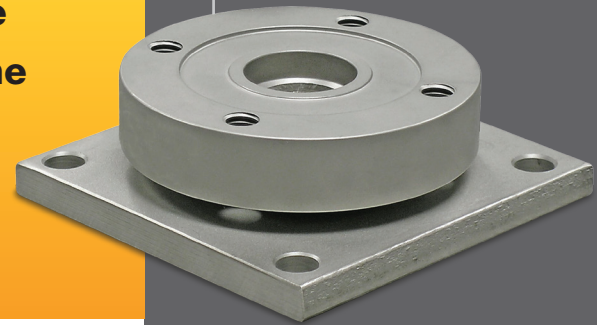




## Medium/High Capacity Weigh Module

# ML Series

**The ML Series is a high capacity, very low profile weigh module constructed of stainless steel. The ML Series is designed to accurately measure compression loads in capacities ranging from 0-1,000 lbs. to 0-450,000 lbs.**



The ML Series is a medium to high capacity weigh module solution constructed of stainless steel<sup>(1)</sup>. The ML Series is designed to accurately measure compression loads in capacities ranging from 0-1,000 lbs. to 0-450,000 lbs. To facilitate easy installation, a symmetrical mounting bolt pattern is provided on the base plate, the load cell and the optional load plate. The load plate can rotate and articulates approximately 3° in any direction to compensate for misalignment with mating support surfaces during installation and use. Provisions for thermal expansion and contraction are built-in. This load cell is Harsh Environment Sealed (IP67-Limited Immersion) by virtue of proprietary, multi-redundant barriers uniquely integrated to protect all internal components. The output signal is calibrated to a close tolerance to facilitate in situ interchangeability and multiple load cell summing applications. The integral premium, instrumentation grade cable features a durable polyurethane-jacket over a tinned-copper braided shield for superior mechanical protection and to minimize the unwanted electrical effects of RFI and EMI. The ML Series is an ideal choice for process weighing, inventory monitoring, bulk material handling, tank and silo weighing, or for any application where a versatile, durable weigh module solution is needed.

(1) 150K and higher capacities use painted steel base plates.



### APPLICATIONS

- Process Control
- Tank, Bin and Silo Weighing
- Reactor Weighing
- Bulk Material Inventory/Processing
- Level Monitoring and Control
- Washdown/Aggressive Environments

### FEATURES

- 1,000 to 450,000 lbs. Capacities
- 0.05% Accuracy Class
- Stainless Steel/Welded Seals
- Very Low Profile
- Accommodates Vessel Movement
- Self-Checking, Including Uplift
- IP67 Environmental Sealing
- Two Year Warranty

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

SENTRAN, LLC 4355 LOWELL STREET, ONTARIO, CA 91761, U.S.A.

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# ML Series Specifications

Innovative Measurement Solutions



## PERFORMANCE

Rated Capacities <sup>(1)</sup> (lbs.)	1K, 2.5K, 5K, 10K, 15K, 20K, 25K, 35K, 50K, 60K, 75K, 100K, 150K, 200K, 250K, 300K, 400K, 450K
Rated Output (FSO)	3 mV/V
Output Tolerance	± 0.1 % R.O.
Combined Error Band	≤ 0.05 % FSO
Non-Linearity	≤ 0.05 % FSO
Hysteresis	≤ 0.05 % FSO
Non-Repeatability	≤ 0.05 % of load
Zero balance	± 1.0 % FSO
Creep (20 Minutes)	0.03% of Load

<sup>(1)</sup> ("K"=Thousand)

## MECHANICAL

Material	17-4ph Stainless Steel
Finish	Bead Blasted
Mount Material	Stainless Steel (capacities up to 100K) Epoxy Painted Steel (capacities 150K and over)
Mount Finish	Natural
Safe overload	Compression 150 % FSO Side Load 100% FSO
Ultimate overload	Compression 300% FSO Side Load: 200% FSO
Deflection	See Dimensions Page
Weight	See Dimensions Page

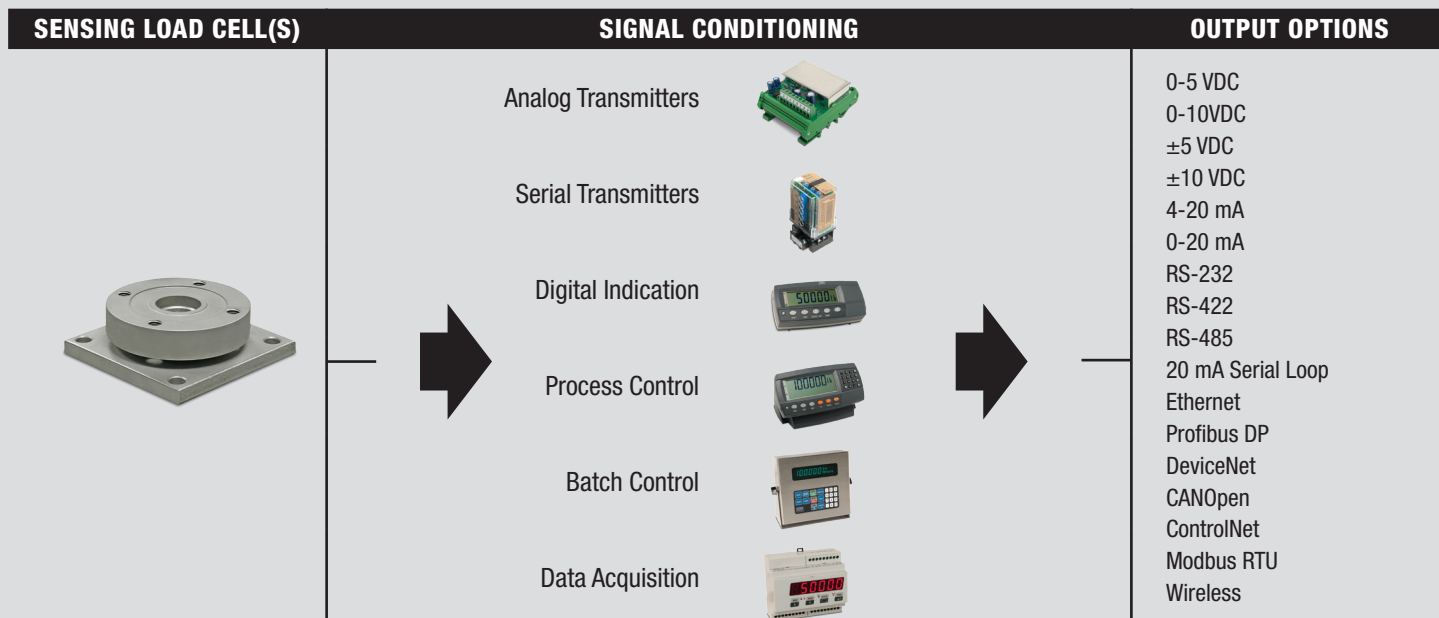
## ELECTRICAL

Input Impedance	350 ±3 ohms (nominal)
Output Impedance	350 ±3 ohms (nominal)
Insulation Resistance	>5000 Megohms @ 50VDC
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, 20 AWG, PVC Jacket, Tinned Copper Braid, Diameter: 0.290"
Cable Length	See Dimensions Table
Cable Termination	Finished Conductors
Cable Seal	Conduit Adapter; See Table

## ENVIRONMENTAL

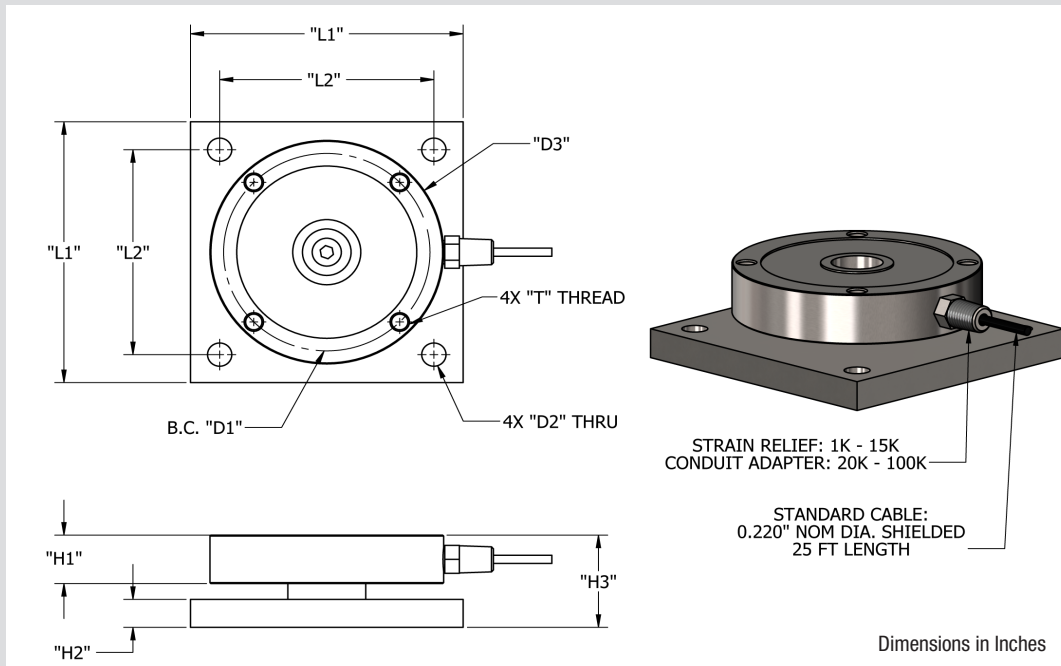
Temperature, Operating	-4 to +140 °F (-20 to +60°C)
Temperature, Compensated	14 to +104 °F (-10 to +40°C)
Temperature, Storage	-40 to +170 °F (-40 to +77°C)
Temperature Effects	Zero < 0.0015% FSO/°F < 0.0026% FSO/°C
Temperature Effects	Output < 0.0008% of Rdg./°F < 0.0014% Rdg./°C
Sealing	IP67; Multi-redundant; Limited Immersion Tolerance

# ML Typical System Configuration

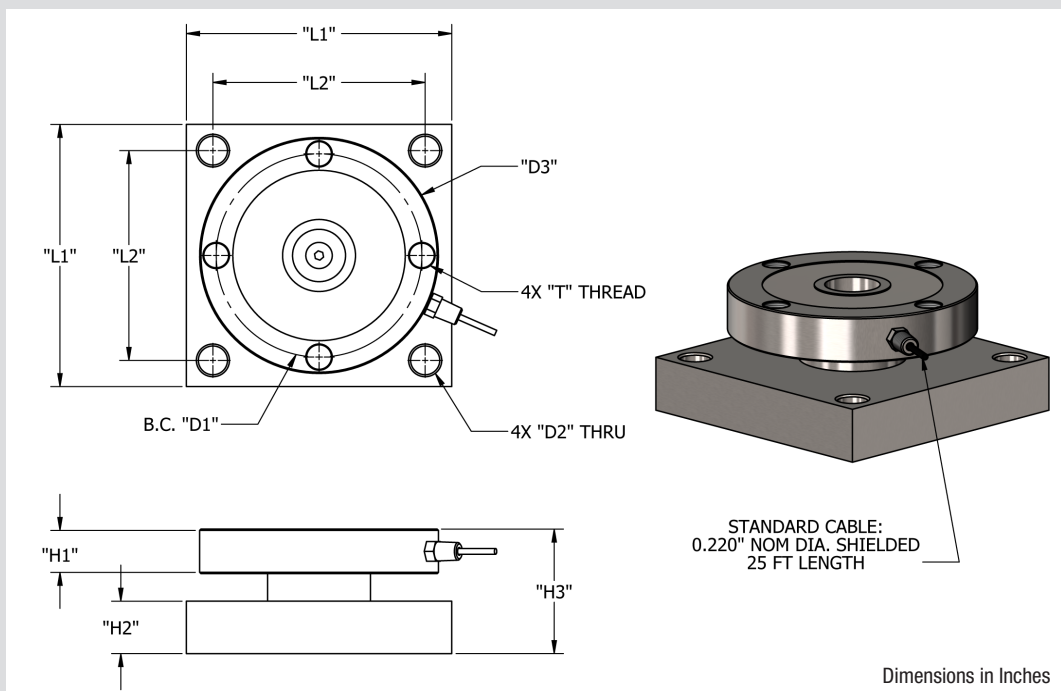




Capacity (LBS)	H1	H2	H3	D1	D2	D3	L1	L2	T	Conduit Adapter	Deflect	Weight
DIMENSIONS (INCHES)												
1K, 2.5K, 5K, 10K	0.75	0.38	1.35	2.80	0.40	3.50	4.00	3.25	3/8-16 UNC-2B	Strain Relief	0.10"	3.0 LBS
15K	0.75	0.63	1.60	2.80	0.40	3.50	4.00	3.25	3/8-16 UNC-2B	Strain Relief	0.10"	4.0 LBS
20K, 25K, 35K, 50K	1.30	0.75	2.48	5.30	0.63	6.00	7.00	5.50	1/2-13 UNC-2B	1/2-14 NPT	0.10"	18.0 LBS
60K, 75K, 100K	1.30	1.00	2.5	6.00	0.81	7.00	8.00	6.50	3/4-16 UNC-2B	1/2-14 NPT	0.10"	27.5 LBS

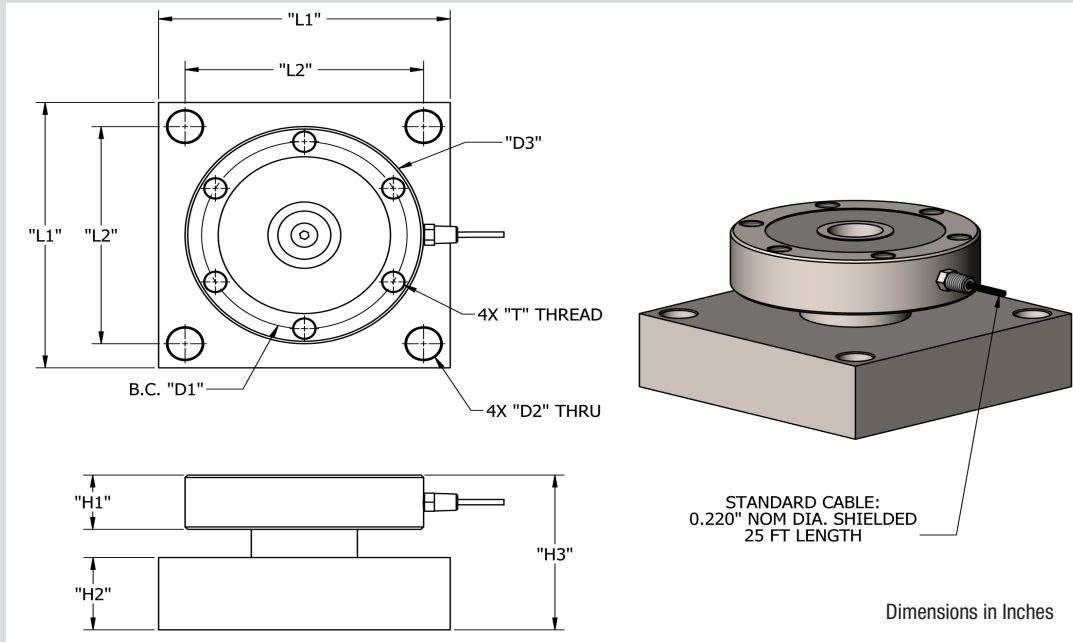


Capacity (LBS)	H1	H2	H3	D1	D2	D3	L1	L2	T	Conduit Adapter	Deflect	Weight
DIMENSIONS (INCHES)												
150K, 200K	1.70	2.00	4.75	7.83	1.10	9.00	10.00	8.00	1-14 UNS-2B	1/2-14 NPT	0.10"	75.0 LBS

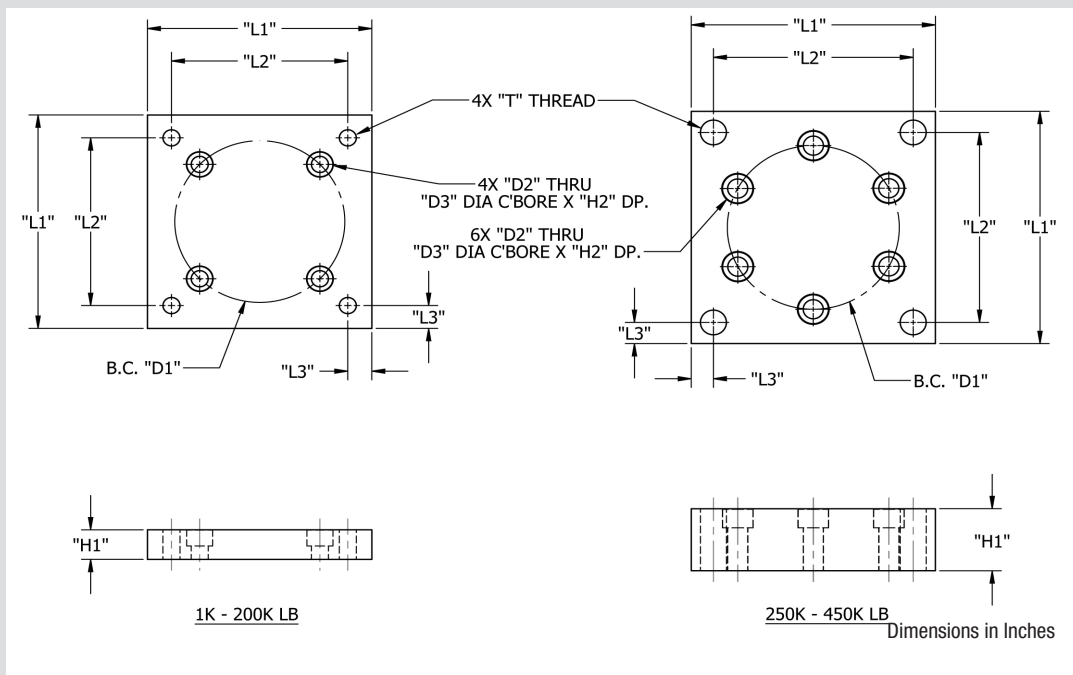


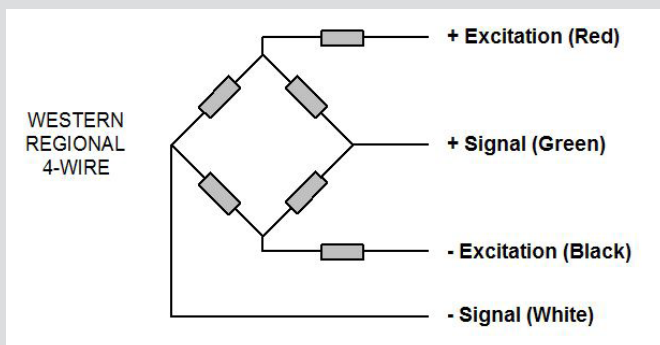


Capacity (LBS)	H1	H2	H3	D1	D2	D3	L1	L2	T	Conduit Adapter	Deflect	Weight
DIMENSIONS (INCHES)												
250K, 300K, 400K, 450K	2.25	3.00	6.42	7.75	1.30	9.00	11.00	9.00	7/8-14 UNF-2B	1/2-14 NPT	0.15"	130.0 LBS



Capacity (LBS)	H1	H2	D1	D2	D3	L1	L2	L3	T	Weight
DIMENSIONS (INCHES)										
1K-15K	0.72	0.38	2.80	0.41	0.63	4.00	3.25	0.38	3/8-16 UNC-2B	3.5 LBS
20K-50K	0.97	0.50	5.30	0.53	0.81	7.00	5.50	0.75	5/8-11 UNC-2B	13.5 LBS
60K-100K	1.46	0.75	6.00	0.78	1.19	8.00	6.50	0.75	3/4-16 UNF-2B	26.5 LBS
150K-200K	1.94	1.00	7.83	1.05	1.63	10.00	8.00	1.00	1-14 UNS-2B	55.0 LBS
250K-450K	2.94	0.91	7.75	0.91	1.38	11.00	9.00	1.00	1-1/4-12 UNF-2B	100.5 LBS



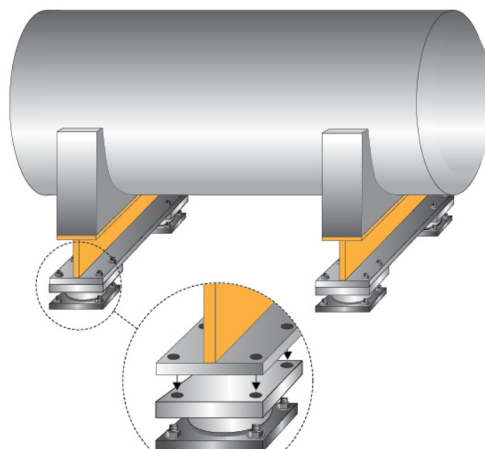




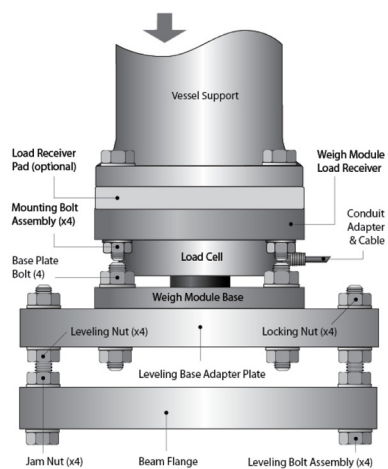
## Level Monitoring



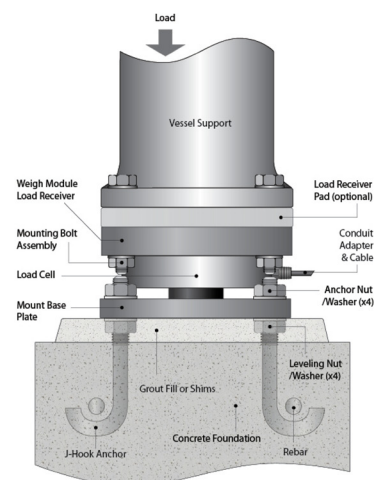
## Horizontal Tank Weighing



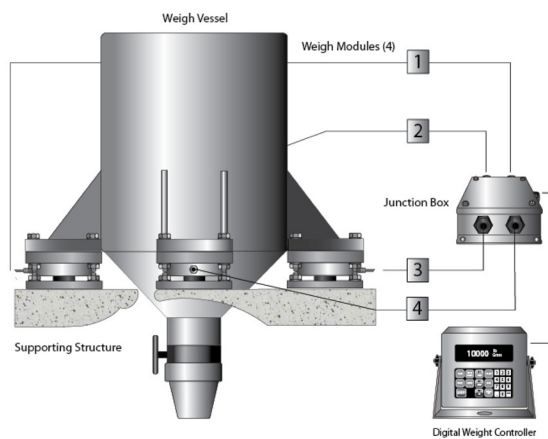
## I-Beam Installation Components



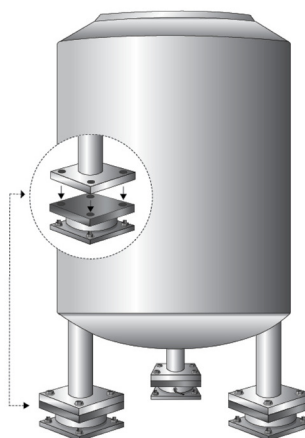
## Floor/Footer Installation Components



## Weighing System Components



## Free Standing Tank Weighing



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