



## Bending Beam Load Cell

# VB Series

**The VB Series is a compact, high performance, strain gage load cell constructed of heat treated steel or stainless steel. The VB Series is designed to accurately measure compression loads ranging from 0-25 lbs. to 0-500 lbs.**



The VB Series is a compact, high performance, bonded foil strain gage load cell constructed of heat treated steel or stainless steel. The VB Series is designed to accurately measure compression loads in capacities ranging from 0-25 lbs. to 0-500 lbs. The dual-guided cantilever design yields exceptional performance in a very compact package. The steel (VB1) version is Environmentally Sealed (IP67-Low Pressure Jets) and the stainless steel (VB3) version is Harsh Environment Sealed (IP65-Low Pressure Jets), using proprietary, multi-redundant environmental barriers, to protect the strain gage area and the cable entry, both high failure mode areas in competitive versions of this load cell. The integral cable is durable PE/PVC jacketed and features a braided, tinned-copper shield for mechanical protection and to minimize the effects of common industrial electrical noise, e.g. RFI and EMI. Versatile companion weigh modules include the MB1 Series (steel) and the MB3 Series (stainless steel) are available for convenient weighing of tanks, bins, hoppers and similar vessels. The attributes of the VB Series make it an ideal choice for reactor, mixer and blender weighing, material handling, packaging, process applications and O.E.M. weighing situations where a well sealed, versatile, high performance load cell solution is needed.

### APPLICATIONS

- Compression Measurements
- Process Control Weighing
- Belt and Bagging Scales
- Tank, Bin and Hopper Weighing
- Reactor, Mixer and Blender Weighing
- OEM and VAR Solutions

### FEATURES

- 25 lbs to 500 lbs Capacities
- Compact Size
- 0.03% Accuracy Class
- Steel or Stainless Steel Element
- Environmentally Sealed-IP67
- Companion Weigh Modules
- Loading Accessories Available
- Two Year Warranty



For more information call **1-888-545-8988**

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# VB Series Specifications

Innovative Measurement Solutions



## PERFORMANCE

Rated Capacities <sup>(1)</sup> (lbs.)	25, 50, 100, 150, 250, 500
Rated Output (FSO)	3 mV/V
Output Tolerance	±0.25 % R.O.
Combined Error Band	≤ 0.03 % FSO
Non-Linearity	≤ 0.03 % FSO
Hysteresis	≤ 0.02 % FSO (VB1) ≤ 0.05 % FSO (VB3)
Non-Repeatability	≤ 0.01 % FSO
Zero Balance	± 1.0 % FSO
Creep (20 Minutes)	0.03 % of Load

## MECHANICAL

Material	Alloy tool steel (VB1) 17-4ph Stainless Steel (VB3)
Finish	Electroless Nickel Plated (VB1) Natural (VB3)
Safe overload	Compression 150 % FSO Side Load 30% FSO
Ultimate overload	Compression 300% FSO Side Load: 50% FSO
Deflection	See Dimensions Page
Weight	See Dimensions Page
Mounting Bolt Torque	<a href="#">Torque Table</a>

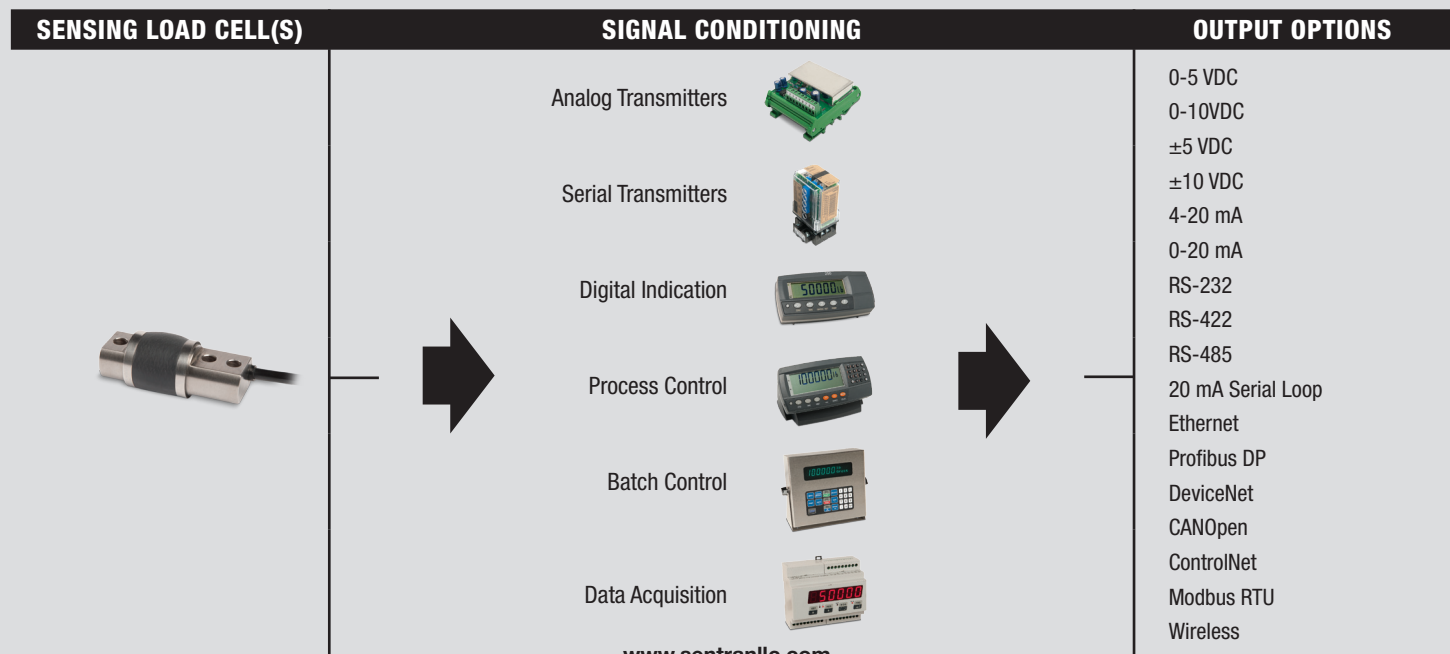
## ELECTRICAL

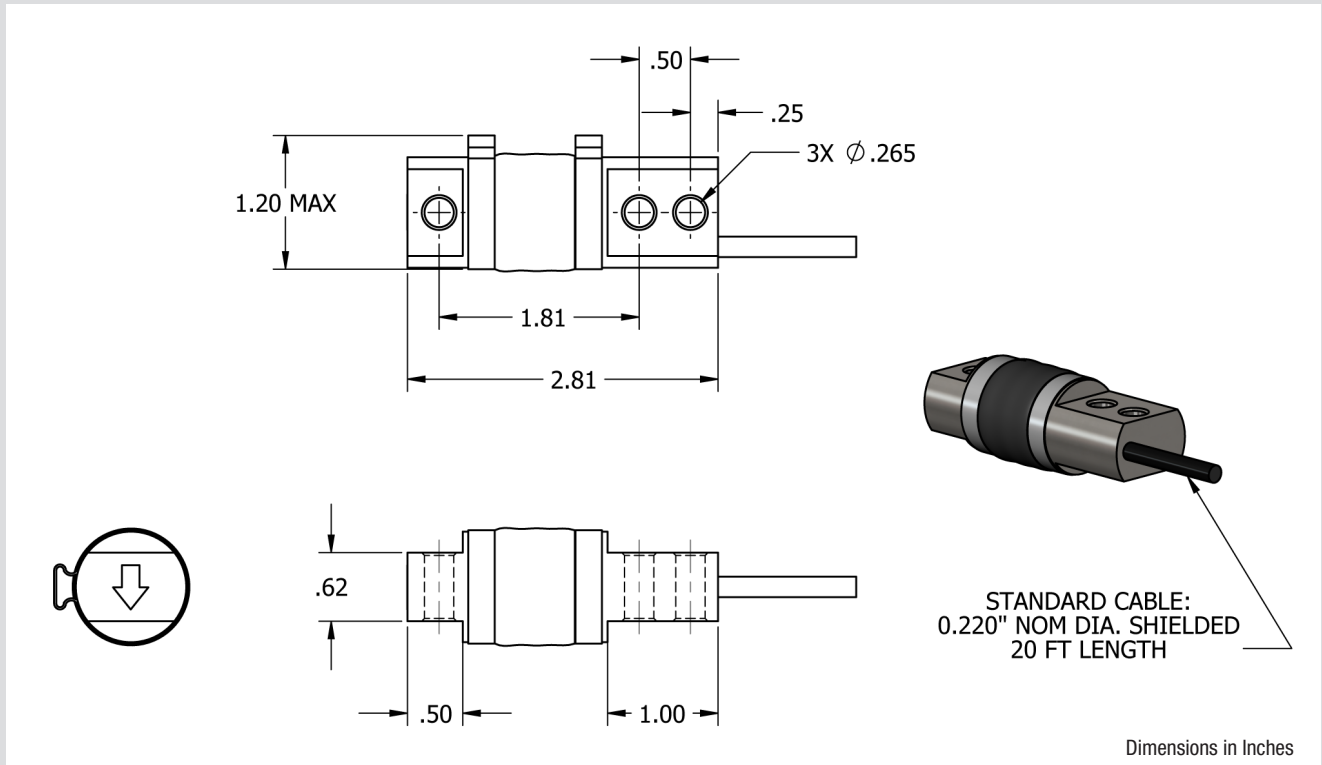
Input Impedance	415 ± 35 ohms (VB1), 350 ± 50 ohms (VB3)
Output Impedance	352 ± 3 ohms
Insulation Resistance	>5000 Megohms
Excitation Voltage	10 V AC/DC (15 V maximum)
Cable Color Code	+ Excitation (red) - Excitation (black) + Signal (green) - Signal (white) Shield (natural)
Cable Type	4-conductor, 22 AWG, Polyurethane jacket, Tinned Copper Braid, Diameter: 0.200" (VB1) 0.220 (VB3)
Cable Length	See Dimensions Table
Cable Termination	Finished Conductors
Cable Seal	Epoxy (VB1), Compression Gland Fitting (VB3)

## MECHANICAL

Temperature, Operating	0 to +150 °F (-18 to +65°C)
Temperature, Compensated	14 to +104 °F (-10 to +40°C)
Temperature, Storage	-60 to +185 °F (-50 to +85°C)
Temperature Effects	Zero < 0.015% FSO/°F < 0.0026% FSO/°C
Temperature Effects	Output < 0.0008% of Rdg./°F < 0.0014% Rdg./°C
Sealing Rating	IP65; Multi-redundant; Low Pressure Resistant (VB1), IP67; Multi-redundant; Limited Immersion Tolerance (VB3)
FM Approval (VB1)	
Intrinsically Safe:	Class I, II, III; Div.1 Groups A-G
Non-Incendive:	Class 1; Div.2 Groups A-D

# VB Typical System Configuration

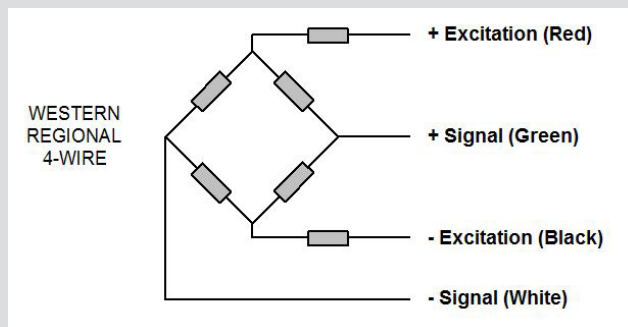




Capacity (LBS)	Deflect	Weight
25, 50, 75	0.008"	1.0 LB
100, 150	0.011"	1.0 LB
250	0.016"	1.0 LB
500	0.025"	1.0 LB

**DIMENSIONS (INCHES)**

## VB Wiring Diagram



## Legal Disclaimer



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