

**Australian Government** 

Department of Industry, Science, Energy and Resources

> National Measurement Institute

36 Bradfield Road, West Lindfield NSW 2070

# Supplementary Certificate of Approval NMI S440

VARIANT 7 VALID FOR VERIFICATION PURPOSES UNTIL 1 October 2022

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.

Transponder Technologies Model TT8300 OPT Control System for Fuel Dispensers for Motor Vehicles

submitted by Transponder Technologies Pty Ltd 2 Hamra Drive, Export Park Adelaide Airport SA 5950

**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.

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.

Rev	Reason/Details	Date
0	Pattern & variants 1 & 2 approved – interim certificate issued	11/06/04
1	Pattern & variants 1 & 2 approved – certificate issued	16/07/04
2	Variant 3 approved – interim certificate issued	17/07/07
3	Variant 3 approved – certificate issued	2/11/07
4	Pattern & variants 1 to 3 amended & reviewed – notification of	25/02/11
	change issued	
5	Pattern & variants 1 to 3 updated – variant 4 approved – certificate	18/04/13
	issued	

### DOCUMENT HISTORY

Rev	Reason/Details	Date
6	Pattern & variants 1 to 4 <b>reviewed</b> – variant 5 approved – certificate	5/09/16
	issued	
7	Variant 6 approved – certificate issued	6/07/18
8	Variant 7 provisionally approved – certificate issued	30/11/21

### Document History (cont...)

# CONDITIONS OF APPROVAL

### General

Instruments purporting to comply with this approval shall be marked with pattern approval number 'NMI (or NSC) S440' and only by persons authorised by the submittor.

Instruments incorporating a component purporting to comply with this approval shall be marked 'NMI (or NSC) S440' in addition to the approval number of the instrument, and only by persons authorised by the submittor.

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

### Special Conditions of Approval: (Provisional Approval – Variant 2)

Provisional approval variant 7 is limited to ten (10) sites only, the locations of which may be obtained from the National Measurement Institute. The submittor shall advise the **National Measurement Institute – Pattern Approval Laboratory** in writing of the proposed location or serial number of each instrument prior to it being initially verified.

Instruments purporting to comply with variant 7 of this approval shall be marked with approval number 'NMI PS559' and only by persons authorised by the submittor. (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 submittor 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 S440

### 1. Description of Pattern

### approved on 11/06/04

A Transponder Technologies model TT8300 OPT ('Outdoor Payment Terminal') card-operated control system to provide unattended self-service operation for fuel dispensers fitted with Transponder Technologies model T5 indicators or other compatible (#) approved fuel dispensers.

### 1.1 Field of Operation

- The Transponder Technologies model TT8300 OPT control system is approved for environmental class N for outdoor use between -10°C and 55°C.
- The system can provide unattended self-service arrangement for up to 32 approved fuel dispensers equipped with Transponder Technologies model T5 indicators (as described in the documentation of approval NSC S414) or other compatible (#) approved indicators.
- The nominal supply voltage is 240 V AC.
- (#) 'Compatible' is defined to mean that no additions/changes to hardware/software are required for satisfactory operation of the complete system.

### 1.2 System Description

The TT8300 OPT control system is a stand-alone card-operated terminal that allows unattended self-service operation of fuel dispensers. Payment is authorised prior to delivering fuel via a magnetic-stripe card reader and the Intellect SOLO510 bank-approved security module.

The device is housed in a lockable weatherproof housing for outdoor use, and features a card reader, keypad, liquid crystal display, uninterruptible power supply and receipt printer, in a single unit (Figure 1).

The TT8300 OPT control system contains the TransTech T6 controller circuit board (Figure 2) using software BAB05xxx, and provides communication and control of the fuel dispensers and connection to peripheral devices at the operators control console and point of sale.

A UPS600 uninterruptible power supply unit is included to provide operation under power failure condition.

### 1.3 Checking Facilities

The system monitors the status of fuel dispensers and displays the condition of the requested dispenser as appropriate (i.e. in use/offline).

### (i) Uninterruptible Power Supply

The system monitors the condition of the uninterruptible power supply, and if an error condition is detected it prevents new transactions being started (authorised).

### (ii) **Receipt Printer**

The system monitors the condition of the receipt printer and provides visual warning of an error. If the receipt printer is unavailable or out of paper, the front LCD will display that a receipt will not be available before a user enters their card or pin number to authorise a transaction.

### **Memory Facilities** (iii)

The device checks prior to a dispenser being authorised the status and availability of memory for storage of the transaction. If there is insufficient memory available, no further transactions can be authorised.

### 1.3 Verification Provision

Provision is made for the application of a verification mark.

### 1.4 **Sealing Provision**

Provision is made for the instrument to be sealed by the application of one or more mechanical seals (Figure 2).

In addition, the password security restricting access to the SETUP menu must always be enabled. Refer to the Test Procedure.

### 1.5 Markings

The TT8300 OPT control system is marked with the following data, together in one location:

Manufacturer's name or mark	
Manufacturer's designation (model number)	TT8300 OPT
Serial number	
Approval number	NMI (or NSC) S440
Environmental class	Class N

### 2. **Description of Variant 1**

The Transponder Technologies model TT8100 OPT control system (Figure 3) which is similar to the pattern (model TT8300 OPT) except that is does not contains the TransTech T6 controller circuit board and is replaced with a Transponder Technologies model FC6000 control system (as described in the documentation of approval NSC S422).

### **Description of Variant 2** 3.

With Transponder Technologies Email and/or Gilbarco protocol communication converters (Figure 4) for use with up to 32 compatible (#) approved Email and/or Gilbarco/Marconi fuel dispenser indicators.

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

# approved on 11/06/04

approved on 11/06/04

# 4. Description of Variant 3

The Transponder Technologies models TT8200 GN OPT and TT8300 GN OPT control systems (Figures 5 to 7) which are similar to the pattern and variant 1 respectively, but now incorporate a Quest model Paystation device which comprises a card-reader, a liquid-crystal display and a keypad in a single compact unit.

### 5. Description of Variant 4

### approved on 18/04/13

approved on 17/07/07

The Transponder Technologies model TT8500CX control system (Figures 8 and 9) which is similar to the pattern and variant 2, but now incorporate an XAC EFT keypad and an XAC magnetic stripe and chip card-reader.

### 6. Description of Variant 5 approved on 5/09/16

The Transponder Technologies models TT8200 GN OPT and TT8300 GN OPT control systems (Figures 5 to 7) which are similar to the pattern and variant 1 respectively, but now incorporate a Quest model UT430 Paystation or equivalent (\*) device which comprises a card-reader, a liquid-crystal display and a keypad in a single compact unit (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.

### 7. Description of Variant 6

### approved on 6/07/18

The Transponder Technologies model TT8800 control system (Figure 11) which is similar to the variant 4 with a different fascia and component layout.

### 8. Description of Variant 7 provisionally approved on 30/11/21

The Transponder Technologies model TT8900 OPT control system which is similar to the pattern and is a stand-alone terminal to provide unattended self-service facility for compatible (#) NMI-approved fuel dispensers for motor vehicles.

Payment is authorised prior to delivering fuel via XAC model T303 EFT PINpad and an XAC model P90 magnetic stripe and EMV chip card-reader.

The device is housed in a lockable weatherproof housing for outdoor use and integrates a Custom TG02H receipt printer with an integrated paper low detection function, to enable customers to be informed that a receipt will not be available prior to the sale being authorised.

The TT8900 OPT control system contains the Transponder Technologies T20 SCM using software version BTA02009, which monitors and controls the operation of the TT8900, including the communication with and control of the fuel dispensers.

# 8.1 Field of Operation

- The Transponder Technologies model TT8900 OPT control system is approved for environmental class N for outdoor use between -10°C and 55°C.
- The input power supply is 204 V to 264 V AC.

### 8.2 Checking Facilities

The system monitors the status of fuel dispensers and displays the condition of the requested dispenser as appropriate (i.e. in use/offline).

### (ii) Power Supply

The system monitors the condition of the power supply, and if an error condition is detected it prevents a new transaction being started (authorised).

### (iii) Receipt Printer

The system monitors the condition of the receipt printer and provides visual warning of an error. If the receipt printer is unavailable or out of paper, the front LCD will display that a receipt will not be available before a user enters their card or personal identification number (PIN) to authorise a transaction.

### (iv) Memory Facilities

Prior to a dispenser being authorised, the device checks the status and availability of memory for storage of the transaction. If there is insufficient memory available, no further transactions (sales) can be authorised.

# TEST PROCEDURE No S440

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 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 are specified in Schedule 1 of the *National Trade Measurement Regulations 2009*.

### Tests

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

- 1. Check the TransTech T6 software version number. The version number is marked on a label on the 28 pin EEPROM integrated circuit chip mounted on the circuit board on the inside rear panel of the TT8300 unit.
- 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 control console 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 principal power supply is disconnected from the uninterruptible power supply, the fuel dispenser cannot be authorised for a second delivery unless the transaction for the first delivery has been completed.
- 6. Remove paper from receipt printer to check that when the receipt printer is unavailable an appropriate message is displayed on the front LCD.

# FIGURE S440-1



Transponder Technologies Model TT8300 OPT Control System - the Pattern



(A shaded box indicates an optional item - Variant 2)

Transponder Technologies Model TT8300 OPT Control System - the Pattern



Transponder Technologies Model TT8100 OPT Control System - Variant 1

FIGURE S440-3



(a) Transponder Technologies Email Protocol Communication Converter



(b) Transponder Technologies Gilbarco Protocol Communication Converter



FIGURE S440 - 5

(A shaded box indicates an optional configuration item covered by variant 2)

Transponder Technologies Model TT8200 GN OPT Control System - Variant 3



FIGURE S440-6

(A shaded box indicates an optional configuration item covered by variant 2)

Transponder Technologies Model TT8300 GN OPT Control System - Variant 3

# FIGURE S440 – 7



Transponder Technologies Model TT8200/TT8300 GN OPT Control System (including Quest Paystation EFT Keypad) – Variant 3



FIGURE S440-8

Transponder Technologies Model TT8500CX Control System – Variant 4

# FIGURE S440-9



Transponder Technologies Model TT8500CX Control System (including XAC EFT Keypad and XAC Card-reader) – Variant 4



FIGURE S440 - 10

Transponder Technologies Model TT8200/TT8300 GN OPT Control System (including Model UT430 Paystation) – Variant 5

FIGURE S440 - 11



Transponder Technologies Model TT8800 OPT Control System - Variant 6

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