

Unequalled 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.) ¹		† (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)							
Weighing Performance										
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 ²	°C (°F)	-10 to +40 (+14 to +104)							
	Operating	°C (°F)	-40 to +55 (-40 to +131)							
	Safe Storage	°C (°F)	-40 to +80 (-40 to +176)							
Warm-up Time from Cold Start		minutes	15							
Metrology	Class		C3/IIIL-M	C3/IIIL-M	C4	C6	C3/IIIL-M	C4	C3/IIIL-M	C4
	Linearity ³	ppm R.C.	< 100	< 100	< 100	< 67	< 100	< 100	< 100	< 100
	Hysteresis ³	ppm R.C.	< 160	< 160	< 160	< 110	< 160	< 160	< 160	< 160
Temperature Effect on	Span ³	ppm R.C./°C	< ±13.3	< ±13.3	< ±10.0	< ±6.6	< ±13.3	< ±10.0	< ±13.3	< ±10.0
	Combined Error ³	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
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							
Predictive Diagnostics (System)										
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							
Metrological Approvals										
European/OIML Approval ⁴	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 ⁴	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)							

¹ R.C. = Rated or full capacity as specified on the data plate.

² Certified according to approval agency or notified body (third party).

³ 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.

⁴ See certificate for complete information.

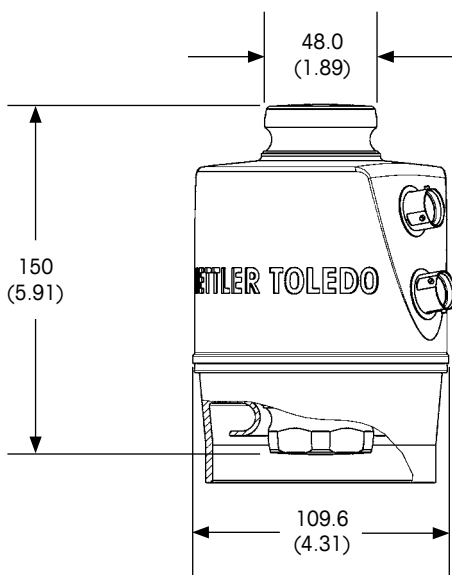
POWERCELL® PDX® Load Cell Specifications

Parameter		Unit of Measure	Specification			
Hazardous Area						
ATEX	Certificate Number		KEMA 09 ATEX 0063			
	Gas Rating		II 3 G Ex nA IIC T6 Gc			
	Dust Rating		II 3 D Ex tc IIIC T 85°C IP6X Dc			
	Electrical Data		Umax = 26.4V, Imax = 2A, Pmax = 0.5W / Load Cell			
	Temperature Classification		-40°C ≤ Ta ≤ +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		Umax = 26.4V, Imax = 2A, Pmax = 0.5W / Load Cell			
	Temperature Classification		-40°C ≤ Ta ≤ +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 ≤ Ta ≤ +55°C			
	Control Drawing		42700274			
Electrical						
Supply Voltage by Terminal (Regulated in the Load Cell)	Typical	V DC	12 or 24			
	Minimum/Maximum	V DC	7.5 / 28			
Lightning Protection ⁵	Max. Tested (SAE ARP5412)	A	> 80,000			
Surge Protective Device			Integral			
Insulation Resistance at 50VDC		MΩ	≥ 2000			
Breakdown Voltage		V AC	≥ 500			
Mechanical						
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 ⁶	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)

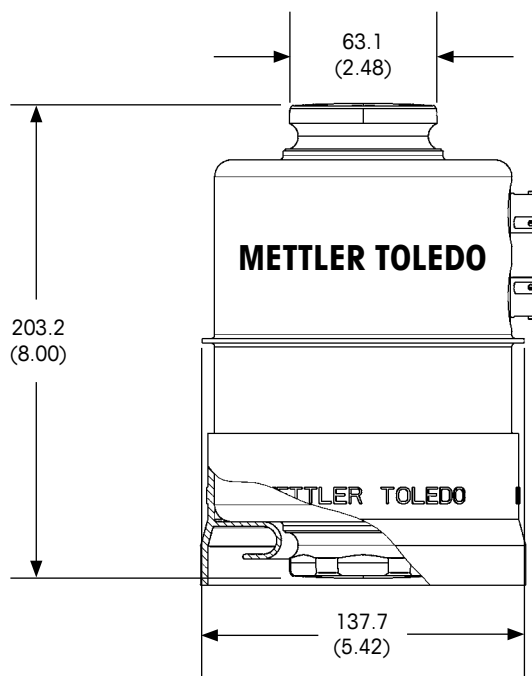
⁵ Tested by Lightning Technologies, Inc. (80,000A).

⁶ 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



Produced in a
facility that is



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www.mt.com/powercell

For more information