Australian Government
National Measurement Institute

Bradfield Road, West Lindfield NSW 2070

Supplementary Certificate of Approval

No S519

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

PEC Model PCS 220 Control System for Fuel Dispensers for Motor Vehicles

submitted by PEC Fuel Pumps Ltd
2 Station Road
Marton 4741
NEW ZEALAND

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 117-1, Measuring Systems for Liquids Other than Water, July 2004, being revised.

CONDITIONS OF APPROVAL

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

Instruments purporting to comply with this approval shall be marked with approval number ‘NMI S519’ and only by persons authorised by the submittor.

Instruments incorporating a component purporting to comply with this approval shall be marked ‘NMI S519’ 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.

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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 30 January 2009

- A PEC model PCS 220 control system for fuel dispensers for motor vehicles.

Technical Schedule No S519 describes the pattern.

FILING ADVICE

The documentation for this approval comprises:

Supplementary Certificate of Approval No S519 dated 24 March 2009
Technical Schedule No S519 dated 24 March 2009 (incl. Test Procedure)
Figures 1 to 3 dated 24 March 2009

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 S519

Pattern: PEC Model PCS 220 Control System for Fuel Dispensers for Motor Vehicles

Submittor: PEC Fuel Pumps Ltd
2 Station Road
Marton 4741 NEW ZEALAND

1. Description of Pattern

A PEC model PCS 220 control system (Figure 1) to provide unattended self-service operation for use with compatible (#) approved fuel dispensers.

1.1 Field of Operation

- The PCS 220 controller is approved for environmental class N for outdoor use between -10°C and 55°C
- The controller provides an unattended self-serve arrangement for approved PEC Fleetpec series fuel dispensers or other compatible (#) approved fuel dispensers.
- The system operates in a single mode operation, i.e. authorisation of dispensers via unattended method only.
- 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 including all checking facilities.

1.2 System Description

The PEC model PCS 220 control system is an outdoor unattended authorisation terminal (Figure 1) housed in a weatherproof enclosure and integrated to the head assembly of a PEC Fleetpec series fuel dispenser (Figure 2). The terminal comprises a controller, a battery-backed power supply, a keypad, an LCD display and radio frequency identification (RF-ID) tag reader.

An alternative wall-mounted enclosure (Figure 3) includes the same internal hardware components as the integrated unit and is for use with other approved fuel dispensers.

The system uses an RF-ID tag to verify the authorisation credentials and record fuel delivery information of a customer. The authorisation terminal uses version 0.6.0.x.x firmware.

1.3 Checking Facilities

The PCS 220 controller receives the fuel delivery data directly from the fuel dispenser(s). The control system monitors the status of connected fuel dispensers and error checking verifies that transmitted data is correct.

The battery backup system monitors the condition of the power supply, and if an power failure is detected it prevents a new transaction being started (authorised). All measurement data is stored on a non-volatile SD memory card.

1.4 Descriptive Markings

The PCS 220 controller is marked with the following data (shown below at right):

Manufacturer's name or mark	……..
Model number	……..
Serial number	……..
Pattern approval mark	NMI S519
Year of manufacture	……..
Environmental class	N

1.5 Verification/Certification

The PCS 220 controller has provision for the application of a verification/certification mark.

TEST PROCEDURE

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 Uniform Test Procedures.

The maximum permissible errors applicable are those applicable to the fuel dispensers to which the instrument approved herein is fitted, as stated in the approval documentation for the fuel dispensers or in Schedule 12 of the *National Measurement Regulations 1999*.

Tests

1. Check the firmware version number, which is displayed in the service menu accessible with a service tag or service menu access password.
2. Check that the system identifies and displays the correct data for the corresponding number allocated to the fuel dispenser

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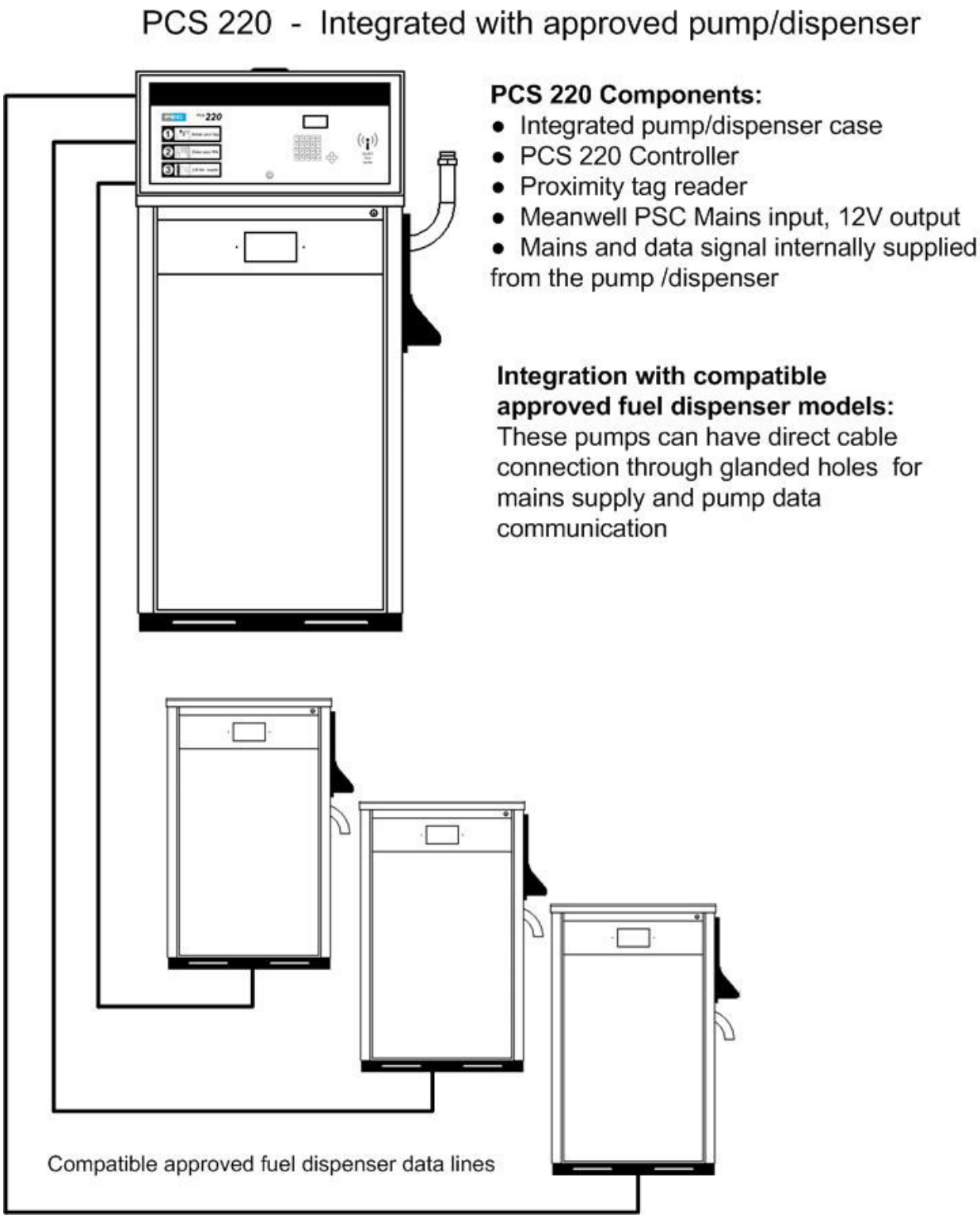
FIGURE S519 – 1

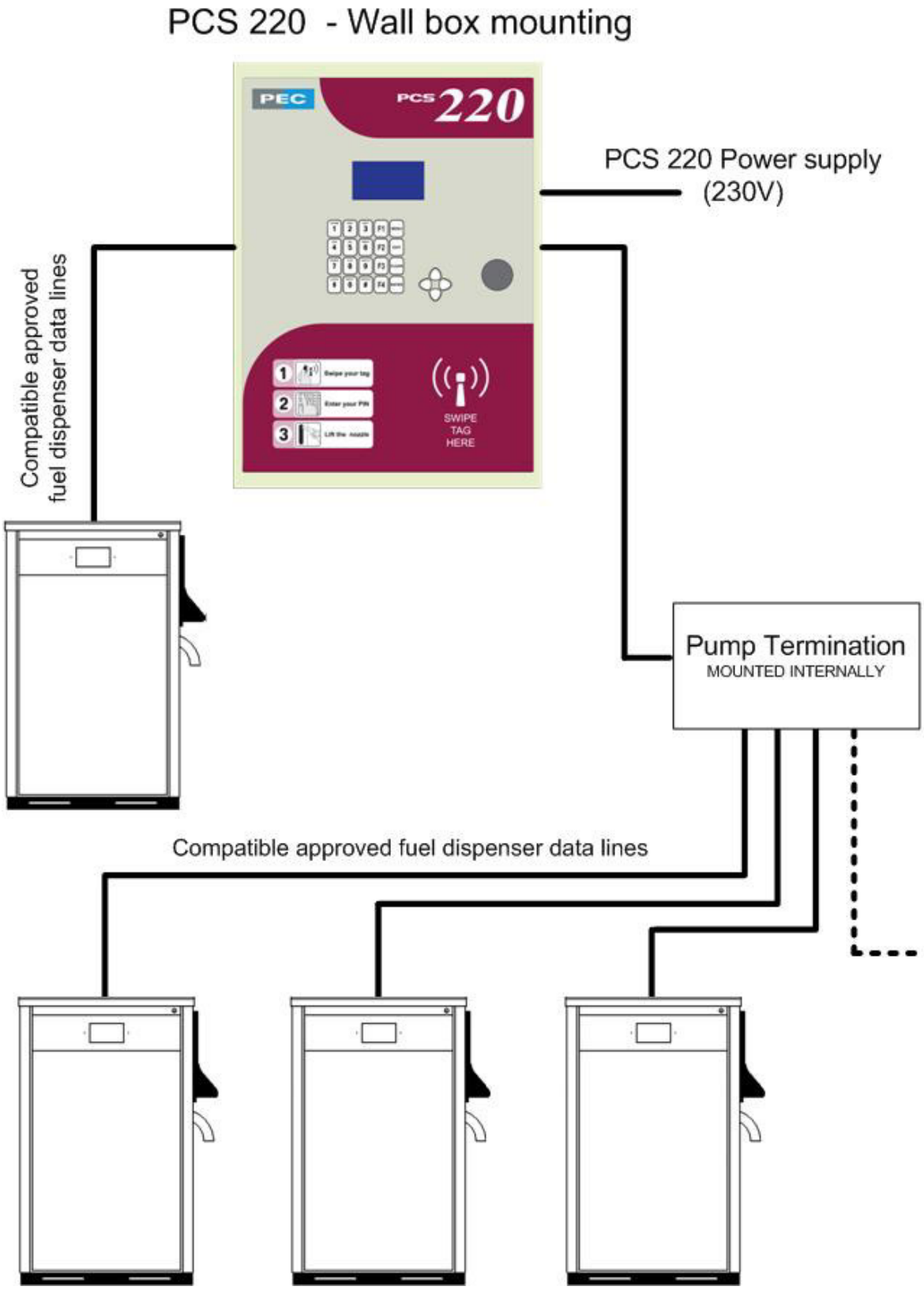
PEC Model PCS 220 Control System – Typical Components

FIGURE S519 – 2



Typical System Overview – Typical Integrated Version

FIGURE S519 – 3



Typical System Overview – Typical Wall-mounted Version