

## Unequaled Reliability Keeps Your Scale Working



### Vehicle Weighing

POWERCELL PDX load cells provide reliable weighing for heavy-capacity applications such as truck and rail scales. They are designed to perform in the toughest industrial environments and in the most forbidding climates, from the tropics to the polar regions.



### No Junction Boxes

POWERCELL PDX load cells connect to one another in a simple network that eliminates the need for high-maintenance junction boxes. Load cells, cables, and connectors are watertight, sealing the entire network against failures caused by floods and normal scale cleaning.



### Advanced Diagnostics

Unlike other load cells, POWERCELL PDX load cells have a predictive diagnostics system that constantly monitors the performance of each load cell and automatically corrects for changes in temperature and other environmental factors. It instantly alerts the scale operator to any potential problems in the scale system.



### 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 debris and stones that can affect weighing accuracy.



### POWERCELL® PDX® Load Cell

The load cell uses proven POWERCELL technology that has demonstrated the ability to meet the real-world demands of vehicle weighing. It builds on past generations of POWERCELL load cells by adding the industry's most advanced diagnostic capabilities. To provide the ultimate in reliability, the predictive diagnostics system continually monitors each load cell and its environment. It provides peace of mind by verifying that each load cell in a system is performing properly. The POWERCELL PDX load cell system is designed for proactive service, alerting you to potential problems before they occur. It helps avoid problems and, if problems do occur, enables service technicians to make the right repairs the first time and make them quickly.

# POWERCELL® PDX® Load Cell Specifications

Parameter	Unit of Measure	Specification										
Trade Name		POWERCELL PDX										
Model Number		SLC820										
Load Cell Type		Column Compression, Digital Weight Processor (DWP)										
Part Number		42904882	42904883	42904884	42904885	42904891	42904892	72238150	72238147			
Rated Capacity (R.C.) <sup>1</sup>	t (klb, nominal)	20 (44.1)	30 (66.2)			50 (110.3)			90 (198.5)			
Sensitivity at R.C.	d @ R.C.	200,000	300,000			500,000			900,000			
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)										
<b>Weighing Performance</b>												
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)										
Effect of Cable Length on System Accuracy	kg	0 (Digital Signal)										
Temperature Range	Compensated <sup>2</sup>	-10 to +40 (+14 to +104)										
	Operating	-40 to +55 (-40 to +131)										
	Safe Storage	-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	C6	C3/III-L-M	C4	C3/III-L-M	C4		
	Linearity <sup>3</sup>	ppm R.C.	< 100	< 100	< 100	< 67	< 100	< 100	< 100	< 100		
	Hysteresis <sup>3</sup>	ppm R.C.	< 160	< 160	< 160	< 110	< 160	< 160	< 160	< 160		
Temperature Effect on	Span <sup>3</sup>	ppm R.C./°C	< ±13.3	< ±13.3	< ±10.0	< ±6.6	< ±13.3	< ±10.0	< ±13.3	< ±10.0		
	Combined Error <sup>3</sup>	ppm R.C.	< 300	< 300	< 300	< 200	< 300	< 300	< 300	< 300		
Creep at R.C.	10s to 30m	ppm R.C.	< ±150	< ±150	< ±125	< ±83	< ±150	< ±125	< ±150	< ±125		
Zero Return	After 30 min at R.C.	ppm R.C.	< ±150	< ±150	< ±125	< ±83	< ±150	< ±125	< ±150	< ±125		
Barometric Pressure Effect on Zero Load Output	kg/kPa	< ±1.3	< ±1.3	< ±1.3	< ±1.3	< ±2.2	< ±2.2	< ±3.2	< ±3.2	< ±3.2		
Zero Balance	%R.C.	< ±0.1										
Temperature Effect on Minimum Dead Load Output	kg/°C	< ±0.8*Vmin(OIML)/5°C										
Humidity Effect, Continuous 100% RH	kg	0 (Hermetic Seal)										
Nonrepeatability	ppm R.C.	< ±50										
<b>Predictive Diagnostics (System)</b>												
Breach Detection	%	Loss of Hermetic Seal										
Maximum Overload	kg	Maximum Overload										
Load Cell Temperature	°C	Minimum, Maximum, Current										
Asset Management		Serial Number										
Load Cell Supply Voltage	V	Minimum, Current										
Communication Signal Level	V	High, Low										
<b>Metrological Approvals</b>												
European/OIML Approval <sup>4</sup>	Standard	OIML R60										
	Number	TC7579; T2206; R60/2000-NL1-09:08										
	Class	C3	C3	C4	C6	C3	C4	C3	C4			
	nmax (OIML)	3000	3000	4000	6000	3000	4000	3000	4000			
	Y	kg/kg	5714	6383	12,500	20,000	8772	12,500	11,111	14,286		
	Vmin (OIML)	kg	3.5	4.7	2.4	1.5	5.7	4.0	8.1	6.3		
	pLC		0.8 (Terminal = 1)									
	Humidity Symbol		CH (Hermetic Seal)									
	Min. Dead Load	kg	50									
	NTEP Approval <sup>4</sup>	Standard	NIST Handbook 44									
Number		NTEP 08-090										
Class		III L-M										
nmax (HB44)		10,000										
Vmin (HB44)		kg (lb, nominal)	1.3 (2.9)	1.8 (4.0)	-	-	2.2 (4.9)	-	3.2 (7.1)	-		
Min. Dead Load		kg (lb, nominal)	50 (110.3)									

<sup>1</sup> R.C. = Rated or full capacity as specified on the data plate.

<sup>2</sup> Certified according to approval agency or notified body (third party).

<sup>3</sup> 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 10K III L-M allowable tolerance.

<sup>4</sup> See certificate for complete information.

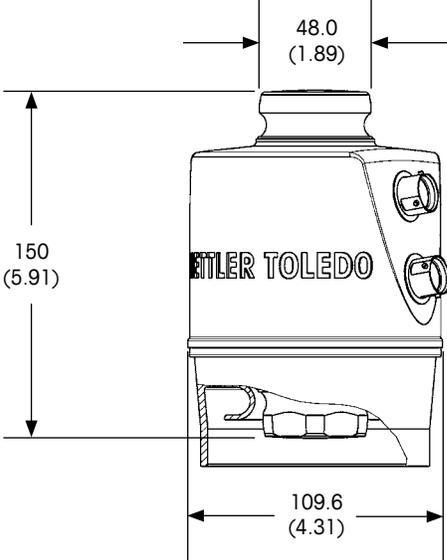
# POWERCELL® PDX® Load Cell Specifications

Parameter	Unit of Measure	Specification			
<b>Hazardous Area</b>					
ATEX	Certificate Number	KEMA 09 ATEX 0063			
	Gas Rating	Ex II 3 G Ex nA IIC T6 Gc			
	Dust Rating	Ex II 3 D Ex tc IIIC T 85°C IP6X Dc			
	Electrical Data	U <sub>max</sub> = 26.4V, I <sub>max</sub> = 2A, P <sub>max</sub> = 0.5W / Load Cell			
	Temperature Classification	-40°C ≤ T <sub>a</sub> ≤ +55°C			
	Installation Instructions	61045275			
IECEX	Certificate Number	IECEX KEM 09.0028			
	Gas Rating	Ex nA IIC T6 Gc			
	Dust Rating	Ex tc IIIC T 85°C IP6X Dc			
	Electrical Data	U <sub>max</sub> = 26.4V, I <sub>max</sub> = 2A, P <sub>max</sub> = 0.5W / Load Cell			
	Temperature Classification	-40°C ≤ T <sub>a</sub> ≤ +55°C			
	Installation Instructions	61045275			
UL/cUL	File Number	E152336			
	Rating	Class I, II, III, Division 2, Groups C, D, F, G, Temperature Class T6			
	Temperature Classification	-40°C ≤ T <sub>a</sub> ≤ +55°C			
	Control Drawing	42700274			
<b>Electrical</b>					
Supply Voltage by Terminal (Regulated in the Load Cell)	Typical	V DC	12 or 24		
	Minimum/Maximum	V DC	7.5 / 28		
Lightning Protection <sup>5</sup>	Max. Tested (SAE ARP5412)	A	> 80,000		
Surge Protective Device			Integral		
Insulation Resistance at 50VDC		MΩ	≥ 2000		
Breakdown Voltage		V AC	≥ 500		
<b>Mechanical</b>					
Material	Spring Element		17-4 PH Stainless Steel (magnetic)		
	Enclosure		Electropolished 304 Stainless Steel, 1mm Wall Thickness, Laser Welded		
	Low-Profile Receivers		17-4 PH Forged and Machined Stainless Steel, Hardened		
	Anti-Rotation		Integral, 6-Point Hexagonal Mount		
	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, 9mm O.D., 5 Conductors, Triple Shielded and Dual Drain Wires		
Protection	Type		Hermetic (submersible)		
	IP Rating		IP68 (1m - 7 days submersion), IP69K test reports on file		
	NEMA Rating		NEMA 6P (submersible)		
Load Limit	Safe	%R.C.	200		
	Ultimate	%R.C.	300		
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 <sup>6</sup>	1.82	1.82	1.82	1.60
Shipping Weight, nominal	kg (lb)	3.0 (6.6)	3.0 (6.6)	3.2 (7.0)	7.5 (16.6)

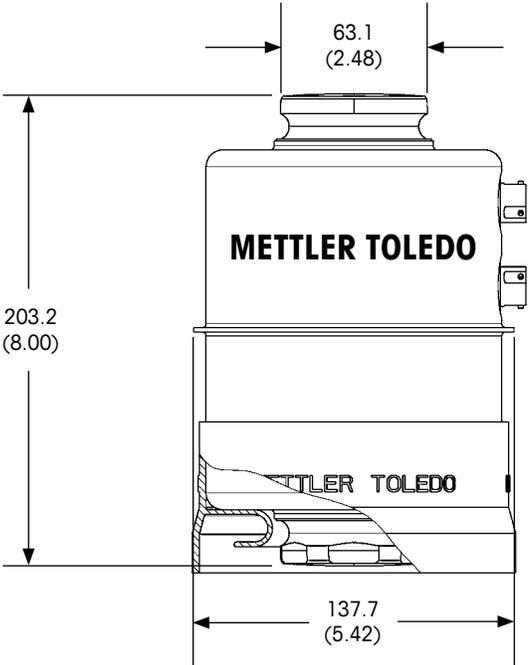
<sup>5</sup> Tested by Lightning Technologies, Inc. (80,000A).

<sup>6</sup> Percent of the vertical applied load (A.L.) per mm of horizontal displacement.

**POWERCELL® PDX® Load Cell Dimensions mm (inch)**



**20-50t Capacity**



**90t Capacity**



**Mettler-Toledo, LLC**  
 1900 Polaris Parkway  
 Columbus, Ohio 43240 USA  
 Tel. +1-800-786-0038  
 +1-614-438-4511  
 Fax +1-614-438-4900

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 30130042

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For more information