Australian Government
Department of Industry, Science, Energy and Resources

National Measurement Institute

36 Bradfield Road, West Lindfield NSW 2070

Supplementary Certificate of Approval

NMI S811

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.

Global Engineering Solutions Model PrimeFMS Control System for Fuel Dispensers for Motor Vehicles

submitted by Global Engineering Solutions Pty Ltd
58 Mckellar st
Cobbitty NSW 2570

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.

DOCUMENT HISTORY

Rev	Reason/Details	Date
0	Pattern provisionally approved – interim certificate issued	13/04/21
1	Pattern approved – certificate issued	15/12/21

CONDITIONS OF APPROVAL

General

Instruments purporting to comply with this approval shall be marked with pattern approval number 'NMI S811' and only by persons authorised by the submittor.

Instruments purporting to comply with this approval and currently marked 'NMI PS811' may be re-marked 'NMI S811' but only by persons authorised by the submittor.

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.

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 S811

1. Description of Pattern provisionally approved on 3/04/21 approved on 15/12/21

A Global Engineering Solutions model PrimeFMS control system (Figure 1) to provide unattended self-service facility for compatible (#) NMI-approved fuel dispensers for motor vehicles.

The fuel dispensers are controlled by the PrimeFMS controller (Figure 2) and authorisation by registered customers who have an existing arrangement with the supplier only. Transactions are authorised using the customer's account using the PrimeFMS app (Figure 3).

1.1 Key Features

- The system is approved for environmental class N, a climate-controlled environment between -10°C and 55°C.
- The system can provide an unattended self-serve arrangement for compatible (#) NMI-approved fuel dispensers.
- The system allows post-payment or pre-payment deliveries; in the latter case the fuel dispenser must incorporate a pre-set device.
- The system may facilitate mixed-mode operation. An NMI approved control system that is approved for attended self-service operation must be interfaced to the PrimeFMS control system for operation in this mode.
- The nominal supply voltage is 240 V AC.

1.2 System Description

(i) PrimeFMS Controller

The Global Engineering Solutions model PrimeFMS controller provides the interface and data transmission between the fuel dispensers and the PrimeFMS app (Figure 4), and operates operates PrimeFMS version 1.1.2 software

The PrimeFMS controller synchronises measurement data and transaction records to be accessed by the operator of the PrimeFMS App and PrimeFMS Dashboard, or other connected compatible electronic docket application.

The software version number of the PrimeFMS is displayed at the bottom of electronic transaction records.

(ii) PrimeFMS App

The PrimeFMS App is used to interact with the software operating on the PrimeFMS Controller connected to the approved fuel dispensers.

The PrimeFMS App operates on compatible Android or iOS based operating systems.

The PrimeFMS App provides:

- method of the customer to control authorisation and delivery of fuel from a nearby fuel dispenser.
- means to receive the details of the transaction.
- a method for storage or export of an electronic transaction record.

The PrimeFMS App operates software version 3.63.6.

(iii) PrimeFMS Dashboard

The PrimeFMS Dashboard (Figure 5) is used to view measurement data and transaction records that have been recorded by the PrimeFMS software on the PrimeFMS Controller.

The PrimeFMS Dashboard is a webpage that can be accessed by any internet enabled device with a compatible web browser.

(iv) Primary Indications

Note: There is no operator or customer display or receipt printer connected to the PrimeFMS controller. No printed receipt is provided.

The storage of transaction records on the PrimeFMS app (Figure 6), in the PrimeFMS controller memory or on remote storage provide access to transaction records and is considered to be a volume totaliser for each registered customer.

1.2 Checking Facilities

(i) Power Supply

The system includes a power supply with battery backup. If an error or power failure is detected the system will terminate any deliveries in progress and provide a receipt for the transaction in progress.

The ability to authorise a further transactions will be prevented until the detected error condition is resolved.

(ii) Memory device

The system allocates and stores measurement transaction data to local memory. If insufficient memory is available or an error is detected the ability to authorise further transactions will be prevented until the error condition is resolved.

While the system is online the transaction data stored in local memory is synchronised to an online database. Transactions that have been uploaded successfully may then be overwritten in local memory.

1.4 Sealing Provision

The Global Engineering Solutions model PrimeFMS control system does not require sealing.

1.5 Descriptive Markings

The Global Engineering Solutions model PrimeFMS controller is marked with the following data, in one location:

Manufacturer's name or mark	……
Pattern approval mark	NMI S811
Model number	……
Serial number	……
Environmental class	N

TEST PROCEDURE

Instruments shall be tested in conjunction with any tests specified in the approval documentation for the instruments (fuel dispensers) to which the pattern is connected, as appropriate, and in accordance with any relevant tests specified in the National Instrument Test Procedures.

The maximum permissible errors are specified in Schedule 1 of the *National Trade Measurement Regulations 2009*.

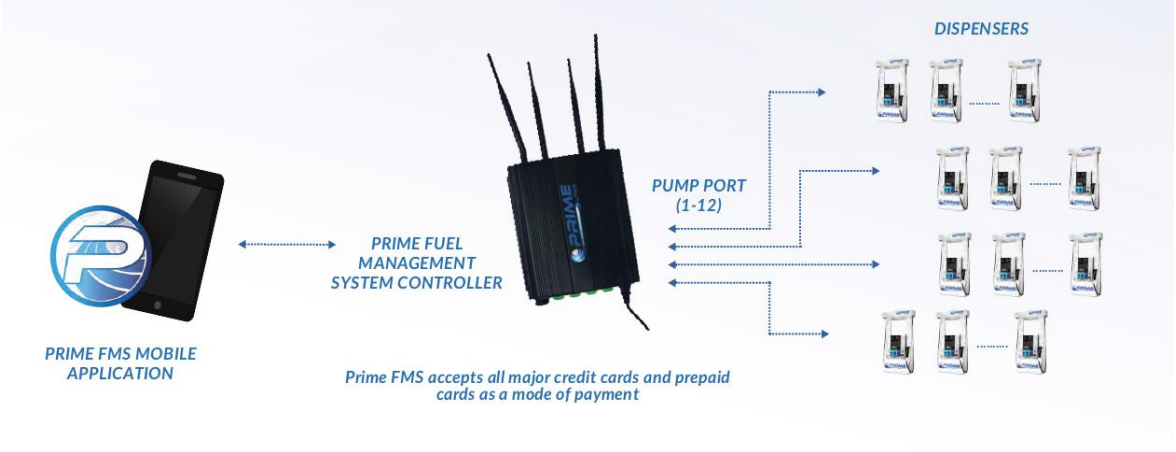
The maximum permissible errors applicable are those applicable to the fuel dispenser to which the instrument approved herein is fitted.

Note: Testing should be carried out on initial installation. Thereafter, it need not be done at every verification/certification of the fuel dispensers but may be done periodically at the discretion of the verifying authority. Operation with an authorised PrimeFMS test application can be done in the presence of a representative of the submittor.

The PrimeFMS shall be tested as follows:

1. Check that the system identifies, displays the correct data for the corresponding number allocated to the fuel dispenser.
2. Authorise a delivery and check that the delivery details on the fuel dispenser agree with the details using the PrimeFMS app.

FIGURE S811 – 1



Typical Global Engineering Solutions Prime FMS Control System Layout

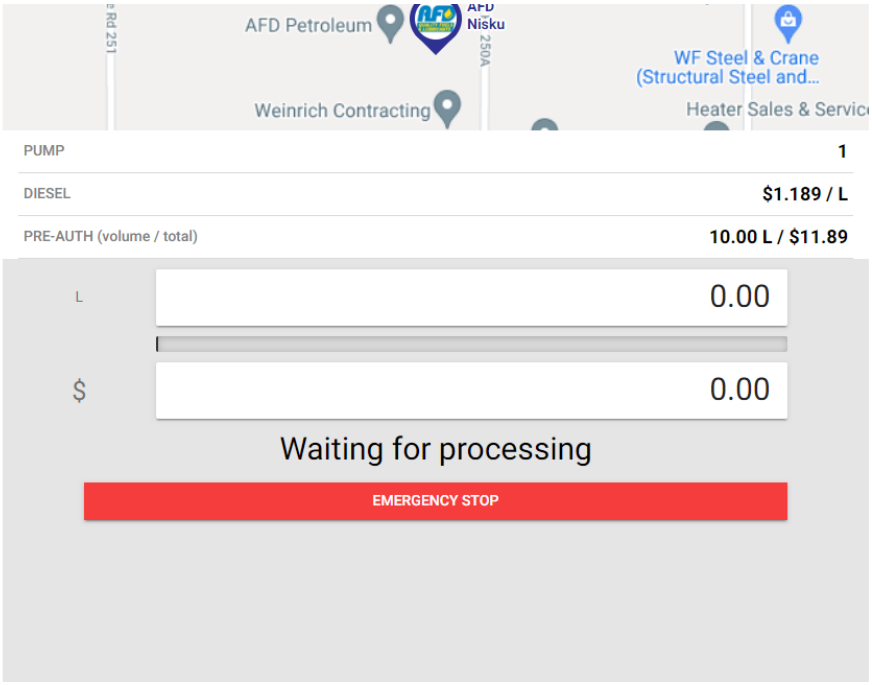
FIGURE S683 – 2

Prime FMS Controller

FIGURE S683 – 3

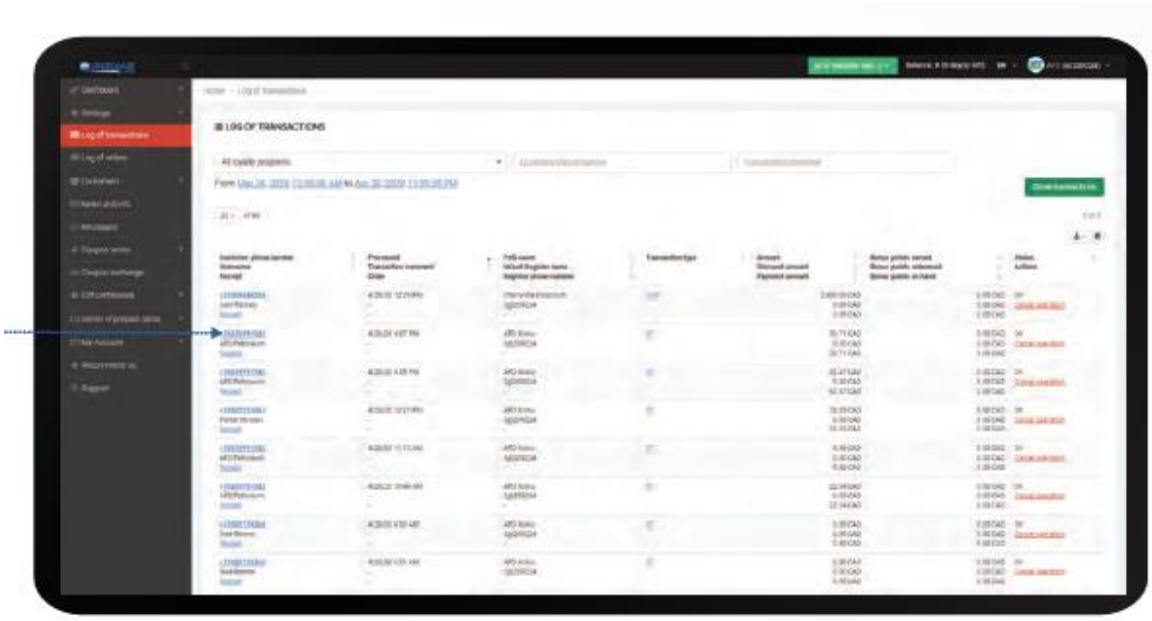
Prime FMS mobile application

FIGURE S683 – 4



Typical Fuelling screen in Prime FMS app

FIGURE S683 – 5



Prime FMS dashboard

FIGURE S683 – 6

Receipt

From:
AFD Petroleum Ltd
+17806193297
fms@afdpetroleum.com
1444-78 Avenue NW, Edmonton, AB T6P 1L7

To:
Jacqueline Wakefield
+17805666644

Transaction ID: 89fcf43b-8d17-11eb-94e9-02000027f1e2

Date: 3/24/21, 9:09 PM

Pump # 2	
Unleaded87	
56.43L * $1.169	$65.97
Discount	$0.00
Amount	$65.97
Discount	$0.00
Bonus points redeemed	0.00
Amount to pay	$65.97
Paid Pay with mobile application	$65.97

Typical transaction record available in PrimeFMS app

~ End of Document ~