

National Standards Commission

12 Lyonpark Road, North Ryde NSW

Supplementary Certificate of Approval

No S377

Issued under Regulation 63
of the
National Measurement Regulations 1999

This is to certify that an approval for use for trade has been granted in respect of the

Compac Model C4000 Calculator/Indicator for Liquid-measuring Systems

submitted by Compac Industries Ltd
 52 Walls Road
 Penrose 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.

CONDITIONS OF APPROVAL

This approval becomes subject to review on 1 August 2005, and then every 5 years thereafter.

Instruments purporting to comply with this approval shall be marked NSC No S377 and only by persons authorised by the submitter.

Instruments incorporating a component purporting to comply with this approval shall be marked NSC No S377 in addition to the approval number of the instrument.

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 Commission 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 the Commission's Document 106.

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

DESCRIPTIVE ADVICE

Pattern: approved 14 July 2000

- A Compac model C4000 calculator/indicator interfaced to a Compac model CU-3000-3CH pulse generator or any Commission-approved measurement transducer for use in a Commission-approved liquid-measuring system.

Variant: approved 14 July 2000

1. With certain alternative configurations of displays.

Technical Schedule No S377 describes the pattern and variant 1.

FILING ADVICE

The documentation for this approval comprises:

Certificate of Approval No S377 dated 13 September 2000
Technical Schedule No S377 dated 13 September 2000 (incl. Test Procedure)
Figures 1 to 4 dated 13 September 2000

Signed by a person authorised under Regulation 63 of the National Measurement Regulations 1999 to exercise the powers and functions of the Commission under this Regulation.



TECHNICAL SCHEDULE No S377

Pattern: Compac Model C4000 Calculator/Indicator for Liquid-measuring Systems.

Submittor: Compac Industries Ltd
52 Walls Road
Penrose Auckland New Zealand.

1. Description of Pattern

A Compac model C4000 calculator/indicator (Figure 1) interfaced to a Compac model CU-3000-3CH pulse generator or any Commission-approved measurement transducer generating compatible pulse output proportional to volume throughput, for use in a Commission-approved liquid-measuring system. The pattern is approved without enclosure and may be mounted in any housing designed for a multi-product fuel dispenser. The pattern uses versions HIA-29 and HIG-29 software.

1.1 Field of Operation

- Environmental class class C
- Maximum input frequency 1500 Hz

1.2 Features

- (i) The model C4000 comprises a processing circuit board and a separate indicator circuit board. Each processing board may be connected with up to three single or double-sided indicator boards.
- (ii) The indicator board has a five-digit liquid crystal display (LCD) for volume and another for total price; three separate four-digit unit price LCDs are provided, one for each grade of fuel, and three separate electromechanical totalisers (Figure 1). The indicators display the following values:

Volume	to 999.99 L
Unit price	to 9.999 \$/L
Total price	to \$999.99
Totaliser	to 9999999 L

- (iii) The model C4000 incorporates a pre-set control facility for use with Commission-approved fuel dispensers incorporating a compatible pre-set control valve.
- (iv) Unit price setting may be changed by means of a parameter switch (marked 'SW1' in Figure 2) located on the C4000 processing circuit board, or may be changed remotely when interfaced to a Commission-approved dispenser controller. The switch also allows the allocation of the fuel dispenser number.

1.3 Verification/Certification

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

1.4 Sealing Provision

Provision is made for the calibration adjustments to be sealed by means of a lead and wire seal or a non-destructive paper seal (Figure 3).

1.5 Markings

Instruments are marked with the following data, together in one location:

Manufacturer's name or mark	Compac Industries Ltd
Model number	C4000
Serial number
Pattern approval mark	NSC No S377
Year of manufacture
Environmental class	class C

The minimum measured quantity of the measuring system shall in all cases be clearly marked on any indicating device and visible to the user during the measurement.

2. Description of Variant 1

With certain alternative configurations of liquid crystal displays (LCD), and with the electromechanical totalisers separate from the main indicator board, as follows:

1. Five-digit LCD (displays volume to 999.99 L, price to \$999.99 and unit price to 9.999 \$/L) and with only a single unit price display (Figure 4).
2. Six-digit LCD (displays volume to 9999.99 L, price to \$9999.99 and unit price to 9.999 \$/L) and with only a single unit price display.
3. Six-digit LCD (displays volume to 9999.99 L). This commercial version is without price and unit price displays and the instrument carries a notice stating "NOT FOR PUBLIC USE" (or similar wording).

TEST PROCEDURE

Instrument should be tested in accordance with any relevant tests specified in the inspector's handbook.

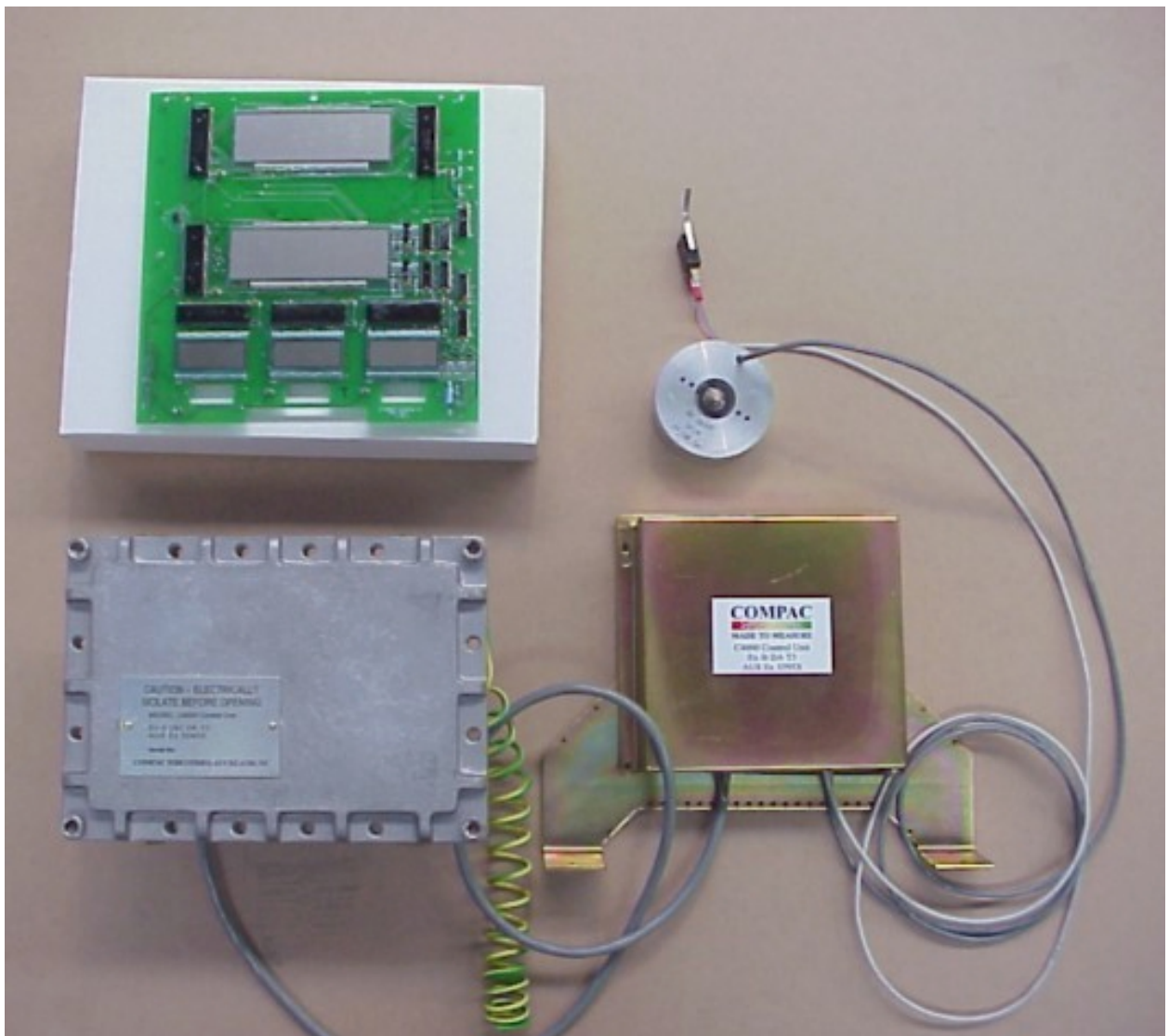
The maximum permissible errors applicable are those applicable to the system to which the instrument approved herein is fitted, as stated in the approval documentation for the system.

1. Calibration Adjustment

The following procedure is used to change the calibration k-factor.

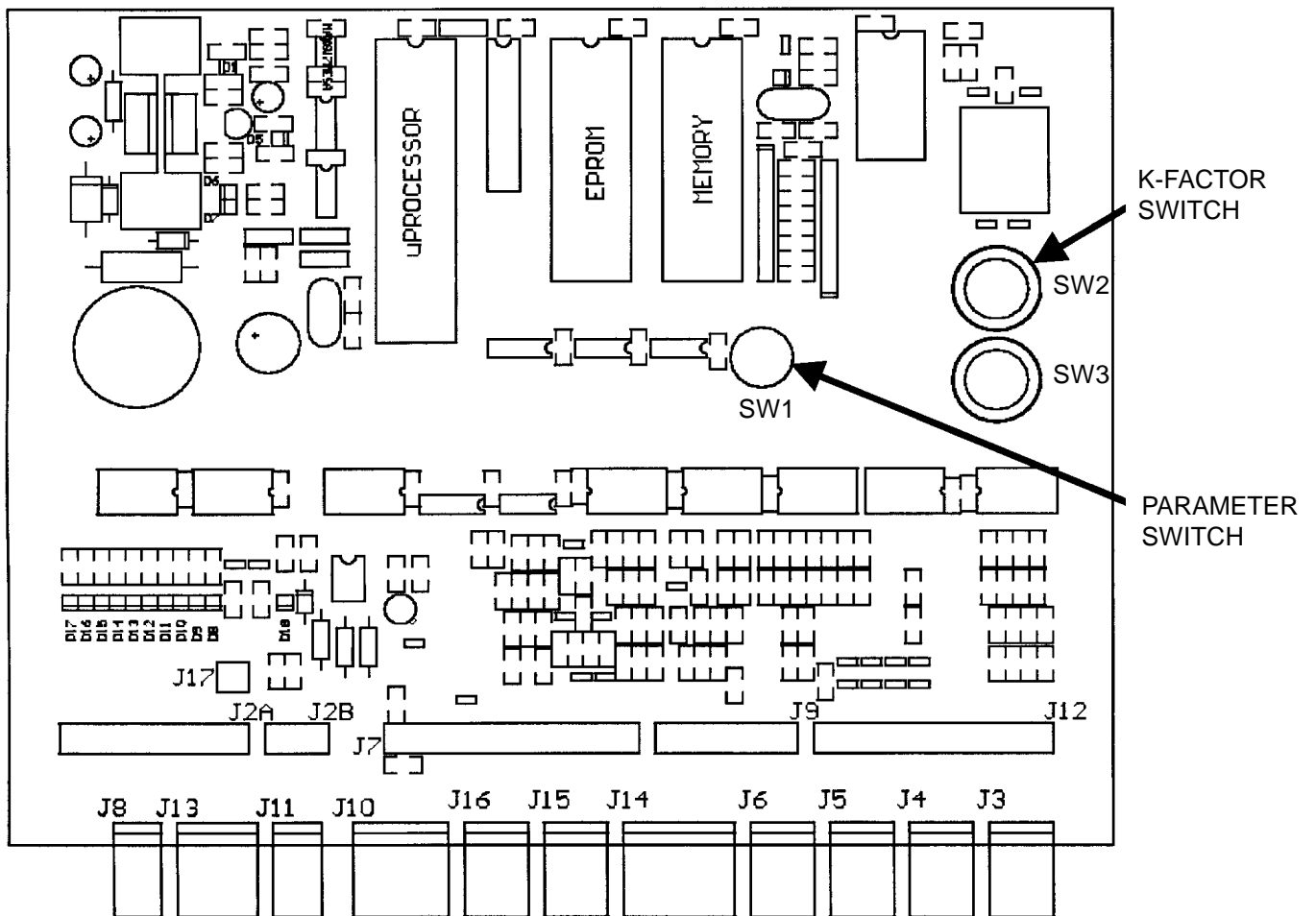
- (a) Ensure that the nozzle is hung up.
- (b) Press and release the k-factor switch (marked 'SW2' in Figure 2) in quick succession, until the desired setting is displayed.
- (c) Press and hold the k-factor switch; the 1st digit of the displayed setting will begin to increment. When the desired digit is displayed, release the k-factor switch.
- (d) Repeat step (c) until all digits of the desired k-factor are displayed.

FIGURE S377 - 1



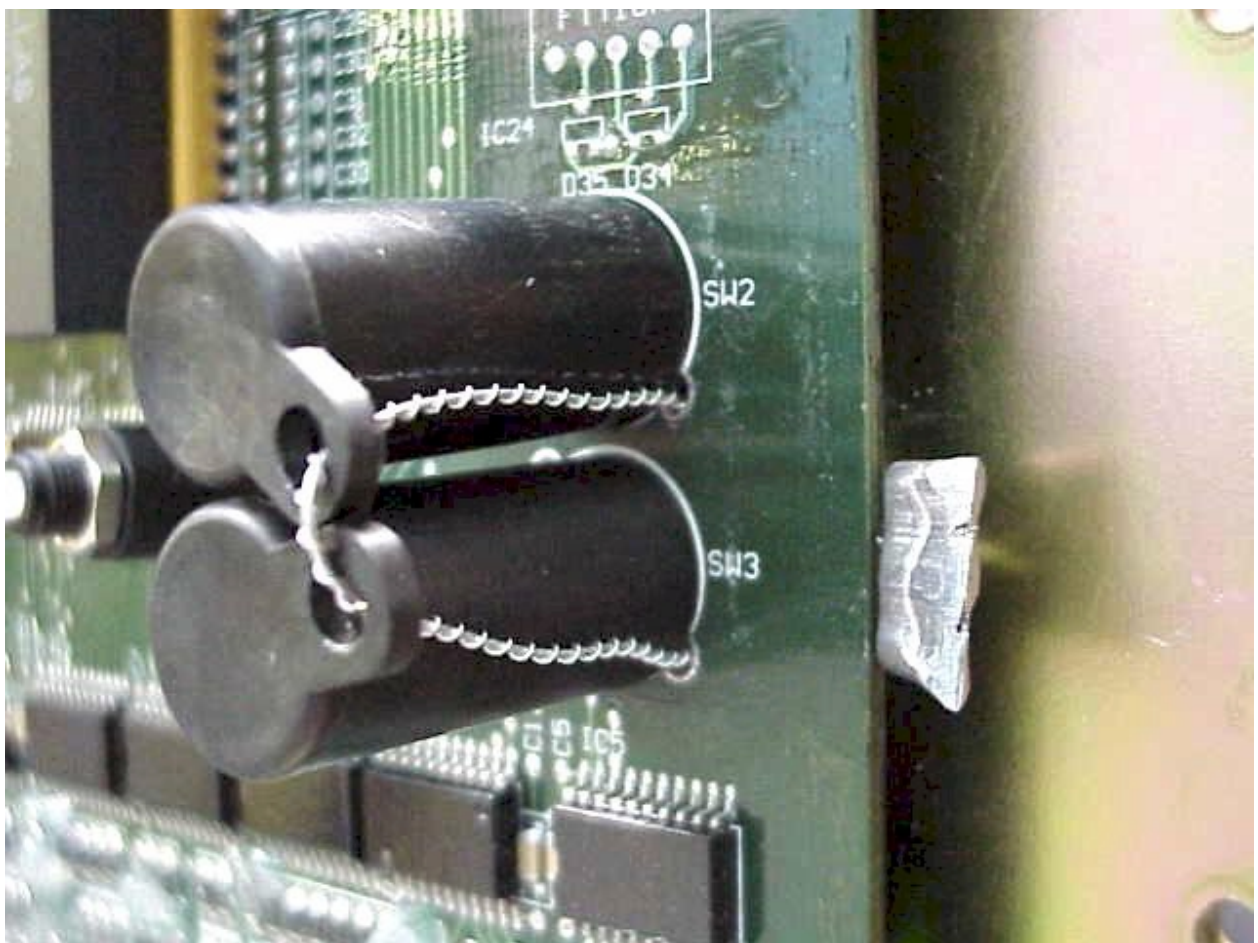
Compac Model C4000 Calculator/Indicator (Pattern)

FIGURE S377 - 2



Processing Circuit Board Showing Parameter and K-factor Switches

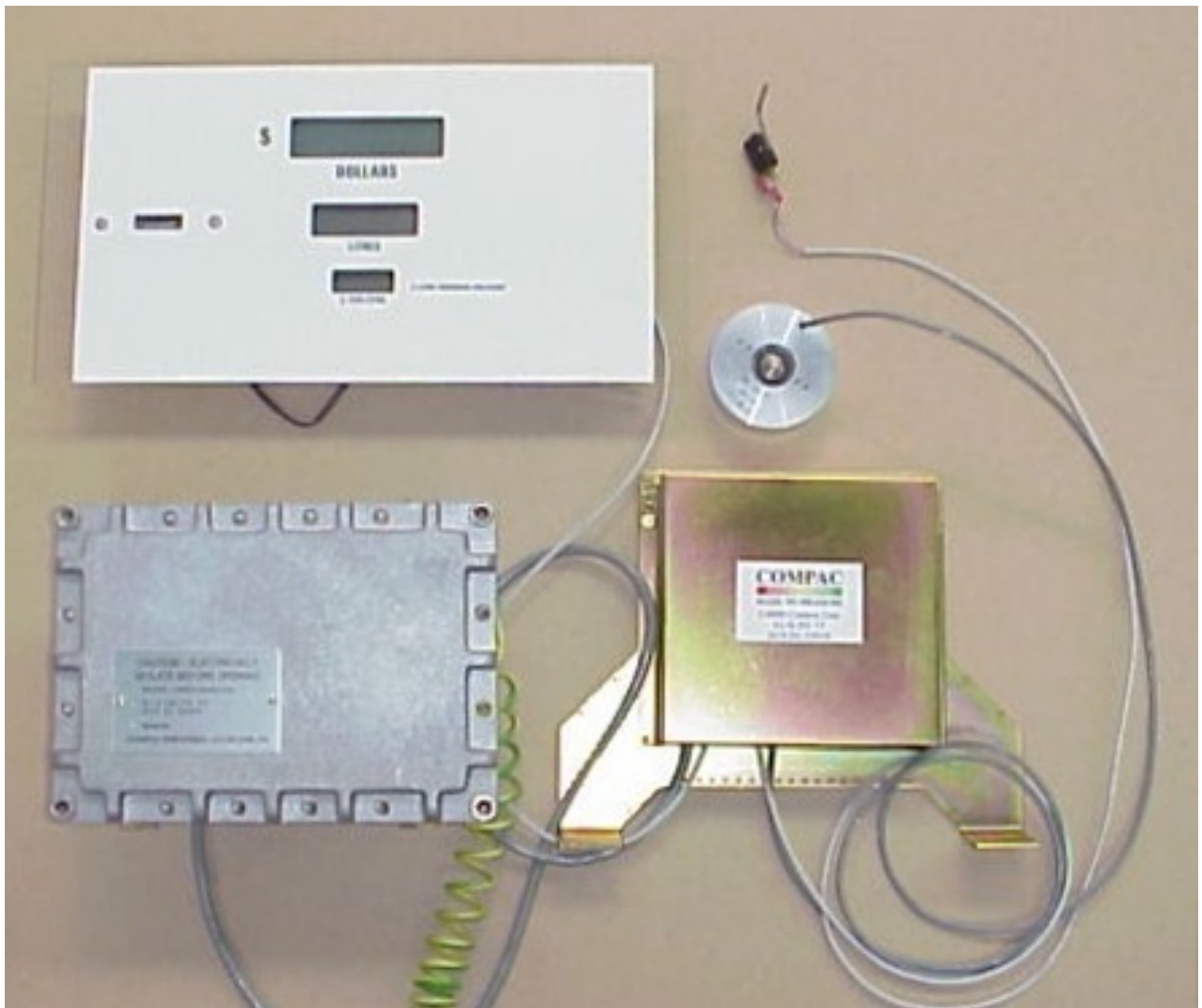
FIGURE S377 - 3



Showing Sealing

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FIGURE S377 - 4



With Single Unit Price Display (Variant 1)