

## 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	30290638	72238150	72238147	30220694	30314022		
Rated Capacity (R.C.) <sup>1</sup>	l (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)												
<b>Weighing Performance</b>														
Effect of Cable Length on System Accuracy	kg	0 (Digital Signal)												
Temperature Range	Compensated <sup>2</sup>	°C (°F)												
	Operating <sup>3</sup>	-10 to +40 (+14 to +104)												
	Safe Storage	°C (°F)												
		-50 to +55 (-58 to +131)												
		-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 <sup>4</sup>	ppm R.C.	< 100	< 100	< 100	< 67	< 100	< 100	< 67	< 100	< 100	< 140	< 140	
	Hysteresis <sup>4</sup>	ppm R.C.	< 160	< 160	< 160	< 110	< 160	< 160	< 110	< 160	< 160	< 220	< 220	
Temperature Effect on	Span <sup>4</sup>	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 <sup>4</sup>	ppm R.C.	< 300	< 300	< 300	< 200	< 300	< 300	< 200	< 300	< 300	< 800	< 800	
Creep at R.C.	10s to 30m	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*Vmin(OIML)/5°C												
Humidity Effect, Continuous 100% RH	kg	0 (Hermetic Seal)												
Nonrepeatability	ppm R.C.	< ±50										< ±200		
<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>5</sup>	Standard	OIML R60												
	Number	T8426; TC7579; T2206; R60/2000-NL1-09-08												
	Class	C3	C3	C4	C6	C3	C4	C6	C3	C4	C1	C1		
	nmax (OIML)	3000	3000	4000	6000	3000	4000	6000	3000	4000	1000	1000		
	Y	kg/kg	8000	11,111	12,500	20,000	11,111	12,500	20,000	11,111	14,286	10,000	30,000	
	Vmin (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 <sup>5</sup>	Standard	NIST Handbook 44											
Number		NTEP 08-090												
Class		III L-M												
nmax (HB44)		10,000										5000		
Vmin (HB44)		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)											

<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> Operating temperatures below -40°C/-40°F require the load cell to be continuously powered.

<sup>4</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>5</sup> See certificate for complete information.

# POWERCELL® PDX® Load Cell Specifications

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Rated Capacity (R.C.)	l (klb, nominal)	20 (44.1)	30 (66.2)		50 (110.3)			90 (198.5)		200 (440)	300 (660)	
<b>Electrical</b>												
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										
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 <sup>6</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)								420 Stainless Steel		
	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										
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					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 <sup>7</sup>	1.82	1.82		1.82			1.60		1.59		
Shipping Weight, nominal	kg (lb)	3.0 (6.6)	3.0 (6.6)		3.2 (7.0)			7.5 (16.6)		12.8 (28.2)	29 (63.9)	

<sup>6</sup> Tested with an IND780 terminal and lightning protection kit by Lightning Technologies, Inc. (80,000A).

<sup>7</sup> Percent of the vertical applied load (A.L.) per mm of horizontal displacement.

Country of origin: Designed by METTLER TOLEDO in Switzerland and made in China.

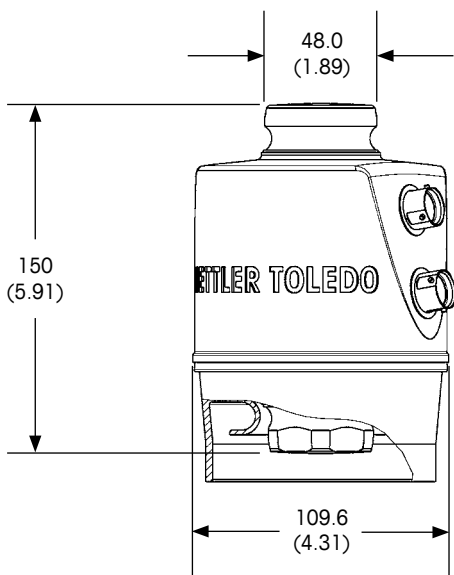
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<b>Hazardous Area</b>												
ATEX Zone 1/21	Agency	FM Approvals Ltd.										
	Certificate Number	FM17ATEX0023										
	Standards	EN 60079-0:2012+A11:2013, EN 60079-11:2012, EN 60529:1991+A1:2000+A2:2013										
	Gas Rating	Ex II 2 G Ex ib IIB T4 Gb										
	Dust Rating	Ex II 2 D Ex ib IIIC T130°C Db										
	IS Parameters	Power: Ui = 8.4V, li = 100mA, Pi = 0.84W, Ci = 27.5uF, Li = 17.7uH CANbus: Ui = 8.4V, li = 100mA, Pi = 0.84W, Ci = 27.5uF, 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										
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	Temperature Range	-40°C ≤ Ta ≤ +55°C										
	Installation Instructions	30343366										
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 = 8.4V, li = 100mA, Pi = 0.84W, Ci = 27.5uF, Li = 17.7uH CANbus: Ui = 8.4V, li = 100mA, Pi = 0.84W, Ci = 27.5uF, 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 (Vmax) = 8.4V, li (Imax) = 100mA, Pi = 0.84W, Ci = 27.5uF, Li = 17.7uH CANbus: Ui (Vmax) = 8.4V, li (Imax) = 100mA, Pi = 0.84W, Ci = 27.5uF, Li = 0uH										
	Temperature Range	-40°C ≤ Ta ≤ +55°C										
Control Drawing	30343367											

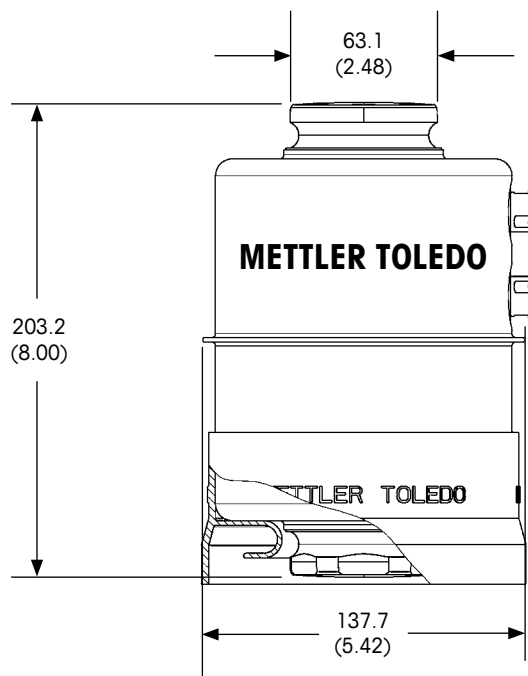
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<b>Hazardous Area</b>													
ATEX Zone 2/22	Agency	DEKRA Certification B.V.										-	-
	Certificate Number	KEMA 09ATEX0063										-	-
	Standards	EN 60079-0:2012, EN 60079-15:2010, EN 60079-31:2014										-	-
	Gas Rating	II 3 G Ex nA IIC T6 Gc										-	-
	Dust Rating	II 3 D Ex tc IIIC T85°C Dc IP6X										-	-
	Parameters	Power and CANbus: Umax = 26.4V, Imax = 2A, Pmax = 0.5W / Load Cell										-	-
	Temperature Range	-40°C ≤ Ta ≤ +55°C										-	-
	Installation Instructions	61045275										-	-
IECEX Zone 2/22	Agency	DEKRA Certification B.V.										-	-
	Certificate Number	IECEX KEM 09.0028										-	-
	Standards	IEC 60079-0:2011 Edition 6.0, IEC 60079-15:2010 Edition 4, IEC 60079-31:2008 Edition 1										-	-
	Gas Rating	Ex nA IIC T6 Gc										-	-
	Dust Rating	Ex tc IIIC T85°C Dc IP6X										-	-
	Parameters	Power: Umax = 26.4V, Imax = 2A, Pmax = 0.5W / Load Cell										-	-
	Temperature Range	-40°C ≤ Ta ≤ +55°C										-	-
	Installation Instructions	61045275										-	-
UL Division 2	Agency	Underwriters Laboratories Inc.										-	-
	Certificate Number	2011-06-14-E152336										-	-
	Standards	UL 508 Edition 17, ANSI/ISA 12.12.01-2007										-	-
	Gas Rating	Class I, Division 2, Groups C, D										-	-
	Dust Rating	Class II, Division 2, Groups F, G										-	-
	Fiber Rating	Class III										-	-
	NIFW Parameters	Power: Vmax = 26.4V, Imax = 60mA, Ci = 11nF, Li = 0uH CANbus: Vmax = 26.8V, Imax = 4mA, Ci = 0.602nF, Li = 0uH										-	-
	Temperature Range	-40°C ≤ Ta ≤ +55°C										-	-
Control Drawing	42700274										-	-	
CSA Division 2	Agency	Underwriters Laboratories Inc.										-	-
	Certificate Number	2011-06-14-E152336										-	-
	Standards	CAN/CSA-C22.2 No. 213-M1987 Edition 1, CAN/CSA-C22.2 No. 157-92, CAN/CSA-C22.2 No. 142-M1987										-	-
	Gas Rating	Class I, Division 2, Groups C, D										-	-
	Dust Rating	Class II, Division 2, Groups F, G										-	-
	Fiber Rating	Class III										-	-
	NIFW Parameters	Power: Vmax = 26.4V, Imax = 60mA, Ci = 11nF, Li = 0uH CANbus: Vmax = 26.8V, Imax = 4mA, Ci = 0.602nF, Li = 0uH										-	-
	Temperature Range	-40°C ≤ Ta ≤ +55°C										-	-
Control Drawing	42700274										-	-	

# POWERCELL® PDX® Load Cell Dimensions mm (inches)



**20-50t Capacity**



**90t Capacity**



Produced in a facility that is



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[www.mt.com/powercell](http://www.mt.com/powercell)

For more information