

## MULTI-SCALE, MULTI-RANGE WEIGHT CONTROLLER

*For Truck Scale / Weighbridge Applications and  
Multi-Speed Dosing / Filling*



The Matrix II instrument is available in two versions, for either digital or analogue load cells. It is a versatile stainless steel weight controller with OIML / EN (NAWI) approvals, an alphanumeric keyboard and a graphic display. Up to 2 analogue or digital weighing systems (scales) can be connected simultaneously and the Matrix II can be used in a multi-range, multi-interval configuration. Both the analogue version and the digital versions can be powered by AC or DC and it can be panel or table mounted.

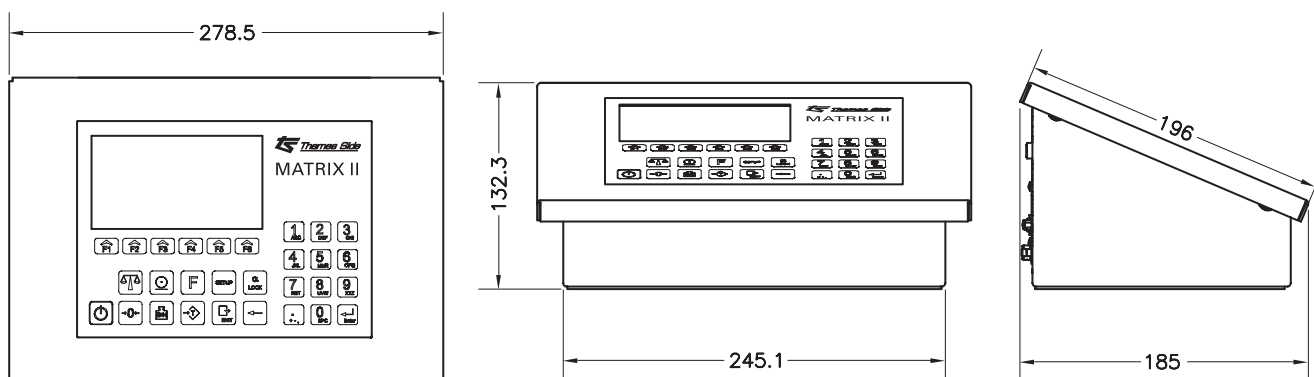
It offers a configurable printed ticket layout, mechanical/software metrological sealing, internal data management system, battery powered memory and multi-lingual capability, therefore it is ideal for complete truck scale / weighbridge vehicle management. It is also a purpose designed solution for 'weights-and-measures' approved filling and dosing, with multiple speeds and setpoints. Linearity correction is also available if desired.

Connectivity options include opto-isolated RS232 and RS485 communications, digital inputs/outputs and analogue outputs.

- Alphanumeric keyboard with graphic display
- OIML R76 and EN 45501:2015 (NAWI) approved, mono-range or multi-range
- Calibration/configuration by keyboard or remote communications port
- Single or dual connection of either analogue or digital load cells (not both on the same unit)
- Multi-language capability with 6 language options
- Complete truck scale / weighbridge vehicle management
- Stainless steel construction
- Linearity correction function
- Metrological sealing by software or mechanical method
- Configurable printed ticket and start-up logo
- Database can be manipulated using a PC
- Excellent flexibility for multi-speed filling and dosing applications

# MATRIX II

technical specification...



All dimensions in mm.

## Matrix II Weight Controller

Analogue Load Cell Version (MATRIX-II-ANALOGUE)	
Load cell sensitivity range	+3 to -3 mV/V
Internal Resolution	ADC 24-bit; 16 700 000 divisions
Measuring rate	Internal: 50 measurements/second
Linearity error	≤ 0.01 % of measurement range
Thermal stability	Zero: 150 nV / °C max. Span: 3.5 ppm / °C max.
Load cell excitation voltage	6.0 ± 0.3 VDC
Minimum load cell resistance	43Ω (8 cells of 350Ω, 16 cells of 700Ω)
Maximum load cell resistance	1000 kΩ
Pre-calibration options	With masses or using load cell capacity and average sensitivity in mV/V

Digital Load Cell Version (MATRIX-II-DIGITAL)	
Load cell type	Thames Side T34D or T35D models or compatible
Load cell power supply	18 VDC / 1.5 A (external adaptor)
Load cell communication	Bus RS-485 full duplex, 38400 bauds
Maximum number of load cells	16
Pre-calibration options	With masses or using factory pre-calibration of digital load cells
Corner adjustment	Automatic or manual

Inputs & Outputs	
Serial communications modules	RS-232C bi-directional (1 as standard, without opto-isolation)
	RS-232C bi-directional (optional item, opto-isolated) Part No. MATRIX-89404-RS232-EXP
	RS-485 half duplex (optional item, opto-isolated)
	Transmission rates: 115200, 57600, 38400, 19200, 9600 and 4800 bauds
Optional logic inputs and outputs module (DIN rail mounted board). Part No. MATRIX-89406-DIG-IN-OUT	Number of bits and parity: 7 and 8 bits, both with no parity, even parity or odd parity
	8 digital inputs with status LEDs (max. 24 VDC)
	8 digital contact relay outputs with status LEDs, 125 VAC/1 A or 30 VDC/1 A
	I/O module communicates with Matrix II via RS485 bus (max. 15 modules per bus)
Optional analogue output module (DIN rail mounted board)	External power supply is required: 12-28 VDC, 2.5 W
	Analogue output options: 0-5 V, 0-10 V, 0-20 mA, 4-20 mA
	Analogue output module communicates with Matrix II via RS485 bus (max. 2 modules per bus; 1 per scale)
	External power supply is required: 12-28 VDC, 2.5 W

Additional Data and Functions	
Power supply	90-260 VAC, 50-60 Hz, 18 W max. / 10-24 VDC
Operating Temperature Range	-10°C to +40°C
Storage Temperature Range	-25°C to +70°C
Nominal shipping weight	3.2 kg
Weighbridge mode functions	First & second weighing control - Database management of registration numbers, products, company names, entrance/exit records, truck pre-fixed tares - Printing of tickets and listings (ticket is totally configurable using PC software) - System database (using an Excel spreadsheet) with fully editable fields and downloading to a PC - Vehicle barrier and traffic light control by Matrix II - Integrated truck filling application (at 1 or 2 speeds) with inflight material correction factors
Industrial mode functions	Weight taring - Piece counting by weight or unit - Totalizations (accumulation of multiple weights) - Programmable tickets for gross/net/totalize functions - Programming of up to 20 pre-fixed tares and management of database
Dosing mode functions	Charge, discharge or both in sequence - One product dosing at either 1 or 2 speeds, programmable up to 99 cycles - Inflight material correction factors - Matrix II controls the dosing which releases the PLC for performing other tasks - Digital I/O to initiate and end the process, by controlling valves and other components - Dosing either by weight or by pieces

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Our policy is one of continuous product enhancement. We therefore reserve the right to incorporate technical modifications without prior notification.

