

EU Type Examination Certificate

No. 0200-MID-03136

SC5xx

AUTOMATIC CHECKWEIGHING INSTRUMENT

Issued by **FORCE Certification**
EU - Notified Body No. 0200

In accordance with the requirements for the automatic weighing instruments in Directive 2014/32/EU of the European Parliament and Council of February 26, 2014 on Measuring Instruments (MID).

Issued to **MJservice**
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In respect of Automatic checkweigher/catchweigher designated SC5xx.with variants of modules of load receptor and load cell.
Accuracy class XIII(1) / Y(a)
Maximum capacity: 1.5 kg to 150kg
Verification scale interval: $e = \geq 0.5$ g
Variants of modules and conditions for the composition of the modules are set out in the annex.

The conformity with the essential requirements in Annex 1 and the specific requirements in Annex MI-006, chapter I & II of the Directive 2014/32/EU is met by the application of OIML R51-1:2006, OIML D11:2013 section 12 & 13 with severity level 3, WELMEC Guide 7.2:2011, and WELMEC Guide 8.16-1:2013.

The principal characteristics and approval conditions are set out in the descriptive annex to this certificate.

The annex comprises 8 pages.

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Signatory: J. Hovgård

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Descriptive annex

Contents	Page
1. Name and type of instrument and modules	2
2. Description of the construction and function	2
2.1 Construction	2
2.2 Function	3
3. Technical data	4
3.1 SC5xx automatic checkweigher/catchweigher	4
3.2 Load receptor	4
3.3 Load cell	4
3.4 Documents	4
4. Interfaces	5
5. Approval conditions	5
6. Special conditions for verification	5
7. Securing and location of seals and verification marks	5
7.1 Securing and sealing	5
7.2 Verification marks	5
8. Location of CE mark of conformity and inscriptions	6
8.1 Identification plate	6
9. Pictures	7

1. Name and type of instrument and modules

The automatic checkweigher/catchweigher is a belt weighing scale designated SC5xx intended for dynamic or static weighing and manufactured by Scanvaegt Systems A/S.

2. Description of the construction and function

2.1 Construction

The SC5xx is a traditionally built checkweigher/catchweigher with an infeed belt conveyor, a weighing belt conveyor placed on a load receptor with one or more load cells, and separate outlet belt conveyors. The infeed belt conveyor may have integrated units like metal detectors, barcode readers or similar equipment.

The outlet conveyor may have an integrated system for rejection or sorting out over- and underweight items.

The electrical cabinet, the load receptor and the displaying unit can be placed in separate positions, the legs might vary accordingly.

SC5xx uses a SV0x weight transmitter and either a PT7xxx touch screen monitor or another displaying unit with an Evaluation / Part Certificate.

The instrument is software wise of Type P and Risk Class B with extension T according to WELMEC Guide 7.2:2011.

2.1.1 Indication

The PT7xxx touch screen or another displaying unit with an Evaluation / Part Certificate is used for all communication between the checkweigher and the operator.

2.1.2 Electronics

SC5xx has a dedicated SV0x weight transmitter module installed in which all setup and configuration parameters are stored. This module handles all weighing functions and is connected via a serial communication interface to the operator interface.

The checkweigher/catchweigher is power supplied from one phase 100 to 240 VAC, 50/60 Hz.

2.1.3 Load cell

Set out in Section 3.3.

2.1.4 Load receptor

Set out in Section 3.2.

2.1.5 Interfaces and peripheral equipment

Set out in Section 4.

2.2 Function

The functions provided are detailed below.

2.2.1 Functions and devices

The automatic weighing instrument has the following permitted functions and devices that are subject to the Measuring Instrument Directive:

- Power up test
- Initial zero setting device (max. 20 % of Max)
- Semi-automatic zero setting device (max. 4 % of Max and disabled in automatic mode)
- Zero tracking device (max 4 % of Max)
- Automatic zero setting device (max 4 % of Max)
- Dynamic linearization device
- Extended indicating device (service mode only)
- Event logger
- Check number device (CRC-16 calculation over legal parameters)
- Gravity compensation device
- Detection of significant fault

When the automatic weighing instrument is stopped it can operate as a non-automatic weighing instrument of accuracy class III.

2.2.2 Software identification

The software consists of weighing software and display software. The format of the software versions are xx.yy.zz, where xx is the legal version number and yy.zz is used for internal version control.

The installed software version for SV0x is displayed during power up on the service display of SV0x.

The installed software version of PT7xxx or another displaying unit can be displayed on request.

The approved software versions are,

SV0x weighing module software: 1.yy.zz

PT7xxx display software: 1.yy.zz

3. Technical data

3.1 SC5xx automatic checkweigher/catchweigher

Type:	SC5xx
Weighing mode:	Dynamic or static
Accuracy class:	XIII(1) / Y(a) III in non-automatic mode
Weighing range:	single-interval
Maximum capacity (Max):	1.5 kg to 150 kg
Minimum capacity (Min):	$50 \times e$
Verification scale interval ($e =$):	$\geq 0.5 \text{ g}$
Number of Verification Scale Intervals (n):	≤ 3000
Belt speed:	$\leq 80 \text{ m/min}$
Extra warm up time:	2 minutes
Maximum time between automatic zero setting:	117 minutes
Temperature range:	0 °C to 35 °C
Electromagnetic class:	E2
Humidity:	Non-condensing
Power requirements:	100 to 240 VAC, 50/60 Hz
Peripheral interface:	Set out in Section 4
Number of SV0X units handled by SC5XX:	1 to 4

3.1.1 SV01 weight transmitter

Minimum input voltage per VSI:	0.5 μV
Excitation voltage:	5 VDC
Minimum input impedance:	87 Ohm
Maximum input impedance:	1200 Ohm

3.2 Load receptor

The weighing conveyor is a belt conveyor placed on a load receptor equipped with one or more load cells.

3.3 Load cell

SC5xx uses a HBM PW15AH C3 load cell with $Y \geq 10000$.

Other certified load cells with the same or better specifications and fulfilling the Compatibility of Modules calculations of OIML R76-1.2006 annex F may be used.

3.4 Documents

The documents filed at DELTA (reference No. T210297) are valid for the weighing instruments described here.

4. Interfaces

The SC5xx has the following communication interfaces.

- Serial interface RS 232C, 2 isolated ports
- Serial interface RS 485
- Ethernet
- CAN bus
- USB
- Digital input, 12 isolated
- Relay output, 12 isolated
- Analog output, 0-20 mA

The interface is protective and does not have to be secured.

5. Approval conditions

SC5xx is approved for fixed installation in indoor locations.

6. Special conditions for verification

In stopped mode the SC5xx can operate as a non-automatic weighing instrument and shall be tested as such during verification or marked: “Not to be used for non-automatic weighing”.

7. Securing and location of seals and verification marks

7.1 Securing and sealing

Seals shall bear the verification mark of a notified body according to ANNEX F of the Directive 2014/32/EU or alternative mark of the manufacturer according to ANNEX D of the Directive 2014/32/EU.

7.1.1 Mechanical sealing

The identification plate shall be secured against removal with a brittle plastic sticker.

The load-cell connector is sealed with a sticker covering part of the terminal screw area.

The load-cell is connected to a separate weighing PCB board (SV-AD), which is internal connected to the SV0x main board. All legal settings are stored on the weighing module (SV-AD), which is protected against exchange by the above sealing of the connection to the load cell.

If a junction box for connection of load cells is used, it shall be sealed with stickers against opening.

7.2 Verification marks

A sticker with verification marks is to be placed on or near the identification plate of the instrument.

8. Location of CE mark of conformity and inscriptions

8.1 Identification plate

All inscriptions for the instrument shall be placed on the identification plate, which is to be placed on a visible place on the measuring instrument.

8.1.1 CE mark

The CE mark of conformity and the supplementary metrology marking consisting of the capital letter 'M' and the last two digits of the year of its affixing, surrounded by a rectangle, shall be located on the identification plate.

8.1.2 Markings on display

The following markings are permanently shown on the display,

- Max, Min, e and accuracy class

8.1.3 Markings on inscription plate

The identification plate shall at least bear the following inscriptions:

- Manufacturer's trademark and / or name
- Type designation
- Serial number
- Max. belt speed
- Temperature range
- Electromagnetic class: E2
- Humidity: Non-condensing
- Supply voltage
- Check number
- Type examination certificate number

9. Pictures



Figure 1 SC500 – example of mechanical construction

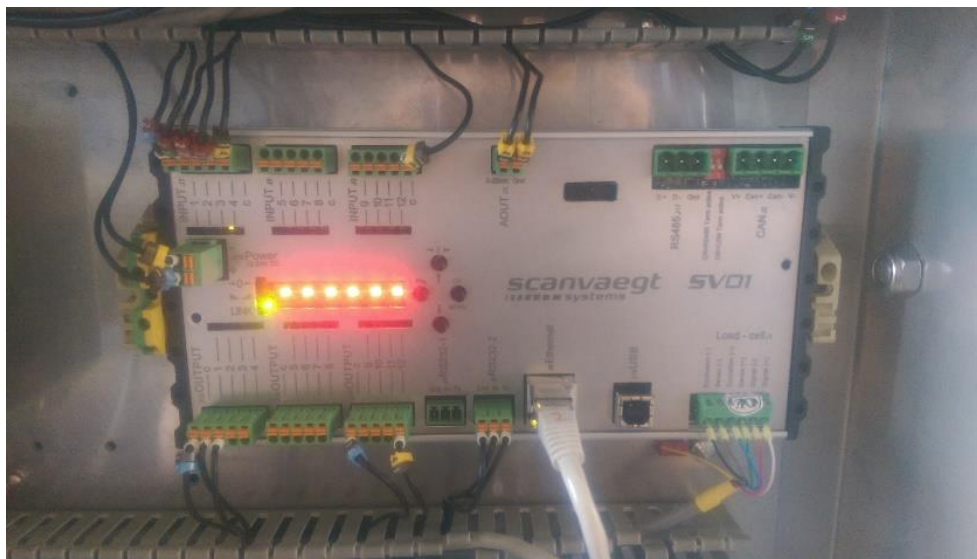


Figure 2 SV0x mounted inside SC5xx's cabinet for electrical parts

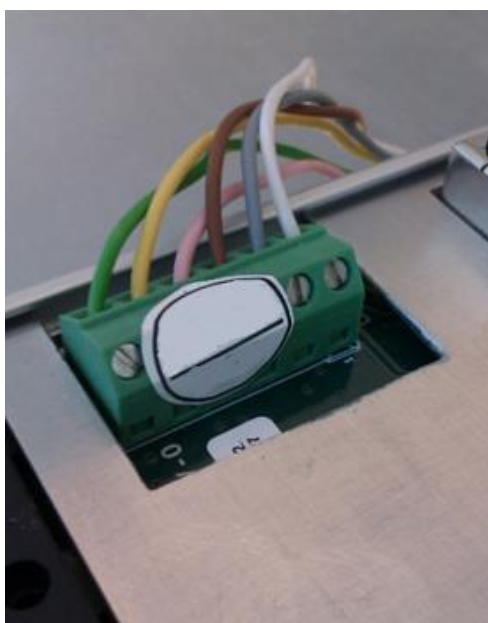


Figure 3 Sealing of load cell cable's connection to SV0x's A/D-module.



Figure 3 MJservice's logo