

Accurate, Repeatable Weighing for Suspended Hoppers and Vessels



Hopper & 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 SLS410 nickel-plated 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 SLS410 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.

- Nickel-plated alloy tool steel load cells
- Zinc-plated carbon steel mounting hardware
- For non-hazardous area applications

SWS310 / SLS410 Weigh Module Specifications

Weigh Module Parameter	Unit of Measure	Specification					
Model No.		SWS310					
Rated Capacity (R.C.)	kg	50 100	250 500 1000	2500 5000	7500		
	lb	50 100 200 300	500 750 1000 1500 2000 3000	5000 10000		15000	20000
Load Limit, Safe ¹	%R.C.	150					
Direction of Loading		tension					
Weight (including load cell), nominal	kg (lb)	0.73 (1.6)	1.95 (4.3)	5.4 (12)	11.7 (25.8)	16.5 (36.4)	21 (46.4)
Material		Nickel plated steel					

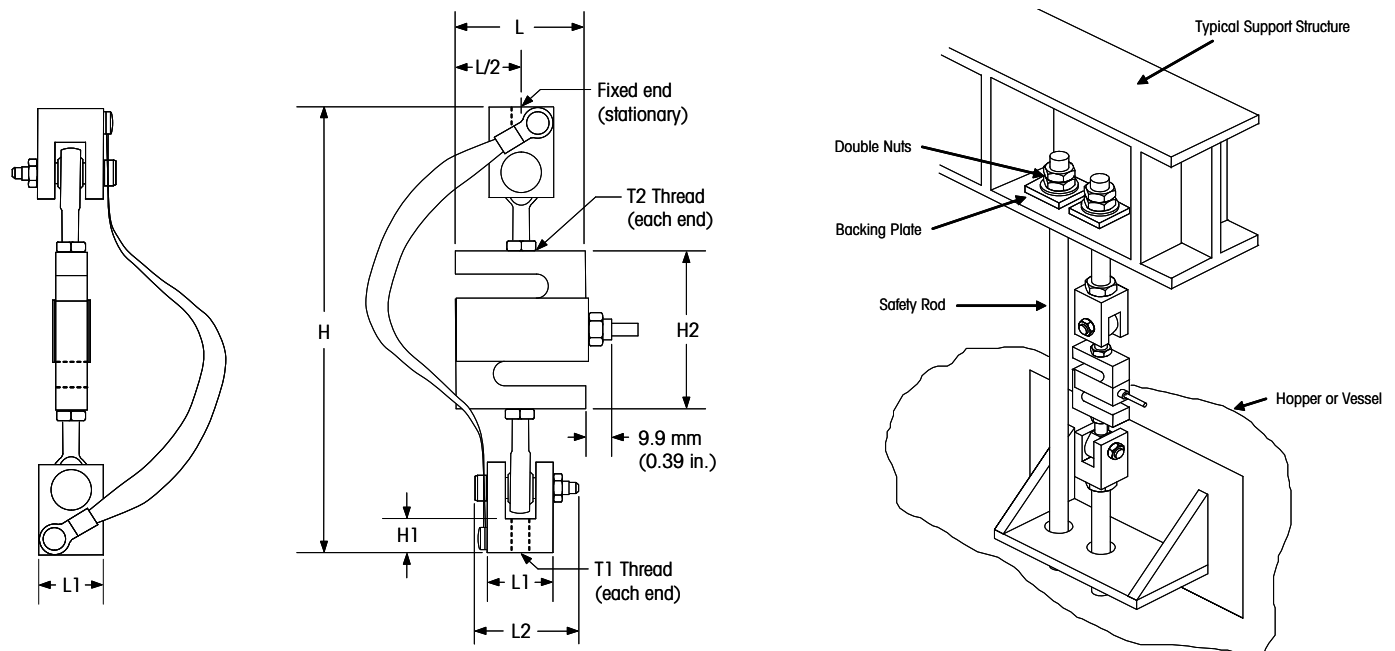
Load Cell Parameter	Unit of Measure	Specification							
Model No.		SLS410							
Rated Capacity (R.C.)	kg		50 100	250 500	1000	2500	5000	7500	
	lb	50 100	200 300	500 750 1000 1500	2000	3000 5000	10000	15000	20000
Rated Output	mV/V @ R.C.	3.000 ± 0.25%							
Zero Load Output	%R.C.	1							
Combined Error ²	%R.C.	≤ 0.03							
Repeatability Error	%A.L. ³	≤ 0.01							
Creep, 30 Minutes	%A.L.	≤ 0.03							
Temperature Effect on	Min. Dead Load Output	%R.C./°C (.../°F) ≤ 0.0027 (0.0015)							
	Sensitivity	%A.L./°C (.../°F) ≤ 0.0014 (0.0008)							
Temperature Range	Compensated	°C (°F) -10 to +40 (+14 to +104)							
	Operating	°C (°F) -35 to +65 (-30 to +150)							
	Safe Storage	°C (°F) -35 to +85 (-30 to +185)							
Excitation Voltage	Recommended	V AC/DC 10							
	Maximum	V AC/DC 18							
Terminal Resistance	Excitation	Ω 430 ± 60							
	Output	Ω 350 ± 3.5							
Insulation Resistance @50VDC	MΩ	> 5000							
Breakdown Voltage	V AC	> 500							
Material	Spring Element	Nickel-plated alloy tool steel							
	Enclosure	stainless steel							
	Cable entry fitting	stainless steel							
	Cable	Polyurethane							
Protection	Type	Potted							
	IP Rating	IP67							
	NEMA Rating	NEMA 6							
Load Limit	Safe	%R.C. 150							
	Ultimate	%R.C. 300							
Safe Dynamic Load	%R.C.	70							
Fatigue Life	cycles @R.C.	1000 000							
Direction of Loading		tension & compression							
Deflection @ R.C., nominal	mm (in)	See drawing							
Weight, nominal	kg (lb)	0.65 (1.4)	0.7 (1.6)	0.9 (2.0)	1.6 (3.4)	1.8 (4.0)	3 (6.6)	7.3 (16.1)	
Cable Length	m (ft)	6 (19.7)							
Overload Protection		no							

¹ Maximum tensile load that can be applied

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

³ 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	H1	H2	L Max	L1	L2	T1	T2
50-300 lb	173.2 mm 6.82 in.	14.2 mm 0.56 in.	63.5 mm 2.50 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.	63.5 mm 2.50 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.	101.6 mm 4.00 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.	101.6 mm 4.00 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	465.1 mm 18.31 in.	52.3 mm 2.06 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	1-14 UNS
20,000 lb	496.8 mm 19.56 in.	52.3 mm 2.06 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
50-100 kg	177.2 mm 6.98 in.	12.5 mm 0.49 in.	63.5 mm 2.50 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.	63.5 mm 2.50 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.	101.6 mm 4.00 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.	101.6 mm 4.00 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

SLS410 Load Cell Cable Colors

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

SWS310 Ordering Information

Description	Item No.
Weigh module (including load cell), model no. SWS310 50kg	61041110
Weigh module (including load cell), model no. SWS310 100kg	61041111
Weigh module (including load cell), model no. SWS310 250kg	61041112
Weigh module (including load cell), model no. SWS310 500kg	61041113
Weigh module (including load cell), model no. SWS310 1000kg	61041114
Weigh module (including load cell), model no. SWS310 2500kg	61041115
Weigh module (including load cell), model no. SWS310 5000kg	61041116
Weigh module (including load cell), model no. SWS310 7500kg	61041117
Weigh module (including load cell), model no. SWS310 50lb	61041096
Weigh module (including load cell), model no. SWS310 100lb	61041097
Weigh module (including load cell), model no. SWS310 200lb	61041098
Weigh module (including load cell), model no. SWS310 300lb	61041099
Weigh module (including load cell), model no. SWS310 500lb	61041100
Weigh module (including load cell), model no. SWS310 750lb	61041101
Weigh module (including load cell), model no. SWS310 1000lb	61041102
Weigh module (including load cell), model no. SWS310 1500lb	61041103
Weigh module (including load cell), model no. SWS310 2000lb	61041104
Weigh module (including load cell), model no. SWS310 3000lb	61041105
Weigh module (including load cell), model no. SWS310 5000lb	61041106
Weigh module (including load cell), model no. SWS310 10000lb	61041107
Weigh module (including load cell), model no. SWS310 15000lb	61041108
Weigh module (including load cell), model no. SWS310 20000lb	61041109
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 50~300lb	61040758
Weigh module (without load cell), model no. SWS310 500~3000lb	61040759
Weigh module (without load cell), model no. SWS310 5000~10000lb	61040760
Weigh module (without load cell), model no. SWS310 15000lb	61040761
Weigh module (without load cell), model no. SWS310 20000lb	61040762

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.



METTLER TOLEDO Service

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

SLS410 Ordering Information

Description	Item No.
Load cell, model no. SLS410, 50kg	61040291
Load cell, model no. SLS410, 100kg	61040292
Load cell, model no. SLS410, 250kg	61040293
Load cell, model no. SLS410, 500kg	61040294
Load cell, model no. SLS410, 1000kg	61040295
Load cell, model no. SLS410, 2500kg	61040296
Load cell, model no. SLS410, 5000kg	61040297
Load cell, model no. SLS410, 7500kg	61040298
Load cell, model no. SLS410, 50lb	61041049
Load cell, model no. SLS410, 100lb	61041050
Load cell, model no. SLS410, 200lb	61041051
Load cell, model no. SLS410, 300lb	61041052
Load cell, model no. SLS410, 500lb	61041053
Load cell, model no. SLS410, 750lb	61041054
Load cell, model no. SLS410, 1000lb	61041055
Load cell, model no. SLS410, 1500lb	61041056
Load cell, model no. SLS410, 2000lb	61041057
Load cell, model no. SLS410, 3000lb	61041058
Load cell, model no. SLS410, 5000lb	61041059
Load cell, model no. SLS410, 10000lb	61041060
Load cell, model no. SLS410, 15000lb	61040280
Load cell, model no. SLS410, 20000lb	61040281

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.



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Environment certificate ISO 14001

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Printed in Switzerland MTSI 44099185
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