

S-Type Tension Load Cell

for economical, no-compromise weighing



Tension Weighing

Use the SLS510 in tension weighing applications requiring Stainless Steel Load Cells to convert suspended hoppers or other hanging devices into a weighing system. The cell can also be used to convert mechanical scales to electronic. The robust and economical design is suitable for use in industrial environments requiring a higher degree of corrosion protection.



Robust Strain Gauge Design

The SLS510 load cell uses a reliable Strain Gauge design with excellent measurement stability. The high sensitivity output enables the use of economic weight indicators, providing a valuable low-cost solution. The wide capacity range offers the optimum selection to maximize signal for your application.



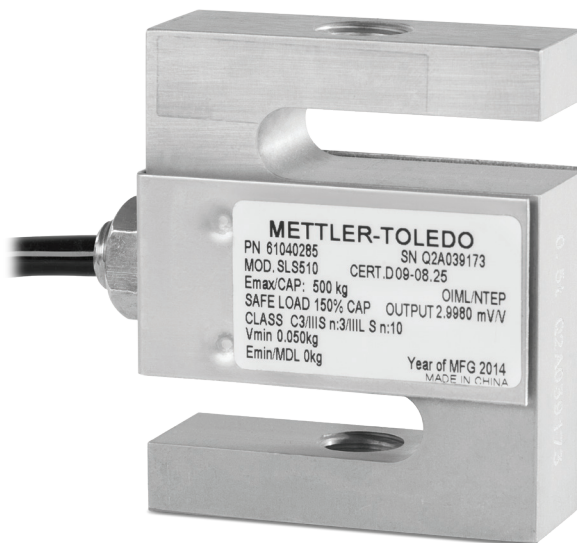
Metric Threads and Kg Capacities

The METTLER TOLEDO SLS510 load cell is available in kilogram capacities and with metric threads to match commonly available standards. Due to this common mechanical interface the SLS510 can be easily integrated into most systems.



Tension Weigh Mount

The optional SWS310 Tension Weigh Module provides a complete solution to integrate into your system. Due to the optimized design the best weighing performance is guaranteed. The load cell is electrically isolated from the rods, while the ground strap provides a bypass for current, thus protecting against lightning and welding damage.



SLS510 S-Type Tension Load Cell

Use the SLS510 when better corrosion protection is required and weighing performance cannot be compromised. Every SLS510 load cell features:

- OIML C3 and NTEP approval
- ATEX and FM approvals
- Reliable Strain Gauge design
- Standard mechanical interface
- Robust design, Stainless steel
- High output signal 3mV/V
- Potted; IP67 Protection

The SLS510 is approved for use in various applications in Europe and America. Its metrology approval is OIML C3, and its high output signal permits the use of economic terminals and transmitters. Together, these features ensure the best possible system performance.

Load Cell Parameter		Unit of measure	Specification								
Model number			SLS510								
Rated Capacity (R.C.)		kg	50	100	250	500	1000	2500	5000	7500	10 000
Rated Output		mV/V @ R.C.	3.00 ± 0.25%								
Zero Load Output		% R.C.	1								
Combined Error ^{1, 2}		% R.C.	≤ 0.018								
Repeatability Error		% A.L. ³	≤ 0.01								
Creep, 30 Minutes Use		% A.L.	≤ 0.0167								
Minimum Dead Load Output Return (DR), 30 min.		% A.L.	≤ 0.0167								
Temperature Effect on	Min Dead Load Output	% R.C./°C (.../°F)	0.002 (0.0001)		0.0014 (0.0008)				0.0012 (0.0006)		
	Sensitivity	% R.C./°C (.../°F)	≤ 0.0009 (0.0005)								
	Compensated	°C (°F)	-10 ~ +40 (+14 ~ +104)								
	Operating	°C (°F)	-35 ~ +65 (-31 ~ +150)								
	Safe storage	°C (°F)	-35 ~ +85 (-31 ~ +185)								
OIML / European Approval ⁴	European Cert No.		D09-08.25								
	Class		C3								
	nmax		3000								
	Y		7000		10 000				12 000		
	PLC		0.7								
	Humidity Symbol		none								
	Min. Dead Load	kg / lb	0 (0)								
Z		3000									
NTEP Approval ⁴	Number		11-020								NA
	Class		Class III, IIIL								
	nmax		Class III = 5000, Class IIIL = 10,000								
	Vmin (Class III)	kg	0.002	0.004	0.10	0.020	0.040	0.100	0.200	0.300	
	Min. Dead Load	kg	0.9		2.3	4.5				10	
ATEX Approval ⁴	Number, cat 1		FM09ATEX0048X								
	Number, cat 3		FM09ATEX0049X								
	Rating		II 1 G Ex ia IIC T4 Ta =-20°C to +40°C; IP67								
			II 1 D Ex iaD T73°C; IP67								
			II 1 G Ex nL IIC T4 Ta =-20°C to +40°C; IP67								
Entity Parameters			Ui=20V, Ii=600mA, Pi=6W, Ci=12nF, Li=40µH								
FM Approval, USA / Canada ⁴	Number		3036007								
	Rating		IS / I,II,III / 1 / ABCDEFG / T4								
			I,II,III / 2 / ABCDFG / T4								
			Class 1, Zone 0, AEx, ia IIC T4								
			Class 1, Zone 0, Ex, ia IIC T4								
	Rating (USA only)		Class 1, Zone 2, Group IIC T4								
	Rating (Canada only)		Ex nL IIC T4								
	Entity Parameters		Vmax=20V, Imax=600mA, Pi=6W, Ci=12nF, Li=40µH								
System Drawing No.			175295R								
Excitation Voltage	Recommended	V AC/DC	10								
	Maximum	V AC/DC	18								
Terminal Resistance	Excitation	Ω	430 ± 60								
	Output	Ω	351 ± 3								
Insulation resistance at 50 VDC		MΩ	> 5000								
Breakdown voltage		V AC	> 500								

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

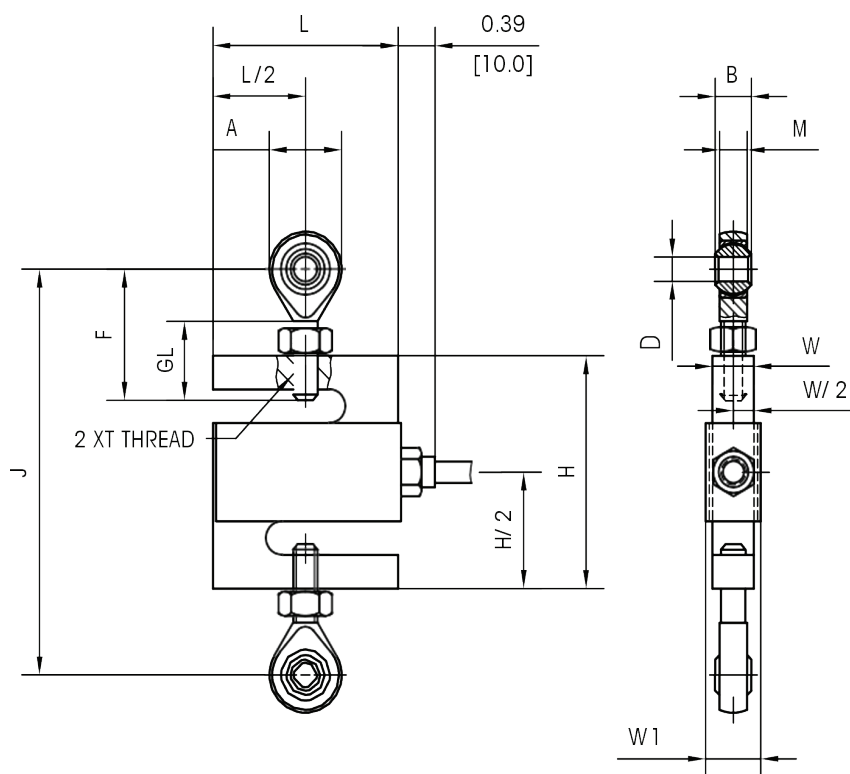
3. A.L. = Applied Load

4. Refer to certificate for complete information: <http://glo.mt.com/global/en/home/search/compliance.html/compliance/>



Load Cell Parameter (cont.)		Unit of measure	Specification							
Material	Spring Element		Stainless Steel							
	Enclosure		Stainless Steel							
	Cable Entry Fitting		Stainless Steel							
	Cable		Polyurethane							
Protection	Type		Potted, with metal covers							
	IP Rating		IP67							
	NEMA Rating		NEMA 6 / 6P							
Load Limit	Safe	% R.C.	150							
	Ultimate		300							
Safe Dynamic Load		% R.C.	70							
Fatigue Life		Cycles @ R.C.	1000000							
Direction of Loading			Tension							
Direction @ R.C., nominal		mm (in)	0.18 (0.007)	0.23 (0.009)	0.25 (0.010)	0.37 (0.014)	0.81 (0.032)		0.78 (0.031)	0.57 (0.022)
Weight, Nominal		kg (lb)	0.65 (1.4)	0.7 (1.6)	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 (1.97)							
Overload Protection			No							
Barometric Pressure Effect on Zero Output		kg/kPa (lb/in. Hg)	None							
Drawing No.	Dimensions		TC601265							
	To Scale		TC601386							

SLS510 Load Cell Dimensional Drawing mm [inch]



Dimensions / Data																	
Capacity	H	H / 2	L	L / 2	T [2x]	W	W / 2	W1	J (2)	D	B	M	A	F	GL	Deflection @ RC	
50 - 100 kg	61.0 [2.40]	30.5 [1.20]	50.8 [2.00]	25.4 [1.00]	M8x1.25 10 [0.4] deep	12.7 [0.50]	5.8 [0.23]	15.1 [0.59]	120 [4.72]	8 [0.31]	12 [0.47]	9.00 [0.35]	24 [0.94]	42 [1.65]	25 [0.95]	0.18 [0.007]	
50 - 500 kg	61.0 [2.40]	30.5 [1.20]	50.8 [2.00]	25.4 [1.00]	M12x1.75 10 [0.4] deep	18.0 [0.71]	9.0 [0.36]	21.4 [0.84]	144 [5.67]	12 [0.47]	16 [0.63]	12.00 [0.47]	32 [1.26]	54 [2.13]	33 [1.30]	250kg - 0.23 [0.009] 500kg - 0.25 [0.010]	
1000 kg	61.0 [2.40]	30.5 [1.20]	50.8 [2.00]	25.4 [1.00]	M12x1.75 10 [0.4] deep	24.4 [0.96]	12.2 [0.48]	27.8 [1.09]	144 [5.67]	12 [0.47]	16 [0.63]	12.00 [0.47]	32 [1.26]	54 [2.13]	33 [1.30]	0.37 [0.014]	
2500 kg	99.1 [3.90]	49.5 [1.95]	76.2 [3.00]	38.1 [1.50]	M20x1.5 15 [0.6] deep	24.4 [0.96]	12.2 [0.48]	27.8 [1.09]	221 [8.70]	20 [0.79]	25 [0.98]	18.00 [0.71]	50 [1.97]	78 [3.07]	47 [1.85]	0.81 [0.032]	
5,000 kg	99.1 [3.90]	49.5 [1.95]	74.7 [2.94]	37.3 [1.47]	M20x1.5 15 [0.6] deep	30.7 [1.21]	15.4 [0.61]	34.1 [1.34]	221 [8.70]	20 [0.79]	25 [0.98]	18.00 [0.71]	50 [1.97]	78 [3.07]	47 [1.85]	0.81 [0.032]	
7500 kg	139.7 [5.50]	69.9 [2.75]	87.4 [3.44]	43.7 [1.72]	M24x2 31 [1.2] deep	37.1 [1.46]	18.5 [0.73]	40.5 [1.59]	260 [10.24]	25 [0.98]	31 [1.22]	22.00 [0.87]	60 [2.36]	94 [3.70]	58 [2.28]	0.78 [0.031]	
10 000 kg	177.8 [7.00]	88.9 [3.50]	112.8 [3.44]	56.4 [2.22]	M30x2 40 [1.6] deep	42.9 [1.69]	21.5 [0.85]	46.3 [1.82]	3120 [12.20]	30 [1.18]	37 [1.46]	25.00 [0.98]	70 [2.76]	110 [4.33]	71 [2.80]	0.57 [0.022]	

SLS510 Load Cell Order Information

Model Number	Item Number
SLS510 Load Cell, 50g C3	6140282
SLS510 Load Cell, 100kg C3	6140283
SLS510 Load Cell, 250kg C3	6140284
SLS510 Load Cell, 500kg C3	6140285
SLS510 Load Cell, 1000kg C3	6140286
SLS510 Load Cell, 2500kg C3	6140287
SLS510 Load Cell, 5000kg C3	6140288
SLS510 Load Cell, 7500kg C3	6140289
SLS510 Load Cell, 10 000kg C3	6140290
Rod End + Nut M8x1.25 CS - 100KG	72229545
Rod End + Nut M12x1.75 CS - 1T	72229546
Rod End + Nut M20x1.5 CS - 5T	72229547
Rod End + Nut M24x2 CS - 7.5T	72229548
Rod End + Nut M30x2 CS - 10T	72229549

SLS510 Load Cell Cable Colors

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

Full Connectivity

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



EtherNet/IP™

DeviceNet™

ControlNet™



METTLER TOLEDO Service

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
Environmental certificate ISO 14001

Subject to technical changes.
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INDB0068.E1 Metric Units

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For more information