

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)					
Rated Capacity (R.C.) ¹	t (klb, nominal)	30 (66)		50 (110)			
Sensitivity at R.C.	d @ R.C.	300,000		500,000			
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)	2 to 12, 20 (6 to 39, 65)					
Cable Length, Home Run (maximum)	m (ft)	10 to 300 by 10 increments (33 to 984 by 33 increments)					
Warm-up Time from Cold Start	minutes	15					
Effect of Cable Length on System Accuracy	kg	0					
Temperature Effect on Minimum Dead Load Output	Vmin/°C (.../°F)	0.8/5°C (0.8/9°F)					
Temperature Range	Compensated ²	°C (°F)					
	Operating	-10 to +40 (+14 to +104)					
	Safe Storage	°C (°F)					
Humidity Effect, Continuous	100% RH	0					
Barometric Pressure Effect on Zero Load Output	Vmin/kPa	< 1					
Metrology	Linearity ³	ppm R.C.					
	Hysteresis	ppm R.C.					
	Combined Error ³	ppm R.C.					
Temperature Effect on	Class	C3	C4	C6	C3	C4	
	Span ^{3,4}	ppm R.C./°C	<± 13.3	<± 10.0	<± 6.6	<± 13.3	<± 10.0
Creep at R.C. ⁴	10s to 30m	ppm R.C.	<± 167	<± 125	<± 83	<± 167	<± 125
Zero Return ⁴	30 min at R.C.	ppm R.C.	<± 167	<± 125	<± 83	<± 167	<± 125
Nonrepeatability		ppm R.C.	<± 50				
Zero Balance		%R.C.	< 0.1				
Predictive Diagnostics (System)							
Breach Detection		Loss of Hermetic Seal					
Maximum Overload		Maximum Overload					
Load Cell Temperature		Minimum, Maximum, Actual					
Asset Management		Serial Number					
Load Cell Voltage		Minimum, Maximum, Actual					
Communication Signal Level		High, Low					
Metrological Approvals							
European/OIML Approval ⁵	Number	TC7579; T2206; R60/2000-NL1-09:08					
	Class	C3	C4	C6	C3	C4	
	nmax	3000	4000	6000	3000	4000	
	Y	6383	12,500	20,000	8772	12,500	
	Vmin	kg	4.7	2.4	1.5	5.7	4.0
	pLC		0.8 (Terminal = 1)				
	Humidity Symbol		CH (Hermetic Seal)				
	Min. Dead Load	kg	50				
NTEP Approval ⁵	Number	NTEP 08-090					
	Class	III L M					
	nmax	10,000					
	Vmin	kg (lb)	1.8 (4.0)		2.2 (4.9)		
	Min. Dead Load	kg (lb)	50 (110)				

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.

⁴ TC of span, creep, and creep return for HB44 typically meet OIML C3 performance.

⁵ See certificate for complete information.

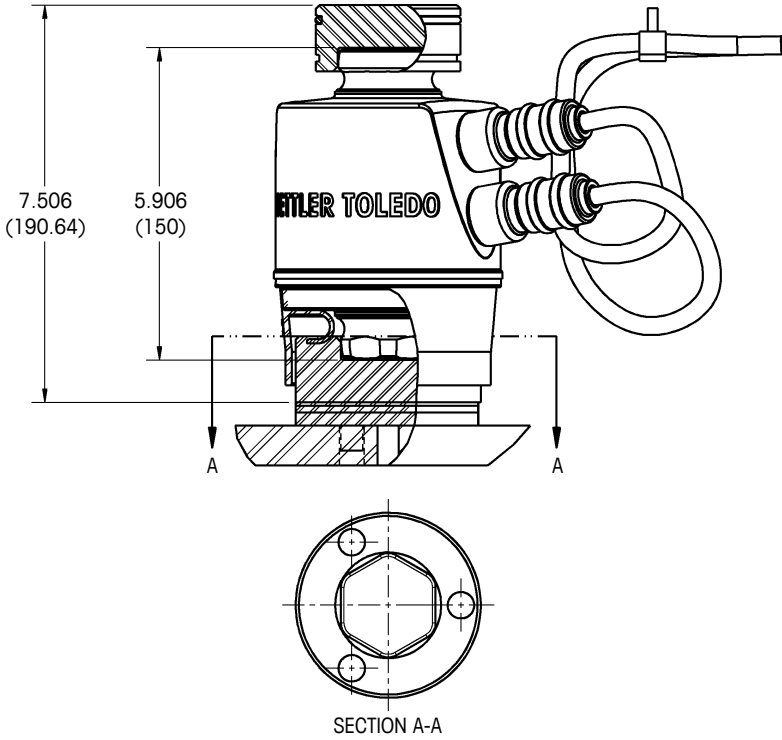
POWERCELL® PDX® Load Cell Specifications

Parameter	Unit of Measure	Specification	
Hazardous Area			
ATEX	Certificate Number	KEMA 09 ATEX 0063	
	Gas Rating	II 3 G Ex nA II T6	
	Dust Rating	II 3 D Ex tD A22 IP6X T 85°C	
	Electrical Data	U _{max} = 26.4V, I _{max} = 2A, P _{max} = 0.5W / Load Cell	
	Temperature Classification	-40°C < Ta < +55°C	
IECEX	Certificate Number	IECEX KEM 09.0028	
	Gas Rating	Ex nA II T6	
	Dust Rating	Ex tD A22 IP6X T 85°C	
	Electrical Data	U _{max} = 26.4V, I _{max} = 2A, P _{max} = 0.5W / Load Cell	
	Temperature Classification	-40°C < Ta < +55°C	
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	
Electrical			
Supply Voltage Regulated in the Load Cell	Typical	V DC	12 or 24 (external supply)
	Minimum/Maximum	V DC	12/24
Lightning Protection ⁶	Max. Tested (IEEE4-95)	A	> 80,000
Transient Voltage Surge Suppression (TVSS)			Integral
Insulation Resistance @ 50VDC		MΩ	≥ 2000
Breakdown Voltage		V AC	≥ 500
Mechanical			
Material	Spring Element		17-4 PH Stainless Steel (magnetic)
	Enclosure		Electropolished 304 Stainless Steel
	Low-Profile Receivers		17-4 PH Forged and Machined Stainless Steel, Hardened
	Anti-Rotation		6-Point Hexagonal
	Cable Entry Fittings		Stainless Steel, Laser Welded
	Cable		Braided Stainless Steel, Oil Resistant, 9mm, 5 Conductors, Internal/External Shielded with Drain Wires
	Connectors		Quick-Connect, Stainless Steel, Glass-to-Metal Seal
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
Direction of Loading			Compression
Deflection @ R.C., typical		mm (in)	0.51 (0.020) 0.71 (0.028)
Horizontal Restoring Force		%A.L./mm ⁷	1.82
Shipping Weight, nominal		kg (lb)	3.0 (6.6) 3.2 (7.0)

⁶ Tested by Electrosuisse AG (40,000A) and Lightning Technologies, Inc. (80,000A).

⁷ Percent of the vertical applied load (A.L.) per mm of displacement.

POWERCELL® PDX® Load Cell Dimensions inch (mm)



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

Subject to technical changes.
© 2011 Mettler-Toledo, Inc.
I09-TR03505.0E

www.mt.com/powercell

For more information