

COMPATIBILITY OF MODULES

Ref.: WELMEC 2

Non-Automatic Weighing Instrument, single-interval

Certificate of EU Type-Approval N°:

TAC: DK0199.558

INDICATOR

A/D (Module 1)

Type: 755

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}

5000

Fraction of maximum permissible error (mpe):

p₁

0.5

Load cell excitation voltage:

U_{exc} [Vdc]

5

Minimum input-voltage per verification scale interval:

Δu_{min} [μV]

0.8

Minimum load cell impedance:

R_{Lmin} [Ω]

350

Coefficient of temperature of the span error:

Es [% / 25°C]

0.001

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

Sx [% / Ω]

0.0152

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

(L/A)_{max} [m / mm²]

273

Load cell interface:

4-wire (no sense)

Additive tare, if available:

T⁺ [% of Max]

0

Initial zero setting range:

IZSR [% of Max]

-2 / 2

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: APEX

Construction:

Platform

Fraction of mpe:

p₂

0.5

Number of load cells:

N

1

Reduction ratio of the load transmitting device:

R=F_M / F_L

1

Dead load of load receptor:

DL [% of Max]

1

Non uniform distribution of the load:

NUD [% of Max]

0

Correction factor:

(NUD = 0 is acceptable)

Q = 1 + (DL + T⁺ + IZSR + NUD) / 100

1.03

LOAD CELL

ANALOG (Module 3)

Type: SPZ300

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]

406

Minimum load cell verification interval:

(V_{min%} = 100 / Y)

V_{min%} [% of E_{max}]

0.01

Rated capacity:

E_{max} [kg]

300

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:

COMPLETE WEIGHING INSTRUMENT

Single-interval

Manufacturer:

Detecto

Type: APEX

Accuracy class according to EN 45501 and OIML R76:

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

III

Fractions: p_i = p₁² + p₂² + p₃²:

p_i

1.0

Maximum capacity:

Max [kg]

290

Number of verification scale intervals:

n

2900

Verification scale interval:

e [kg]

0.1

Utilisation ratio of the load cell:

α = (Max / E_{max}) * (R / N)

0.97

Input voltage (from the load cells):

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

3.33

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

A [mm²]

0.22

J-box cable-Length:

L [m]

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
p _i	<=	1 (R76: 3.5.4.1)	1 - p _i	<=	0.0
n	<=	n _{max} for the class (R76: 3.2)	n _{max} for the class - n	<=	7100
n	<=	n _{ind} (WELMEC 2: 4)	n _{ind} - n	<=	2100
n	<=	n _{LC} (R76: 4.12.2)	n _{LC} - n	<=	100
E _{min}	<=	DL * R / N (WELMEC 2: 6d)	(DL * R / N) - E _{min}	<=	2.9
V _{min} * √N / R	<=	e (R76: 4.12.3)	e - (V _{min} * √N / R)	<=	0.070
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))	<=	2.53
Δu _{min}	<=	Δu (WELMEC 2: 8)	Δu - Δu _{min}	<=	56
R _{Lmin}	<=	R _{LC} / N (WELMEC 2: 9)	(R _{LC} / N) - R _{Lmin}	<=	Not applicable
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}	<=	1.3
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".