DANAK
PROD Reg. nr 7026

FORCE Certification

EU Type Examination Certificate

No. 0200-MID-04559

M2400-P03-OHTS-xxxxxx

AUTOMATIC CATCHWEIGHING 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 **Marel ehf**
Austurhraun 9
210 Gardabaer
Iceland

In respect of Automatic catch weighing instrument designated M2400-P03-OHTS-xxxxxx with variants of modules of load receptors, load cells and peripheral equipment.
Accuracy class Y(a).
Maximum capacity: 150 kg to 1200 kg
Verification scale interval: e ≥ 0.1 kg
Maximum number of verification scale intervals: n = 3000 (however dependent on environment and the composition of the modules).
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 and WELMEC Guide 7.2:2015.

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

The annex comprises 18 pages.

Issued on **2018-07-03**
Valid until **2028-07-03**

Signatory: J. Hovgård

FORCE Certification references:
Task no.: 118-23094 and ID no.: 0200-MID-04559

Descriptive annex

Contents

1. Name and type of instrument and modules

The automatic catch weighing instrument is an overhead track scale designated M2400-P03-OHTS-xxxxxx and is intended for dynamically weighing. It consists of an electronic weighing indicator M2400-P03 and a load receptor, where 'xxxxxx' is the name of the load receptor type.

A separate control cabinet contains I/O (input / output) electronics and frequency converter for control of the velocity of the transporting chain on the load receptor. It also contains the Mains Switch, Emergency Stop, Start-Stop for automatic operation and visual error indication.

When the automatic catch weighing instrument is used for applications that can be regarded as non-repeatable, the M2400-P03 shall be configured with the internal alibi storage device enabled.

The modules appear from the sections 3.1, 3.2, 3.3 and 3.4; the principle of the composition of the modules is set out in the sections 6.1 and 10.

1.1 Weight or price labeller

The Marel M2400-P03-OHTS-xxxxx can also operate as a weight or price labeller when used together with Marel Secure Print (Evaluation Certificate No. DK0199-16.07).
Marel M2400-P03-OHTS-xxxxx and Marel Secure Print can be configured the following three ways,

- Immediately printing, where the label printer is placed immediately after the weighing instrument.
- Integrated system, where several weighing instruments share a common printer.
- Delayed printing, where weighted items from one or several weighing instruments are transported and/or stored, before the labelling takes place.

The Evaluation Certificate for Marel Secure Print contains information about how weight records can be displayed in the period after the weighing is performed until the label is printed.

2. Description of the construction and function

2.1 Construction

2.1.1 Indicator

The M2400-P03 indicator is watertight and the enclosure is made of stainless steel. The enclosure consists of two parts, a bottom part with fastening lugs and cable glands, and a top part with a transparent display window and a touch sensitive keypad. The electronics board is mounted to a aluminium bracket, which is fastened to the bottom part of the enclosure. The enclosure is held together by four screws, one in each corner of the bottom part. The indicator is mounted on a stainless steel wall bracket on which the indicator can be tilted back and forth. A fastening handle on each side is then used for adjusting the tilting. On the front side of the indicator is a clear plastic window through which the Primary Weight Display, rating plate and other display annunciators can be seen. On the right side of the display window is a fifteen keys keypad, and beneath it is four programmable function keys for operating the indicator.

The front panel comprises,

- a 640x480 pixel LCD display with backlight, size 86x115 mm (15 lines of 40 characters in the standard font size and 30 lines of 80 characters in a small font size) This display is used for all indications; like the primary weight display, weighing unit indication, STEADY indication, ZERO indication, NET indication and Max, Min, division and range information
- eleven keys numeric keypad (0 to 9 and a decimal point)
- a check mark key (enter key)
- a page key for menu access and navigation
- two up and down arrow keys for navigation
- four programmable function keys. The rightmost one functions as a combined ZERO and TARE key, or just a ZERO key. In that case the key beside it can be made to function as a separate TARE key (separate ZERO and TARE keys).

Also on the front panel is a window to the instrument's rating plate.

On the bottom side of the indicator are five cable glands for connecting peripheral equipment, power and load cell. Also on the bottom side is a forward facing 38x100 mm plate for verification and sealing marks.

Electronics: One PCB containing all electronics is mounted to an aluminium bracket mounted to the bottom part of the enclosure. Connection to power, peripheral and load cell cables are via connectors on the bottom edge of the PCB. The keypad connection is in the top-left corner of the PCB.

The optional universal mains power supply is mounted to the same bracket as the PCB. The instrument runs on 12-24 VDC power or optionally on AC mains power.

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 Function

The instrument is a microprocessor based electronic indicator for internal connection to load receptors with strain gauge load cells. Two verified load cell inputs are provided. The weight information appears in a primary weight digital display on the front panel LCD display, and may be transmitted to peripheral equipment.

The primary weight display is used to display other information than weight during setup and adjustment, and also during display test and during a significant fault. During the display of other information, the weighing mode is inoperative.

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)
- Semiautomatic zero setting device
- Zero tracking device
- Automatic zero setting device
- Semiautomatic subtractive tare balancing device
- Preset tare device
- Storing preset tare
- Extended indicating device (service mode only)
- No motion detection and indication
- Gravity compensation
- Detection of significant fault
- Internal data storage device (Alibi)

2.2.2 Software identification

The software consists of a weighing module software, an indicator firmware and a Lua script.

The weighing module version has the form ABC and any change requires contact with a certifying authority.
The firmware version has the form x.yy-zz, where the "x" represents major changes affecting the legal functionality, "yy" represents minor changes not affecting the legal functionality and "zz" represents minimal changes and bug fixes.

The Lua script version has the form 6009.2400.lua.x.yy, where the "x" represents major changes affecting the legal functionality, "yy" represents minor changes not affecting the legal functionality and bug fixes.

The approved versions are,

Weighing module:	100
Firmware:	1.08-08 or higher (up to 1.99-99).
Lua script:	6009.2400.lua.2.xx (where xx $\geq$ 14)

3. Technical data

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

3.1 M2400-P03-OHTS-xxxxxx automatic weighing instrument

Type:	M2400-P03-OHTS-xxxxxx
Accuracy class:	Y(a)
Weighing mode:	Dynamic
Weighing range:	Single-interval
Maximum capacity (Max):	150 kg to 1200 kg
Minimum capacity (Min):	≥ 200 e
Verification scale interval (e):	e ≥ 0.05 kg ≥ 0.25 µV
Number of Verification Scale Intervals (n):	≤ 3000
Maximum tare effect:	≤ 100 % of Max
Weighing speed:	600 to 1150 items/hour
Temperature range:	-10 ° to 40 °C
Maximum time between automatic zero setting:	75 minutes for e ≥ 0.66 µV 27 minutes for 0.66 µV > e ≥ 0.25 µV
Extra warm-up time:	1 minutes for e ≥ 0.66 µV 12 minutes for 0.66 µV > e ≥ 0.25 µV
Electromagnetic class:	E2
Humidity:	Non-condensing

3.2 Weighing indicator

The M2400-P03 weighing indicator has the following characteristics:

Type:	M2400-P03
Accuracy class:	III and IIII
Load Cell inputs:	2 equivalent LC inputs
Weighing range:	Single-interval, multi-range (up to 3 ranges)
Maximum capacity (Max):	0.3 kg to 300 000 kg
Verification scale interval (e_i =):	≥ 0.1 g
Number of Verification Scale Intervals (n_i):	≤ 10000 (class III), ≤ 1000 (class IIII)
Maximum tare effect:	-Max
Fractional factor:	p'i = 0.5
Minimum input voltage per VSI:	0.25 µV
Excitation voltage:	±3 VDC bipolar (6 V effective)
Circuit for remote sense:	Present on the model with 6-terminal connector
Minimum input impedance:	87 ohm
Maximum input impedance:	1100 ohm
Mains power supply:	12 to 24 VDC or 110-230 VAC, 50/60 Hz
Operational temperature:	-10 °C to +40 °C
Electromagnetic class:	E2
Peripheral interface:	Set out in Section 4

3.2.1 Connecting cable between the indicator and the junction box for load cells

The cable between the weighing indicator and a junction box for load cells shall be a 6-wire system using sense.

3.2.1.1 6-wire system

Line : 6 wires, screened

Maximum cable length between indicator and junction box (J-box) for load cell(s), if any:

Option 1:

Maximum length:	1077 m/mm2
Maximum resistance per wire:	18.2 ohm

In case the (n) for the weighing instrument is less than (nmax) mentioned above, the following applies:

Option 2:

Coefficient of temperature of the span error of the indicator: Es = 0.0023 % / 25K
Coefficient of resistance for the wires in the J-box cable: Sx = 0.001429 % / ohm

L/Amax = 295.86 / Sx * (emp / n - Es) [m / mm²] in which emp = p'i * mpe * 100 / e

From this, the maximum cable length for the weighing instrument may be calculated with regard to (n) for the actual configuration of the instrument. (Reference: WELMEC 2.1, annex 5.)

Reference: See section 10.

3.3 Load cells

3.3.1 General acceptance of analogue load cells

Any analogue load cell(s) may be used for instruments under this certificate of type examination 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) 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 following type(s) of load receptor(s) are approved for the automatic weighing instrument:

- RL7000 Overhead track for dynamically weighing for capacities ≥ 300 kg
- Overhead rail load receptor based on 2 load cells for capacities ≤ 300 kg

3.5 Composition of modules

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

4. Interfaces and peripheral equipment

4.1 Interfaces

The interfaces are characterised "Protective interfaces" according to paragraph 8.1 in annex I of the Directive.

The indicator can be equipped with the following communication and I/O interfaces,

- 2 RS-232
- 2 USB
- Ethernet
- 4 digital input/outputs
- CAN bus

4.2 Peripheral equipment

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

The instrument may be connected to any simple peripheral device (e.g. a 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

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

6. Special conditions for verification

6.1 Composition of modules

The environmental conditions should be taken into consideration by the composition of modules for a complete weighing instrument, for example instruments with load receptors placed outdoors and having no special protection against the weather.

The composition of modules shall agree with Section 5.2.

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

6.2 Extended resolution

M2400 can in test mode be set to show the weight with a resolution d = 0.1×e.
This mode shall be disabled before the indicator is sealed/secured.

6.3 Data storage device

The data storage device (alibi) of M2400-P03 shall be enabled, when the automatic catch weighing instrument is used for applications that can be regarded as non-repeatable and the weight is not printed, or when the weighing result is transmitted to Marel Secure Print for printing.

7. Securing and location of seals and verification marks

7.1 Securing and sealing

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

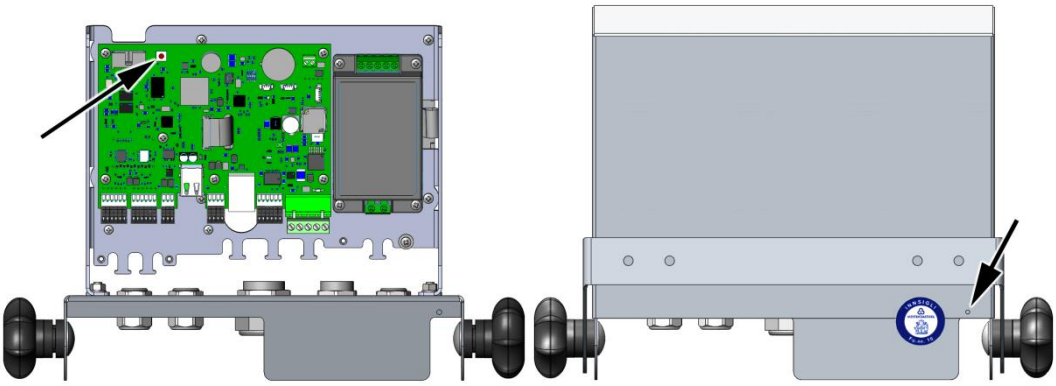
The identification plate shall be secured against removal with a brittle plastic sticker.

7.1.2 M2400-P03 indicator sealing

The M2400-P03 settings can either be sealed or secured. Load cell connections are sealed by a wire and a plumb seal or a brittle plastic sticker, in such a way that the enclosure cannot be opened. Means are provided for both types of seal.

Sealing the M2400-P03

By pressing an internal switch (the access control switch, S1), one can set the M2400-P03 access control to "locked" (the default setting is "normal"). In the "locked" state, secured controls cannot be modified. The M2400-P03 enclosure is then sealed using a brittle plastic seal or a wire and a plumb seal. This prevents access to the switch. The access times out automatically.

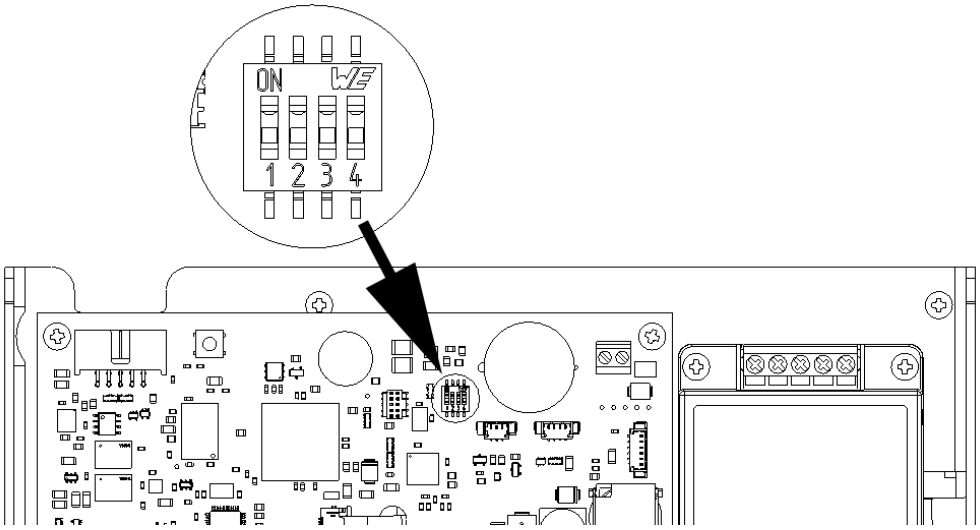


The access control switch (S1), a brittle plastic seal and a hole for wire & plumb seal

Press "page" for a few seconds and then the "check" key to access the "v-Audit Trail" menu:

```
                                        16:14 11-May-16
 Audit logs
 LC/Receptor sn.
 ----------------------------------------
 S2 DIP switch [SEAL=0 CON=0 J3=0 J4=0]
 Access configurable (S1 button)     No
>Access control                   Normal
 Passwords configurable               No
 ----------------------------------------
 CAL Event Count                       1
 CON Event Count                       1
 ----------------------------------------
 Note:
```

Press the access control switch, S1, and watch the "Access configurable" become "Yes". Select "Access control" and change the setting to "Locked". After a short time-out, this setting can no longer be changed without pressing the button again. Pressing the button again while the access is configurable, does the same thing.



A second method to seal the indicator is to put the DIP switch S2-1 in the "ON" position and close the indicator and apply external seals. The status can be observed in the same manner as previously (press the "page" key for a few seconds and then the "check" key).

Securing by event counters CAL and CON

The instrument is secured by two event counters, CAL and CON, which are incremented each time the calibration or sealed configuration parameters are changed. The maximum count of both event counters is 999, starting from 001.

At verification the value of the two event counters is written on a brittle plastic sticker - sealed with a verification mark - next to it.

If the value of the CAL or CON differs from the one written at verification time, the seal is broken.

The sealed CAL = -1- and CON = -2- sticker. The hyphens are for preventing fraudulent modification of the inscription.

The CAL and CON status is observed in the same menu as other seal status (see previous text).

Secured parameters protected by the CON counter

Weighing module version	100
Max1	60.0kg
e1	0.1kg
Max2	0.0kg
e2	0.1kg
Initial zero at startup	Yes
Seal extra resolution	No
Seal zero tracking	No
Seal response	No
Allow remote zero and tare	No
Blank display below zero	No
Allow variable display units	No
Prevent script update	No
Allow non-metric display units	No
Use external alibi server	No
Use catchweighing (OIML R51)	No
Use totalizing (OIML r51 & R107)	No
Minimum weight	20.0kg
Minimum totalized weight	1.0kg
Warmup time (s)	60
Max age of zero (s)	900
Use combined zero and tare button	Yes
Max3	0.0kg
e3	0.1kg
Pause before recording (s)	0.1
Pause before taking zero (s)	0.1
Use alibi	Yes
Multi-interval (unapproved)	No
Dynamic weighing allowed	No
Seal marine scale	No
SA-3	0.0
SA-4	0.0
SA-5	0.0
SA-6	0.0
SA-7	0.0
SA-8	0.0
SA-9	0.0
SA-10	0.0
SA-11	0.0
SA-12	0.0
SA-13	0.0
SA-14	0.0
SA-15	0.0
SA-16	0.0
SA-17	0.0
SA-18	0.0
Dynamic recording guard	0.7
Use zero button	No
Allow two active tares	No
Stability time (ms)	100
Stability goal (% of div)	10
Approval Nr.	
Scale nmax	3000
Serial no. load receptor	A12345678
Serial no. load cell	B1234534534
Serial no. load receptor-2	
Serial no. load cell-2	

Secured parameters protected by the CAL counter

Units	kg
AD1 zero point	0
AD1 load point	1000000
AD1 span factor	1.7879e-07
Gravity factor	1.000000
Weigher type	Scale using AD1
AD1 correct linearity at	0.00kg
AD1 correct linearity by	0.00kg
AD2 correct linearity at	0.00kg
AD2 correct linearity by	0.00kg
AD2 zero point	0
AD2 load point	0
AD2 span factor	9.6970e-07
Use gravity compensation	No
Use linearity compensation	No

7.1.3 Indicator - load cell connector - load receptor

Securing of the indicator, load receptor, and load cell combined is done the following way:

- Sealing of the M2400-P03 enclosure with brittle plastic sticker(s) or a wire and a plumb.

In special cases where the place of installation makes it impossible to use the above sealing:

- Entering the serial number of the load receptor in a protected memory and displaying it in a menu.

7.1.4 Junction box for load cells

Access to the junction box, if any, is prevented by means of sealing by plastic stickers or with wire and seals.

7.1.5 Peripheral interfaces

The peripheral interfaces are “protective”; it neither allows manipulation with weighing data or legal setup, nor change of the performance of the weighing instrument in any way that would alter the legality of the weighing.

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 a visible place on the measuring instrument.

8.1.1 CE mark

CE mark and supplementary metrological marking shall be applied to the inscription plate according to article 21 of Directive 2014/32/EU.

8.1.2 Inscriptions

On the front panel:

- Manufacturer's trademark and name
- Indicator family name (M2400)

On the LCD display:

- Max_i, Min_i and e_i =
- accuracy class
- EU type examination certificate number (optional)

On a printed sticker visible in a window on the front panel or at a special plate on the bottom of the indicator:

- Manufacturer's postal address
- Type designation
- EU type examination certificate number (if not shown on LCD display)
- Serial number
- Electromagnetic and humidity classes (E2, non-condensing)
- supply voltage and current

8.1.2.1 Load receptors

On a data plate:

- Manufacturer's name, type, serial number, capacity

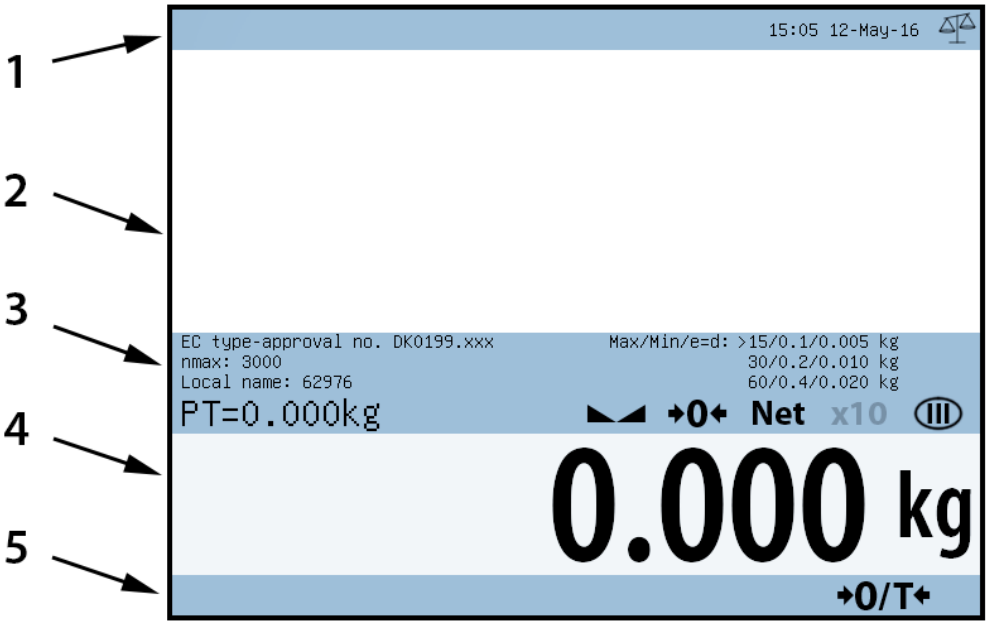
In special cases as provided in Section 7.1.3:

- Serial no. of the indicator

9. Pictures

No.	Description	No.	Description
1	The M2400 electrical enclosure	12	The numerical keypad, 11 keys
2	The M2400 LCD display panel	13	The weighing range indication
3	The title bar	14	The accuracy class mark and indicators
4	The Lua script display area	15	The weighing unit
5	The information banner	16	The page or home button
6	The preset tare display	17	The up and down arrow buttons
7	The primary indication display	18	The check, or enter, button
8	The button/key banner	19	The combined zero and tare button
9	Four programmable keys	20	The permanent marking label
10	The Marel logo	21	The cable glands
11	The area for verification and conformity marks	22	The wall bracket and tilt adjustment

Figure 1: M2400 indicator.



Item	Description
1	The title banner. The firmware uses this banner to display information, like the current position in the menu tree (to some extent), the clock and the date.
2	The Lua application display area. A Lua application program, or script, can use this area for displaying user information. A common application is to use this area to allow the operator to set further information about the weighing, such as what is to be weighed, and from where the material is coming and where it is going. Such information is then recorded with the weighing information.
3	The information banner. This banner is used to display various markings that do not need to be permanent when power is removed. This is also where the preset tare is displayed, if used, and where the instrument status is shown.
4	The primary indication display. This is where the weight is displayed and the weighing unit.
5	The button/key banner. The M2400 indicator has four programmable buttons beneath the LCD display. This banner is for displaying the function of each button. The rightmost button is usually used as a combined zero and tare button when the scale is in normal use.

Figure 2: M2400 primary indication display

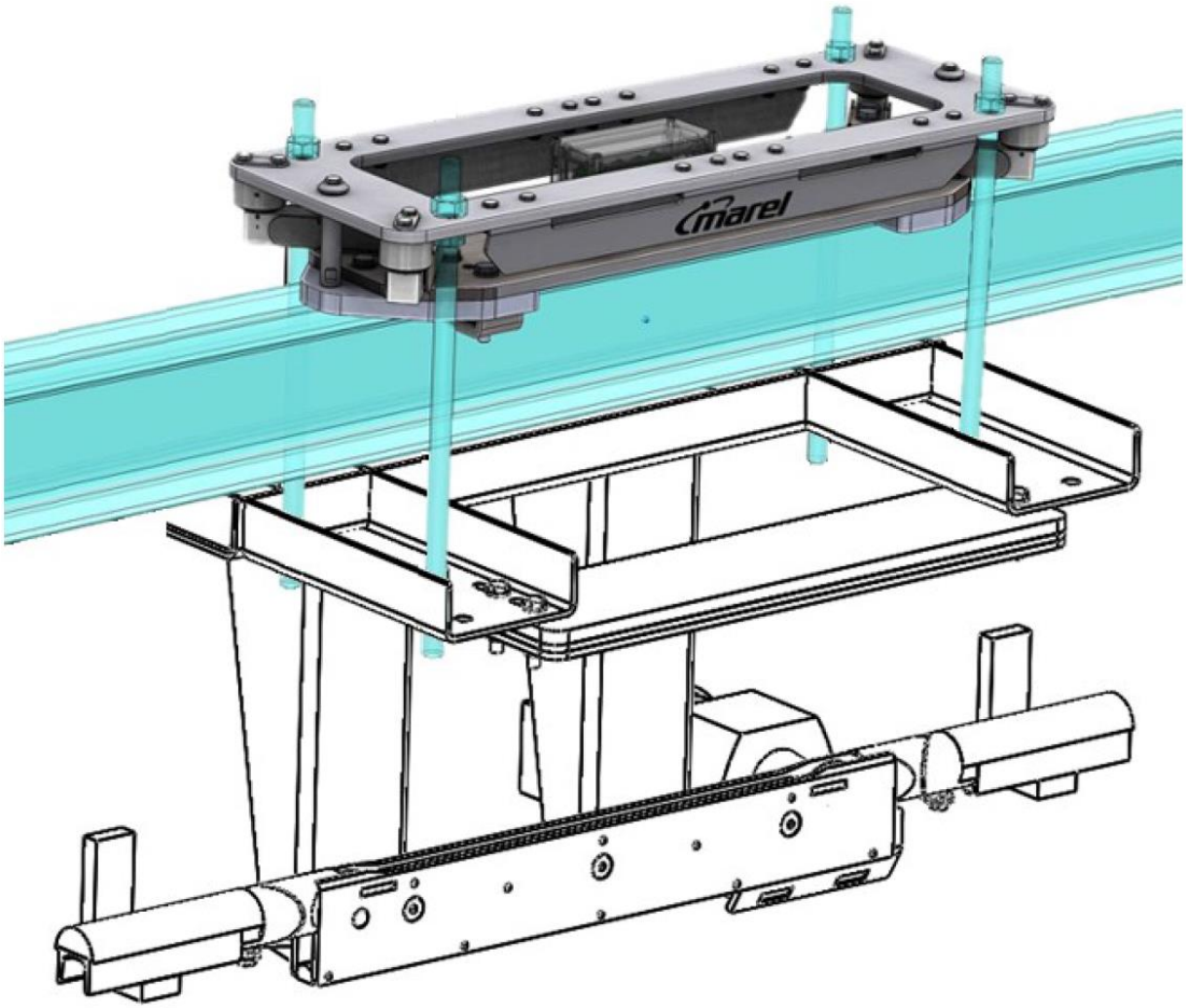


Figure 3: RL7000 mounted on top of I-beam with rail weigher drive below.

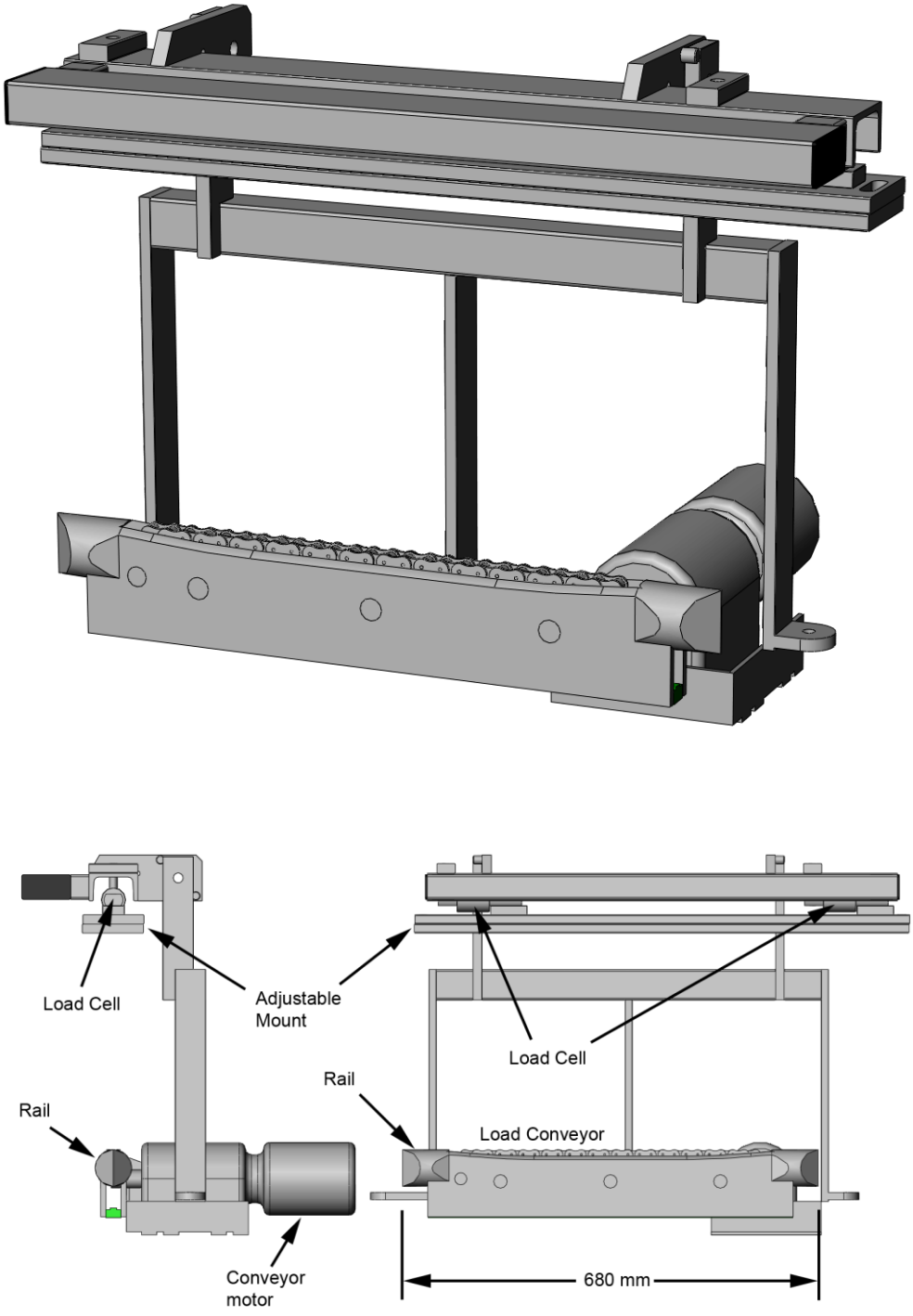


Figure 4 Overhead rail load receptor based on 2 load cells

10. Composition of modules – an example

COMPATIBILITY OF MODULES

Ref.: WELMEC 2

Non-Automatic Weighing Instrument, single-interval.

Certificate of EU Type-Approval N°: TAC: 0200-MID-04559

INDICATOR A/D (Module 1)		Type:	M2400-P03			
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}		10000		
Fraction of maximum permissible error (mpe):		p_1		0,5		
Load cell excitation voltage:		U_{exc}	[Vdc]	6		
Minimum input-voltage per verification scale interval:		Δu_{min}	[µV]	0,25		
Minimum load cell impedance:		R_{Lmin}	[Ω]	87		
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]	1077		
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:	RL7000			
Construction:			Overhead track			
Fraction of mpe:		p_2		0,5		
Number of load cells:		N		4		
Reduction ratio of the load transmitting device:		$R=F_M / F_L$		1		
Dead load of load receptor:		DL	[% of Max]	35		
Non uniform distribution of the load:		NUD	[% of Max]	50		
Correction factor:	$Q = 1 + (DL + T^+ + IZSR^+ + NUD) / 100$			1,95		
LOAD CELL ANALOG (Module 3)		Type:	SLB-1000lb-BH-C3			
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:		p_3		0,7		
Rated output (sensitivity):		C	[mV / V]	2		
Input resistance of single load cell:		R_{LC}	[Ω]	1100		
Minimum load cell verification interval:	$(v_{min\%} = 100 / Y)$	$v_{min\%}$	[% of Emax]	0,0087		
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:			D09-97.01 Rev.2			
COMPLETE WEIGHING INSTRUMENT			Single-interval			
Manufacturer: Marel ehf		Type:	M2400-P03-OHTS-RL7000			
Accuracy class according to EN 45501 and OIML R76:		$Class_{WI}$ (I, II, III or IIII)		III		
Fractions: $p_i = p_1^2 + p_2^2 + p_3^2$:		p_i		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:		$\alpha = (Max / E_{max}) * (R / N)$		0,17		
Input voltage (from the load cells):		$\Delta_u = C * U_{exc} * \alpha * 1000 / n$	[µV/e]	0,66		
Cross-section of each wire in the J-box cable:		A	[mm²]	0,22		
J-box cable-Length:		L	[m]	25		
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 =	7000
n	<=	n_{LC}	(R76: 4.12.2)	n_{LC} - n =	0
E_{min}	<=	DL * R / N	(WELMEC 2: 6d)	(DL * R / N) - E_{min} =	26,25
$v_{min} * \sqrt{N} / R$	<=	e	(R76: 4.12.3)	e - (v_{min} * $\sqrt{N}$ / R) =	0,021
or (if v_{min} is not given)				Alternative solutions: ↑ ↓	
$(E_{max} / n_{LC}) * (\sqrt{N} / R)$	<=	e	(WELMEC 2: 7)	e - ((E_{max} / n_{LC}) * ($\sqrt{N}$/ R)) =	
Δu_{min}	<=	Δu	(WELMEC 2: 8)	$\Delta u - \Delta u_{min}$ =	0,41
R_{Lmin}	<=	R_{LC} / N	(WELMEC 2: 9)	(R_{LC} / N) - R_{Lmin} =	188
L / A	<=	$(L / A)_{max}^{WI}$	(WELMEC 2: 10)	$(L / A)_{max}^{WI}$ - (L / A) =	963
T_{range}	<=	T_{max} - T_{min}	(R76: 3.9.2.2)	(T_{max} - T_{min}) - T_{range} =	20
Q * Max * R / N	<=	E_{max}	(R76: 4.12.1)	E_{max} - (Q * Max * R / N) =	307,8

Signature and date:

Conclusion . . . . . **PASSED**

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