

General-Purpose Weighing for Tanks, Hoppers, OEM Machinery



Tank Weighing

Available in capacities up to 250,000 lb, SWD440 weigh modules are suitable for weighing heavy-capacity tanks and hoppers.



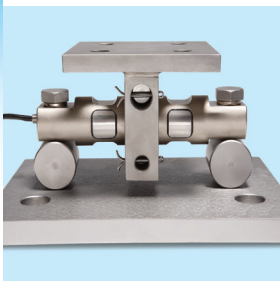
Load Cells

SWD440 weigh modules are available with load cells made of nickel-plated alloy steel or stainless steel. Both can be used for indoor or outdoor applications. They feature a dual-ended-beam design with potted seals that provide IP67 protection.



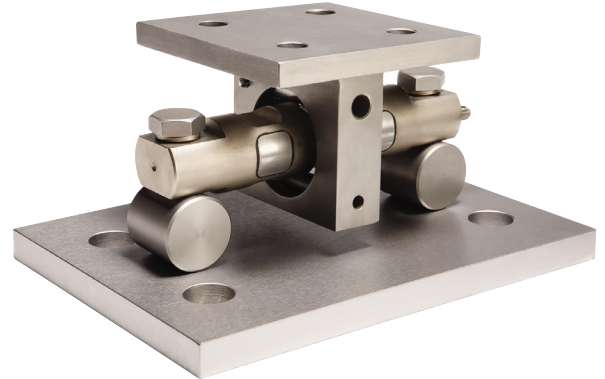
Sliding Suspension

The bearing-pin suspension allows the upper load-receiving plate to slide laterally along a groove at the center of the load cell. This feature compensates for thermal expansion and contraction due to ambient temperature change or internal vessel reactions.



Self-Checking Design

The SWD440 weigh module mounting hardware offers a self-checking design with anti-uplift protection.



SWD440 Weigh Module

SWD440 weigh modules offer good value for general-purpose weighing of tanks, hoppers, and OEM machinery. They use dual-ended-beam load cells to deliver accurate and repeatable weighing. The self-checking design is suitable for static loading in applications where thermal expansion/contraction occurs. Mounting hardware is available in painted carbon steel and stainless steel to stand up to a variety of environments.

- Capacity range: 5K - 250K (2.2 - 113.4t)
- Carbon steel or stainless steel construction
- Self checking for economical system integration
- Uplift protection
- Compensation for thermal expansion/contraction
- Load cells certified by NTEP
- Load cells certified by Factory Mutual

SWD440 Weigh Module and Load Cell Specifications

Weigh Module Parameter		Unit of Measure	Specification											
Model No.			SWD440											
Rated Capacity (R.C.)		t, nominal (klb)	2.2 (5)	4.5 (10)	9.1 (20)	13.6 (30)	18.1 (40)	22.7 (50)	27.2 (60)	45.4 (100)	68 (150)	90.7 (200)	113.4 (250)	
Load Limit, Safe		%R.C.	150											
Max Rated ¹ Forces														
Max Rated Compressive Force ²		kN (klb)	33.4 (7.5)	66.7 (15)	133.4 (30)	200.2 (45)	266.9 (60)	333.6 (75)	400.3 (90)	667.2 (150)	1000.8 (225)	1334.5 (300)	1668 (375)	
Max Rated Horizontal Force	Transverse ³	kN (klb)	13 (2.8)				39 (8.7)				39 (8.7)	100 (22.4)		
	Longitudinal ⁴	kN (klb)	29 (6.5)				29 (6.5)				49 (11)	73 (16.4)	122 (27.5)	
Max Rated Uplift		kN (klb)	57 (12.8)				106 (23.8)				106 (23.8)	106 (23.8)	126 (28.2)	
Max Top Plate Travel	Transverse	± mm (in)	10 (0.395)		7 (0.275)		9.5 (0.375)				10.4 (0.410)			
	Longitudinal	± mm (in)	0											
Weight (including load cell), nominal		kg (lb)	16.8 (37)				48.5 (107)				92.1 (203)	94.5 (208)	226.8 (500)	228.9 (505)
Material			carbon steel / stainless steel											
Finish			painted / glass bead blasted											

¹ The weigh module is rated for these forces in normal operation. A factor of safety has been applied by METTLER TOLEDO.

² Maximum vertical downward force that can be applied to the top plate.

³ Maximum horizontal force that can be applied to the top plate in a direction transverse to the longitudinal axis of the load cell (in absence of a vertical load).

⁴ Maximum horizontal force that can be applied to the top plate in a direction parallel to the longitudinal axis of the load cell (in absence of a vertical load).

Note: Max rated forces are the result of FEA analysis based on boundary conditions from sample physical testing.

Load Cell Parameter		Unit of Measure	Specification										
Model No.			SLD430 / SLD530										
Rated Capacity (R.C.)		t, nominal (klb)	2.2 (5)	4.5 (10)	9.1 (20)	13.6 (30)	18.1 (40)	22.7 (50)	27.2 (60)	45.4 (100)	68 (150)	90.7 (200)	113.4 (250)
Rated Output		mV/V @ R.C.	3.0 ± 0.10%										
Zero Load Output		%R.C.	≤ 1.0										
Combined Error ^{1, 2}		%R.C.	≤ 0.02										
Repeatability Error		%A.L. ³	≤ 0.01										
Creep, 30 minutes		%A.L.	≤ 0.03										
Temperature Effect on	Min. Dead Load Output	%R.C./10°C (50°F)	≤ 0.001										
	Sensitivity ²	%A.L./10°C (50°F)	≤ 0.0008										
Temperature Range	Compensated	°C (°F)	-10 ~ +40 (+14 ~ +104)										
	Operating	°C (°F)	-40 ~ +80 (-40 ~ +176)										
	Safe Storage	°C (°F)	-40 ~ +90 (-40 ~ +194)										
NTEP Approval ⁴	Certificate Number		10-098										
	Class		CIII / CIII										
	nmax		5000 / 10,000										
Factory Mutual Approval ⁴	Certificate Number		3036007 and 3036007C										
Excitation Voltage	Recommended	V AC/DC	5 ~ 12										
	Maximum	V AC/DC	15										
Terminal Resistance	Excitation	Ω	700 ± 7										
	Output	Ω	703 ± 4										
Insulation Resistance @ 50VDC		M Ω	> 5000										
Material	Spring Element		Alloy Steel / Stainless Steel										
	Finish		Nickel Plated / Glass Bead Blasted										
	Cable		Polyurethane										
Protection	Type		Potting Compound										
	IP Rating		IP67										
Load Limit	Safe	%R.C.	150										
	Ultimate	%R.C.	300										
Deflection @ R.C., nominal		mm (in)	0.10 (0.004)	0.12 (0.005)	0.16 (0.006)	0.13 (0.005)	0.15 (0.006)	0.16 (0.006)	0.18 (0.007)	0.20 (0.008)	0.18 (0.007)		
Weight, nominal		kg (lb)	1.8 (4)		3.3 (7.3)		8.5 (18.7)			12.1 (26.7)	14.5 (32)	41.2 (90.8)	43.4 (95.7)
Cable	Length	m (ft)	9.1 (30)										
	Diameter	mm (in)	5 (0.20)				8 (0.31)						

¹ Error due to the combined effect of non-linearity and hysteresis.

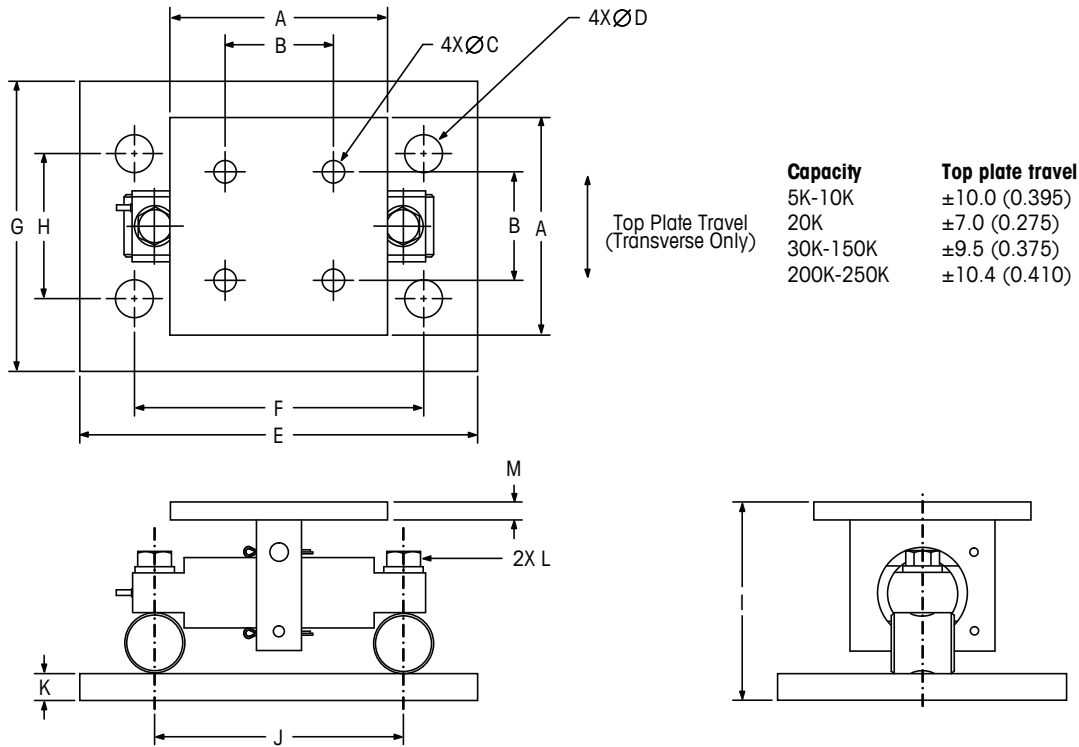
² Typical values only. The sum of errors due to combined error and temperature effect on sensitivity comply with the requirements of OIML R60 and NIST HB44.

³ A.L. = Applied Load.

⁴ See certificate for complete information.



SWD440 Weigh Module Dimensions



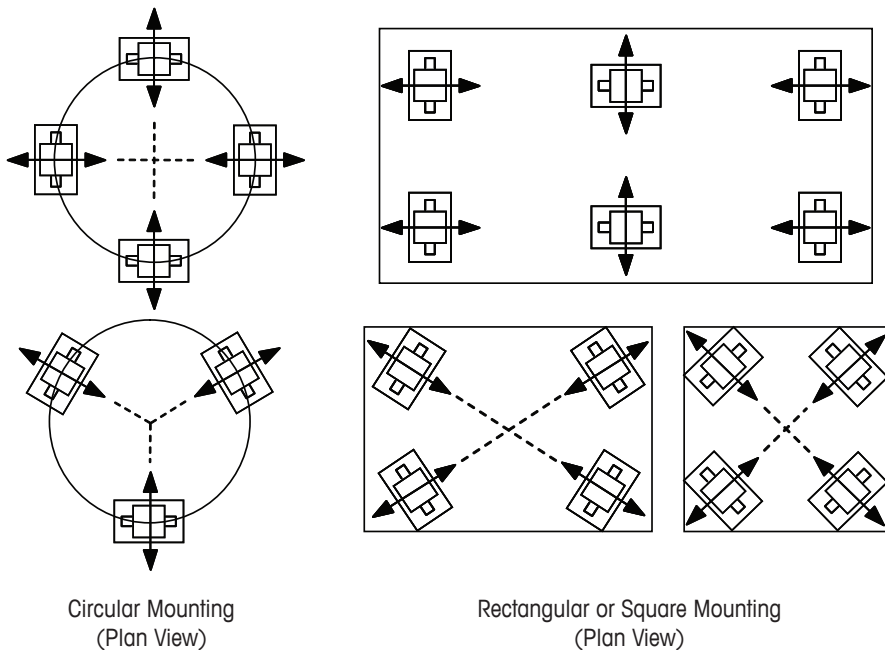
Capacity	Top plate travel
5K-10K	±10.0 (0.395)
20K	±7.0 (0.275)
30K-150K	±9.5 (0.375)
200K-250K	±10.4 (0.410)

Top Plate Travel
(Transverse Only)

Capacity	A	B	C	D	E	F	G	H	I	J	K	L	M
2.2-9.1t (5K-20K)	152.4 (6.00)	76.2 (3.00)	16.0 (0.63)	26.9 (1.06)	279.4 (11.00)	203.2 (8.00)	190.5 (7.50)	101.6 (4.00)	139.2 (5.48)	174.5 (6.87)	19.1 (0.75)	5/8-18	12.7 (0.50)
13.6-27.2t (30K-60K)	203.2 (8.00)	130.3 (5.13)	19.1 (0.75)	31.0 (1.22)	381.0 (15.00)	292.1 (11.50)	254.0 (10.00)	152.4 (6.00)	214.1 (8.43)	215.9 (8.50)	25.4 (1.00)	1-8	19.1 (0.75)
45.4-68t (100K-150K)	254.0 (10.00)	190.5 (7.50)	20.6 (0.81)	35.1 (1.38)	457.2 (18.00)	355.6 (14.00)	304.8 (12.00)	228.6 (9.00)	264.0 (10.39)	241.3 (9.50)	31.8 (1.25)	1-8	31.8 (1.25)
90.7-113.4t (200K-250K)	304.8 (12.00)	228.6 (9.00)	26.9 (1.06)	47.8 (1.88)	660.4 (26.00)	508.0 (20.00)	304.8 (12.00)	152.4 (6.00)	400.0 (15.73)	330.2 (13.00)	50.8 (2.00)	1.5-12	50.8 (2.00)

Dimensions are in mm (inches).

SWD440 Mounting Arrangements



SWD440 Cable Colors

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

SWD440 Ordering Information

Description	Item No.
SWD440 CS WMA (with load cell), 5K	61043184
SWD440 CS WMA (with load cell), 10K	61043185
SWD440 CS WMA (with load cell), 20K	61043186
SWD440 CS WMA (with load cell), 30K	61043187
SWD440 CS WMA (with load cell), 40K	61043188
SWD440 CS WMA (with load cell), 50K	61043189
SWD440 CS WMA (with load cell), 60K	61043190
SWD440 CS WMA (with load cell), 100K	61043191
SWD440 CS WMA (with load cell), 150K	61043192
SWD440 CS WMA (with load cell), 200K	61043193
SWD440 CS WMA (with load cell), 250K	61043194
SWD440 SS WMA (with load cell), 5K	61043195
SWD440 SS WMA (with load cell), 10K	61043196
SWD440 SS WMA (with load cell), 20K	61043197
SWD440 SS WMA (with load cell), 30K	61043198
SWD440 SS WMA (with load cell), 40K	61043199
SWD440 SS WMA (with load cell), 50K	61043200
SWD440 SS WMA (with load cell), 60K	61043201
SWD440 SS WMA (with load cell), 100K	61043202
SWD440 SS WMA (with load cell), 150K	61043203
SWD440 SS WMA (with load cell), 200K	61043204
SWD440 SS WMA (with load cell), 250K	61043205
SWD440 CS WMK (without load cell), 5-20K	61042140
SWD440 CS WMK (without load cell), 30-60K	61042141
SWD440 CS WMK (without load cell), 100K	61042142
SWD440 CS WMK (without load cell), 150K	61042143
SWD440 CS WMK (without load cell), 200-250K	61042144
SWD440 SS WMK (without load cell), 5-20K	61042145
SWD440 SS WMK (without load cell), 30-60K	61042146
SWD440 SS WMK (without load cell), 100K	61042147
SWD440 SS WMK (without load cell), 150K	61042148
SWD440 SS WMK (without load cell), 200-250K	61042149

Load Cell Ordering Information

Description	Item No.
SLD430 Load Cell, 5K*	61042081
SLD430 Load Cell, 10K*	61042082
SLD430 Load Cell, 20K*	61042083
SLD430 Load Cell, 30K*	61042084
SLD430 Load Cell, 40K*	61042085
SLD430 Load Cell, 50K*	61042086
SLD430 Load Cell, 60K*	61042087
SLD430 Load Cell, 100K*	61042088
SLD430 Load Cell, 150K*	61042089
SLD430 Load Cell, 200K*	61042090
SLD430 Load Cell, 250K*	61042091
SLD530 Load Cell, 5K, SS	61042092
SLD530 Load Cell, 10K, SS	61042093
SLD530 Load Cell, 20K, SS	61042094
SLD530 Load Cell, 30K, SS	61042095
SLD530 Load Cell, 40K, SS	61042096
SLD530 Load Cell, 50K, SS	61042097
SLD530 Load Cell, 60K, SS	61042098
SLD530 Load Cell, 100K, SS	61042099
SLD530 Load Cell, 150K, SS	61042100
SLD530 Load Cell, 200K, SS	61042101
SLD530 Load Cell, 250K, SS	61042102

*Alloy steel



METTLER TOLEDO Service

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

Weigh-Connect-Control-Comply

METTLER TOLEDO embeds intelligence into weighing applications. Our industry leading scale electronics enable users to integrate their gravimetric measurement with applications running on PCs, PLCs, or DCS systems. Our products are designed specifically for industries subject to regulatory controls, such as pharmaceutical, chemical, food and beverage, and has been confirmed by multiple global agency standards including UL, CE, NTEP, and OIML.

www.mt.com/weighmodule

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