

**POWERCELL® PDX®**  
Smart Digital Load Cell



**METTLER TOLEDO**

# Benefits of POWERCELL® PDX®

## Premium Accuracy and Reliability

POWERCELL® PDX® digital load cells use proven technology equipped to handle the real-world demands of vehicle weighing. With outstanding accuracy and reliability, these load cells can help maximize yield and simplify the weighing process.

### Improved Accuracy

Advanced signal processing removes errors caused by temperature, loading cycle, loading time, and signal noise.

### No Junction Boxes

Simple connection eliminates the need for high-maintenance junction boxes.

### Lightning Protection

StrikeShield™ lightning protection prevents costly downtime by safeguarding your entire scale system.

### Outstanding Performance

Digital signal processing enables premium weighing, especially when compared to traditional analog technology.

### Maintain High Uptime

The predictive diagnostics system monitors each load cell in its environment, alerting you if problems arise.

## Technical Specifications

Material	Stainless steel
Metrology	OIML C1-C6, depending on capacity (see page 4)
Protection Rating	IP68/69k
Lightning Protection	80,000 A
Model	SLC820
Load Cell Type	Column compression, Digital weight processor



## Benefits of POWERCELL® PDX® Smart Technology

POWERCELL load cells have a proven history of accurate and reliable performance. POWERCELL PDX, our premium offering, takes this reliability to the next level, keeping you continually informed about your scale's performance.

### Advanced Diagnostics

Diagnostic capability makes individual load cell outputs visible from the terminal, simplifying problem identification and repair.

### Durable Construction

Laser welding provides IP68 and IP69K protection for reliability in harsh environments.

### Environmental Protections

Smart design, quality construction, and proprietary weight signal compensation provide protection even in challenging climates.

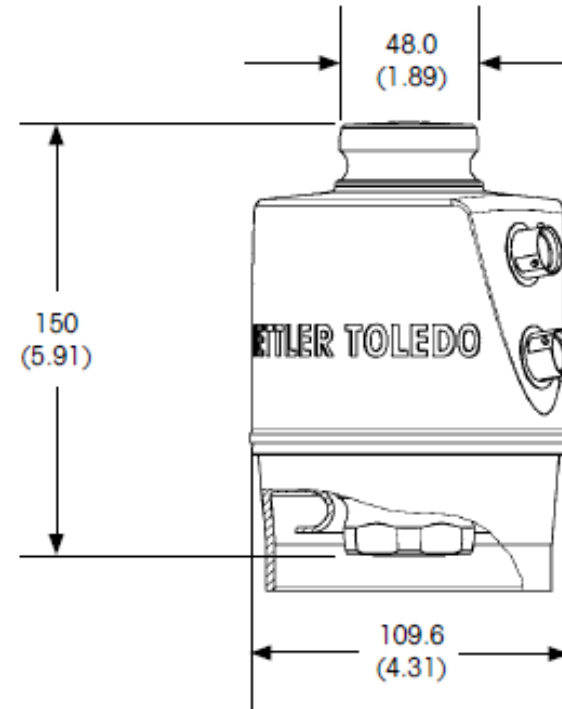
### Rocker Column

An integral rocker-column suspension automatically aligns the load cell for accurate weighing. A debris shield keeps the lower end of the rocker column free of elements that can affect accuracy.

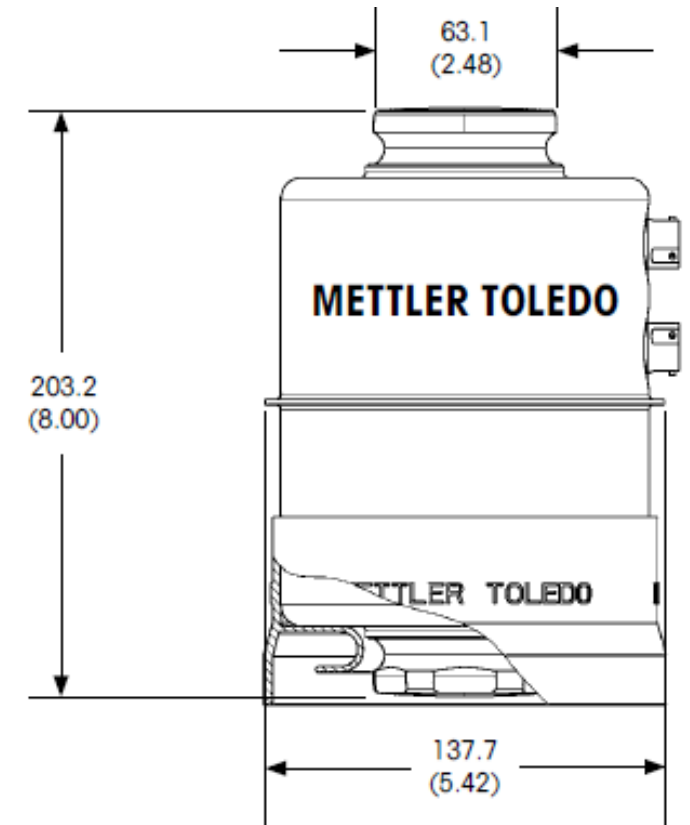
### Simple Upgrade

Load cell upgrade/conversion kits for existing scales give easy access to all the benefits of POWERCELL PDX for most makes and models of truck scales.

## POWERCELL PDX Load Cell Dimensions: mm (in)



20-50t Capacity



90t Capacity





Parameter		Unit of Measure	Specification										
Part Number			42904882	42904883	42904884	42904885	42904891	42904892	30290638	72238150	72238147	30220694	30314022
Rated Capacity (R.C.)*		† (klb, nominal)	20 (44.1)	30 (66.2)			50 (110.3)			90 (198.5)		200 (440)	300 (660)
Sensitivity at R.C.		d @ R.C.	200,000	300,000			500,000			900.000		200.000	300,000
Communication			Controller Area Network (CAN), Encrypted										
Communication Rate		kbit/sec	125										
Effective System Update Rate		Hz	83 (with 4 cells), 50 (with 6 cells), 25 (with 14 cells), 15 (with 24 cells)										
Effective System Synchronous Update Rate		Hz	40 (with 10 cells)										
Effect of Cable Length on System Accuracy		kg	0 (Digital Signal)										
Temperature Range	Compensated**	°C (°F)	−10 to +40 (+14 to +104)										
	Operating***	°C (°F)	−50 to +55 (−58 to +131)										
	Safe Storage	°C (°F)	−40 to +80 (−40 to +176)										
Warm-up Time from Cold Start		Minutes	15										
Metrology	Class		C3/III L-M	C3/III L-M	C4/III L-M	C6	C3/III L-M	C4/III L-M	C6	C3/III L-M	C4/III L-M	C1	C1
	Linearity****	ppm R.C.	<100	<100	<100	<67	<100	<100	<67	<100	<100	<140	<140
	Hysteresis*****	ppm R.C.	<160	<160	<160	<110	<160	<160	<110	<160	<160	<220	<220
Temperature Effect on	Span****	ppm R.C./°C	< ±13.3	< ±13.3	< ±10.0	< ±6.6	< ±13.3	< ±10.0	< ±6.6	< ±13.3	< ±10.0	< ±26.7	< ±26.7
	Combined Error****	ppm R.C.	<300	<300	<300	<200	<300	<300	<200	<300	<300	<800	<800
Creep at R.C.	10 s to 30 m	ppm R.C.	< ±150	< ±150	< ±125	< ±83	< ±150	< ±125	< ±83	< ±150	< ±125	< ±500	< ±500
Zero Return	After 30 min at R.C.	ppm R.C.	< ±150	< ±150	< ±125	< ±83	< ±150	< ±125	< ±83	< ±150	< ±125	< ±500	< ±500
Barometric Pressure Effect on Zero Load Output		kg/kPa	< ±0.95	< ±0.93	< ±0.93	< ±0.93	< ±1.5	< ±1.5	< ±1.5	< ±2.4	< ±2.4	< ±7.7	< ±11.3
Zero Balance		%R.C. @ 20°C	< ±0.2										
Temperature Effect on Minimum Dead Load Output		kg/°C	< ±0.8* V <sub>min</sub> (OIML)/5°C										
Humidity Effect, Continuous 100% RH		kg	0 (Hermetic Seal)										
Nonrepeatability		ppm R.C.	< ±50									< ±200	

\* R.C. = Rated or full capacity as specified on the data plate.  
\*\* Certified according to approval agency or notified body (third party).  
\*\*\* Operating temperatures below –40°C/–40°F require the load cell to be continuously powered.  
\*\*\*\* The combined error of span, linearity error, and hysteresis will not exceed 80% of the error limits for OIML R60. OIML R60 C3 error limits are typically 60% tighter than the HB44 10 K III L-M allowable tolerance.



Parameter		Unit of Measure	Specification										
Breach Detection		%	Loss of Hermetic Seal										
Maximum Overload		kg	Maximum Overload										
Load Cell Temperature		°C	Minimum, Maximum, Current										
Asset Management Serial Number			Serial Number										
Load Cell Supply Voltage		V	Minimum, Current										
Communication Signal Level		V	High, Low										
European/OIML Approval*	Standard		Standard OIML R60										
	Number		T8426; TC7579; T2206; R60/2000-NL1-09:08										
	Class		C3	C3	C4	C6	C3	C4	C6	C3	C4	C1	C1
	n <sub>max</sub> (OIML)		3,000	3,000	4,000	6,000	3,000	4,000	6,000	3,000	4,000	1,000	1,000
	Y	kg/kg	8,000	11,111	12,500	20,000	11,111	12,500	20,000	11,111	14,286	10,000	30,000
	V <sub>min</sub> (OIML)	kg	2.5	2.7	2.4	1.5	4.5	4.0	2.5	8.1	6.3	20	30
	pLC		0.8										
	Humidity Symbol		CH (Hermetic Seal)										
	Min. Dead Load	kg	50										
NTEP Approval*	Standard		NIST Handbook 44										
	Number		NTEP 08-090										
	Class		III L-M										
	n <sub>max</sub> (OIML)		10,000									5,000	
	V <sub>min</sub> (OIML)	kg (lb, nominal)	0.95 (2.1)	1.0 (2.2)	0.93 (2.0)	–	1.7 (3.8)	1.55 (3.4)	–	3.2 (7.1)	2.4 (5.3)	7.7 (17)	11.3 (25)
	Min. Dead Load	kg (lb, nominal)	50 (110.3)										

\* See certificate for complete information.



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Connectors			Quick-Connect with Bayonet Lock, 5 Pins, Stainless Steel, Glass-to-Metal Seal, Laser Welded										
Cable			Exterior braided stainless-steel armor, PVC chemically resistant jacket, 9 mm O.D., 5 conductors, triple shielded and dual drain wires										
Cable Length, Cell to Cell (typical)		m (ft, nominal)	2 to 14 (6.5 to 46)										
Cable Length, Home Run (typical)		m (ft, nominal)	10 to 300 by 10 increments (33 to 984 by 33 increments)										
Supply Voltage by Terminal (Regulated in the Load Cell)	Typical	V DC	12 or 24										
	Minimum/Maximum	V DC	7.5/28										
Lightning Protection*	Max. Tested (SAE ARP5412)	A	> 80,000										
Surge Protection Device			Integral										
Insulation Resistance at 50 V DC		MΩ	≥ 2000										
Breakdown Voltage		V AC	≥ 500										
Material	Spring Element		17-4 PH Stainless Steel (magnetic)						420 Stainless Steel				
	Enclosure		Electropolished 304 Stainless Steel, 1 mm Wall Thickness, Laser Welded										
	Low-Profile Receivers		17-4 PH Forged and Machined Stainless Steel, Hardened										
	Anti-Rotation		Integral, 6-Point Hexagonal Mount										
Protection	Type		Hermetic (submersible)										
	IP Rating		IP68 (1 m–7 days submersion), IP69K test reports on file										
	NEMA Rating		NEMA 6P (submersible)										
Load Limit	Safe	%R.C.	200									150	
	Ultimate	%R.C.	300									200	
Safe Dynamic Load		%R.C.	70										
Fatigue Life at R.C.		Cycles	> 1,000,000										
Direction of Loading			Compression										
Deflection at R.C., typical		mm (in)	0.36 (0.014)	0.51 (0.020)			0.71 (0.028)			1.02 (0.040)		–	
Horizontal Restoring Force		%A.L./mm**	1.82						1.60			1.59	
Shipping Weight, nominal		kg (lb)	3.0 (6.6)			3.2 (7.0)			7.5 (16.6)		12.8 (28.2)	29 (63.9)	

\* Tested with an IND780 terminal and lightning protection kit by Lightning Technologies, Inc. (80,000A).

\*\* Percent of the vertical applied load (A.L.) per mm of horizontal displacement.

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ATEX Zone 1/21	Agency		FM Approvals Ltd.										
	Certificate Number		FM17ATEX0023										
	Standards		EN 60079-0:2012+A11:2013, EN 60079-11:2012, EN 60529:1991+A1:2000+A2:2013										
	Gas Rating		Ex II 2 G Ex ib IIB T4 Gb										
	Dust Rating		Ex II 2 D Ex ib IIIC T130°C Db										
	IS Parameters		Power: Ui = 8.4 V, li = 100 mA, Pi = 0.84 W, Ci = 27.5 uF, Li = 17.7 uH; CANbus: Ui = 8.4 V, li = 100 mA, Pi = 0.84 W, Ci = 27.5 uF, Li = 0uH										
	Temperature Range		−40°C ≤ Ta ≤ +55°C										
	Installation Instructions		30343366										
IECEx Zone 1/21	Agency		FM Approvals LLC										
	Certificate Number		IECEx FMG 17.0010										
	Standards		IEC 60079-0:2011 Edition 6.0, IEC 60079-11:2011 Edition 6.0										
	Gas Rating		Ex ib IIB T4 Gb										
	Dust Rating		Ex ib IIIC T130°C Db										
	IS Parameters		Power: Ui = 8.4 V, li = 100 mA, Pi = 0.84 W, Ci = 27.5 uF, Li = 17.7 uH; CANbus: Ui = 8.4 V, li = 100 mA, Pi = 0.84 W, Ci = 27.5 uF, Li = 0uH										
	Temperature Range		−40°C ≤ Ta ≤ +55°C										
	Installation Instructions		30343366										



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Part Number			42904882	42904883	42904884	42904885	42904891	42904892	30290638	72238150	72238147	30220694	30314022
Rated Capacity (R.C.)		t (klb, nominal)	20 (44.1)	30 (66.2)			50 (110.3)			90 (198.5)		200 (440)	300 (660)
FM Division 1 Zone 1/21	Agency		FM Approvals LLC										
	Certificate Number		FM17US0025										
	Standards		FM Class 3600:2011, FM Class 3610:2015, FM Class 3810:2005 ANSI/ISA 60079-0:2013, ANSI/ISA 60079-11:2014, ANSI/IEC 60529:2004										
	Gas Rating		Class I, Division 1, Groups C, D, Temperature Class T4 Class 1, Zone 1, AEx ib IIB T4 Gb										
	Dust Rating		Class II, Division 1, Groups E, F, G, Temperature Class T4 Zone 21, AEx ib IIIC T130°C Db										
	Fiber Rating		Class III, Division 1										
	IS Parameters		Power: Ui = 8.4 V, Ii = 100 mA, Pi = 0.84 W, Ci = 27.5 uF, Li = 17.7 uH; CANbus: Ui = 8.4 V, Ii = 100 mA, Pi = 0.84 W, Ci = 27.5 uF, Li = 0uH										
	Temperature Range		−40°C ≤ Ta ≤ +55°C										
	Control Drawing		30343367										
CSA Division 1 Zone 1/21	Agency		FM Approvals LLC										
	Certificate Number		FM17CA0013										
	Standards		CAN/CSA-C22.2 No. 60079-0:2015, CAN/CSA-C22.2 No. 60079-11:2014 CAN/CSA-C22.2 No. 61010-1:2012, CSA-C22.2 No. 60529:R2016										
	Gas Rating		Class I, Division 1, Groups C, D, Temperature Class T4 Zone 1, Ex ib IIB T4 Gb										
	Dust Rating		Class II, Division 1, Groups E, F, G, Temperature Class T4 Zone 21, Ex ib IIIC T130°C Db										
	Fiber Rating		Class III, Division 1										
	IS Parameters		Power: Ui (V <sub>max</sub> ) = 8.4 V, Ii (I <sub>max</sub> ) = 100 mA, Pi = 0.84 W, Ci = 27.5 uF, Li = 17.7 uH, CANbus: Ui (V <sub>max</sub> ) = 8.4V, Ii (I <sub>max</sub> ) = 100 mA, Pi = 0.84 W, Ci = 27.5 uF, Li = 0uH										
	Temperature Range		−40°C ≤ Ta ≤ +55°C										
	Installation Instructions		30343367										



# Weighbridge Service Solutions

## Tailored to Fit Your Needs

METTLER TOLEDO Service delivers resources to enhance your efficiency, performance, and productivity. Explore our service offerings below or reach out to your local METTLER TOLEDO representative to find the best fit for you.



### Warranty Coverage

All warranties are not created equal. Coverage can vary greatly from one supplier to the next. It is critical to ask about parts, labor, travel, calibration, environmental protection, stipulations, and more when exploring various warranty offerings.



### Performance Upgrades

Load cells, indicators, peripherals, and software upgrades enhance the accuracy, reliability, and functionality of your truck scale beyond its current capabilities. With POWERCELL® upgrade and conversion kits, you can protect profitability and extend the life of your asset, all at a fraction of the cost of a new scale.



### Professional Installation

Establish full confidence in your equipment from day one. Our expert technicians execute installation and testing, full system setup and calibration, setup of standard operating parameters, and user and maintenance familiarization. Simplify compliance with site, regulatory, and quality requirements.



### Asset Maintenance

Regular maintenance enables reliable performance, compliance, and budget control. With insight into asset performance, you can minimize unplanned downtime and maintenance costs. Extend asset life with calibration, powerwashing, replacement of worn parts, and lubricating of the load cells and receivers.



### Care Packages

Care Packages keep your operation running like clockwork. Crafted to cater to your specific needs, our packages provide preventive maintenance, replacement parts, and flexible support options.



► [www.mt.com/veh-service](http://www.mt.com/veh-service)

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