



RAPPORT

utfärdat av ackrediterat laboratorium / *REPORT issued by an Accredited Laboratory*

issued by Notified body No 0402



TEST CERTIFICATE No. 0402-MV m025

Indicator type TAD3

Issued to

Nobel Elektronik AB, Box 423, 691 27 Karlskoga, Sweden.

In respect of

The model of an **indicating device**, tested as a part of a weighing instrument.

Type TAD3
Manufacturer Nobel Elektronik AB, Box 423, 691 27 Karlskoga

Characteristics

Electronic indicating device to be used as a part of a non-automatic weighing instrument with the following characteristics:

- Class III, electronic self indicating single-interval, for industrial use.
- The maximum number of verification scale intervals is 10000.
- Temperature range: -10°C to +40°C.
- In the annex belonging to this certificate further essential characteristics are described.

Description and documentation

The indicating device is described in the annex to this certificate and documented in the documentation folder held by SP, both appertaining to this test certificate.

Issued by

Sveriges Provnings- och Forskningsinstitut, Box 857, S-501 15 BORÅS, Sweden.

In accordance with

Paragraph 8.1 of the European Standard on metrological aspects of non-automatic weighing instruments EN 45501:1992/AC:1993 and WELMEC 2.1. The applied error fraction p_i with reference to paragraph 3.5.4 of the European Standard is 0,5.

Borås, 21 December, 1999

SP Sveriges Provnings- och Forskningsinstitut

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General

All properties of the instrument, whether mentioned or not, may not be in conflict with the legislation and standard mentioned in the document.

Essential characteristics

Devices

- semi-automatic zero-setting
- zero indication
- zero-tracking
- semi-automatic tare balancing
- preset tare

Connections:

- power supply of 24 VDC
- minimum verification scale interval: 0,5 μ V
- load cell excitation voltage 4,8-10 V DC
- minimum load cell impedance 43 Ω
- maximum load cell impedance 500 Ω
- 6 wire sense system, maximum load cell cable length, see table below

Rlc, \geq	116 Ω	87 Ω	70 Ω	58 Ω	50 Ω	43 Ω
L, m/mm ²	2100	1850	1300	900	590	320

Essential parts

Description	Drawing no.	Rev	Remarks
Analogue board TAD3-POW Assembly Circuit diagram (4 pages) part list (12 pages)	400408		
	500432—35		
	110126	4	
Digital Board TAD3-CPU Assembly Circuit diagram (6 pages) part list (11 pages)	400406—7		
	500436—41		
	110127	3	
Keyboard TAD3-TAN Assembly Circuit diagram + part list (2 pages)	400551		
	500431		
	110128		

Essential shapes

Description	Drawing no.	Rev	Remarks
Assembly Drawing	300133		

Conditional parts

The indicator may be equipped with the following protective interfaces:

- Com1 channel RS-485 serial communication
- Com2 channel RS-485 serial communication
- Digital input
- Relay output



Location of securing and descriptive plate

Cabinet and Interfaces

Sealing of cabinet, load cell connection or I/O-port is not necessary.

Software

The software is secured by a audit trail number. By this method it is impossible to enter or change calibration parameters without generating a new trail number. On a stamping plate the trail number is inscribed at the time of stamping.

The trail number is displayed for 2 seconds during power up ("AT:xxx") and when the entering the 'Legal lock' menu. By comparing the number on stamping plate and the number in the display, it is always possible to control if the weight adjustment or the Legal Setup configuration has been changed. If the trail number shows "AT:off" or is not shown then the indicator can not be verified.

Check that the software version displayed during power up is "TxxxLxxx" where x is any digit.

Descriptive plate

Max, min and e, are indicated on the front panel, the accuracy class (III) is made of a self adhesive plastic sheet and may be sealed with a self-adhesive label. The name of the indicator, manufacturers name is printed on the front panel and can not be changed without destroying the panel.

The data plate with the and serial number, made of a self adhesive plastic sheet, which can not be removed without being destroyed, is placed on the backside of the indicator.

Tests carried out

The indicator is tested in accordance with SPs test procedure for indicators. The results are documented in the test report 0402-MVm025 dated 1999-12-16. The following tests have been carried out:

Test	Performed by	Result
Temperature effect on amplification	SP	passed
Temperature effect on no-load indication	SP	passed
Stability of equilibrium	SP	passed
Warm-up time	SP	passed
Voltage variations	SP	passed
Short time power reductions	SP	passed
Electrical bursts	SP	passed
Electrostatic discharges	SP	passed
Immunity to electromagnetic fields	SP	passed
Damp heat, steady state	SP	passed
Span stability	SP	passed