

SMART WEIGHING INDICATOR

GENERAL SPECIFICATIONS

- **Weighing indicator**, general purpose manufactured according modern technology.
- **OIML R76 & EN 45501 Approved**, single or multi range, **6000 div at 0,6 $\mu\text{V}/\text{div}$** and **protected** against electromagnetic interferences **10V/m**.
- Friendly **configuration and calibration menu**.
- **6-key keyboard**.
- **Display 7 digit 20mm LED** high bright.
- **LEDs to indicate the status of range** (R1 or R2), account-pieces, totalizing, net, and zero stability.
- **High resolution: 24 bits** delta-sigma A/D, 16 million internal divisions; **100.000 external divisions: 50 reading/sec**.
- **RS-232 serial port** for PC, printer, remote display connection, etc.
- **Excitation to the load cells at 6 V DC**.
- **Up to 4 load cells 350 Ω or 8 load cells 700 Ω** .
- **Sense input to compensate losses** introduced by **wire resistance**.
- **Stainless Steel** enclosure with mounting kit.
- **Multi range**: for a dual range and dual division size.
- **Standard gross/tare/net and totalize ticket or customized from PC**.
- **Linearity correction through an internal algorithm** based on a parabolic function, much closer to the load cell response.
- **Pre-calibration mV**: Allows to start-up the scale by entering used load cell capacity and nominal sensitivity in mV/V.
- Possibility of **introducing zero and gain coefficient manually**.
- Two calibration **sealing** method: **Software** sealing by a calibration counter register or **mechanical** sealing. Use depends on local country regulation.



APPLICATIONS:

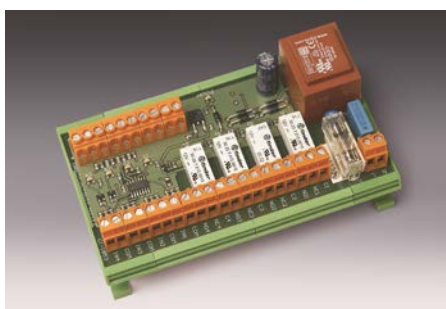
- **Weight-Tare** (gross-net).
- **Piece counting, by weight and by sample**.
- **Total** and number of weighing key.
- Configurable as a **weight indicator** or as a **remote display** of other weight indicator.
- **Animal weighing / check weigher**. Special filtering signal to achieve **more accurate readings**.

OPTIONS:

- **ATEX version, to be installed inside the hazardous zone.**
- **Enclosure IP65.**
- **Power supply in AC (230VAC) or DC (12VDC).**
- **Clock: Time and date with lithium battery, up to 10 years without supply.**
- **4 Digital Inputs/Outputs, the digital outputs are transistor outputs in open collector to control maximum and minimum, dosing 1 product, etc.**
- **Analog outputs opto-isolated in mA or V, configurable by software.**
- **Communications:**
 - **RS-485 communication port opto-isolated (communications up to 1.200m).**
 - **An additional RS-232 (TX) port.**

ADDITIONAL ACCESSORIES:

- **4 Digital Inputs/Outputs module (relay outputs).**
- **Smart-PC cable (3m).**
- **Smart-Printer cable (3m).**
- **Acc. Time (clock time-date).**


PC COMMUNICATION PROGRAMS:

- **SMART/MATRIX Ticket – Program to customize your own tickets: Gross/tare/net and totalizer.**

Examples of customized tickets:

TICKET HEADER TOTALIZER
 TECNICAS DE ELECTRONICA Y AUTOMATISMOS,
 S. A



Date: 12/11/12
 Time: 09:50

Nº	GROSS	TARE	NET
1	11.4 kg	0.0 kg	11.4 kg
2	7.5 kg	0.0 kg	7.5 kg
3	15.1 kg	0.0 kg	15.1 kg
4	8.8 kg	0.0 kg	8.8 kg
5	11.9 kg	0.0 kg	11.9 kg
6	15.0 kg	0.0 kg	15.0 kg
7	12.5 kg	0.0 kg	12.5 kg
8	16.5 kg	0.0 kg	16.5 kg
9	13.0 kg	11.2 kg	1.8 kg
10	15.6 kg	11.2 kg	4.4 kg
TOTAL:			104.9 kg

PRINT TICKET FOR SMART AND MATRIX
 DIGITAL INDICATOR
 TECNICAS DE ELECTRONICA Y AUTOMATISMOS,
 S. A.



Date: 09/11/12
 Time: 12:24

 TICKET NUM. : 520

Gross	16.3 kg
Tare	7.1 kg
Net	9.2 kg

END OF TICKET

SMART TECHNICAL SPECIFICATIONS

Load Cell Connection

Full scale input signal	± 3 mV/V
Input impedance	200 M Ω (typical)
Internal resolution	Converter AD 24 bits, 16700000 counts (± 8350000)
Measurement rate	50 measurements per second
Linearity error	≤ 0.01 % of measurement level
Zero stability	150 nV/ $^{\circ}$ C max.
Span stability	3.5 ppm/ $^{\circ}$ C max.
Excitation voltage	6.1 \pm 0.5 VDC
Transducer minimum resistance	85 Ω (4 cellsx350 Ω , 8 cellsx700 Ω)
Transducer maximum resistance	1000 k Ω
Wire length	400 m/mm ² max. (6 wires) 30 m/mm ² max. (4 wires)
Input overload	± 12 V

Operator Interface

Main display	7 digit LED 20 mm
Keyboard	Keyboard with 6 keys

Serial Communications

Port Tx/Rx:	Bi-directional RS-232C
Optional	RS-485, RS-232C only transmission
Transmission rates	19200, 9600 and 4800 bauds
Number of bits and parity	8 bits no parity, 7 bits even parity and 7 bits odd parity

Input/Output Options

4 digital inputs	$V_{ILOW} = 0.8V$; $V_{IHIGH} = 2V$; $V_{IMAX} = 30V$
4 digital outputs	Open collector outputs; $V_{OLOW} = 0.5V$ $V_{OHIGH} = V_{EXT} - 1.2V$; $I_{ILOW} = 200mA$ (max) Range $V_{EXT} = 5V - 24V$
Analog output	Galvanic insulation output, 14-bits D/A Voltage output: 0 – 10.5V (nom); load > 1k Ω Current output: 0 – 21mA; loop resistance < 500 Ω

Power

Power supply	230 VAC $\pm 10\%$, 50 Hz, 6 W max.
Fuse	250 V, 100 mA slow fusion
Alimentation DC (optional for IP65)	7.5V - 15VDC, nominal 12V. External fuse 500mA

Environmental and Mechanical

Operating temperature	-10°C a 40°C
Storage temperature	-25°C a 70°C
Size	282 x 158 x 71 mm (stainless steel and ATEX version) 282 x 159 x 75.5 mm (ABS version)
Weight	1.85kg (stainless steel and ATEX version) 1.1kg (ABS version)
Mounting	Bench mount or bracket