Australian Government
National Measurement Institute
Bradfield Road, West Lindfield NSW 2070

Notification of Change
Supplementary Certificate of Approval No S447
Change No 1

Issued by the Chief Metrologist under Regulation 60
of the
National Measurement Regulations 1999

The following changes are made to the approval documentation for the

Transponder Technologies Model T5 TTSTM Pulse Generator for use in Fuel Dispensers for Motor Vehicles

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

A. In Supplementary Certificate of Approval No S447 dated 11 April 2005;

1. The Condition of Approval referring to the review of the approval should be amended to read:

   "This approval becomes subject to review on 1 October **2014**, and then every 5 years thereafter."

2. The FILING ADVICE should be amended to read:

   "**Figures 1 and 2 dated 11 April 2005 are replaced by the Figures attached herein**. The documentation for this approval **now** comprises:

   Supplementary Certificate of Approval No S447 dated 11 April 2005
   Technical Schedule No S447 dated 11 April 2005 (incl. Test Procedure)
   Figures 1 and 2 dated **26 November 2010**"

B. In Technical Schedule No S447 dated 11 April 2005:

1. In clause **1.1 Field of Operation**, the 1st bullet point should be amended to read:

   "• Pulses per shaft revolution **dual channel,** 25 pulses/revolution"

2. Clause **1.6 Markings** should be amended by

   (i) amending the listed environmental class to read "Class **C (#)**"

   (ii) adding the following footnotes:

   "(#) The marking of 'Class C' is optional.

   Note: There may be cosmetic differences in the labels from those shown in Figure 2."

Signed by a person authorised by the Chief Metrologist to exercise his powers under Regulation 60 of the *National Measurement Regulations 1999*.

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Australian Government

National Measurement Institute

12 Lyonpark Road, North Ryde NSW 2113

Supplementary Certificate of Approval

No S447

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

Transponder Technologies Model T5 TTSTM Pulse Generator for use in 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.

CONDITIONS OF APPROVAL

This approval becomes subject to review on 1 October 2009, and then every 5 years thereafter.

Instruments purporting to comply with this approval shall be marked with approval number 'NMI S447' and only by persons authorised by the submittor.

Instruments incorporating a component purporting to comply with this approval shall be marked 'NMI S447' in addition to the approval number of the instrument.

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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.

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

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

DESCRIPTIVE ADVICE

Pattern: approved 16 September 2004

- A Transponder Technologies model T5 TTSTM pulse generator for use in compatible approved fuel dispensers for motor vehicles.

Technical Schedule No S447 describes the pattern.

FILING ADVICE

The documentation for this approval comprises:

Supplementary Certificate of Approval No S447 dated 11 April 2005
Technical Schedule No S447 dated 11 April 2005 (incl. Test Procedure)
Figures 1 and 2 dated 11 April 2005

Signed by a person authorised by the Chief Metrologist to exercise his powers under Regulation 60 of the National Measurement Regulations 1999.

TECHNICAL SCHEDULE No S447

Pattern: Transponder Technologies Model T5 TTSTM Pulse Generator for use in Fuel Dispensers for Motor Vehicles

Submittor: Transponder Technologies Pty Ltd
2 Hamra Drive, Export Park
Adelaide Airport SA 5950

1. Description of Pattern

A Transponder Technologies model T5 TTSTM pulse generator (Figures 1 and 2) for use in compatible (#) approved fuel dispensers for motor vehicles.

1.1 Field of Operation

• Pulses per shaft revolution	25 pulses/revolution
• Output pulses	Positive rectangular waveform
• Power supply	5 volts DC
• Maximum supply voltage fluctuation	±5%
• Environmental class	–25°C to 55°C
• Accuracy class	0.5

1.2 Pulse Generator

The Transponder Technologies model T5 TTSTM dual channel (overlapping) pulse generator designed to produce pulses proportional to volume throughput, when fitted to a compatible (#) approved fuel dispenser incorporating a Transponder Technologies model T5b calculator/indicator (as described in the documentation of approval NSC S414) or other compatible (#) approved dispensers.

1.3 Installation

The pulse generator is connected to the flowmeter such that the movement of the pulse generator shaft is directly proportional to the movement of the metering shaft. When considering the compatibility of the flowmeter and the calculator/indicator for use with the pulse generator, the consideration shall include the field of operation of each device.

1.4 Checking Facilities

The pulse generator is configured for dual channel pulse output operation and with an overlapping pulse output which permits the detection of direction and errors on either channel when interfaced to a compatible (#) approved calculator/indicator.

(#) “Compatible” is defined to mean that no additions/changes to hardware/software are required for satisfactory operation of the complete system including all checking facilities.

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1.5 Sealing and Verification/Certification Provision

Provision is made for the pulse generator to be sealed (Figure 2) to prevent access to its electronics.

Provision is made for the application of a verification/certification mark.

1.6 Markings

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

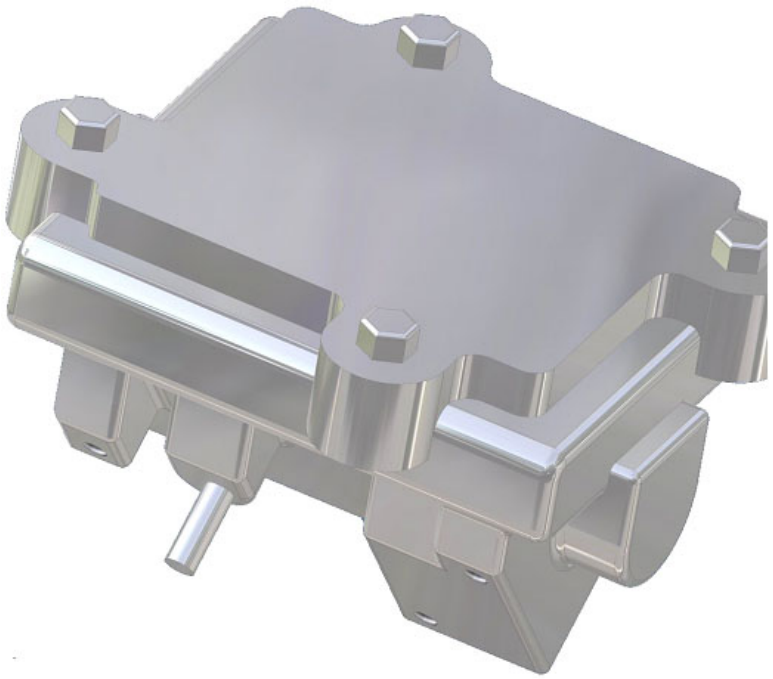
Manufacturer's name or mark	……
Manufacturer's designation (model number)	……
Serial number	……
Approval number	NMI S447
Environmental class	Class N

TEST PROCEDURE

Instruments shall be tested in conjunction with any tests specified in the approval documentation for the fuel dispenser/s to which the pattern is connected, as appropriate, and in accordance with any relevant tests specified in the Uniform Test Procedures.

The maximum permissible errors applicable are those specified for fuel dispenser in which the pattern is included, as stated in the approval documentation for the dispenser.

FIGURE S447 – 1



Transponder Technologies Model T5 TTSTM Pulse Generator

FIGURE S447 – 2

Transponder Technologies Model T5 TTSTM Pulse Generator
Showing Typical Sealing and Label