

8400/8500 VERSA INDICATOR



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- 100,000 d @ 0.25 μ V/d
- Trade approved in USA, Canada, Europe and Australia
- Built in RS232/RS485
- IP65 ABS or stainless steel housing
- 16 x 350 ohm cells
- Ethernet and Profibus DP support
- Robust precise analogue output module

The VERSA series indicators are designed with both the installer and operator in mind and cover a wide range of applications. They are engineered and built to last with reliability being foremost.

Superior housings - two housing types are available:

- 8400 VERSA (ABS) rated to IP65
- 8500 VERSA (stainless steel) rated to IP66

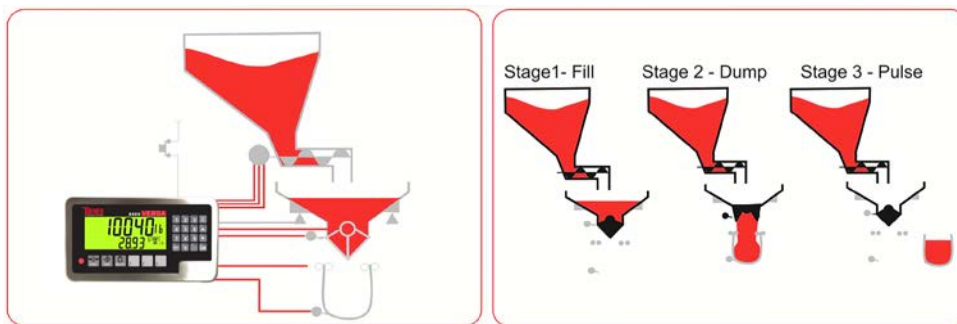
Both housings are designed with extra attention to detail to increase their reliability in the field, thereby reducing unplanned downtime and servicing costs. For example, the 8500 uses a high impact polycarbonate lens to protect the LCD from knocks.

Simple setup - use the menu system directly via the alpha numeric keypad or the configuration utility View400 on a PC.

Operator friendly - large multi-segment display that uses logical prompts along with dedicated and programmable function keys. Printing can be tailored with custom record, docket or reports printouts. Primary display is 1.1" and secondary display 0.7".

Rugged Load Cell Input - Designed to take 16x320 ohm load cells; providing flexibility and reducing the need for summing hardware, simplifying the installation and saving money. The load cell input is protected with onboard transorbs to limit damage from external voltage surges.

Networking Capability - Support for both Ethernet and Profibus DP to improve integration into larger control systems.



- 100 Recipes (Products)
- 10 batching stages
- Fill, Dump and Pulse stages
- 3 Speed Fill
- Fill correction using jogging or in-flight
- Negative batching
- Batch suspend
- Dump to time or weight

The VERSA indicator supports three (3) batching firmware applications to create a powerful and flexible batching controller. The three variants of firmware differ primarily in the number of materials they each support. The K410 is single material and ideal for filling, the K411 supports 6 materials and the K412 20 materials. The K411 and K412 are both suitable for multi-head batching machines and more complex control systems using multiple materials.

Each supports 100 recipes and 10 stages of batching. The batching stages can be defined as fill, dump or pulse. Three (3) speeds of filling can be configured depending on the complexity of the batching system.

For example a Recipe can be defined as a FILL to target, followed by a DUMP, followed by a PULSE to release a bag. The FILL stage can use up to three I/O to control slow, medium and fast filling.

Application Firmware:	K410	K411*	K412
Number of Materials	1	6	20

*Only K411 supports the Analogue Module

SMART WEIGHING BATCHING FEATURES:

Negative batching is supported by setting the fill direction which defines if the weight is increasing or decreasing while batching - ideal for discharge and dosing applications.

Batch Suspend can be allocated to a function key - the batch will pause and adjust the tare weight when resuming the batch. Ideal for when a material feeding the batch needs to be topped up during the batch without affecting the batched amount, or when feeding from multiple bulker bags etc.

Timer based multiple batching uses the Real Time Clock to control the batch start time and the duration between repeat batches - ideal for bio-fuel applications. When using timer based batching, the current weight is displayed along with the time to go before the next batch, keeping the operator informed.

Detailed reporting with material usage and batch statistics, along with QA records of every batch run possible when combined with the data logger;

Batching operation flexibility where batch size can be varied by either weight or proportion and the operator can set number of batches to run.

KEY FEATURES OF THE R400 HARDWARE THAT MAKE IT IDEAL FOR BATCHING:

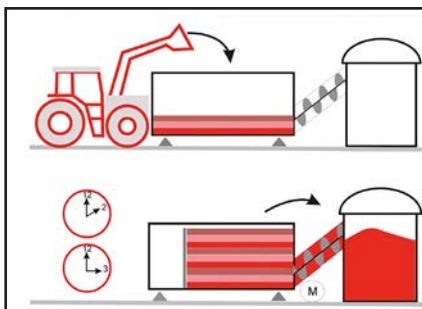
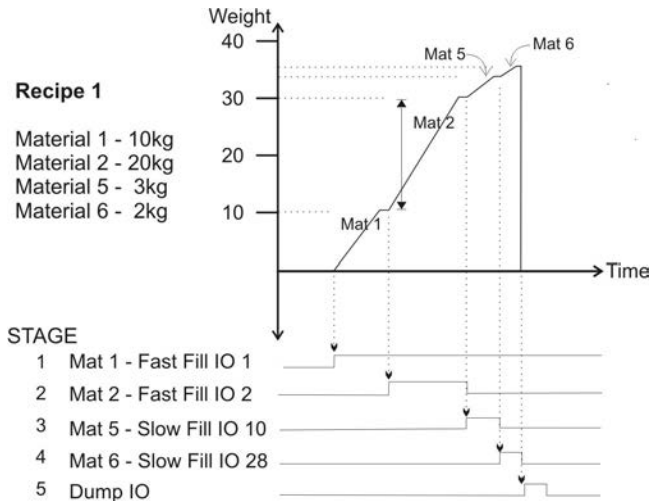
Overall system accuracy with unprecedented filling control with uncertainty of less than 1 millisecond.

The 32 I/O control points allow for complex control with multiple set points, enables and interlocks. As the outputs are isolated high side (current source) drivers they are capable of driving low voltage actuators directly or can be connected directly with PLC controllers.

The multi-line display shows batch progress, current weight, target weights, material name along with dedicated batch status annunciators. For example in a batch out scenario current net weight and target weight along with name of the material that is being batched is displayed.



A more complex multi stage multi material recipe might be defined as



Functions for Industry

Automatic proportion calculation after first fill stage

- Proportions of remaining batch are adjusted automatically according to first material fill quantity
- Ideal for applications with a manually loaded first fill stage
- Timer based multiple batching
- The Real Time Clock is used to control the batch timing for time based batching
- Ideal for bio-fuel and dosing applications

..now that's smart weighing.

WEIGHING SYSTEMS TO MEET YOUR NEEDS

Take a look at a few examples of how Tufner can solve your weighing needs with the use of load cells and sensors to upgrade your machinery into a scale.

T366 ON THE BOARD FEED TRUCK

Compression Canister, Stainless Steel IP67, Welded Sealed

Heavy duty compression load cell most suitable for high capacity mobile weighing solutions. Our canister load cells can be added to mixers, tanks, wagons, feed trucks and trailers to upgrade them into weighing systems.

Features:

- The T366 offers 0.1% accuracy for on-the-board applications
- Optional capacities: 10K/25K/50K/75K/100K/200K/300K/500K lbs
- 150% Safety overload
- Temperature compensated and water resistant



T310-TM CEMENT TRUCK

Single-Ended Beam, Stainless Steel IP68, Hermetically Sealed

Low profile design single ended beam tank mount. Stainless steel option is hermetically sealed and has an IP68 rating.

Features:

- NTEP Certified 1:5,000 Class III Multiple Cell
- The T310-TM offers 0.1% accuracy
- Optional capacities: 250/500/1K/1.5K/2K/2.5K/ 4K/5K/ 5K LE/10K/15K/20K lbs
- 150% Safety overload
- Temperature compensated and water resistant



T317 TMR MIXER

Single-Ended Beam, Alloy Steel IP67, Welded Sealed

Designed specifically for axle weight systems. These load cells are temperature compensated for applications that require accurate measurement in varying temperatures.

Features:

- Anti-rust nickel plated alloy steel (IP67) or stainless steel hermetically sealed (IP68)
- 0.1% accuracy for on-the-board applications
- Optional capacities: 10K/25K/50K lbs
- Alloy Steel load cell
- 150% Safety overload
- Temperature compensated and water resistant

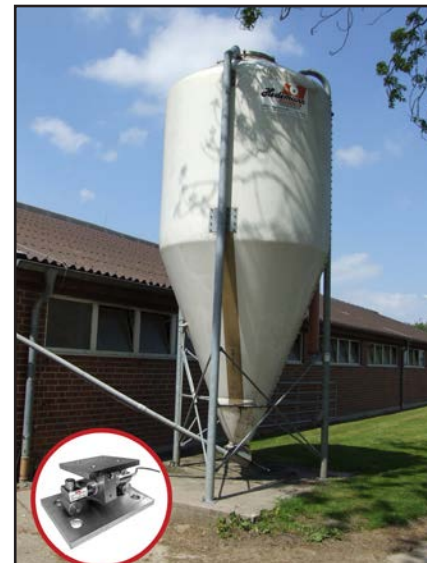


T320-TM SILO TANK

Double-Ended Beam, Stainless Steel IP68, Hermetically Sealed

Features:

- Anti-rust nickel plated alloy steel (IP67) or stainless steel hermetically sealed (IP68)
- The T352-TM offers 0.05% accuracy for the tank weighing
- Optional capacities: 10/20K/30K/40K/50K/60K lbs
- Alloy Steel or Stainless steel load cell and module
- 150% Safe overload
- Double shielded 60 foot cables



VERSA INDICATOR SERIES SPECIFICATION TABLE

Resolution		Up to 100,000 d, minimum of 0.25uV/d						
Approvals		10,000 d @0.7uV/d NMI(S-463), OIML R76 III/III L NTEP 08-720 FCC, CE, C-tick						
Zero Cancellation		+/- 2.0mV/V						
Span Adjustment		0.1mV/V to 3.0mV/V						
Excitation		7.4V for up to 16 x 350 or 32 x 700 ohm load cells (4-wire or 6-wire plus shield) Maximum total load cell resistance: 1,000 ohms						
A/D Type		24bit Sigma Delta with ±8,388,608 internal counts						
Operating Environment		Temperature: -10 to +50°C ambient (14 °F to 122 °F) Humidity: <90% non-condensing						
Display		LCD with 4 alpha-numeric displays and LED backlighting: Primary display: 6 x 28.4mm (1.12") high digits with units and annunciators 2 nd display: 9 x 17.6 mm (0.7") digits with units 3 rd display: 8 x 6.1 mm (0.2") digits 4 th display: 4 x 7.6 mm (0.3") digits						
Setup and Calibration		Full digital with visual prompting in plain messages						
Digital Filter		Sliding window average from 0.1 to 30.0 seconds						
Zero Range		Adjustable from +/- 2% to +/- 20% of full capacity						
Standard Power Input		12 to 24VDC (15 VA max) - ON/OFF key with memory feature						
Variants	AC	AC power supply Input: 110/240VAC 50/60Hz Output: 12VDC 15VA						
	Battery	2.5AH NiMH rechargeable battery pack Charger Input: 110/240VAC 50/60Hz Output: 12VDC						
Optical Data Communications		Magnetically coupled infra-red communications Conversion cables available for RS232 or USB						
Correction		10 point linearity correction						
Serial Outputs		Serial 1A: RS-232 serial port for remote display, network or printer supports. Serial 1B: RS485 transmit only for remote display Transmission rate: 2400, 4800, 9600 or 19200 baud						
Assignable Function Keys		3						
Operating Modes		Single Range, Dual Range and Dual Interval						
Battery Backed Clock Calendar		Battery life 10 years minimum						
Application Software		K401	K402	K404	K405	K410	K411	K412
Functions		Custom printing, custom unit switching, counting, manual hold, peak hold, auto output totalising		Weighbridge	Static Axle	1 Material	6 Material	20 Material
				Single pass weighing Two pass weighing Dedicated truck key Custom printing Temporary Truck IDs Preset Tare Specialised truck dockets		Up to 10 Batching Stages 3 Speed Fill Fill, Dump & Pulse stages Inflight & jogging correction, Negative batching Batch suspend Timer (RTC) based multiple batching		
Products/Recipes		1	250	250 Trucks		100 Recipes		
Analogue Output * (M4401)		1		-		1		-
Set points		8						
Additional Communications *		Module: RS232/RS232 Module: RS232/RS485 Module: RS485/RS485						
Button Input *		4 Buttons						
Data Storage Device * (M4501)		1						
Profibus-DP		Used with Tufner 1400 Profibus-DP Module						
Ethernet * (M4221)		1						
Housing Options		8400 VERSA				8500 VERSA		
Case Materials		ABS				Stainless Steel		
Packing Weights		Indicator: 1kg (35 oz)				Indicator: 1.2kg (42 oz)		
Environmental IP Rating (panel mounted or with rear boot)		IP65				IP66		