

EU Type Examination Certificate

No. 0200-MID-03967 Revision 2
POA310

AUTOMATIC CATCHWEIGHING INSTRUMENT

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

In accordance with the requirements in Directive 2014/32/EU of the European Parliament and Council.

Issued to **Mettler-Toledo A/S**
Naverland 8
2600 Glostrup
Denmark

In respect of Automatic catchweighing instrument designated POA310 with variants of modules of load receptors, load cells and peripheral equipment.
Accuracy class Y(a).
Maximum capacity, Max: 300 kg.
Verification scale interval: $e = 0.1$ kg
Maximum number of verification scale intervals: $n = 3000$
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 VIII (MI-006), chapter I & II of the Directive 2014/32/EU is met by the application of OIML R51-1:2006, WELMEC Guide 7.2, 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 9 pages.

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Signatory: J. Hovgård Jensen

Descriptive annex

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1. Name and type of instrument and modules

The automatic weighing instrument designated POA310 is a dynamic overhead track scale and is intended for the weighing of slaughtered animals or parts from those. It consists of an electronic weighing indicator and a separate load receptor made as a part of the overhead track conveyor.

The modules appear from the sections 3.1, 3.2 and 3.3; the principle of the composition of the modules is set out in the sections 6.1 and 10.

2. Description of the construction and function

2.1 Construction

2.1.1 IND690 weighing indicator

The weighing indicator of the POA310 overhead track scale is Mettler-Toledo's IND690 with installed Point module for conversion of the analogue load cell signal.

The module is specified in Section 3.2.

2.1.2 Load cells

Set out in Section 3.3.

2.1.3 Load receptor

Set out in Section 3.4.

2.1.4 Interfaces and peripheral equipment

Set out in Section 4.

2.2 Functions

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:

- Initial zero setting device (max. 20 % of Max)
- Semiautomatic zero setting device
- Zero tracking device
- Automatic zero setting device
- Semiautomatic subtractive tare balancing device
- Preset tare device
- Extended indicating device
- Alibi memory

2.2.2 Software

The software version of the IND690 weighing indicator can be displayed on request..

The software version of the IND690 firmware is 1.24.

The program number of the application software is IP61-0-0104.

The PAC No. of approved application software is 30004 v006 16.04.2007.

3. Technical data

The automatic weighing instruments and its modules are set out as follows:

3.1 POA310 Automatic weighing instrument

Type:	POA310
Accuracy class:	Y(a)
Maximum capacity (Max):	300 kg
Minimum capacity (Min):	10 kg
Verification scale interval (e):	e = 0.1 kg
Weighing range:	Single-interval
Number of Verification Scale Intervals (n):	3000
Maximum tare effect:	≤ 100 % of Max
Temperature range:	-10 °C to 40 °C
Weighing mode:	dynamic
Automatic zero setting:	between each weighing
Electromagnetic class:	E2
Humidity:	Non-condensing
Maximum time between automatic zero-setting:	55 minutes
Load receptor track length:	650 mm 800 mm
Distance between items on track:	≥ 750 mm ≥ 900 mm
Conveyor speed	5 to 10 m/min 6 to 20 m/min
Maximum weighing speed:	800 items/hour 1200 items/hour

3.2 Weighing indicator

The weighing indicator has the following characteristics:

Type:	IND690 with Point A/D-module
Temperature range:	-10 °C to 40 °C
Accuracy class:	III
Weighing range:	Single-interval
Maximum number of Verification Scale Intervals:	7500 (class III)
Internal resolution:	> 75,000 counts
Maximum tare effect:	Max within display limits
Fractional factor:	pi = 0.5
Minimum input-voltage per VSI:	0.58 μV
Minimum signal voltage for dead load:	3.5 mV
Excitation voltage:	8.75 Vdc
Analogue range:	0 to 26.25 mV
Circuit for remote sense:	None
Minimum input-impedance:	80 ohm
Maximum input-impedance:	1200 ohm
External mains power supply:	100 - 240 Vac
Peripheral interface:	Set out in Section 4

3.2.1 Connecting cable between the Weighing indicator and Junction box for load cells

Line:	6 wires (sensing), shielded
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Maximum length: 714 m/mm²

3.3 Load cells

3.3.1 General acceptance of modules

Any load cell(s) may be used for instruments under this type examination certificate provided the following conditions are met:

- 1) There is a respective Part / Evaluation / Test Certificate (EN 45501) or an OIML Certificate of Conformity (R60:2000 or R60:2017) issued for the load cell by a Notified Body responsible for type examination under Directive 2014/31/EU.
- 2) The certificate contains the load cell types and the necessary load cell data required for the manufacturer's declaration of compatibility of modules (WELMEC 2:2015), and any particular installation requirements). A load cell marked NH is allowed only if humidity testing to EN 45501 has been conducted on this load cell.
- 3) The compatibility of load cells and indicator is established by the manufacturer by means of the compatibility of modules form, contained in the above WELMEC 2 document, or the like, at the time of EC verification or declaration of EC conformity of type.
- 4) The load transmission must conform to one of the examples shown in the WELMEC 2.4 Guide for load cells.

3.4 Load receptors

The load receptor of the POA310 is an overhead track with built-in chain conveyor, which have a speed slightly higher than that of the track conveyor to ensure that the hook of the item to be weighed gets free of the pulling finger of the track conveyor.

The load receptor is made in two versions, one where the track on the load receptor is 650 mm long, and one where the track on the load receptor is 800 mm long. Other differences in specifications between the two versions can be seen in section 3.1.

3.5 Composition of modules

In case of composition of modules, EN 45501 annex F shall be satisfied.

3.6 Documents

The documents filed at FORCE (reference No. A530515) are valid for the weighing instruments described here.

4. Interfaces and peripheral equipment

4.1 Interfaces

One or more of the following interfaces may be incorporated. The interfaces are characterised “Protective interfaces” according to paragraph 8.4 in annex I of the Directive and need not to be secured.

4.1.1 Serial I / O Interface

Serial data interfaces RS232, RS422, RS485, CL 20 mA for connection of peripheral equipment.

4.1.2 Digital I/O.

Binary input / outputs for control signals.

4.1.3 Analogue output

The analogue output signals are not to be used for purposes, which are subject to legal metrological control.

4.1.4 Keyboard interface

A PS/2 interface for connection of an external keyboard.

4.2 Peripheral equipment

Connection between the indicator and peripheral equipment is allowed by screened cable.

The instrument may be connected to any simple recipient printer with a CE mark of conformity.

5. Approval conditions

5.1 Connection of cables

All cables shall be shielded, and the shield shall be properly EMC wise connected to the housing / connector in both ends.

5.2 Compatibility of modules

For composition of modules EN 45501:2015 annex F shall be satisfied.

6. Special conditions for verification

The housing of the A/D module Point shall be sealed.

6.1 Composition of modules

The alibi memory device shall be installed in the weighing indicator.

The composition of modules shall agree with Section 5.2.

An example of a declaration of conformity document is shown in Section 10.

7. Securing and location of seals and verification marks

7.1 Securing and sealing

The weighing indicator, the junction box for load cell cables, and connectors of the load cell cables shall be secured or sealed.

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

7.1.1 Mechanical sealing

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

7.2 Verification marks

A metrological M-sticker and a sticker with verification marks are to be placed on 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 located on the display module.

8.1.1 CE mark and metrological M

A CE mark of conformity and year of production grouped together with space for the metrological M shall be located on the identification plate.

8.1.2 Inscriptions

The identification plate shall bear the following inscriptions:

- Manufacturer's trademark and / or name
- Postal address of manufacturer
- Type designation
- Serial number
- Max, Min and e (these shall additional be duplicated near the display unless the description plate is located near the display)
- Conveyer speed
- Temperature range: -10 / +40 °C
- Electromagnetic class: E2
- Humidity: Non-condensing
- Type examination certificate number

9. Pictures



Figure 1 The IND690 weighing indicator.

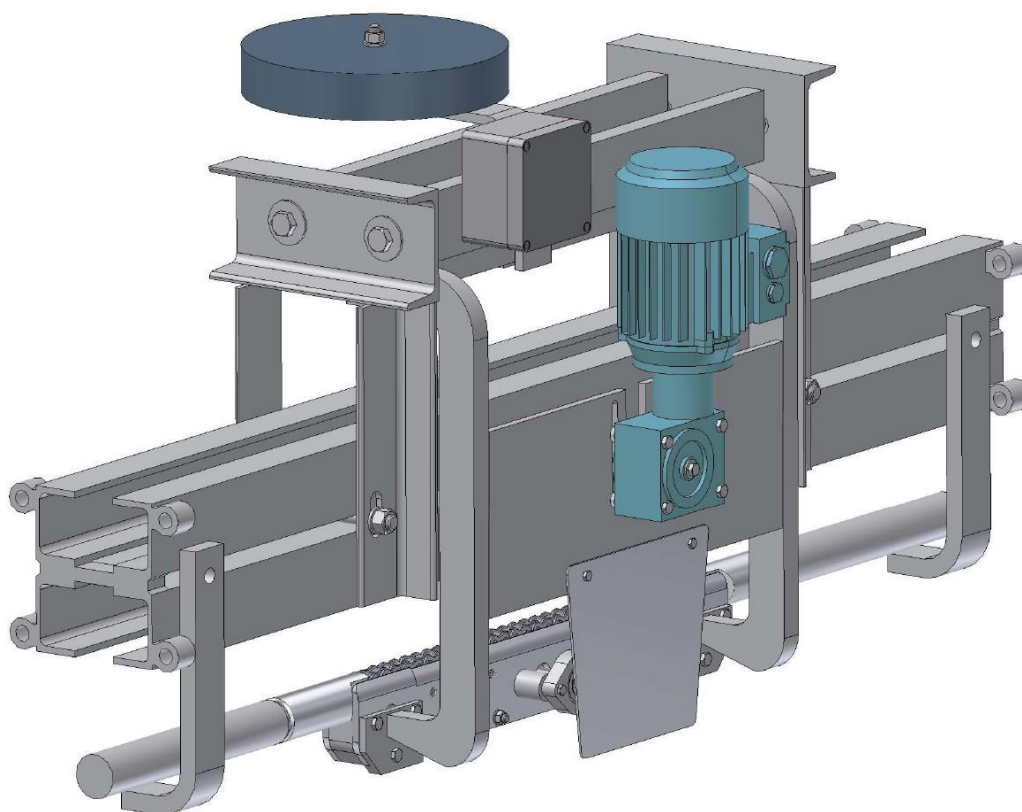


Figure 2 Overhead track load receptor for POA310.

10. Composition of modules – an example

COMPATIBILITY OF MODULES

Ref.: WELMEC 2

Automatic Weighing Instrument, single-interval

Certificate of EU Type-Approval N°:

TAC: 0200-MID-03967

INDICATOR

A/D (Module 1)

Type: IND690 with Point module

Accuracy class according to EN 45501 and OIML R76:

Class_{ind} (I, II, III or IIII) III

Maximum number of verification scale intervals (n_{max}):

n_{ind} 7500

Fraction of maximum permissible error (mpe)

p₁ 0,5

Load cell excitation voltage:

U_{exc} [Vdc] 8,75

Minimum input-voltage per verification scale interval:

ΔU_{min} [μV] 0,58

Minimum load cell impedance:

R_{Lmin} [Ω] 80

Coefficient of temperature of the span error:

Es [% / 25°C]

Coefficient of resistance for the wires in the J-box cable:

Sx [% / Ω]

Specific J-box cable-Length to the junction box for load cells

(L/A)_{max} [m / mm²] 714

Load cell interface:

6-wire (remote sense)

Additive tare, if available:

T* [% of Max] 0

Initial zero setting range

IZSR [% of Max] -10 / 10

Temperature range

T_{min} / T_{max} [°C] -10 / 40

Test report (TR), Test Certificate (TC) or OIML Certificate of Conformity:

LOAD RECEPTOR

(Module 2)

Type: POA310, 800 mm

Construction:

Overhead track

Fraction of mpe:

p₂ 0,5

Number of load cells:

N 2

Reduction ratio of the load transmitting device:

R=F_M / F_L 1

Dead load of load receptor

DL [% of Max] 30

Non uniform distribution of the load

NUD [% of Max] 20

Correction factor:

Q = 1 + (DL + T* + IZSR* + NUD) / 100 1,6

LOAD CELL

ANALOG (Module 3)

Type: Revere 9102

Accuracy class according to OIML R60:

Class_{LC} (A, B, C or D) C

Maximum number of load cell intervals:

n_{LC} 3000

Fraction of mpe:

p₃ 0,7

Rated output (sensitivity):

C [mV / V] 2

Input resistance of single load cell:

R_{LC} [Ω] 350

Minimum load cell verification interval: (v_{min%} = 100 / Y)

v_{min%} [% of E_{max}] 0,00667

Rated capacity:

E_{max} [kg] 454

Minimum dead load, relative

(E_{min} / E_{max}) * 100 [%] 0

Temperature range

T_{min} / T_{max} [°C] -10 / 40

Test report (TR) or Test Certificate (TC/OIML) as appropriate

TC2331

COMPLETE WEIGHING INSTRUMENT

Single-interval

Manufacturer:

Mettler Toledo

Type: POA310, 800 mm

Accuracy class according to EN 45501 and OIML R76:

Class_{WI} (I, II, III or IIII) III

Fractions: p₁ = p₁² + p₂² + p₃²:

p₁ 1,0

Maximum capacity:

Max [kg] 300

Number of verification scale intervals:

n 3000

Verification scale interval

e [kg] 0,1

Utilisation ratio of the load cell

α = (Max / E_{max}) * (R / N) 0,33

Input voltage (from the load cells):

Δ_u = C * U_{exc} * α * 1000 / n [μV/e] 1,93

Cross-section of each wire in the J-box cable:

A [mm²] 0,22

J-box cable-Length

L [m] 10

Temperature range to be marked on the instrument

Not required T_{min} / T_{max} [°C]

Peripheral Equipment subject to legal control

Acceptance criteria for compatibility			Passed, provided no result below is < 0		
Class _{WI}	<=	Class _{ind} & Class _{LC} (WELMEC 2: 1)	Class _{WI}	:	PASSED
pi	<=	1 (R76: 3.5.4.1)	1 - pi	=	0,0
n	<=	n _{max} for the class (R76: 3.2)	n _{max} for the class - n	=	7000
n	<=	n _{ind} (WELMEC 2: 4)	n _{ind} - n	=	4500
n	<=	n _{LC} (R76: 4.12.2)	n _{LC} - n	=	0
E _{min}	<=	DL * R / N (WELMEC 2: 6d)	(DL * R / N) - E _{min}	=	45
v _{min} * √N / R	<=	e (R76: 4.12.3)	e - (v _{min} * √N / R)	=	0,057
or (if v _{min} is not given)			Alternative solutions:		
(E _{max} / n _{LC}) * (√N / R)	<=	e (WELMEC 2: 7)	e - ((E _{max} / n _{LC}) * (√N / R))	=	1,35
ΔU _{min}	<=	ΔU (WELMEC 2: 8)	ΔU - ΔU _{min}	=	95
R _{Lmin}	<=	R _{LC} / N (WELMEC 2: 9)	(R _{LC} / N) - R _{Lmin}	=	669
L / A	<=	(L / A) _{max} ^{WI} (WELMEC 2: 10)	(L / A) _{max} ^{WI} - (L / A)	=	20
T _{range}	<=	T _{max} - T _{min} (R76: 3.9.2.2)	(T _{max} - T _{min}) - T _{range}	=	214,0
Q * Max * R / N	<=	E _{max} (R76: 4.12.1)	E _{max} - (Q * Max * R / N)	=	

Signature and date:

Conclusion PASSED

This is an authentic document made from the program:
"Compatibility of NAWI-modules version 3.2".