Vehicle Scale Load Cell

Value and Performance

In Vehicle Weighing Applications

POWERCELL® Technology

POWERCELL® GDD™ load cells provide accurate weighing for truck scales, railroad scales, and other heavy-capacity applications. Digital signal processing with active digital compensation maintains higher weighing accuracy than analog load cells.

Simple Connectivity

POWERCELL® GDD™ load cells connect through a junction box network. Cables are securely attached to the load cells at the factory for easy installation in the field.

Improved Diagnostics

Unlike other load cell systems with junction boxes, POWERCELL® GDD™ provides diagnostic capability that makes individual load cell outputs visible from the terminal. This feature simplifies troubleshooting.

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® GDD™ Load Cell

The load cell system uses proven POWERCELL® technology that has demonstrated the ability to provide accurate vehicle weighing in demanding applications. Digital signal processing improves weighing accuracy and repeatability over traditional load cell technologies. The stainless steel construction is laser welded to provide IP68 and IP69K protection for survival in harsh environments.

Diagnostic capabilities embedded in the load cell and scale terminal allow problems to be identified and repaired quickly. The POWERCELL® GDD™ load cell is approved for global applications that require either OIML C3 or NTEP 10000d IIIL-M approvals.

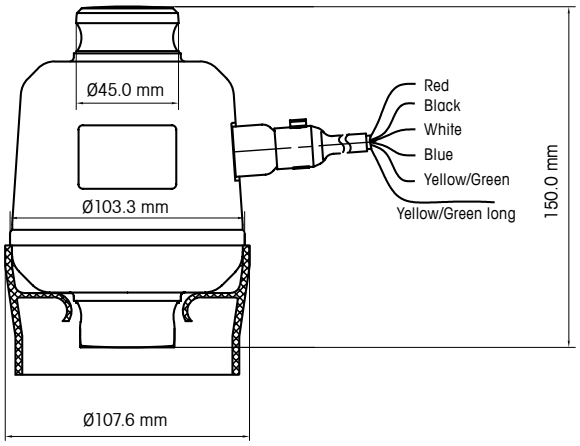
METTLER TOLEDO

POWERCELL® GDD™ Load Cell Specifications

PARAMETER		UNITS	SPECIFICATION		
Trade Name			POWERCELL® GDD™		
Model Number			SLC720		
Load Cell Type			Column Compression - Digital Weight Processor (DWP)		
Rated Capacity (R.C.[1])		t	20	30	50
Sensitivity at R.C.		d @R.C.	200,000	300,000	500,000
Communication			Controller Area Network (CAN) - Encrypted		
Communication Rate		kbit/sec	125		
Effective System Update Rate		Hz	15 with 12 cells		
Weighing Performance					
Warm-up Time from Cold Start		min	15.0		
Effect of Cable Length on System Accuracy		kg	0		
Temperature Effect on Minimum Dead Load Output		kg/°C	<± 0.8*Vmin(OIML)/5°C		
Temperature Range	Compensated	°C	-10 to +40		
	Operating	°C	-40 to +55		
	Safe Storage	°C	-40 to +80		
Humidity Effect - Continuous 100% RH		kg	0		
Barometric Pressure Effect on Zero Load Output		kg/kPa	<±1.2		
Metrology	Class		C3		
	Linearity[2]	ppm R.C.	< 100		
	Hysteresis[2]	ppm R.C.	< 160		
Temperature Effect on	Span[2]	ppm R.C./°C	<± 13.3		
	Combined Error[2]	ppm R.C.	<300		
Creep at R.C.	10s to 30m	ppm R.C.	<± 167		
Zero Return	After 30 min at R.C.	ppm R.C.	<± 167		
Nonrepeatability		ppm R.C.	<± 100		
Zero Balance at 20°C		% R.C.	<± 0.1		
Diagnostics (system)					
Diagnostics (system)			Individual load cell outputs visible from the terminal.		
Metrological Approvals					
European / OIML Approvals[3]	Standard		OIML R60		
	European Test Certificate		TC8298		
	OIML Certificate of Conformity		R60/2000-NL1-12.53		
	Class		C3		
	nmax (OIML)		3000		
	Y[4]	kg/kg	6061	6383	8772
	Vmin (OIML)	kg	3.3	4.7	5.7
	PLC		0.8		
	Humidity Symbol		CH (Hermetic Seal)		
	Min. Dead Load	kg	50		
NTEP Approval[3]	Standard		NIST Handbook 44		
	Certificate Number		NTEP 13-010		
	Class		III L-M		
	nmax (HB44)		10,000		
	Vmin (HB44)	kg	1.2	1.8	2.2
	Min. Dead Load	kg	50		
Electrical					
Cable Length, Load Cell		m	13 (attached)		
Cable Length, Home Run		m	8 to 150 in selected pre-terminated lengths		
Cable Material	Cable, Load Cell		Double shield, 4 wires		
	Cable, Home Run		Double shield, 5 wires		
Supply Voltage Regulated in the Cell	Typical	V DC	24		
	Minimum/Maximum	V DC	10 / 26.4		
Lightning Protection[5]	Max (tested)	A	15,000		
Mechanical					
Material	Spring Element		Stainless Steel (magnetic)		
	Enclosure		Electropolished 304 Stainless Steel		
	Low-Profile Receivers		Stainless Steel (magnetic)		
	Anti-Rotation		Integral, 6-Point Hexagonal Mount		
	Cable Entry Fittings		Stainless, Laser Welded, Glass-to-Metal Seal		
Protection	Type		Hermetic (submersible)		
	IP Rating		IP68 & IP69k		
Load Limit	Safe	%R.C.	200		
	Ultimate	%R.C.	250		
Safe Dynamic Load		%R.C.	70		
Fatigue Life		cycles @R.C.	>1,000,000		
Direction of Loading			Compression (↓)		
Shipping Weight		kg	3.7	3.9	4.1

(1) RC = Rated or full capacity as specified on the data plate.
(2) The combined error of span, linearity error, and hysteresis will not exceed 80% of the error limits according to OIML R60.
(3) See certificate for complete information.
(4) Y = Emax / Vmin
(5) Testing by Lightning Technologies Inc. with Lightning Protection Kit.
Patents pending, POWERCELL® is a trademark of METTLER TOLEDO.

POWERCELL® GDD™ Load Cell Dimensions



Cable Color Code	
Red	VIN
Black	GND
White	CANH
Blue	CANL
Yellow/Green	CGND
Yellow/Green long	SHIELD

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For more information

Quality Management System certification.
Development, production, and auditing in accordance with ISO9001. Environmental Management System in accordance with ISO14001.