

Hazardous-Area Solution Division 1 and Zone 1/21



Load Cells

Three models of approved POWERCELL® load cells enable you to use the hazardous-area solution for vehicle scales, floor scales, and tank scales. The load cells feature digital compensation to maintain high weighing accuracy and advanced diagnostics to provide reliable performance.



Barrier

The Model CBR-a-X barrier is installed in a nonhazardous area, such as a control room or scale house. It uses zener diodes and semiconductors to limit the energy delivered into the hazardous area, providing redundant protection against ignition of potentially explosive atmospheres.



Converter Box

The Model CCB-a-X converter box is an intrinsic-safety device for installation in a hazardous area. It transmits the power and signal from the barrier to as many as four CANbus load cells. The converter box is hermetically sealed for IP68 protection against water and dust.



Scale Terminal

We offer a variety of CANbus-compatible terminals for hazardous-area applications. Select the terminal that provides the processing and transaction capabilities you need. Capabilities range from basic weighing to advanced filling/dosing and connectivity to automation equipment.

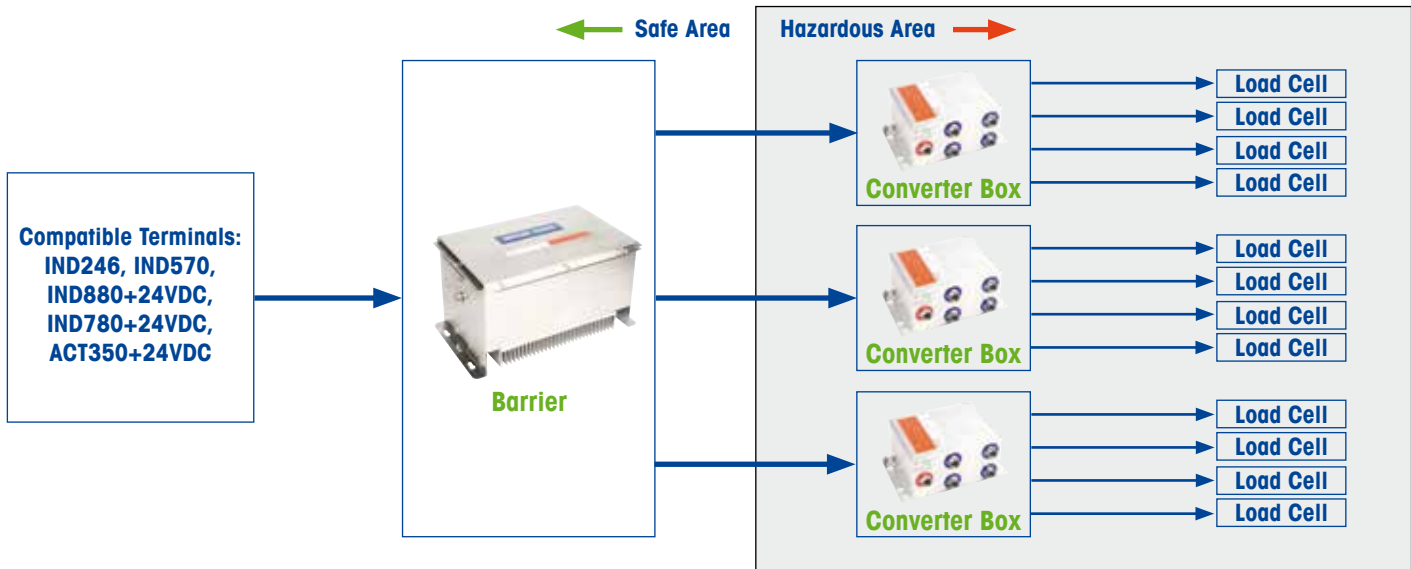


Safe Weighing for Division 1 and Zone 1/21

Combine the accurate weighing of POWERCELL® load cells with safe operation in Division 1 and Zone 1/21 hazardous areas. Our approved solution enables you to operate vehicle scales, floor scales, and tank scales in hazardous areas. The solution uses an intrinsic-safety barrier and converter box to limit the power from the scale terminal to levels that can be transmitted safely to load cells located inside the hazardous area. It provides a fully approved POWERCELL® weighing system that uses the CANbus communication protocol.

- FM approval: United States and Canada
- ATEX approval: Europe
- IECEx approval: Global

POWERCELL® Zone 1/Division 1 Solution



As many as three converter boxes can be connected to the barrier, and as many as four load cells can be connected to each converter box. All load cells in a system must be the same type of approved load cell: SLC820, SLC61 1D, or SLB615D.

POWERCELL® Zone 1/Division 1 Kits



CANbus Barrier

Material Number	Description	Quantity
30548986	POWERCELL® Zone 1/Division 1 Kit (for 1-4 Load Cells)	
30283767	CANbus Barrier CBR-1-X EN	1
30129884	CANbus Converter Box CCB-4-X EN	1
30302771	Connector Cap SLC POWERCELL® EN	4
30420537	PDX Home-Run Cable Assembly, 4m PMSS	1



CANbus Converter Box

Material Number	Description	Quantity
30548987	POWERCELL® Zone 1/Division 1 Kit (for 5-8 Load Cells)	
30283768	CANbus Barrier CBR-2-X EN	1
30129884	CANbus Converter Box CCB-4-X EN	2
30302771	Connector Cap SLC POWERCELL® EN	8
30420537	PDX Home-Run Cable Assembly, 4m PMSS	1



Connector Cap

Material Number	Description	Quantity
30549028	POWERCELL® Zone 1/Division 1 Kit (for 9-12 Load Cells)	
30283769	CANbus Barrier CBR-3-X EN	1
30129884	CANbus Converter Box CCB-4-X EN	3
30302771	Connector Cap SLC POWERCELL® EN	12
30420537	PDX Home-Run Cable Assembly, 4m PMSS	1



Home-Run Cable



Kits do not include load cells, cell-to-converter-box cables, barrier-to-converter-box cables, or scale terminal. Those items must be purchased separately.

Order Information for Cables and Cable Glands

	Description	Number of Load Cells (LC)			Cable, Material / Length					
		1-4 LC	5-8 LC	9-12 LC	PU / 3m (10 ft)	PU / 4m (13 ft)	PU / 5m (16.4 ft)	PU / 10m (32.8 ft)	PU / 12m (40 ft)	PU / 20m (65.6 ft)
		Quantity			Item Number					
1	Home-run cable (max. 20m), 4m cable included in POWERCELL kit	1x			-	-	30302758	30302759	-	30302760
	Braided home-run cable (max. 40m), 4m cable included in POWERCELL kit				-	30420537 (incl. in kit)	-	61044730 30398802 ¹	-	61044731 30398803 ¹
2	Braided barrier-to-converter-box cable (max. 120m)	1x	2x	3x	-	-	-	61044730 30398802 ¹	-	61044731 30398803 ¹
3	SLC820/SLC61 1D LC-to-converter-box cable (max. 12m)	1-4	5-8	9-12	30302766		30302767	30302768	Out of spec	
	SLC820/SLC61 1D braided LC-to-converter-box cable (max. 12m)				-	-	61043481 30398799 ¹	61043485 30398801 ¹	Out of spec	
	SLB615D LC-to-converter-box cable (max. 12m)				-	-	-	-	30494833	Out of spec
4	Cable gland for home-run cable with IND78OPDX	1x			30095639					
	Cable gland for braided home-run cable with IND78OPDX				64083715					

	Description	Number of Load Cells (LC)			Cable, Material / Length					
		1-4 LC	5-8 LC	9-12 LC	PU / 30m (100 ft)	PU / 40m (131 ft)	PU / 50m (166 ft)	PU / 100m (333 ft)	PU / 120m (400 ft)	
		Quantity			Item Number					
1	Home-run cable (max. 20m), 4m cable included in POWERCELL kit	1x			Out of spec					
	Braided home-run cable (max. 40m), 4m cable included in POWERCELL kit				61044732 30420341 ¹	61044733 30420342 ¹	Out of spec			
2	Braided barrier-to-converter-box cable (max. 120m)	1x	2x	3x	61044732 30420341 ¹	61044733 30420342 ¹	61044734 30420343 ¹	61044739 30420508 ¹	61044741 30420510 ¹	
3	SLC820/SLC61 1D LC-to-converter-box cable (max. 12m)	1-4	5-8	9-12	Out of spec					
	SLC820/SLC61 1D braided LC-to-converter-box cable (max. 12m)				Out of spec					
	SLB615D LC-to-converter-box cable (max. 12m)				Out of spec					
4	Cable gland for home-run cable with IND78OPDX	1x			30095639					
	Cable gland for braided home-run cable with IND78OPDX				64083715					
¹ = This is an alternative cable that is available only in the Asia/Pacific Region.										

POWERCELL® Zone 1/Division 1 Ratings

Component	Hazardous Area	Parameter	Specification
 <p>CANbus Barrier CBR-a-X</p>	ATEX Zone 1/21	Certificate Number	DEKRA 17ATEX0065 X
		Gas Rating	II (2) G [Ex ib Gb] IIB
		Dust Rating	II (2) D [Ex ib Db] IIIC
	IECEX Zone 1/21	Certificate Number	IECEX DEK 17.0033X
		Gas Rating	[Ex ib Gb] IIB
		Dust Rating	[Ex ib Db] IIIC
	FM Division 1 Zone 1/21	Certificate Number	FM19US0085X
		Gas Rating	AIS Class I, Division 1, Groups C and D for $-20^{\circ}\text{C} \leq \text{Ta} \leq +50^{\circ}\text{C}$ AIS Class I, Zone 1, [AEx ib IIB] for $-20^{\circ}\text{C} \leq \text{Ta} \leq +50^{\circ}\text{C}$ Gb
		Dust Rating	AIS Class II, III, Division 1, Groups E, F and G for $-20^{\circ}\text{C} \leq \text{Ta} \leq +50^{\circ}\text{C}$ AIS Zone 21, [AEx ib IIIC] for $-20^{\circ}\text{C} \leq \text{Ta} \leq +50^{\circ}\text{C}$ Db
	CSA Division 1 Zone 1/21	Certificate Number	FM19CA0044X
		Gas Rating	AIS Class I, Division 1, Groups C and D for $-20^{\circ}\text{C} \leq \text{Ta} \leq +50^{\circ}\text{C}$ AIS Class I, Zone 1, [Ex ib IIB] for $-20^{\circ}\text{C} \leq \text{Ta} \leq +50^{\circ}\text{C}$ Gb
		Dust Rating	AIS Class II, III, Division 1, Groups E, F and G for $-20^{\circ}\text{C} \leq \text{Ta} \leq +50^{\circ}\text{C}$ AIS Zone 21, [Ex ib IIIC] for $-20^{\circ}\text{C} \leq \text{Ta} \leq +50^{\circ}\text{C}$ Db
 <p>CANbus Converter Box CCB-a-X</p>	ATEX Zone 1/21	Certificate Number	DEKRA 17ATEX0122 X
		Gas Rating	II 2 G Ex ib IIB T4 Gb
		Dust Rating	II 2 D Ex ib IIIC T 130°C Db
	IECEX Zone 1/21	Certificate Number	IECEX DEK 17.0057X
		Gas Rating	Ex ib IIB T4 Gb
		Dust Rating	Ex ib IIIC T 130°C Db
	FM Division 1 Zone 1/21	Certificate Number	FM19US0174X
		Gas Rating	Class I, Division 1, Groups C and D T4 for $-40^{\circ}\text{C} \leq \text{Ta} \leq +55^{\circ}\text{C}$ Class I, Zone 1, AEx ib IIB T4 for $-40^{\circ}\text{C} \leq \text{Ta} \leq +55^{\circ}\text{C}$ Gb
		Dust Rating	Class II, III, Division 1, Groups E, F and G T4 for $-40^{\circ}\text{C} \leq \text{Ta} \leq +55^{\circ}\text{C}$ Zone 21, AEx ib IIIC T130°C for $-40^{\circ}\text{C} \leq \text{Ta} \leq +55^{\circ}\text{C}$ Db
	CSA Division 1 Zone 1/21	Certificate Number	FM19CA0091X
		Gas Rating	Class I, Division 1, Groups C and D T4 for $-40^{\circ}\text{C} \leq \text{Ta} \leq +55^{\circ}\text{C}$ Class I, Zone 1, Ex ib IIB T4 for $-40^{\circ}\text{C} \leq \text{Ta} \leq +55^{\circ}\text{C}$ Gb
		Dust Rating	Class II, III, Division 1, Groups E, F and G T4 for $-40^{\circ}\text{C} \leq \text{Ta} \leq +55^{\circ}\text{C}$ Zone 21, Ex ib IIIC T130°C for $-40^{\circ}\text{C} \leq \text{Ta} \leq +55^{\circ}\text{C}$ Db

Produced in a facility that is



Mettler-Toledo, LLC

1900 Polaris Parkway
Columbus, Ohio 43240
Tel. (800) 786-0038
(614) 438-4511
Fax (614) 438-4900

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