



Australian Government

**National Measurement
Institute**

Bradfield Road, West Lindfield NSW 2070

Cancellation

Supplementary Certificate of Approval

No S448

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

This is to certify that the approval for use for trade granted in respect of the
Transponder Technologies Model T5 TTHFM5 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

has been cancelled in respect of new instruments as from 1 November 2010.

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

A handwritten signature in black ink, consisting of a series of fluid, overlapping loops and strokes, positioned to the right of the signature text.



Australian Government

**National Measurement
Institute**

12 Lyonpark Road, North Ryde NSW 2113

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Transponder Technologies Model T5 TTHFM5 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 S448' and only by persons authorised by the submitter.

Instruments incorporating a component purporting to comply with this approval shall be marked 'NMI S448' in addition to the approval number of the instrument.

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 TTHFM5 pulse generator for use in compatible approved fuel dispensers for motor vehicles.

Technical Schedule No S448 describes the pattern.

FILING ADVICE

The documentation for this approval comprises:

Supplementary Certificate of Approval No S448 dated 11 April 2005
Technical Schedule No S448 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.

A handwritten signature in black ink, appearing to be 'J. G. T.', located in the bottom right corner of the page.

TECHNICAL SCHEDULE No S448

Pattern: Transponder Technologies Model T5 TTHFM5 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 TTHFM5 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 100 pulses/revolution
- Output pulses Positive rectangular waveform
- Power supply 5 volts DC
- Maximum supply voltage fluctuation $\pm 5\%$
- Environmental class -25°C to 55°C
- Accuracy class 0.5

1.2 Pulse Generator

The Transponder Technologies model T5 TTHFM5 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.

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 S448
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 S448 – 1



Transponder Technologies Model T5 TTHFM5 Pulse Generator

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FIGURE S448 – 2



Transponder Technologies Model T5 TTHFM5 Pulse Generator Showing Sealing