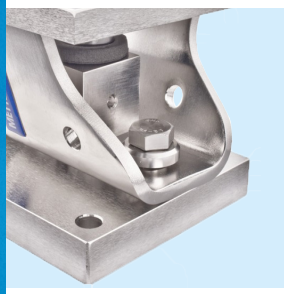
SWB605 PowerMount™

Right-the-First-Time Integration

Safe, Accurate, Service-Friendly



No Compromise on Safety

SWB605 weigh modules do not compromise on safety — all safety features are on board. Anti-uplift, downstop protection and 360° check are incorporated in the weigh module design, to prevent damage in case of accidents.

Right the First Time

SWB605 PowerMount™ ensures correct scale system installation, right from the start. Service features, including SafeLock™ provide easy and trouble free setup. Weigh modules are also designed for dynamic-loading applications such as conveyors, mixers and blender.

Load Cell

POWERCELL® 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 all environments. The load cells are easy to inspect or replace.

Condition Monitoring

SWB605 PowerMount™ monitors single load cells for overload, zero drift, foundation problems, etc.; prompting action before system shuts down or measures incorrectly.

SWB605
PowerMount™

SWB605 PowerMount™

Know What's Ahead

Product Key Features:

- Integrated lift-off protection
- Vertical safety down-stop
- Full 360° integrated checking
- Ground strap – welding protection
- SafeLock™ – Weigh module locked for installation
- SafeLock™ – Load cell protected for installation
- Dual stabilizer option
- Fully stainless steel, IP68/IP69K-rated load cells
- Global approvals
- OIML C3/NTEP III M n:5, OIML C6/NTEP III M n:10 or C10
- Zinc plated or stainless steel mounting hardware
- CalFree™ Plus: Precise calibration anytime

Content

METTLER TOLEDO

Technical Specifications

SWB605 PowerMount™ 220 - 4400kg

Weigh Module	Unit of measure	Specification				
Model No.		SWB605 PowerMount™				
Size		2				3
Rated capacity (R.C.)	kg (lb, nominal)	220 (500)	550 (1250)	1100 (2500)	2200 (5000)	4400 (10000)
Max. rated forces [1]						
Max. compressive force, rated	kN (lb)	2.2 (500)	5.4 (1250)	10.8 (2500)	21.6 (5000)	43.2 (10000)
Max. horizontal force, rated — transverse	kN (lb)	7.5 (1685)				15 (3370)
Max. horizontal force, rated — longitudinal	kN (lb)					
Max. uplift force, rated	kN (lb)	16 (3600)				22.2 (5000)
Max. horizontal force (longitudinal) per stabilizer option, rated [7]	kN (lb)	5 (1120)				7.4 (1660)
Max. yield forces [2] [4]						
Max. compressiv force, yield	kN (lb)	3.2 (750)	8.1 (1875)	16.2 (3750)	23.3 (5120)	50 (11200)
Max. horizontal force, yield — transverse	kN (lb)	9.8 (2200)				22 (4950)
Max. horizontal force, yield — longitudinal	kN (lb)					
Max. uplift force, yield	kN (lb)	22 (4950)				34 (7640)
Max. ultimate forces [3] [4]						
Max. compressiv force, ultimate [5]	kN (lb)	90 (20000)				150 (33000)
Max. horizontal force, ultimate — transverse	kN (lb)	42 (9400)				48 (10750)
Max. horizontal force, ultimate — longitudinal	kN (lb)					
Max. uplift force, ultimate	kN (lb)	50 (11200)				55 (12350)
Restoring force	%A.L./mm (../in) [6]	4.4 (111)				5.5 (140)
Max. top plate travel — transverse	± mm (in)	3 (0.12)				3.5 (0.14)
Max. top plate travel — longitudinal [8]	± mm (in)					
Weight (including load cell), nominal	kg (lb)	6.6 (14.5)			7 (15.4)	15.4 (34)
Material		carbon steel / 304 stainless steel / 316 stainless steel				
Finish		Zinc Plated / Electropolished / Electropolished				
Shipping dimensions (LxWxH)	cm	28 x 20 x 16.5				
Shipping weight	kg	7.7				

[1] The weigh module is rated for these forces in normal operation, a factor of safety has been applied by METTLER TOLEDO.
[2] 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.
[3] 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.
[4] Warning: apply a factor of safety appropriate to the application.
[5] The top plate will travel downwards by 5 mm (0.2 inches) before the down-stop engages and this ultimate force can be developed.
[6] % of Applied Load (A.L.) per mm (in) displacement of the top plate (transverse and longitudinal).
[7] 1 or 2 per weigh module. Max permissible longitudinal force per stabilizer.
[8] 0 with stabilizer.

Technical Specifications

SWB605 PowerMount™ Specifications – Weigh Module

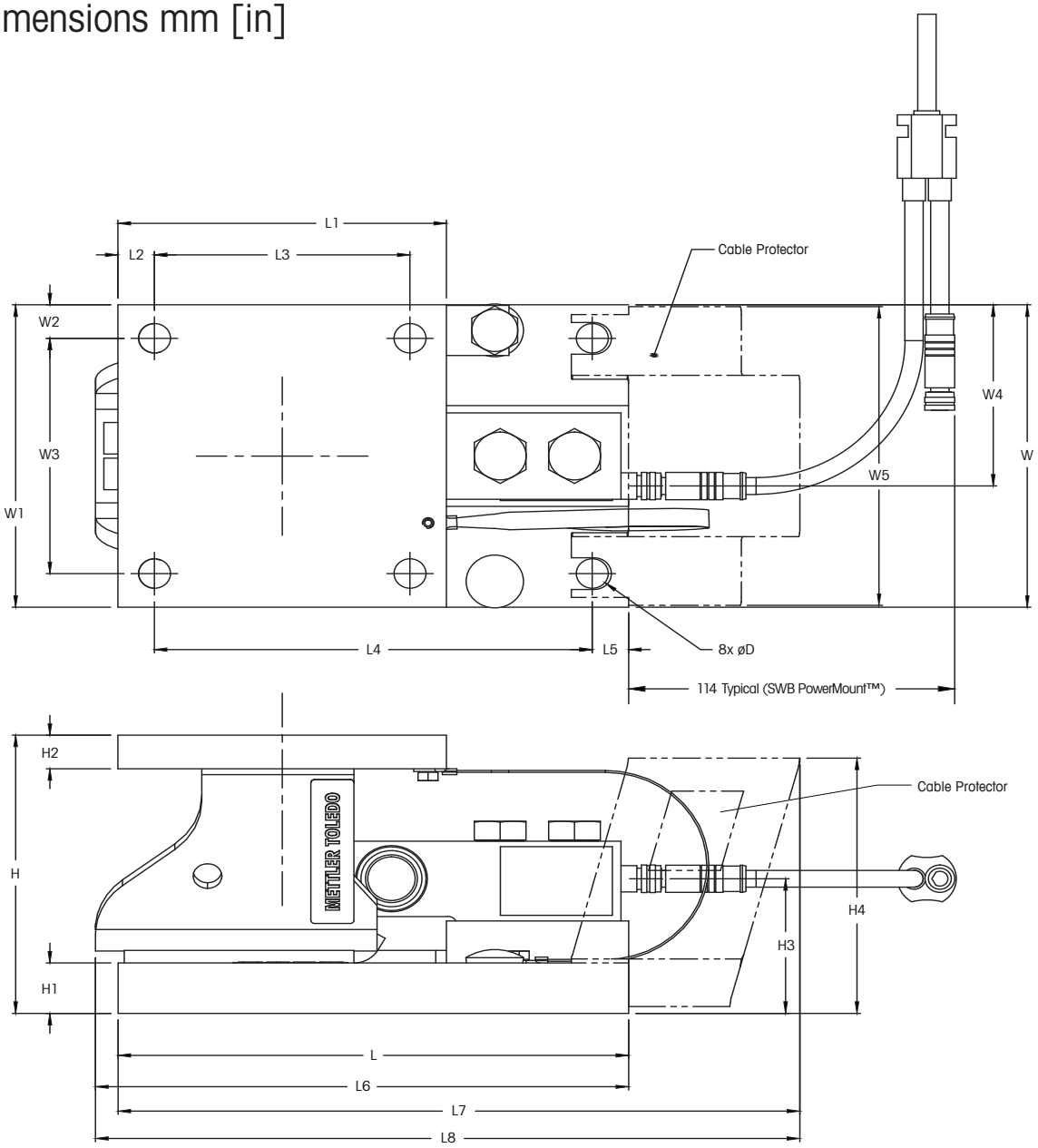
Load cell		Unit of measure	Specification													
Model No.			SLB615D POWERCELL® [12] [13]													
Rated capacity (R.C.)		kg (lb, nominal)	220 (500)			550 (1250)			1100 (2500)			2200 (5000)			4400 (10000)	
Min. increment size, typical [14]		g (lb)	4.4 (0.01)			11 (0.025)			22 (0.05)			44 (0.1)			88 (0.2)	
External resolution		Counts @ R.C.	220,000			550,000			1,100,000			2,200,000			440,000	
External resolution tolerance		%	± 0.04	± 0.02		± 0.04	± 0.02		± 0.04	± 0.02		± 0.04	± 0.02		± 0.04	± 0.02
Zero load output		%R.C.	< 0.1													
Combined error [9] [10]		%R.C.	C3/IIIM n:5: ≤ 0.018 / C6/IIIM n:10: ≤ 0.012 / C10: ≤ 0.007													
Temperature effect on	Min. dead load output	%R.C./°C (../°F)	0.0014 (0.0008)	C3/IIIM n:5: ≤ 0.0011 (0.0006) / C6/IIIM n:10: ≤ 0.0007 (0.0004) / C10: ≤ 0.0007 (0.0004)												
	Sensitivity [10]	%A.L./°C (../°F)	C3/IIIM n:5: ≤ 0.001 (0.0006) / C6/IIIM n:10: ≤ 0.0005 (0.0003) / C10: ≤ 0.0003 (0.0002)													
Temperature range	Compensated	°C (°F)	-10 ~ +40 (+14 ~ +104)													
	Operating		-20 ~ +65 (-4 ~ +150)													
	Safe storage		-40 ~ +80 (-40 ~ +176)													
OIML / European approval [11]	Class		C3	C6	C10	C3	C6	C10	C3	C6	C10	C3	C6	C10	C3	C6
	nmax		3000	6000	10000	3000	6000	10000	3000	6000	10000	3000	6000	10000	3000	6000
	Vmin	g	20	10		37	25		70	50		150	100		290	250
NTEP approval [11]	Class		III M n:5	III M n:10	–	III M n:5	III M n:10	–	III M n:5	III M n:10	–	III M n:5	III M n:10	–	III M n:5	III M n:10
	nmax		5000	10000	–	5000	10000	–	5000	10000	–	5000	10000	–	5000	10000
	Vmin	lb	0.05	0.025	–	0.095	0.065	–	0.19	0.13	–	0.38	0.26	–	0.76	0.65
ATEX approval [11]	Rating		II 2 G Ex ib IIB T4 Gb / II 2 D Ex ib IIIC T130C Db / -40°C ≤ Ta ≤ +55°C / II 3 G Ex nA IIC T6 Gc / II 3 D Ex tc IIIC T85°C Dc													
IECEx approval [11]	Rating		Ex ib IIB T4 Gb / Ex ib IIIC T130°C Db / Ex nA IIC T6 Gc / Ex ec IIC T6 Gc / Ex tc IIIC T85°C Dc													
Factory mutual approval [11]	Rating, USA		IS / I, II, III / 1 / CDEFG / T4 Ta = -40°C to 55°C ; I / 1 / AEx ib / IIB / T4 Ta = -40°C to 55°C / Gb ; 21 / AEx ib / IIIC / T130°C Ta = -40°C to 55°C / Db NI / I, II, III / 2 / ABCDFG / T6 -40°C ≤ Ta ≤ 55°C													
	Rating, Canada		IS / I, II, III / 1 / CDEFG / T4 Ta = -40°C to 55°C ; I / 1 / AEx ib / IIB / T4 Ta = -40°C to 55°C / Gb ; 21 / AEx ib / IIIC / T130°C Ta = -40°C to 55°C / Db NI / I, II, III / 2 / ABCDFG / T6 -40°C ≤ Ta ≤ 55°C													
Supply voltage non-regulated	Range (nominal)	V DC	10 ~ 26													
Overvoltage protection	Max. tested (IEEE4-95)	A	2000 (no outdoor lightning conditions)													
Effective system update rate (4 load cells)		Hz	40													
Material	Spring element		Stainless steel													
Protection	Type		Welded													
	IP rating		IP68, IP69K													
	NEMA rating		NEMA 6/6P													
Deflection @ R.C., nominal		mm (in)	0.16 (0.006)			0.25 (0.01)			0.32 (0.013)			0.43 (0.017)			0.72 (0.028)	
Weight, nominal		kg (lb)	1 (2.2)									1.3 (2.9)			2.2 (4.8)	

[9] Error due to the combined effect of non-linearity and hysteresis.
[10] 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.
[11] See certificate for complete information.
[12] Max. 14 load cells / terminal
[13] Max. total cable length 90-300m depending on no. of LC and terminal
[14] Calculate the scale's minimum increment size by multiplying this value by the square root of the number of load cells. For non Legal-For-Trade Applications

Home Run Cable POWERCELL® SLB615D

Colour	Function
Yellow	Shield
Blue	CAN_L
White	CAN_H
Red	+ V
Black	– V

SWB605 PowerMount™ Weigh Module with Optional Cable Protector Dimensions mm [in]



Size	Capacity	Locations and dimensions																				
		D	H	H1	H2	H3	H4	L	L1	L2	L3	L4	L5	L6	L7	L8	W	W1	W2	W3	W4	W5
2	220kg – 1.1t (500lb – 2.5klb)	11.2 (0.44)	105.2 (4.14)	19.1 (0.75)	12.7 (0.50)	50.9 (2.00)	96.6 (3.80)	177.8 (7.00)	114.4 (4.50)	12.7 (0.50)	89.0 (3.5)	152.4 (6.00)	12.7 (0.50)	185.6 (7.31)	–	244.6 (9.63)	114.4 (4.50)	114.4 (4.50)	12.7 (0.50)	89.0 (3.5)	68.6 (2.70)	113.0 (4.45)
	2.2t (5klb)					51.3 (2.02)															70.6 (2.78)	
3	4.4t (10klb)	17.5 (0.69)	136.6 (5.38)	25.4 (1.00)	19.1 (0.75)	70.3 (2.77)	132.9 (5.23)	235.0 (9.25)	152.4 (6.00)	25.4 (1.00)	101.6 (4.00)	184.2 (7.25)	25.4 (1.00)	–	298.0 (11.73)	–	152.4 (6.00)	152.4 (6.00)	25.4 (1.00)	101.6 (4.00)	92.6 (3.65)	143.0 (5.63)

[1] Height when using thermal isolation pad or shock/vibration pad

SWB605 PowerMount download page, including 2D/3D drawings:
www.mt.com/ind-downloads-powermount

SLB615D load cell download page:
www.mt.com/ind-downloads-slb615D

Order Information SWB605 PowerMount™ – Weigh Module with Load Cell

SWB605 PowerMount™ – Weigh Module / SWB605 PowerMount™ EN1090 – Weigh Module (Europe Only)

Order information, weigh module assembly				Item No.		
				Material, weigh module		
Size	Rated capacity	Description	Class	CS	304	316
2	220kg / 500lb	Weigh module assembly	C3 / III M n:5	**30090741 30263340**	**30090742 30263341**	**30090743 30263342**
			C6 / III M n:10	**30090753 30263355**	**30090754 30263356**	**30090755 30263357**
			C10	**30096881 30263370**	**30096882 30263371**	**30096883 30263372**
	550kg / 1,250lb		C3 / III M n:5	**30090744 30263343**	**30090745 30263344**	**30090746 30263345**
			C6 / III M n:10	**30090756 30263358**	**30090757 30263359**	**30090758 30263360**
			C10	**30096884 30263373**	**30096885 30263374**	**30096886 30263375**
	1100kg / 2,500lb		C3 / III M n:5	**30090747 30263346**	**30090748 30263347**	**30090749 30263348**
			C6 / III M n:10	**30090759 30263361**	**30090760 30263362**	**30090761 30263363**
			C10	**30096887 30263376**	**30096888 30263377**	**30096889 30263378**
	2200kg / 5,000lb		C3 / III M n:5	**30090750 30263349**	**30090751 30263350**	**30090752 30263351**
			C6 / III M n:10	**30090762 30263364**	**30090763 30263365**	**30090764 30263366**
			C10	**30096890 30263379**	**30096891 30263380**	**30096892 30263381**
3	4400kg / 10000lb	Weigh module assembly	C3 / III M n:5	**30090765 30263352**	**30090766 30263353**	**30090767 30263354**
			C6 / III M n:10	**30090768 30263367**	**30090769 30263368**	**30090770 30263369**

Bolded entries are stocked

Order Information SWB605 PowerMount™ – Weigh Module without Load Cell

SWB605 PowerMount™ – Weigh Module without Load Cell / SWB605 PowerMount™ EN1090 – Weigh Module without Load Cell (Europe Only)

- SafeLock™ allows to install weigh module hardware without 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		
					Item No.		
Size	Rated capacity	Material, weigh module			Class		
		CS	304	316	C3 / III M n:5	C6 / III M n:10	C10
2	220 kg / 500 lb	**61043213 30263235**	**61043222 30263236**	**61046397 30263237**	**30450308**	**30450311**	**30450314**
	550 kg / 1250 lb				**30450317**	**30450320**	**30450323**
	1100 kg / 2500 lb				**30450326**	**30450329**	**30450332**
	2200 kg / 5000 lb	**61046636 30263238**	**61046637 30263239**	**61046638 30263240**	**30450335**	**30450338**	**30539636**
3	4400 kg / 10000 lb	**61043214 30263241**	**61043223 30263242**	**61046398 30263243**	**30450344**	**30450347**	-

Bolded entries are stocked

Order Information SWB605 PowerMount™ – Cables

	Item No.								
	Cable, material / length								
Description	PU / 2.5m (8.2ft)	PU / 5m (16.4ft)	PU / 10m (32.8ft)	PU / 15m (49.2ft)	PU / 20m (65.6ft)	PU / 30m (98.4ft)	PU / 50m (164ft)	PU / 100m (328ft)	PU / 200m (656ft)
Cable kit, 3 load cells	30382994	**30382990**	**30382991**	-	-	-	-	-	-
Cable kit, 4 load cells	30382995	**30382992**	**30382993**	-	-	-	-	-	-
Load cell Y-Cable	30382975	**30382976**	**30382977**	-	-	-	-	-	-
Home run cable	-	**30382980**	**30382981**	**30382982**	**30382983**	**30382984**	**30382985**	**30382986**	**30423113**
Extension cable	-	**30382987**	**30382988**	-	-	-	-	-	-
CAN termination	**30382989**								
Blind plug	**30417485**								
Cable gland for home run cable with IND780PDX	**30095639**								

Bolded entries are stocked

SWB605 PowerMount™ – Weigh Module Accessories

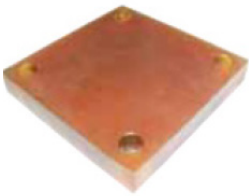
METTLER TOLEDO offers an extensive range of accessories for weighing modules and weighing cells. Correct installation is thus simplified and the consequences of harmful environmental influences reduced.

Stabilizers

Stabilizers[1] are used to stabilize a scale subject to heavy vibration, high torque, or in-motion weighing. Each weigh module can host one or two stabilizers. With stabilizers installed, thermal expansion is still possible, guaranteeing the best weighing performance. Stabilizers (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	316 Stainless Steel
220 - 2200 kg / 500 - 5000 lb	61046399	61046400	61046401
4400 kg / 10,000 lb	61046404	61046405	61046406

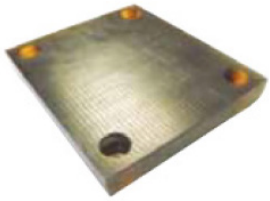
[1] 1 or 2 per weigh module.



Thermal Pads

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

Rated capacity		Item Nr.
80°C		
	220 - 2200kg / 500 - 5000lb	61010620
	4400 kg / 10,000 lb	61010621
170°C		
	220 - 2200kg / 500 - 5000lb	61024642
	4400 kg / 10,000 lb	61037510



Shock/Vibration Pad

Shock/Vibration pads are used for reducing load peaks in the case of decreasing loads or vibrations. This effect is achieved through the installation of a relatively soft material with high internal damping.

Rated capacity	Item Nr.		
-	Carbon Steel (CS)	304 Stainless Steel	316 Stainless Steel
220 - 2200kg / 500 - 5000lb	61005965		
4400 kg / 10,000 lb	61005938		

Shim Set

For optimal weigh module alignment thin plates of metal can be used to level the tank scale and evenly distribute the load.

Rated capacity	Item Nr.		
0.5 mm Shim Set	Carbon Steel (CS)	304 Stainless Steel	316 Stainless Steel
220 - 2200 kg / 500 - 5,000 lb	30693512		
4400 kg / 10,000 lb	30693513		

SWB605 PowerMount™ – Weigh Module Accessories

Mobility Kit

Mobility Kit is designed to protect the load cell during movement of mobile vessels which are common in many industries. The weigh module top plate is lifted with the load cell unloaded for safe movement of mobile tank vessels or reactors. It protects the load cell from shock loads and maintains a consistent weighing performance before and after movement.

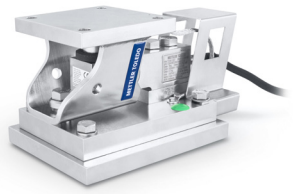
Mobility Kit can also be used as a service tool to lift top plate and unload the load cell for load cell installation or replacement.

Rated capacity	Item Nr.
220-2,200 kg / 500-5,000 lb	30801038

Fixed bearings, dummy weighing cell

Fixed bearings are mechanical clones of weighing modules without movable or active parts. Fixed bearings can be used when monitoring the filling level of liquids. Dummy load cells are mechanical clones of the weighing cell without metrological features, therefore also excluding cables. They are used to protect the weighing cells during the installation stage.

Rated capacity	Item Nr.			
-	Carbon Steel (CS)	304 Stainless Steel	316 Stainless Steel	Dummy Cell
220 -1100 kg / 500-2,500 lb	61010624	61046402	61046403	68000714
2200 kg / 5,000 lb	61010624	61046402	61046403	61005963
4400 kg / 10,000 lb	61010625	61046407	61046408	61005964



Cable Protection

Cable protection is mandatory to install in hazardous areas, as it protects the connectors from mechanical impacts. It is also recommended to install the Cable Protection in other areas, it increases the operation safety of the tank scale, and prevents unnecessary downtime in case of unintended damage of the connector.

Rated capacity	Item Nr.		
-	Carbon Steel (CS)	304 Stainless Steel	316 Stainless Steel
220 - 2200 kg / 500 - 5000 lb	30315554		
4400 kg / 10,000 lb	30315555		

Related Products

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 Industrial Transmitter:
www.mt.com/ind-act350

IND360 Industrial Indicator:
www.mt.com/ind360

IND570 Industrial Indicator:
www.mt.com/ind570

IND780 Industrial Indicator:
www.mt.com/ind780

METTLER TOLEDO Service

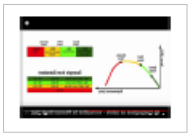
Our extensive service network is among the best in the world and ensures maximum availability and service life of your product. Preferred tank scale calibration service: RapidCal™.

Learn more about RapidCal™:
www.mt.com/ind-rapidcal

METTLER TOLEDO Service

Weigh Module Knowledge Base

Weigh Module Proven Safety Video
Watch the video to understand how force ratings are tested and 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**

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**

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**

PowerMount Installation Video
Watch the short how-to video for a weigh module installation overview. Details of the SafeLock™ plates and optional stabilizers are also explained.
▸ **https://www.youtube.com/watch?v=SczV-KZQ0aY**

Further Readings

Safety-Related Force Ratings:	**www.mt.com/ind-wp-safety**
Weighing Accuracy in Tank Scales:	**www.mt.com/ind-weighing-accuracy-brochure**
Analog and PowerMount™ Weigh Modules:	**www.mt.com/ind-modern-weigh-modules-WP**
Weigh Module Systems Handbook:	**www.mt.com/ind-system-handbook**
Weightless Tank Scale Calibration:	**www.mt.com/ind-weightless-tank-scale-calibration-WP**
RapidCal™ Tank Scale Calibration:	**www.mt.com/ind-rapidcal**

www.mt.com
For more information

METTLER TOLEDO Group
Industrial Division
Local contact: www.mt.com/contacts

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