

# Light-Capacity Weighing for Static and Dynamic Applications



## Ball-and-Cup Suspension

The weigh module suspension has a ball-and-cup design capable of handling side-loading forces. When those forces push the top plate laterally, the suspension provides a proportional restoring force to return the top plate to its ideal weighing position.



## Load Cells

Model MTB bending-beam load cells provide exceptional accuracy and durability. Constructed of stainless steel, they are designed to survive in harsh environments. Welded stainless steel covers protect the sensitive strain gauges.



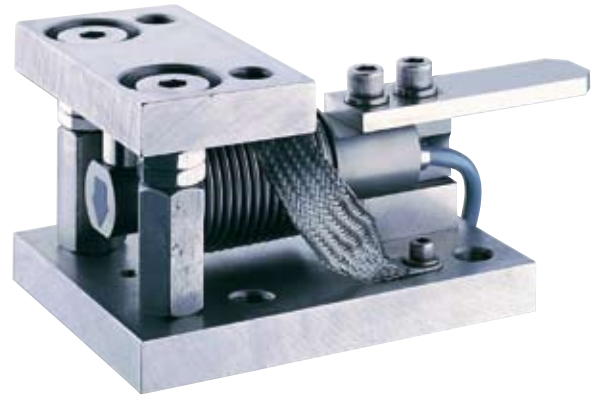
## Hold-Down Bolts

Each weigh module is equipped with a pair of hold-down bolts that check horizontal movement and restrain the tank from tipping. They also serve as jacking bolts to align the top plate for installation and to lift the empty tank when service is required.



## Ground Strap

The mounting hardware includes a ground strap to reduce the risk of electrical damage. The ground strap helps to protect the load cell by shunting electrical currents directly from the top plate to the bottom plate, instead of through the load cell.



## 0972 ULTRAMOUNT Weigh Module

ULTRAMOUNT weigh modules enable you to convert a light-capacity tank or other structure into a scale. The self-restoring, ball-and-cup suspension gives the weigh modules exceptional versatility. It enables them to provide accurate and repeatable weighing for static applications (such as tanks, hoppers, vessels, and blenders) and for dynamic applications (such as conveyors, processing vessels, and mechanical platform scales).

- Stainless steel load cells with welded cover
- 304 stainless steel mounting hardware
- Global approvals standard on every load cell

# 0972 Weigh Module Specifications

Weigh Module Parameter		Unit of Measure	Specification							
Model No.			0972 ULTRAMOUNT							
Rated Capacity		kg (lb, nominal)	5 (11)	10 (22)	20 (44)	50 (110)	100 (220)	200 (441)	300 (661)	500 (1102)
Load Limit, safe <sup>9)</sup>		N (lb)	74 (16.5)	147 (33)	294 (66)	735 (165)	1470 (330)	2940 (660)	4400 (990)	7400 (1650)
Restoring Force <sup>5)</sup>		%A.L./mm (.../in) <sup>3)</sup>	1.6 (41)							
Max. Horizontal Force	Transverse <sup>6)</sup>	kN (lb)	4.9 (1100)							
	Longitudinal <sup>7)</sup>	kN (lb)	4.9 (1100)							
Max. Top Plate Travel	Transverse	± mm (in)	± 2.5 (0.10)							
	Longitudinal	± mm (in)	± 2.5 (0.10)							
Max. Uplift Force <sup>8)</sup>		kN (lb)	4.9 (1100)							
Weight (including load cell), nominal		kg (lb)	2.8 (6.2)							
Material			304 stainless steel							

Load Cell Parameter		Unit of Measure	Specification							
Model No.			MTB							
Rated Capacity (R.C.)		kg (lb, nominal)	5 (11)	10 (22)	20 (44)	50 (110)	100 (220)	200 (441)	300 (661)	500 (1102)
Rated Output		mV/V @ R.C.	2 ± 0.1%							
Combined Error <sup>1), 2)</sup>		%R.C.	≤ 0.018							
Temperature Effect on	Min. Dead Load Output	%R.C./°C (.../°F)	≤ 0.001 (0.0006)							
	Sensitivity <sup>2)</sup>	%A.L./°C (.../°F)	≤ 0.0009 (0.0005)							
Temperature Range	Compensated	°C (°F)	-10 ~ +40 (+14 ~ +104)							
	Operating	°C (°F)	-20 ~ +65 (-4 ~ +150)							
	Safe Storage	°C (°F)	-40 ~ +80 (-40 ~ +176)							
OIML/European Approval <sup>4)</sup>	Class		C3							
	nmax		3000							
	Y		12000							
NTEP Approval <sup>4)</sup>	Class		III S / III M							
	nmax		3000 / 5000							
	Vmin	kg (lb)	R.C. / 12000							
ATEX Approval <sup>4)</sup>	Rating		II 2 GD EEx ia IIC T4 T135°C							
			II 3 GD EEx nL IIC T4 T135°C							
			II 3 GD EEx nA II T4 T135°C IP65							
FM Approval, USA / Canada <sup>4)</sup>	Rating		IS / I,II,III / 1 / ABCDEFG / T4							
			NI / I / 2 / ABCD / T6							
			S / II,III / 2 / FG / T6							
Excitation Voltage	Recommended	V AC/DC	5 ~ 15							
	Maximum	V AC/DC	20							
Terminal Resistance	Excitation	Ω	≥ 383							
	Output	Ω	350 ± 1							
Material	Spring Element		Stainless steel							
	Type		Welded							
Protection	IP Rating		IP68							
	NEMA Rating		NEMA 6/6P							
Load Limit	Safe	%R.C.	150							
	Ultimate	%R.C.	300							
Deflection @ R.C., nominal		mm (in)	0.30 (0.012)	0.40 (0.016)			0.50 (0.020)	0.75 (0.030)	1.12 (0.044)	
Weight, nominal		kg (lb)	0.6 (1.3)							
Cable Length		m (ft)	3 (9.8); 6 (20)							

<sup>1)</sup> Error due to the combined effect of non-linearity and hysteresis.

<sup>2)</sup> Typical values only. The sum of errors due to combined error and temperature effect on sensitivity comply with the requirements of OIML R60 and NIST HB44.

<sup>3)</sup> A.L. = Applied Load.

<sup>4)</sup> See certificate for complete information

<sup>5)</sup> % of Applied Load (A.L.) per mm (in) displacement of the top plate (transverse and longitudinal).

<sup>6)</sup> Maximum horizontal force that can be applied to the top plate in a direction transverse to the longitudinal axis of the load cell.

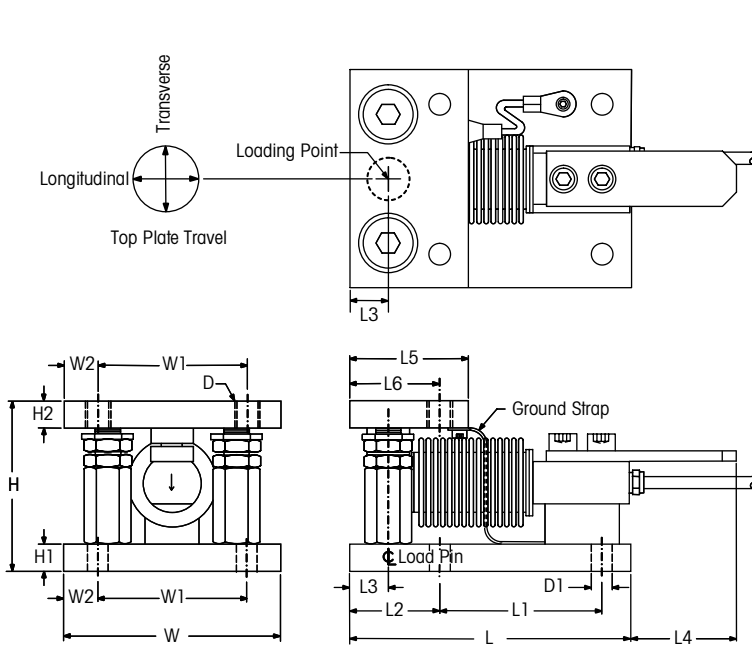
<sup>7)</sup> Maximum horizontal force that can be applied to the top plate in a direction parallel to the longitudinal axis of the load cell.

<sup>8)</sup> Maximum vertical uplift force that can be applied to the top plate.

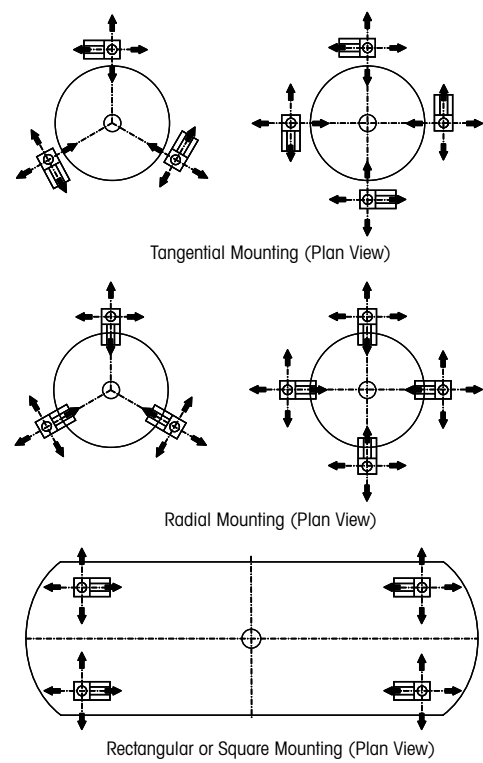
<sup>9)</sup> Maximum vertical downward force that can be applied to the top plate.



## 0972 Weigh Module Dimensions



## 0972 Mounting Arrangements



Capacity	D	D1	H*	H1	H2	L	L1	L2	L3	L4
5-500 kg	M12x1.75	10.31 mm 0.406 in.	79.6 mm 3.13 in.	12.7 mm 0.50 in.	12.7 mm 0.50 in.	131.8 mm 5.19 in.	76.0 mm 2.99 in.	42.0 mm 1.65 in.	18.0 mm 0.71 in.	49.2 mm 1.94 in.

Capacity	Top Plate Travel						
	L5	L6	W	W1	W2	Longitudinal	Transverse
5-500 kg	55.6 mm 2.19 in.	42.0 mm 1.65 in.	101.6 mm 4.00 in.	70.0 mm 2.76 in.	15.8 mm 0.62 in.	± 2.5 mm ± 0.10 in.	± 2.5 mm ± 0.10 in.

\* Height (H) is in weighing configuration. The shipping height is 82.0 mm (3.23 inches) with the top plate in the raised position.

## 0972 Cable Colours

Colour	Function
Green	+ Excitation
Black	- Excitation
White	+ Signal
Red	- Signal
Yellow	+ Sense
Blue	- Sense
Yellow (long)	Shield

## 0972 Weigh Module Order Information

Description	Item No.
<b>WMA 0972, 5 kg (with load cell)</b>	<b>61000042</b>
<b>WMA 0972, 10 kg (with load cell)</b>	<b>61000043</b>
<b>WMA 0972, 20 kg (with load cell)</b>	<b>61000044</b>
<b>WMA 0972, 50 kg (with load cell)</b>	<b>61000045</b>
<b>WMA 0972, 100 kg (with load cell)</b>	<b>61000046</b>
<b>WMA 0972, 200 kg (with load cell)</b>	<b>71202387</b>
<b>WMA 0972, 300 kg (with load cell)</b>	<b>71202388</b>
<b>WMA 0972, 500 kg (with load cell)</b>	<b>71209933</b>
<b>WMK 0972, 5-300 kg (without load cell)</b>	<b>61000041</b>
WMK 0972, 500 kg (without load cell)	72190672
<b>MTB Load Cell, 5 kg</b>	<b>71209934</b>
<b>MTB Load Cell, 10 kg</b>	<b>71209642</b>
<b>MTB Load Cell, 20 kg</b>	<b>71201556</b>
<b>MTB Load Cell, 50 kg</b>	<b>71201557</b>
<b>MTB Load Cell, 100 kg</b>	<b>71201558</b>
<b>MTB Load Cell, 200 kg</b>	<b>71201559</b>
<b>MTB Load Cell, 300 kg</b>	<b>71201560</b>
<b>MTB Load Cell, 500 kg</b>	<b>71209472</b>

Options	Item No.
<b>Fabreeka Isolation Pad, 0972 5-500 kg</b>	<b>69033863</b>
Deadstand, 0972, 5-500 kg	69033864

**Bolded entries are stocked**

### Full Connectivity

METTLER TOLEDO supplies various data communication interfaces that enable our sensors and instruments to communicate with your PLC, MES, or ERP systems.



### Global Approvals

Model RLC load cells have global certifications for metrological performance and hazardous area applications. There is no need for options or additional charges.

**ServiceXXL**  
Tailored Services

### Worldwide Services

Our extensive service network is among the best in the world and ensures maximum availability and service life of your product.

### Weighing Electronics

METTLER TOLEDO offers a complete family of electronics from simple weighing to application solutions for filling, stock control, batching, formulation, counting, and checkweighing.



Quality certificate ISO 9001  
Environment certificate ISO 14001

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Printed in Switzerland MTSI 44099851  
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