

# Cost-Efficient Tank Weighing

## Safe, Accurate, Service-Friendly



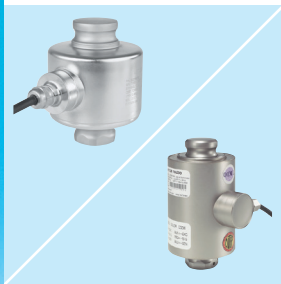
### Tank Weighing

SWC415 weigh modules deliver the well-established value of the PinMount family in a cost-effective package for applications including tank, hopper, and silo weighing.



### Conveyors and Mixers

SWC415 PinMount™ weigh modules are designed for dynamic-loading applications such as conveyors, mixers, and blenders. SWC415 PinMount™ provides 360° checking for ease of installation and maximum safety.



### Load Cells

The analog load cells have a rocker-pin design that automatically aligns load forces for accurate weighing. These hermetically sealed load cells are rated IP68/IP69K and can be used in harsh environments. The load cells are easy to inspect or replace.



### Stabilizer

An optional stabilizer can be applied to each weigh module to stabilize a scale subject to heavy vibration or high torque, or used for in-motion weighing. With a stabilizer installed, thermal expansion is still possible, delivering the best weighing performance.



## SWC415 PinMount™ Weigh Modules

Product Key Features:

- Full mechanical safety – anti-uplift protection, down-stop, 360° checking
- Ground strap – welding protection
- SafeLock™ – protection during weigh module transportation and installation
- One stabilizer option
- Stainless steel load cell with IP68/69k ratings
- Hazardous approves with IECEx, ATEX and FM
- OIML C3/NTEP III M n:5
- Zinc plated or stainless steel mounting hardware
- CalFree™: Calibration without test weights

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# SWC415 PinMount™ Specifications – Weigh Module

Weigh Module	Unit of measure	Specification					
		SWC415 PinMount™					
Model No.							
Size		1		2		3	
Rated Capacity (R.C.)	t (klb, nominal)	7.5 (16.5)	15 (33)	22.5 (49.6)	30 (66)	50 (110)	100 (220)
Max. Rated Forces <sup>1)</sup>							
Max. Compressive Force, Rated	kN (klb)	74 (16.5)	145 (33)	220 (50)	290 (65)	490 (110)	980 (220)
Max Horizontal Force, Rated	kN (klb)	50 (11)		70 (15.4)		91 (20.5)	
Max. Uplift Force, Rated	kN (klb)	44 (9.7)		105 (23.1)		133 (30)	
Max. horizontal force (longitudinal) per stabilizer option, Rated <sup>6)</sup>	kN (klb)	22 (5)		35 (7.7)		60 (13.4)	
Max. Yield Forces <sup>2) 4)</sup>							
Max. Compressive Force, Yield	kN (klb)	145 (33)	294 (67)	440 (97)	505 (110)	685 (190)	1715 (385)
Max. Horizontal Force, Yield	kN (klb)	73 (16.1)		95 (20.9)		133 (30)	
Max. Uplift Force, Yield	kN (klb)	60 (13.2)		140 (30.8)		186 (42)	
Max. Ultimate Forces <sup>3) 4)</sup>							
Max. Compressive Force, Ultimate	kN (klb)	220 (50)	420 (94)	660 (147)	883 (194)	1470 (323)	2940 (647)
Max. Horizontal Force, Ultimate	kN (klb)	145 (31.9)		250 (55)		300 (76)	
Max. Uplift Force, Ultimate	kN (klb)	140 (30.8)		275 (60.5)		340 (76)	
Restoring force	%A.L./mm (../in) <sup>5)</sup>	2.4 (61)		3.4 (87)	0.8 (19)	2 (51)	2(51)
Max. top plate travel	± mm (in)	± 5 (0.2)					
		± 5 (0.2)					
Weight (including load cell), nominal	kg (lb)	20 (44)		55 (120)		70 (154)	
Material		carbon steel / 304 stainless steel					
Finish		Zinc Plated / Electropolished					
Shipping Dimensions (LxWxH)	cm (in)	34 x 22.8 x 29 (13.4 x 9.0 x 11.4)			41.3 x 31.8 x 40.9 (16.3 x 12.5 x 16.1)		48.8 x 36.8 x 42.4 (19.2 x 14.5 x 16.7)
Shipping Weight	kg (lb)	27 (59.5)		55 (121.3)		100 (220.5)	

<sup>1)</sup> The weigh module is rated for these forces in normal operation, a Factor of Safety has been applied by METTLER TOLEDO.  
<sup>2)</sup> Warning: if loaded statically one time in excess of these forces, the weigh module may yield and need replacing. The Max. Yield Forces do not consider fatigue/cyclic loading and should be approached only in exceptional circumstances.  
<sup>3)</sup> Warning: if loaded statically one time in excess of these forces, the weigh module may break with potential for serious injury and/or property damage.  
<sup>4)</sup> Warning: apply a Factor of Safety appropriate to the application.  
<sup>5)</sup> % of Applied Load (A.L.) per mm (in) displacement of the top plate (transverse & longitudinal).  
<sup>6)</sup> 1 per weigh module. Max permissible longitudinal force per stabilizer.  
<sup>7)</sup> 0 with Stabilizer.

# SWC415 PinMount™ Specifications – Load Cell

LOAD CELL SLC611, 0782		Unit of measure	Specification					
Model No.			SLC611			0782		
Rated Capacity (R.C.)		† (klb, nominal)	7.5 (16.5)	15 (33)	22.5 (49.6)	30 (66)	50 (110)	100 (220)
Rated Output		mV/V @R.C.	2 ± 0.1 %					
Combined Error <sup>8) 9)</sup>		%R.C.	≤ 0.018					
Temperature Effect on	Min. Dead load Output	%R.C./°C (./°F)	≤ 0.0018 (0.0010)			≤ 0.0021 (0.0011)		
	Sensitivity <sup>9)</sup>	%A.L./°C (./°F)	≤ 0.001 (0.0006)					
Temperature Range	Compensated		-10 ~ +40 (-14 ~ +104)					
	Operating	°C (°F)	-40 ~ +65 (-40 ~ +149)					
	Safe Storage		-40 ~ +80 (-40 ~ +176)					
OIML / European Approval <sup>10)</sup>	Class		C3					
	nmax		3000					
	Y		7800			6666		
NTEP Approval <sup>10)</sup>	Class		III M			III L M		
	nmax		5000					
	Vmin	kg (lb)	0.96 (2.12)	1.92 (4.24)	2.88 (6.36)	2.1 (4.5)	3.5 (7.5)	7.0 (15)
ATEX Approval <sup>10)</sup>	Rating		II 2 G Ex ia IIC T6...T4 Gb / II 2 D Ex ia IIIC T51°, T60°, 64° Db			II 2 D Ex ib IIIC T55°...T60° Db / II 2 D Ex ib IIIC T55°... T60° Db		
			II 3 G Ex ic IIC T6...T4 Gc / II 3 G Ex ec IIC T6...T4 Gc / II 3 D Ex tc IIIC T51°, T56° Dc			II 3 G Ex ic IICT6...T4 Gc ; II 3 G Ex nA IIC T6 Gc ; II 3 G Ex ec IIC T6 Gc ; II 3 D Ex tc IIIC T60°C Dc		
IECEx Approval <sup>10)</sup>	Rating		Ex ia IIC T6...T4 Ga / Ex ia IIIC T51 °C, T60 °C, T64 °C Db			Ex ib IIC T6...T4 Gb ; Ex ib IIIC T55°C ... T60°C Db		
			Ex ic IIC T6...T4 Gc / Ex ec IIC T6...T4 Gc / Ex tc IIIC T51 °C, T56 °C Dc			Ex ic IIC T6...T4 Gc ; Ex nA IIC T6 Gc ; Ex ec IIC T6 Gc ; Ex tc IIIC T60°C Dc		
Factory Mutual Approval <sup>10)</sup>	Rating, USA		IS / I, II, III / 1 / ABCDEFG / T5 Ta= -40°C to +55°C			Class I, II, III, Division 1, Groups A, B, C, D, E, F, G; T5 Ta = -40°C to +55°C		
			NI / I,II,III / 2 / ABCDFG / T6. Ta = -40° to +55°			Class I, II, III, Division 1, Groups A, B, C, D, E, F, G; T5 Ta = -40°C to +55°C		
	Rating, Canada		IS / I, II, III / 1 / ABCDEFG / T5 Ta= -40°C to +55°C			IS / I,II,III / 1 / ABCDEFG / T4 Ta = -40°C to +50°C ; NI / I / 2 / ABDC / T4 Ta = -40°C to +50°C, DIP/II,III/2/FG		
			NI / I / 2 / ABCD / T6 Ta = -40°C to +55°C, DIP/II,III/2/FG			Class I, Division 2, Groups A, B, C, D; T6 Ta = -40°C to +55°C / Class II, III, Division 2, F, G;		
Excitation Voltage	Recommended	V AC/DC	5 ~ 15					
	Max.		20					
Terminal Resistance	Excitation	Ω	1150 ± 50			1150 ± 25		
	Output		1000 ± 2			1000 ± 3		
Material	Spring Element		stainless steel					
	Type		welded					
Protection	IP Rating		IP68, IP69K			IP68		
	NEMA Rating		NEMA 6/6P					
Weight, nominal	kg (lb)		1 (2.2)		3 (6.6)		3.3 (7.3)	4.5 (9.9)
Cable	Length	m (ft)	12 (39.4)			13 (42.5)		
	Diameter	mm (in)	5.2 (0.20)			5.8 (0.23)		

<sup>8)</sup> Error due to the combined effect of non-linearity and hysteresis.

<sup>9)</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>10)</sup> See certificate for complete information.



## 0782 Cable Colour Code

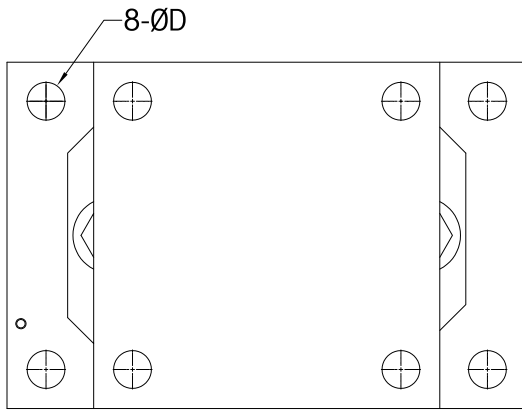
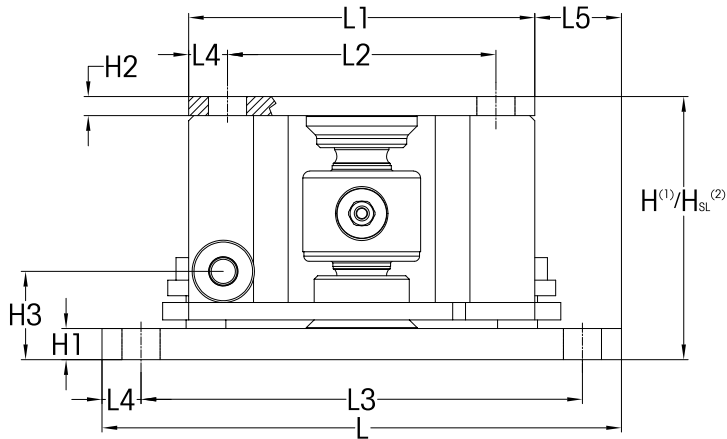
Colour	Function
Green	+ Excitation
Black	- Excitation
White	+ Signal
Red	- Signal
Yellow	+ Sense
Blue	- Sense
Yellow ( long )	Shield

## SLC611 Cable Colour Code

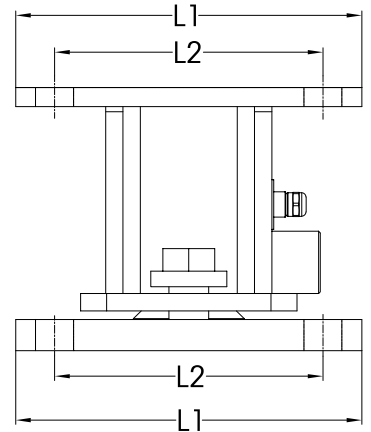
Colour	Function
Green	+ Excitation
Black	- Excitation
White	+ Signal
Red	- Signal
Yellow	Shield

## SWC415 PinMount™ Weigh Module Dimensions mm (in)

Size 1



Size 2 , Size 3



Dimensions and Locations mm(in)

Size	Capacity	H <sup>1</sup>	H <sub>st</sub> <sup>(2)</sup>	H1	H2	L	L1	L2	L3	L4	L5	D
1	7.5, 15, 22.5 † (16.5, 33, 49.6 klb)	152.0 (5.98)	167 (6.57)	18.0 (0.71)	11.0 (0.43)	300.0 (11.8)	200.0 (7.87)	155.0 (6.1)	255.0 (10.04)	22.5 (0.89)	50 (1.97)	22 (0.87)
2	20, 30, 50 † (44, 66, 110 klb)	235.0 (9.25)	268 (10.55)	25.0 (0.98)	23.0 (0.91)	365.0 (14.37)	250.0 (9.84)	200.0 (7.87)	315.0 (12.4)	25.0 (0.98)	55 (2.16)	26 (1.02)
3	100 † (200 klb)	263.0 (10.35)	301 (11.85)	28.0 (1.10)	27.0 (1.06)	440.0 (17.32)	300.0 (11.81)	235.0 (9.25)	375.0 (14.75)	32.5 (1.28)	70 (2.75)	32 (1.26)

<sup>1)</sup> H Height when activating weigh module by removing SafeLock™ plates

<sup>2)</sup> H<sub>st</sub> Height when shipping or mounting weigh module with SafeLock™ plates

## Order Information SWC415 PinMount™ – Weigh Module with Load Cell

### SWC415 PinMount™ – Weigh Module /

### SWC415 PinMount™ EN1090 – Weigh Module ( Europe Only)

Order Information, Weigh Module Assembly					Item No.	
Size	Rated Capacity	Description	Class	Cable, Material/Lenght	Material, Weigh Module	
					Zinc Plated	304
1	7.5 t / 16.5 klb	Weigh Module Assembly	C3/III M n:5	PU / 12 m (39.4ft)	<b>30295853</b>	<b>30295854</b>
	15 t / 33 klb				<b>30315457</b>	<b>30315458</b>
	22.5 t / 49.6 klb				<b>30295855</b>	<b>30295856</b>
					<b>30315459</b>	<b>30315480</b>
					<b>30295857</b>	<b>30295858</b>
					<b>30315481</b>	<b>30315482</b>
2	30 t / 66 klb	Weigh Module Assembly	C3/IIIL M n:10	PVC / 13 m (42.5ft)	<b>30295859</b>	<b>30295860</b>
	50 t / 110 klb				<b>30315483</b>	<b>30315484</b>
					<b>30315453</b>	<b>30315454</b>
					<b>30315485</b>	<b>30315486</b>
3	100 t / 220 klb	Weigh Module Assembly	C3/IIIL M n:10	PVC / 13 m (42.5ft)	<b>30396062</b>	<b>30396063</b>
					<b>30396064</b>	<b>30396065</b>

**Bolded entries are stocked**

## Order Information SWC415 PinMount™ – Weigh Module without Load Cell

### SWC415 PinMount™ – Weigh Module without Load Cell /

### SWC415 PinMount™ EN1090 – Weigh Module without Load Cell ( Europe Only)

- SafeLock™ allows installation of weigh module hardware without the load cell to avoid sensor damage
- Combine weigh module with special cable length and cable material
- Use weigh module with dummy load cell for level detection systems

Order Information, Weigh Module Kit		Item No.		Suitable Load Cells						
Size	Rated Capacity	Material, Weigh Module		Class	Cable, Material / Length					Dummy Load Cell
		Zinc Plated	304		Item No.					
					PU / 12 m (39.4ft)	PU / 20 m (65.6ft)	FEP / 12 m (39.4ft)	FEP / 20 m (65.6ft)	PVC / 13m (42.5ft)	
1	7.5 t / 16.5 klb	<b>30265377</b>	<b>30256400</b>	C3/III M n:5	<b>30058060</b>	30058064	30105781	30105786	-	30238196
	15 t / 33 klb	<b>30295847</b>	<b>30295848</b>	C3/III M n:5	<b>30058061</b>	30058065	30105783	30105788		
	22.5 t / 49.6 klb			C3/III M n:5	<b>30058062</b>	30058066	30105784	30105789		
2	30 t / 66 klb	<b>30265450</b>	<b>30265427</b>	C3/IIIL M n:10	-	-	-	-	<b>71201709</b>	72188111
	50 t / 110 klb	<b>30295849</b>	<b>30295850</b>	C3/IIIL M n:10					<b>71201710</b>	
3	100 t / 220 klb	<b>30366582</b>	<b>30366574</b>	C3/IIIL M n:10	-	-	-	-	<b>71201711</b>	72188112
		<b>30396060</b>	<b>30396061</b>							

**Bolded entries are stocked**

## Weigh Module Accessories

### SWC415 PinMount™ Weigh Module

METTLER TOLEDO offers an extensive range of accessories for weigh modules and load cells. These help to ensure proper installation and minimize the risk of downtime due to environmental influences.



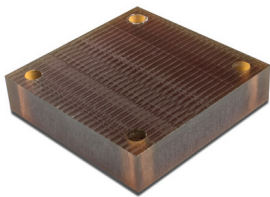
#### Stabilizer

The stabilizer is used to stabilize a scale subject to heavy vibration, high torque, or in-motion weighing. Each weigh module can host one stabilizer. With the stabilizer installed, thermal expansion is still possible so that you can achieve the best weighing performance. The Stabilizer (and weigh modules) shall be installed perpendicular to the direction of thermal expansion/contraction.

For details see the Installation Guide on the product download page.

Rated Capacity	Item Nr.	
	Carbon Steel (CS)	304 Stainless Steel
-		
7.5 - 22.5 † / 16.5 - 49.6 klb	72205444	72205445
30 - 50 † / 66 - 110 klb	72248968	72248969
100 † / 220 klb	72248970	72248971

\* **Bolded entries are stocked**

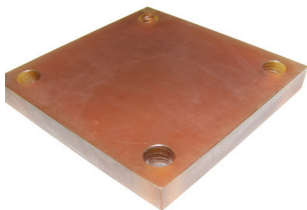


#### Shock/vibration pad

These pads are used to protect weigh modules from shock loading of the scale and to dampen vibrations that might be transmitted from scale to weigh module.

Rated Capacity	Item Nr.		Height of Pad, mm / in
	Zinc Plated	304	
-			-
7.5 - 22.5 † / 16.5 - 49.6 klb	72246646	72207262	40.4 / 1.59
30 - 50 † / 66 - 110 klb	72255072	72255075	58.4 / 2.30
100 † / 220 klb	-	-	63.4 / 2.50

\* **Bolded entries are stocked**



#### Thermal pads

Thermal pads are used in the case of hot tanks. They protect the load cell from temperature load caused by convection, thereby increasing accuracy and the lifespan of the system.

Rated Capacity		Item Nr.		Height of Pad, mm / in
		Zinc Plated	304	
80°C	7.5 - 22.5 † / 16.5 - 49.6 klb	<b>72246647</b>	<b>72207263</b>	40.4 / 1.59
	30 - 50 † / 66 - 110 klb	<b>72255073</b>	<b>72255076</b>	58.4 / 2.30
170°C	7.5 - 22.5 † / 16.5 - 49.6 klb	<b>72246648</b>	<b>72207264</b>	40.4 / 1.59
	30 - 50 † / 66 - 110 klb	<b>72255074</b>	<b>72255077</b>	58.4 / 2.30

\* **Bolded entries are stocked**

## Related Products

### Precision Junction Boxes

Precision junction boxes connect the load cells and transfer the signal to the weighing indicator or transmitter.



Junction Box:

▶ [www.ind-downloads-precision-junctionbox](http://www.ind-downloads-precision-junctionbox)



### Weighing Indicators and Transmitters

METTLER TOLEDO offers a complete family of weighing indicators, controllers and transmitters for applications from simple weighing to filling, stock control, batching, formulation, counting, or checkweighing.



ACT350 Weight Transmitter:

▶ [www.mt.com/ind-act350](http://www.mt.com/ind-act350)



IND360 Automation Indicator:

▶ [www.mt.com/ind360](http://www.mt.com/ind360)



IND570 Industrial Indicator:

▶ [www.mt.com/ind570](http://www.mt.com/ind570)



IND780 Industrial Indicator:

▶ [www.mt.com/ind780](http://www.mt.com/ind780)



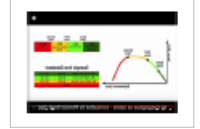
## Weigh Module Knowledge Base



### Weigh Module Proven Safety Video

Watch the video to understand how force ratings are tested and how mechanical safety of weigh modules are ensured.

▶ <https://www.youtube.com/watch?v=jmOzLrB9HdA>



### Weigh Module Buying Guide

Ensure that you make the proper weigh module selection with the support of our free Weigh Module Buying Guide.

▶ [www.mt.com/ind-wm-buying-guide](http://www.mt.com/ind-wm-buying-guide)



### Dos and Don'ts

Discover best practices for weigh module installation and integration in custom scales with straightforward, real-world examples..

▶ [www.mt.com/ind-wm-dos-donts](http://www.mt.com/ind-wm-dos-donts)



### Tank Scale Calibration Methods

In this document, we discuss the six common methods to calibrate tank scales and then illustrate each method with practical use cases.

▶ [www.mt.com/ind-tankscalecalibration](http://www.mt.com/ind-tankscalecalibration)



### Further Readings

Safety-Related Force Ratings:

[www.mt.com/ind-wp-safety](http://www.mt.com/ind-wp-safety)

Weighing Accuracy in Tank Scales:

[www.mt.com/ind-weighing-accuracy-brochure](http://www.mt.com/ind-weighing-accuracy-brochure)

Analog and PowerMount™ Weigh Modules:

[www.mt.com/ind-modern-weigh-modules-WP](http://www.mt.com/ind-modern-weigh-modules-WP)

Weigh Module Systems Handbook:

[www.mt.com/ind-system-handbook](http://www.mt.com/ind-system-handbook)

Weightless Tank Scale Calibration:

[www.mt.com/ind-weightless-tank-scale-calibration-WP](http://www.mt.com/ind-weightless-tank-scale-calibration-WP)

RapidCal™ Tank Scale Calibration:

[www.mt.com/ind-rapidcal](http://www.mt.com/ind-rapidcal)



## Explore Our Service Solutions

### Maximize the Value of Your Tank Weighing Systems

METTLER TOLEDO helps to increase the value of your tank scales, maximize your equipment lifetime, and protect your investment. Leverage our unique RapidCal™ calibration technology to improve your efficiency, performance, and productivity.



#### Designing and installing tank weighing systems

RapidCal™ is a fast, hassle-free calibration method for most tank, reactor, hopper, and silo scales. Design your tanks ready for RapidCal to increase your efficiency during site acceptance tests, and win more business by offering unique benefits to your customer, including minimized downtime for calibration, simplified compliance, and less material waste.

With minimal implementation effort, step-by-step guidance, and technical drawings, you can take your systems to the next level and strengthen your customer relationships.



#### Operating tank weighing systems

Tank weighing systems in production must be calibrated for quality and compliance at regular intervals.

METTLER TOLEDO's RapidCal™ calibration takes only about one hour to complete and helps you to achieve your sustainability goals because it does not require expensive substitution materials. RapidCal is also available as ISO17025 accredited calibration service in select countries.



Learn more about RapidCal™:  
[www.mt.com/IND-rapidcal](http://www.mt.com/IND-rapidcal)



## METTLER TOLEDO Service

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

[www.mt.com](http://www.mt.com)

For more information

**METTLER TOLEDO Group**  
 Industrial Division  
 Local contact: [www.mt.com/contacts](http://www.mt.com/contacts)

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