

## Outstanding 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 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)
Weighing Performance		
Effect of Cable Length on System Accuracy	kg	0 (Digital Signal)
Temperature Range	Compensated <sup>2</sup>	-10 to +40 (+14 to +104)
	Operating <sup>3</sup>	-50 to +55 (-58 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/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
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 <sup>5</sup>	Standard	OIML R60
	Number	T8426; TC7579; T2206; R60/2000-NL 1-09-08
	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
	Standard	NIST Handbook 44
NTEP Approval <sup>5</sup>	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

Parameter	Unit of Measure	Specification
Part Number		42904882 42904883 42904884 42904885 42904891 42904892 30290638 72238150 72238147 30220694 30314022
Rated Capacity (R.C.)	l (klb, nominal)	20 (44.1) 30 (66.2) 50 (110.3) 90 (198.5) 200 (440) 300 (660)
Electrical		
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
Mechanical		
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>2</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.

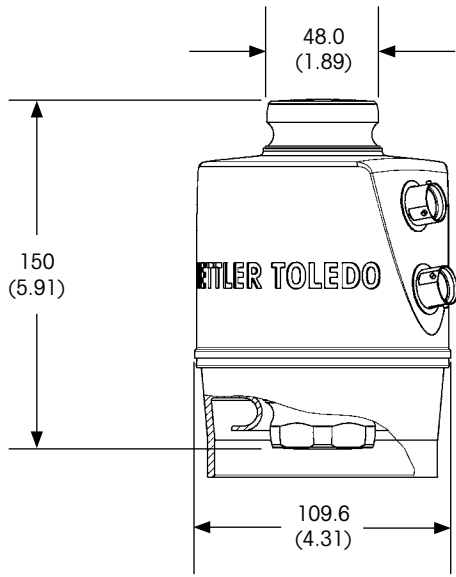
# POWERCELL® PDX® Load Cell Specifications

Parameter	Unit of Measure	Specification
Part Number		42904882   42904883   42904884   42904885   42904891   42904892   30290638   72238150   72238147   30220694   30314022
Rated Capacity (R.C.)	l (kil, nominal)	20 (44.1)   30 (66.2)   50 (110.3)   90 (198.5)   200 (440)   300 (660)
Hazardous Area		
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, Ii = 100mA, Pi = 0.84W, Ci = 27.5uF, Li = 17.7uH CANbus: Ui = 8.4V, Ii = 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
	IS Parameters	Power: Ui = 8.4V, Ii = 100mA, Pi = 0.84W, Ci = 27.5uF, Li = 17.7uH CANbus: Ui = 8.4V, Ii = 100mA, Pi = 0.84W, Ci = 27.5uF, Li = 0uH
	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, Ii = 100mA, Pi = 0.84W, Ci = 27.5uF, Li = 17.7uH CANbus: Ui = 8.4V, Ii = 100mA, Pi = 0.84W, Ci = 27.5uF, Li = 0uH
	Temperature Range	-40°C ≤ Ta ≤ +55°C
CSA Division 1 Zone 1/21	Control Drawing	30343367
	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, Ii (Imax) = 100mA, Pi = 0.84W, Ci = 27.5uF, Li = 17.7uH CANbus: Ui (Vmax) = 8.4V, Ii (Imax) = 100mA, Pi = 0.84W, Ci = 27.5uF, Li = 0uH
Temperature Range	-40°C ≤ Ta ≤ +55°C	
Control Drawing	30343367	

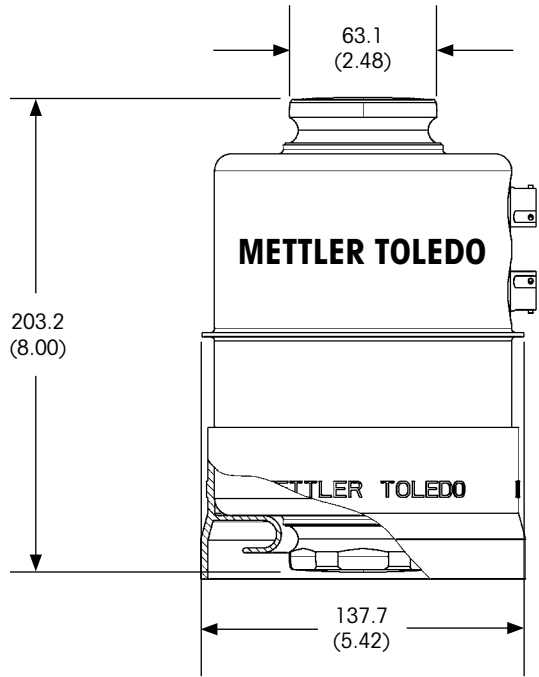
# POWERCELL® PDX® Load Cell Specifications

Parameter	Unit of Measure	Specification
Part Number		42904882   42904883   42904884   42904885   42904891   42904892   30290638   72238150   72238147   30220694   30314022
Rated Capacity (R.C.)	l (kil, nominal)	20 (44.1)   30 (66.2)   50 (110.3)   90 (198.5)   200 (440)   300 (660)
Hazardous Area		
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	Ex II 3 G Ex nA IIC T6 Gc
	Dust Rating	Ex 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**

**METTLER TOLEDO Group**  
 Industrial Division  
 Local contact: [www.mt.com/contacts](http://www.mt.com/contacts)

Subject to technical changes  
 ©07/2020 METTLER TOLEDO. All rights reserved  
 Document No. 44098228 A  
 MarCom Industrial

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

For more information

