



Australian Government  
Department of Industry,  
Science and Resources

**National  
Measurement  
Institute**

36 Bradfield Road, West Lindfield NSW 2070

**Supplementary Certificate of Approval  
NMI S821**

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.

Invenco Model C1-100 Controller for Fuel Dispensers for Motor Vehicles

submitted by Invenco Group Ltd  
Level 2, 7-11 Kawana Street  
Northcote 0627  
AUCKLAND 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, *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	23/09/21
1	Pattern approved – certificate issued	02/05/23

## CONDITIONS OF APPROVAL

### General

Instruments purporting to comply with this approval shall be marked with pattern approval number 'NMI S821' and only by persons authorised by the submitter.

Instruments purporting to comply with this approval and currently marked 'NMI PS821' may be re-marked 'NMI S821' but only by persons authorised by the submitter.

It is the submitter'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.

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

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 S821

**1. Description of Pattern** **provisionally approved on 23/09/21**  
**approved on 02/05/23**

An Inenco model C1-100 controller that operates as the controller for compatible (#) approved self-service control systems for Fuel Dispensers for Motor Vehicles

(#) '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.

**1.1 Field of Operation**

The field of operation of the measuring system is determined by the following characteristics:

- The controller can provide a self-serve arrangement for Production Engineering 1000 series fuel dispensers, or other compatible (#) NMI approved fuel dispensers.
- The controller may facilitate operation in attended or unattended self-service arrangements when interfaced with a compatible (#) NMI approved control system for Fuel Dispensers for Motor Vehicles.
- Environmental temperature range: -10 °C and 55 °C (Class N)
- Power supply input: 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 Inenco model C1-100 controller (Figure 2) provides the interface between a NMI approved self-service control system and the NMI approved fuel dispensers.

**(i) Controller**

The Inenco model C1-100 controller is a standalone device with communication interfaces to compatible fuel dispensers and an external self-service control system. The controller provides the self-service control system with the fuel dispenser control functions.

**(ii) Controller Software**

Inenco version R15.00.0007 software operating on a Linux based operating system provides the software interface to the controller for the configuration and control of fuel dispensers.

**1.3 Checking Facilities**

The C1-100 controller receives the fuel sale data (unit price, litres dispensed and total price) directly from the fuel dispenser(s). The controller monitors the status of connected fuel dispensers. Error checking verifies that transmitted data is correct.

Additional system checking facilities may be required when the controller is used in an attended or unattended self-service system.

**Note:** The checking facilities are described in the approval documentation for the point of sale system that is interfaced to the controller.

#### 1.4 Verification Provision

The C1-100 controller does not require a separate verification mark

#### 1.5 Sealing Provision

The C1-100 controller does not require sealing.

#### 1.6 Descriptive Markings and Notices

Instruments are marked with the following data, together in one location, in the form shown at right:

Manufacturer's name or mark	.....
Manufacturer's designation (model number)	.....
Pattern approval number	NMI S821
Year of manufacture	.....
Serial number of the instrument	.....

### 2. Description of Variant 1 **approved on 02/05/23**

#### 2.1 System Description

##### (i) Controller

The Invenco model C1-100 controller comprising a Nano-N3022 Industrial PC or equivalent (\*) PC based device. The controller is connected to external Invenco Pump Interface Boards (PIB) as shown in Figure 3, provides the interface to NMI approved fuel dispensers.

(\*) '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.

##### (ii) Controller Software

With the Invenco software described in **1.2 System Description, (ii) Controller Software** above, now operating on a Microsoft Windows based operating system.

The C1-100 controller may also operate software version R12.2 operating on a Microsoft Windows based operating system.

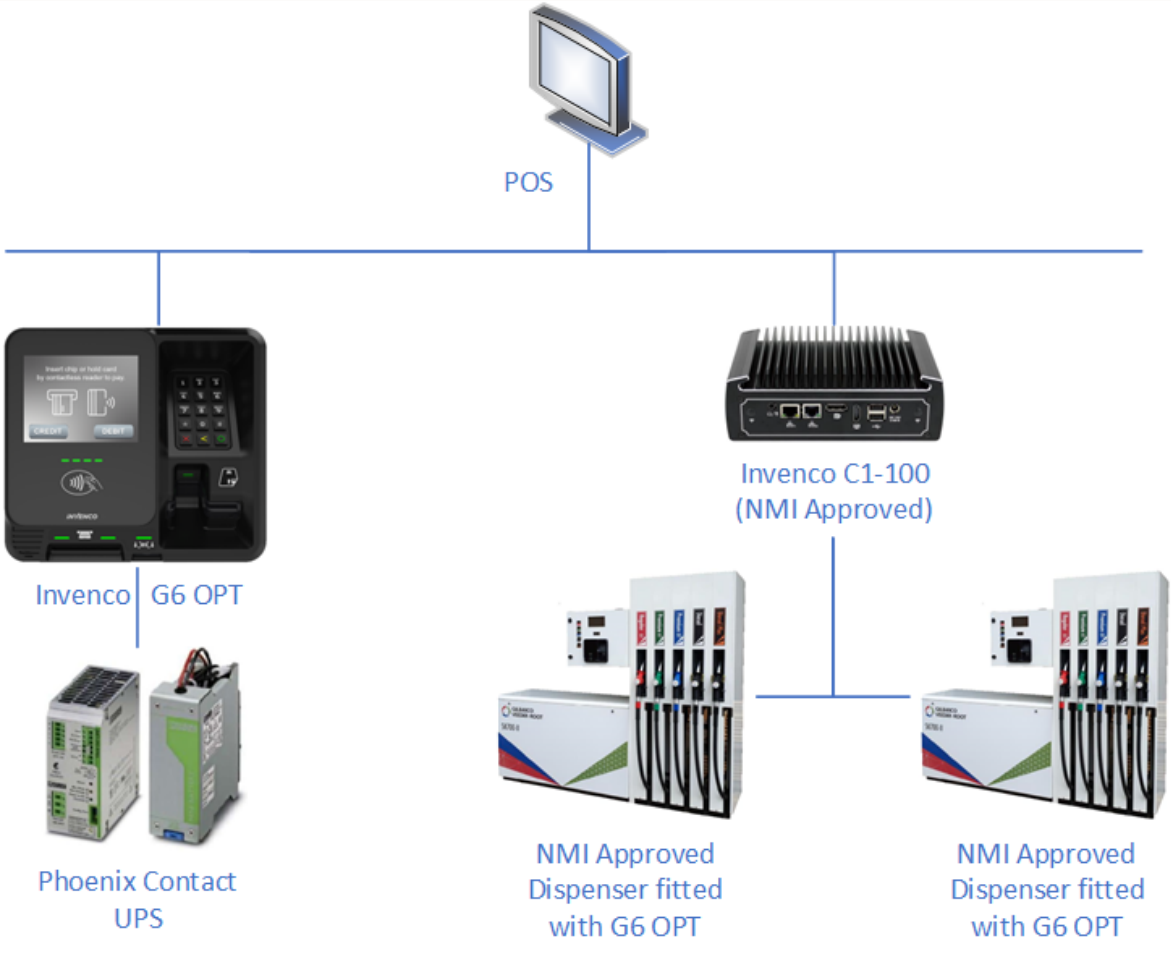
### TEST PROCEDURE

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 National Instrument Test Procedures.

#### Maximum Permissible Errors

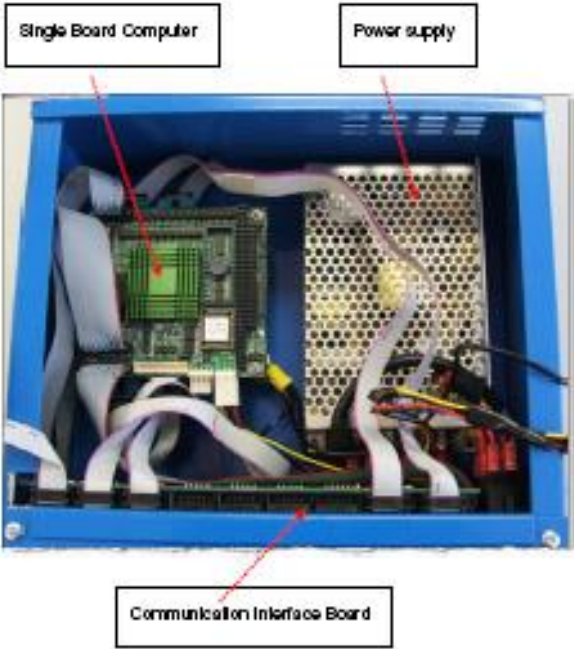
The maximum permissible errors are specified in the *National Trade Measurement Regulations 2009*.

FIGURE S821 – 1



Typical System Overview

FIGURE S821 – 2



Invenco Model C1-100 Controller

FIGURE S821 – 3



Invenco Model C1-100 Controller operating on an Industrial PC with separate Pump Interface board (Variant 1)

~ End of Document ~