

Accurate, Repeatable Weighing

For Suspended Hoppers and Vessels



Hopper and Vessel Weighing

SWS310 tension weigh modules are easy to install in a variety of industrial applications. They adapt to any suspended hopper or vessel to provide accurate weighing.



Load Cells

Model SLS510 stainless steel tension load cells provide exceptional weighing accuracy in a wide range of process weighing applications.



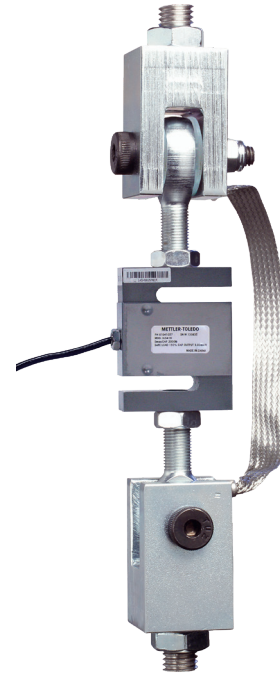
Suspension Hardware

Each weigh module is equipped with a pair of clevis and rod assemblies that are designed to measure only vertical loads and restrain the vessel from moving. The zinc-plated carbon steel hardware is strong enough to support a vessel safely.



Electrical Isolation

The mounting hardware includes a bonding strap, PTFE-lined bearings, and nylon washers to reduce the risk of electrical damage. The bonding strap helps to protect the load cell by shunting electrical currents directly from the top clevis to the bottom clevis, instead of through the load cell.



SWS310 Tension Weigh Module with SLS510 Load Cell

Tension weigh modules enable you to convert a suspended hopper or vessel into a scale. The mounting hardware is durable enough to withstand harsh industrial environments and support the vessel safely. The clevis and rod assemblies compensate for slight misalignment to help provide accurate and repeatable weighing.

- Stainless steel load cells
- Zinc-plated carbon steel mounting hardware
- OIML, ATEX and FM approvals standard

SWS310 / SLS510 Weigh Module Specifications

Weigh module	Unit of measure	Specification					
Model No.		SWS310 + SLS510					
Rated capacity (R.C.)	kg	50 100	250 500 1000	2500 5000	7500	10,000	
	lb	50 100 200 300	500 750 1000 1500 2000 3000	5000 10,000	15,000	20,000	
Load limit, safe ¹⁾	%R.C.	150					
Direction of loading		Tension					
Weight (including load cell), nominal	kg	0.73	1.95	5.4	11.7	21	
	(lb)	1.6	4.3	12	25.8	46.4	
Material		Carbon steel					
Finish		Zinc plated					

Load cell		Unit of measure	Specification					
Model No.			SLS510					
Rated capacity (R.C.)	kg		50 100	250 500 1000	2500 5000	7500	10,000	
	lb		50 100 200 300	500 750 1000 1500 2000 3000	5000 10,000	15,000	20,000	
Rated output		mV/V @R.C.	3.000 ± 0.25%					
Zero load output		%R.C.	1					
Combined error ²⁾³⁾		%R.C.	≤ 0.018					
Temperature effect on	Min. dead load output	%R.C./°C (./°F)	0.002 (0.001)	0.0014(0.0008)			0.0012(0.0006)	
	Sensitivity ³⁾	%A.L./°C (./°F) ⁵⁾	≤ 0.0009 (0.0005)					
Temperature range	Compensated		-10 to +40 (+14 to +104)					
	Operating	°C (°F)	-35 to +65 (-30 to +150)					
	Safe storage		-35 to +85 (-30 to +185)					
OIML / European approval ⁴⁾	Class		C3					
	nmax		3000					
	Y		7000	10000			12000	
NTEP Approval			5000 CIII and 10,000 CIII single cell				NA	
ATEX approval ⁴⁾	Rating		II 1 G Ex ia IIC T4 Ta = -20 °C to +40 °C; IP67					
			II 1 D Ex iaD T73 °C; IP67					
FM approval, USA / Canada ⁴⁾	Rating		II 3 G Ex nL IIC T4 Ta = -20 °C to +40 °C; IP67					
			IS / I,II,III / 1 / ABCDEFG / T4					
			I,II,III / 2 / ABCDEFG / T4					
			Class 1, Zone 0, AEx, ia IIC T4					
			Class 1, Zone 0, Ex, ia IIC T4					
			Class 1, Zone 2, Group IIC T4					
Excitation voltage	Recommended	V AC/DC	10					
	Max.		18					
Terminal resistance	Excitation	Ω	430 ± 50					
	Output		350 ± 3					
Material	Spring element		Stainless steel					
	Type		Potted					
Protection	IP rating		IP67					
	NEMA rating		NEMA 6 / 6P					
	Safe	%R.C.	150					
Load limit	Ultimate		300					
	Weight, nominal	kg (lb)	0.65 (1.4)	0.7 (1.6)	0.9 (2.0)	1.8 (4.0)	3 (6.6)	7.3 (16.1)
Cable length		m (ft)	6 (19.7)					

¹⁾ Max. tensile force

²⁾ Error due to the combined effect of non-linearity and hysteresis.

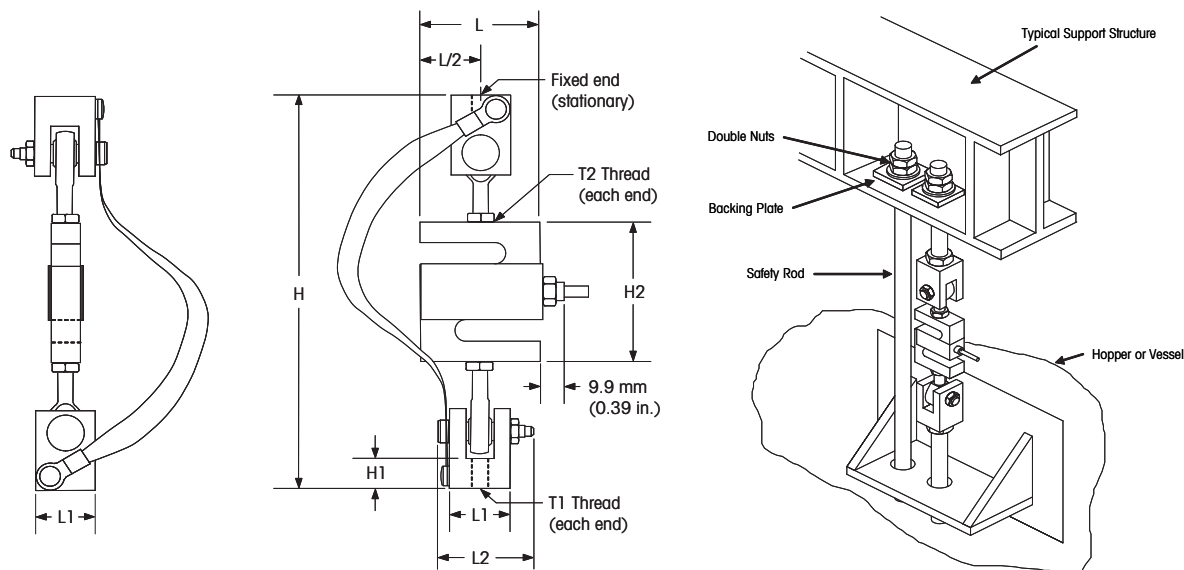
³⁾ Typical values only. The sum of errors due to combined error and temperature effect on sensitivity comply with the requirements of OIML R60 and NIST HB44.

⁴⁾ See certificate for complete information.

⁵⁾ A.L. = Applied Load



SWS310 Weigh Module Dimensions



Shoulder screw/lock nut assembly as shown is typical for all assemblies except 7500 kg. That capacity uses a clevis/hitch pin in place of the shoulder screw.

Note: Always use a secondary means of support such as safety chains or rods to prevent the hopper or vessel from falling due to component failure.

Capacity	H (Nominal)	H1	H2	L Max.	L1	L2	T1	T2
50–100 kg	177.2 mm (6.98 in.)	12.5 mm (0.49 in.)	61.0 mm (2.40 in.)	50.8 mm (2.00 in.)	25.4 mm (1.00 in.)	41.5 mm (1.63 in.)	M8x1.25	M8x1.25
250–1000 kg	237.2 mm (9.34 in.)	26.5 mm (1.04 in.)	61.0 mm (2.40 in.)	50.8 mm (2.00 in.)	38.1 mm (1.50 in.)	64.0 mm (2.52 in.)	M12x1.75	M12x1.75
2500 kg	340.1 mm (13.39 in.)	32.0 mm (1.26 in.)	99.1 mm (3.90 in.)	76.2 mm (3.00 in.)	57.2 mm (2.25 in.)	96.0 mm (3.78 in.)	M27x3	M20x1.5
5000 kg	330.0 mm (12.99 in.)	32.0 mm (1.26 in.)	99.1 mm (3.90 in.)	76.2 mm (3.00 in.)	57.2 mm (2.25 in.)	96.0 mm (3.78 in.)	M27x3	M20x1.5
7500 kg	410.7 mm (16.17 in.)	40.0 mm (1.57 in.)	139.7 mm (5.50 in.)	101.6 mm (4.00 in.)	76.2 mm (3.00 in.)	95.0 mm (3.74 in.)	M30x3.5	M24x2
10,000 kg	490.0 mm (19.3 in.)	50.0 mm (1.97 in.)	177.8 mm (7.00 in.)	112.8 mm (4.44 in.)	88.9 mm (3.50 in.)	112.0 mm (4.41 in.)	M36x4	M30x2
50-300 lb	173.2 mm (6.82 in.)	14.2 mm (0.56 in.)	61.0 mm (2.40 in.)	50.8 mm (2.00 in.)	25.4 mm (1.00 in.)	39.6 mm (1.56 in.)	3/8-16 UNC	1/4-28 UNF
500-2000 lb	255.8 mm (10.07 in.)	26.2 mm (1.03 in.)	61.0 mm (2.40 in.)	50.8 mm (2.00 in.)	38.1 mm (1.50 in.)	62.0 mm (2.44 in.)	5/8-11 UNC	1/2-20 UNF
3000 lb	283.7 mm (11.17 in.)	26.2 mm (1.03 in.)	99.1 mm (3.90 in.)	76.2 mm (3.00 in.)	38.1 mm (1.50 in.)	62.0 mm (2.44 in.)	5/8-11 UNC	1/2-20 UNF
5000-10,000 lb	331.5 mm (13.05 in.)	33.3 mm (1.31 in.)	99.1 mm (3.90 in.)	76.2 mm (3.00 in.)	57.2 mm (2.25 in.)	92.2 mm (3.63 in.)	1-8 UNC	3/4-16 UNF
15,000 lb	462 mm (18.19 in.)	50.8 mm (2.00 in.)	139.7 mm (5.50 in.)	101.6 mm (4.00 in.)	88.9 mm (3.50 in.)	130.3 mm (5.13 in.)	1.375-6 UNC	1.25-12 UNF
20,000 lb	493.8 mm (19.44 in.)	50.8 mm (2.00 in.)	177.8 mm (7.00 in.)	127.0 mm (5.00 in.)	88.9 mm (3.50 in.)	130.3 mm (5.13 in.)	1.375-6 UNC	1.25-12 UNF

SWS310 Ordering Information

Available at European Hub

Description	Item No.
Weigh module (with load cell SLS510), model no. SWS310 50kg	61041268
Weigh module (with load cell SLS510), model no. SWS310 100kg	61041269
Weigh module (with load cell SLS510), model no. SWS310 250kg	61041270
Weigh module (with load cell SLS510), model no. SWS310 500kg	61041271
Weigh module (with load cell SLS510), model no. SWS310 1000kg	61041272
Weigh module (with load cell SLS510), model no. SWS310 2500kg	61041273
Weigh module (with load cell SLS510), model no. SWS310 5000kg	61041274
Weigh module (with load cell SLS510), model no. SWS310 7500kg	61041275
Weigh module (with load cell SLS510), model no. SWS310 10000kg	61041276
Weigh module (without load cell), model no. SWS310 50~100kg	61040763
Weigh module (without load cell), model no. SWS310 250~1000kg	61040764
Weigh module (without load cell), model no. SWS310 2500~5000kg	61040765
Weigh module (without load cell), model no. SWS310 7500kg	61040766
Weigh module (without load cell), model no. SWS310 10000kg	61040767

Available at Americas Hub

Description	Item No.	Item No.
SWS310 WMA (with approved SS load cell), 50 lb	61042153	61042153
SWS310 WMA (with approved SS load cell), 100 lb	61042154	61042154
SWS310 WMA (with approved SS load cell), 200 lb	61042155	61042155
SWS310 WMA (with approved SS load cell), 300 lb	61042156	61042156
SWS310 WMA (with approved SS load cell), 500 lb	61042157	61042157
SWS310 WMA (with approved SS load cell), 750 lb	61042158	61042158
SWS310 WMA (with approved SS load cell), 1000 lb	61042159	61042159
SWS310 WMA (with approved SS load cell), 1500 lb	61042160	61042160
SWS310 WMA (with approved SS load cell), 2000 lb	61042161	61042161
SWS310 WMA (with approved SS load cell), 3000 lb	61042162	61042162
SWS310 WMA (with approved SS load cell), 5000 lb	61042163	61042163
SWS310 WMA (with approved SS load cell), 10,000 lb	61042164	61042164
SWS310 WMA (with approved SS load cell), 15,000 lb	61043308	61043308
SWS310 WMA (with approved SS load cell), 20,000 lb	61043309	61043309

SLS510 Ordering Information

Available at European Hub

Description	Item No.
Load cell, model no. SLS510, 50kg C3	61040282
Load cell, model no. SLS510, 100kg C3	61040283
Load cell, model no. SLS510, 250kg C3	61040284
Load cell, model no. SLS510, 500kg C3	61040285
Load cell, model no. SLS510, 1000kg C3	61040286
Load cell, model no. SLS510, 2500kg C3	61040287
Load cell, model no. SLS510, 5000kg C3	61040288
Load cell, model no. SLS510, 7500kg C3	61040289
Load cell, model no. SLS510, 10000kg C3	61040290

SLS510 Load Cell Cable Colors

Color	Function
Red	+ Excitation
Black	- Excitation
Green	+ Signal
White	- Signal
Bare	Shield

Available at Americas Hub

Description	Item No.	Item No.
SLS510 Load Cell, 50 lb	61040268	61040268
SLS510 Load Cell, 100 lb	61040269	61040269
SLS510 Load Cell, 200 lb	61040270	61040270
SLS510 Load Cell, 300 lb	61040271	61040271
SLS510 Load Cell, 500 lb	61040272	61040272
SLS510 Load Cell, 750 lb	61040273	61040273
SLS510 Load Cell, 1000 lb	61040274	61040274
SLS510 Load Cell, 1500 lb	61040275	61040275
SLS510 Load Cell, 2000 lb	61040276	61040276
SLS510 Load Cell, 3000 lb	61040277	61040277
SLS510 Load Cell, 5000 lb	61040278	61040278
SLS510 Load Cell, 10,000 lb	61040279	61040279
SLS510 Load Cell, 15,000 lb	61043306	61043306
SLS510 Load Cell, 20,000 lb	61043307	61043307

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.



Full Connectivity

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

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Industrial Division
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