23 September 1991  
Technical Schedule No S145A Variation No 2 dated 31 August 1993  
Technical Schedule No S145A Variation No 3 dated 30 November 1994  
Figure 1 dated 4 July 1990  
Figures 2 and 3 dated 23 September 1991

Signed and sealed by a person authorised under Regulation 9 of the National Measurement (Patterns of Measuring Instruments) Regulations to exercise the powers and functions of the Commission under this Regulation.





# National Standards Commission

## TECHNICAL SCHEDULE No S145A

**Pattern:** Keytronic Model 700E Flowmeter Control System.

**Submittor:** Fuel Management Systems Pty Ltd  
4 Stoney Rise Road  
Devonport Tasmania 7310

### 1. Description of Pattern

The pattern is a Keytronic model 700E flowmeter control system, for use with Commission-approved driveway flowmeters fitted with Eclipse model MVR 79 indicators (refer NSC approval No S110), and used in attendant-operated or purchaser key-authorized unattended modes. Instruments may also be known as model KEYTECH AUTOFUEL 700.

Only those driveway flowmeters approved for use with the Eclipse model MVR 79 Indicator, as detailed in their relevant approval documents, shall be used with this system.

Purchaser access in key-authorized mode is by a magnetically-encoded (MIL) key in conjunction with a personal identification number (PIN).

#### 1.1 The System

The system consists of:

- (a) A model 700E control console (Figure 1) including ticket printer for volume, unit price and price.
- (b) Up to 16 driveway flowmeters fitted with Eclipse MVR 79 indicators; in key-authorized mode, up to four of these flowmeters may be used.

#### 1.2 Purchaser Access Console

##### 1.2.1 Display

This displays a number of operating prompts.

##### 1.2.2 Keyboard

The keyboard is used to enter the 4 or 5-digit PIN (which corresponds to a particular MIL key), management functions or driver/vehicle details.

##### 1.2.3 MIL Key-reader

The magnetically-encoded MIL key used shall correspond to the previously entered personal identification number. Flowmeters cannot be authorised until the key has been removed from the key-reader slot.

### 1.2.4 Purchaser Ticket (Key-authorized Mode)

To acquire a ticket, the MIL key must be re-inserted and removed on completion of a delivery.

### 1.2.5 Transaction Printer

Details of each transaction on each flowmeter, regardless of operating mode, are recorded on a tape within the console.

### 1.2.6 Termination of Dispensing

Dispensing will be terminated by the system if:

- (a) The maximum volume allocation per transaction (as preset by the vendor) is reached;
- (b) A purchaser's allocated fuel limit is reached (this is an optional feature and may not be present in all systems);
- (c) Dispensing is interrupted for more than the period preset by the vendor;
- (d) A mains power failure occurs; or
- (e) The nozzle switch (or ON/OFF switch) is returned to the 'hung-up' (or OFF) position.

In all the above situations, tickets are available on all key-authorized operations.

## 1.3 Markings

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

Manufacturer's name or mark	
Serial number	
Model number	
NSC approval number	NSC No S145A
Operating (air) temperature range	- 10°C to +45°C

## 1.4 Verification Provision

Provision is made for a verification mark to be applied.

## 2. Description of Variant 1

A Keytronic model 700M control console with up to 16 model E41A pump controllers and connected to up to 16 Commission-approved flowmeters which are Commission-approved for use with Veeder-Root 767191 series pulse generators (as described in the documentation of NSC approval No S216). The flowmeters are fitted with either the indicator described in their Commission approval documents or with another Commission-approved flowmeter indicator.

The ticket produced shows volume only.

### TEST PROCEDURE

Instruments shall be tested in conjunction with any tests specified in the approval documentation for the system to which the instrument approved herein is connected, as appropriate, and in accordance with any relevant tests specified in the Inspector's Handbook.

#### Maximum Permissible errors at Verification/Certification

The maximum permissible errors applicable are those applicable to the system to which the instrument approved herein is fitted, as stated in the approval documentation for the system.



# National Standards Commission

TECHNICAL SCHEDULE No S145A

VARIATION No 1

**Pattern:** Keytronic Model 700E Flowmeter Control System.

**Submittor:** Fuel Management Systems Pty Ltd  
4 Stoney Rise Road  
Devonport Tasmania 7310

## 1. Description of Variants

### 1.1 Variant 2

A Keytronic 700 series (model 700E or 700M) control system with a model K700 (part number 2940-05) management console.

All communication is via the Keytronic 700 series console (the pattern or variant 1) and all functions performed at the management console are recorded by the printer located inside the Keytronic 700 series console (or by an optional remote printer).

The model K700 console (Figure 2) may also be known as an Email model Keytech 50 console.

#### 1.1.1 The System

The system (Figure 3) is as described in Technical Schedule No S145A dated 4/7/90, and in addition includes:

- a model K700 management console (Figure 2); and
- a purchaser's indicator (Figure 2).

The system may also include various printers for management purposes.

#### (a) Console

The model K700 management console has various facilities including:

- a function for centrally setting the unit price of up to 9 grades of fuel;
- a postpay facility;
- an all pumps emergency stop function;
- a mode selection facility; and
- a "Central Management Control" facility.

**(b) Mode Selection**

Any of 3 operating modes may be selected using the K700 keyboard.

- . S/SERVE/KEY mode - in which the system is operated from the K700 management console or by use of magnetically-encoded (MIL) keys and the 700 series console.
- . ATTEND/KEY mode - in which the K700 management console is operated in "Attended Sales" mode (recording all types of transactions) or by use of MIL keys and the 700 series console.
- . KEY ONLY mode - in which the system shall only be operated by use of MIL keys and the 700 series console.

**(c) Central Management Control Facility**

This facility places the menu for enabling/disabling MIL keys onto the K700 management console instead of on the 700 series console.

**1.2 Variant 3**

With an ISO card-reader instead of the magnetically-encoded (MIL) key facility described for the pattern and variant 2, to allow purchaser access.





## National Standards Commission

TECHNICAL SCHEDULE No S145A

VARIATION No 2

**Pattern:** Keytronic Model 700E Flowmeter Control System.

**Submitter:** Fuel Management Systems Pty Ltd  
4 Stoney Rise Road  
Devonport Tasmania 7310

### -- 1. Description of Variants

#### 1.1 Variant 4

For use with an Email model Task driveway flowmeter control system as described in the documentation of NSC approval No S276. This variant may be used with any combination of Commission-approved driveway flowmeters or indicators for which the Task system is approved, or which is listed below:

- Email Eclipse MVR 79 series indicators.
- Email multi-product driveway flowmeters.
- Gilbarco Highline - T080 series indicators.
- Gilbarco Electroline-type indicators.
- Gilbarco Calcopac series indicators (in which case central unit price setting shall not be used).

#### 1.2 Variant 5

- For use with any Commission-approved driveway flowmeter fitted with a Production Engineering model Retron 80 indicator as described in the documentation of NSC approval No S101A.



## National Standards Commission

TECHNICAL SCHEDULE No S145A

VARIATION No 3

**Pattern:** Keytronic Model 700E Flowmeter Control System.

**Submittor:** Fuel Management Systems Pty Ltd  
4 Stoney Rise Road  
Devonport Tasmania 7310.

### 1. Description of Variants

#### 1.1 Variant 6

For use with any Commission-approved driveway flowmeter fitted with an Email MPP indicator as described in the documentation of NSC approval No 5/6A/85A.

#### 1.2 Variant 7

For use with any combination of the following Commission-approved driveway flowmeters or driveway flowmeters fitted with any of the indicators listed below:

<b>Email</b>	Epitronic driveway flowmeters	NSC No 5/6A/70A
	Vision driveway flowmeters (#)	NSC No 5/6A/97
	Eclipse MVR 79 series indicators	NSC No S110A
	IDIS indicators	NSC No S305
<b>Gilbarco</b>	Electroline driveway flowmeters (#)	NSC No 5/6A/78A
	Calcopac indicators (#)	NSC No S100A

#### 1.3 Variant 8

For use with a Commission-approved Email model Mk III control console (as described in the documentation of NSC approval No S227) and with any combination of Commission-approved driveway flowmeters or driveway flowmeters fitted with any of the indicators listed below:

<b>Email</b>	Epitronic driveway flowmeters	NSC No 5/6A/70A
	Multi-product driveway flowmeters	NSC No 5/6A/85A
	Vision driveway flowmeters (#)	NSC No 5/6A/97
	Eclipse MVR 79 series indicators	NSC No S110A
	IDIS indicators	NSC No S305

**NOTE: (#)** Unit prices on these instruments cannot be changed by the Keytronic system.

#### **1.4 Variant 9**

For use with a Commission-approved Email model Touch Vision control system (as described in the documentation of NSC approval No S312) and with Gilbarco multi-product driveway flowmeters (as described in the documentation of NSC approval NSC No 5/6A/84A).

#### **1.5 Variant 10**

For use with a touch button reader either instead of or in conjunction with the MIL key facility (as described for the pattern) and/or the ISO card-reader (as described for variant 3).

# National Standards Commission



## NOTIFICATION OF CHANGE

### SUPPLEMENTARY CERTIFICATE OF APPROVAL No S145A

#### CHANGE No 1

The following change is made to the approval documentation for the

Keytronic Model 700E Flowmeter Control System

submitted by Fuel Management Systems Pty Ltd  
4 Stoney Rise Road  
Devonport TAS 7310.

In Technical Schedule No S145A dated 4 July 1990, the last sentence of the first paragraph should be amended to include another alternative name for the pattern, so that it should now read:

"Instruments may also be known as model KEYTECH AUTOFUEL 700 or model DATACAL 700."

Signed and sealed by a person authorised under Regulation 9 of the National Measurement (Patterns of Measuring Instruments) Regulations to exercise the powers and functions of the Commission under this Regulation.

A handwritten signature in black ink, appearing to read 'J. Birch'. The signature is written in a cursive style with a large initial 'J'.

# National Standards Commission



## NOTIFICATION OF CHANGE

### SUPPLEMENTARY CERTIFICATE OF APPROVAL No S145

#### CHANGE No 2

The following change is made to the approval documentation for the

Keytronic Model 700/500 Fuel Management System

submitted by Fuel Management Systems Pty Ltd  
4 Stoney Rise Road  
Devonport TAS 7310.

Signed and sealed by a person authorised under Regulation 9 of the National Measurement (Patterns of Measuring Instruments) Regulations to exercise the powers and functions of the Commission under this Regulation.

A handwritten signature in black ink, appearing to read 'J. Birch'. The signature is written in a cursive style with a large initial 'J'.

In Technical Schedule No S145 dated 28/3/83, all references to 'MIL key' are amended by adding '(or ISO card)'.

## National Standards Commission



### Notification of Change Supplementary Certificate of Approval No S145A Change No 3

The following change is made to the approval documentation for the

Keytronic Model 700E Flowmeter Control System

submitted by R W Burns Engineering Pty Ltd  
(formerly submitted by Fuel Management Systems Pty Ltd)  
981 Kingsford Smith Drive  
Eagle Farm QLD 4009.

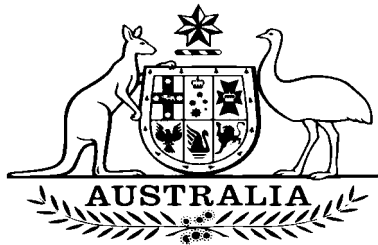
In Supplementary Certificate of Approval No S145A dated 30 November 1994, the Condition of Approval referring to the expiry of the approval should be amended to read:

“This approval expires in respect of new instruments on 1 January 1998.”

Signed and sealed by a person authorised under Regulation 9 of the National Measurement (Patterns of Measuring Instruments) Regulations to exercise the powers and functions of the Commission under this Regulation.

A handwritten signature in black ink, consisting of a large, stylized initial 'J' followed by a series of loops and a long horizontal stroke.

## National Standards Commission



### Notification of Change Supplementary Certificate of Approval No S145A Change No 4

The following change is made to the approval documentation for the

Keytronic Model 700E Flowmeter Control System

submitted by R W Burns Engineering Pty Ltd  
(formerly submitted by Fuel Management Systems Pty Ltd)  
981 Kingsford Smith Drive  
Eagle Farm QLD 4009.

In Supplementary Certificate of Approval No S145A dated 30 November 1994, the Condition of Approval referring to the expiry of the approval should be amended to read:

“This approval expires in respect of new instruments on 1 July 1998.”

NOTE: This was previously extended by Notification of Change No 3 dated 30 May 1997.

Signed and sealed by a person authorised under Regulation 9 of the National Measurement (Patterns of Measuring Instruments) Regulations to exercise the powers and functions of the Commission under this Regulation.

A handwritten signature in black ink, consisting of a large, stylized initial 'J' followed by several loops and a long horizontal stroke at the end.

S145A  
4/7/90

Figure S145A - 1



FMS Keytronic Control Console



FIGURE S145A - 2

