National Standards Commission

Notification of Change

Supplementary Certificate of Approval No S304

Change No 1

The following changes are made to the approval documentation for the

Ranger Model 9000 Digital Indicator

submitted by Ranger Instruments
now of
41 Success Street
Acacia Ridge QLD 4110.

1. In Supplementary Certificate of Approval No S304 and its Technical Schedule both dated 6 June 1994, all references to the submittor's address should be amended to read:

   "41 Success Street
   Acacia Ridge QLD 4110."

2. In Supplementary Certificate of Approval No S304 dated 6 June 1994, the Condition of Approval referring to the expiry of the approval should be amended to read:

   "This approval expires in respect of new instruments on 1 November 2000."

Signed and sealed by a person authorised under Regulation 9 of the National Measurement (Patterns of Measuring Instruments) Regulations to exercise the powers and functions of the Commission under this Regulation.

National Standards Commission

Supplementary Certificate of Approval

No S304

Issued under Regulation 9
of the
National Measurement (Patterns of Measuring Instruments) Regulations

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

Ranger Model 9000 Digital Indicator

submitted by Ranger Instruments
167 Rudyard Street
Richlands QLD 4077.

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 is subject to review on or after 1/11/98.
This approval expires in respect of new instruments on 1/11/99.

Instruments purporting to comply with this approval shall be marked NSC No S304 and only by persons authorised by the submittor.

Instruments incorporating a component purporting to comply with this approval shall be marked NSC No S304 in addition to the approval number of the instrument.

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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 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.

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

The values of the performance criteria (maximum number of scale intervals etc.) applicable to an instrument incorporating the pattern approved herein shall be within the limits specified herein and in any approval documentation for the other components.

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

DESCRIPTIVE ADVICE

Pattern: approved 4/10/93

- A Ranger model 9000 digital mass indicator.

Variants: approved 4/3/94

1. With one or more accessory circuit boards to provide certain functions.

2. With a set point accessory circuit board and known as a model 9500.

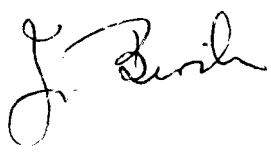
Technical Schedule No S304 describes the pattern and variants 1 and 2.

FILING ADVICE

The documentation for this approval comprises:

Supplementary Certificate of Approval No S304 dated 6/6/94
Technical Schedule No S304 dated 6/6/94 (incl. Table 1 and Test Procedure)
Figures 1 and 2 dated 6/6/94

Signed and sealed by a person authorised under Regulation 9 of the National Measurement (Patterns of Measuring Instruments) Regulations to exercise the powers and functions of the Commission under this Regulation.



National Standards Commission

TECHNICAL SCHEDULE No S304

Pattern: Ranger Model 9000 Digital Indicator.

Submittor: Ranger Instruments
167 Rudyard Street
Richlands QLD 4077.

1. Description of Pattern

A Ranger model 9000 digital mass indicator approved for use with up to 3000 verification scale intervals (Table 1), and which may be fitted with input/output sockets for the connection of auxiliary and/or peripheral devices.

Instruments may be as shown in Figure 1 or in alternative housings including as shown in Figure 2.

Instruments are fitted with a light emitting diode (LED) marked 'TRADE' which shall be illuminated.

1.1 Zero

Zero is automatically set to within ±0.25e whenever the instrument comes to rest within ±0.5e of zero. If the instrument comes to rest outside that range but within the zero setting range, zero may be set by pressing the zero button.

The initial zero-setting device has a nominal range of ±2%.

1.2 Display Check

A display check is initiated whenever power is applied.

1.3 Tare

A semi-automatic and/or a non-automatic subtractive taring device, each of up to maximum capacity, may be fitted.

1.4 Linearisation Device

The instrument may be fitted with a single point linearisation facility.

1.5 Verification/Certification Provision

Provision is made for a verification/certification mark to be applied.

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1.6 Sealing Provision

Provision is made for the instrument to be sealed using the two sealing thumbscrews in the nameplate as shown in Figure 1.

1.7 Markings

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

Manufacturer's name or mark			
Serial number			
Accuracy class			(III)
Maximum capacity			Max ..... *
Minimum capacity			Min ..... *
Verification scale interval			e = ... *
NSC approval numbers	-	indicator	NSC No S304
	-	other components	NSC No ..... #

* Repeated in the vicinity of each reading face.
\# May be located separately from the other markings.

NOTE: If the pattern is used with instruments of up to 100 kg maximum capacity, the indicator shall carry a notice stating 'NOT FOR TRADING DIRECT WITH THE PUBLIC'.

2. Description of Variants

2.1 Variant 1

With one or more accessory cards (circuit boards) to provide various management functions including communication, data output, remote input and clock/calendar facility.

2.2 Variant 2

With an 'Intelligent Set Point' accessory card to provide up to 6 set points. The indicator is then known as a model 9500.

Instruments may be in an alternative housing including as shown in Figure 2 or in the standard housing shown in Figure 1.

TABLE 1

Type: Ranger	9000/9500
Maximum number of verification scale intervals	3000
Minimum sensitivity	0.4×10^{-3} mV/scale interval
Excitation voltage	10 V DC
Minimum load impedance	43.75 ohms
Maximum excitation current	228 mA

TEST PROCEDURE

Instruments shall be tested in conjunction with any tests specified in the approval documentation for the instrument to which the pattern is connected, as appropriate, and 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.

FIGURE S304 - 1

Ranger Model 9000 Digital Indicator in Standard Housing

FIGURE S304 - 2

Ranger Model 9500 Digital Indicator in Alternative Housing