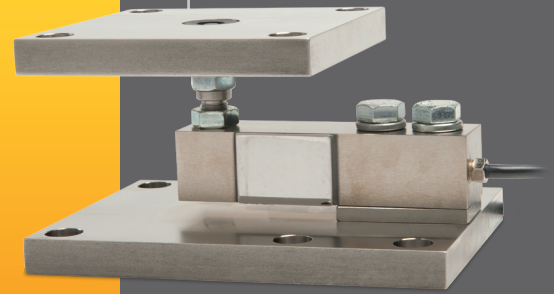




## Mid Range Weigh Module

# MF Series

**The MF Series is a high performance, low profile weigh module constructed of steel or stainless steel. The MF Series withstands the rigors of harsh environmental conditions, accurately measuring compression loads in capacities ranging from 0-1,000 lbs. to 0-20,000 lbs.**



The MF Series possesses a robust, rectangular shear beam design that readily tolerates angular, eccentric and side loading effects, with minimal sensitivity to these anomalies. The optional neoprene LRP (load receiver pad) reduces the effects of shock loading and vibration, in conjunction with load plate articulation of 4° in all directions. Intrinsic planar misalignment compensation accommodates vessel support alignment, sloped flooring, thermal expansion/contraction, and similar application variables. This easy-to-install weigh module mounts directly to the floor or structural supports, and is completely self-checking. The MF Series is available as Harsh Environment Sealed (IP67-Limited Immersion) by virtue of proprietary, multi-redundant barriers uniquely integrated to protect all internal components. 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 MF is an ideal choice for measurement in process, reactor, mixer and blender weighing and OEM weighing situations where a well sealed, high performance weigh module solution is needed.

### APPLICATIONS

- Tank, Bin and Hopper Weighing
- Reactor, Mixer and Blender Weighing
- In-Motion/Conveyor Weighing
- Process Weighing
- OEM and VAR Solutions

### FEATURES

- 1,000 to 20,000 lbs. Capacities
- 0.02% Accuracy Class - NTEP Grade
- Stainless Steel Construction
- Load Plate Omni-Articulation
- Planar Alignment Compensation
- Shock/Vibration Isolation Mount
- Self-Checking
- IP67 Environmental Sealing
- Matched Output Sensitivities
- Two Year Warranty



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

**SENTRAN, LLC** 4355 LOWELL STREET, ONTARIO, CA 91761, U.S.A.  
**888-545-8988** T: 909-605-1544 FAX: 909-605-6305 [www.sentranllc.com](http://www.sentranllc.com)

# MF Series Specifications

Innovative Measurement Solutions



## PERFORMANCE

Rated Capacities <sup>(1)</sup> (lbs.)	1K, 1.5K, 2K, 2.5K, 3K, 4K, 5K, 10K, 15K, 20K
Rated Output (FSO)	3 mV/V
Output Tolerance	± .25 % R.O.
Combined Error Band	≤ 0.03 % FSO
Non-Linearity	≤ 0.03 % FSO
Hysteresis	≤ 0.03 % FSO
Non-Repeatability	≤ 0.02 % FSO
Side Load Rejection Ratio	500:1
Zero Balance	± 1.0 % FSO
Creep (20 Minutes)	0.03 % of Load

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

## MECHANICAL

Load Cell Material	Alloy Tool Steel (MF1) 17-4ph Stainless Steel (MF3)
Load Cell Finish	Electroless Nickel Plated (MF1) Bead Blasted (MF3)
Mount Material	Steel
Mount Finish	Zinc Plated (MF1) Natural (MF3)
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

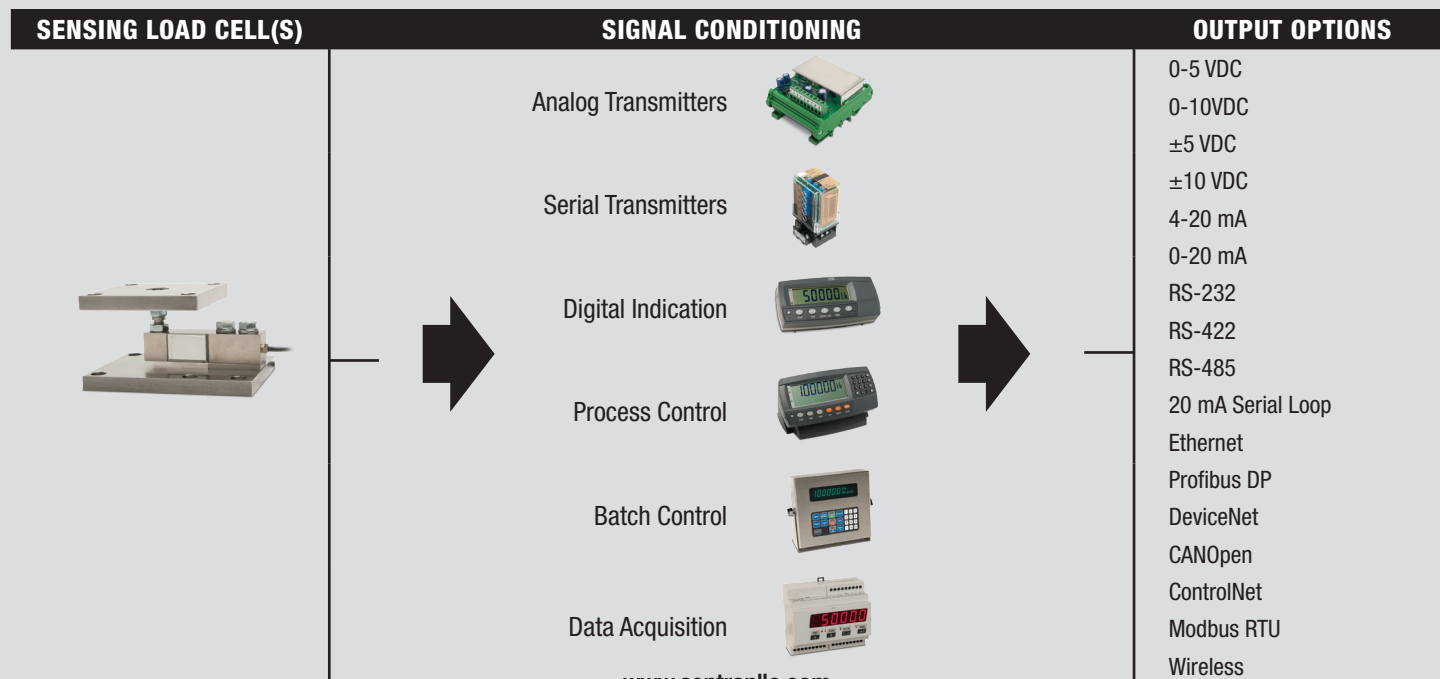
## ELECTRICAL

Input Impedance	385 ± 5 ohms
Output Impedance	350 ± 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: 0.187"
Cable Length	See Dimensions Table
Cable Termination	Finished Conductors
Cable Seal	Compression Gland Fitting

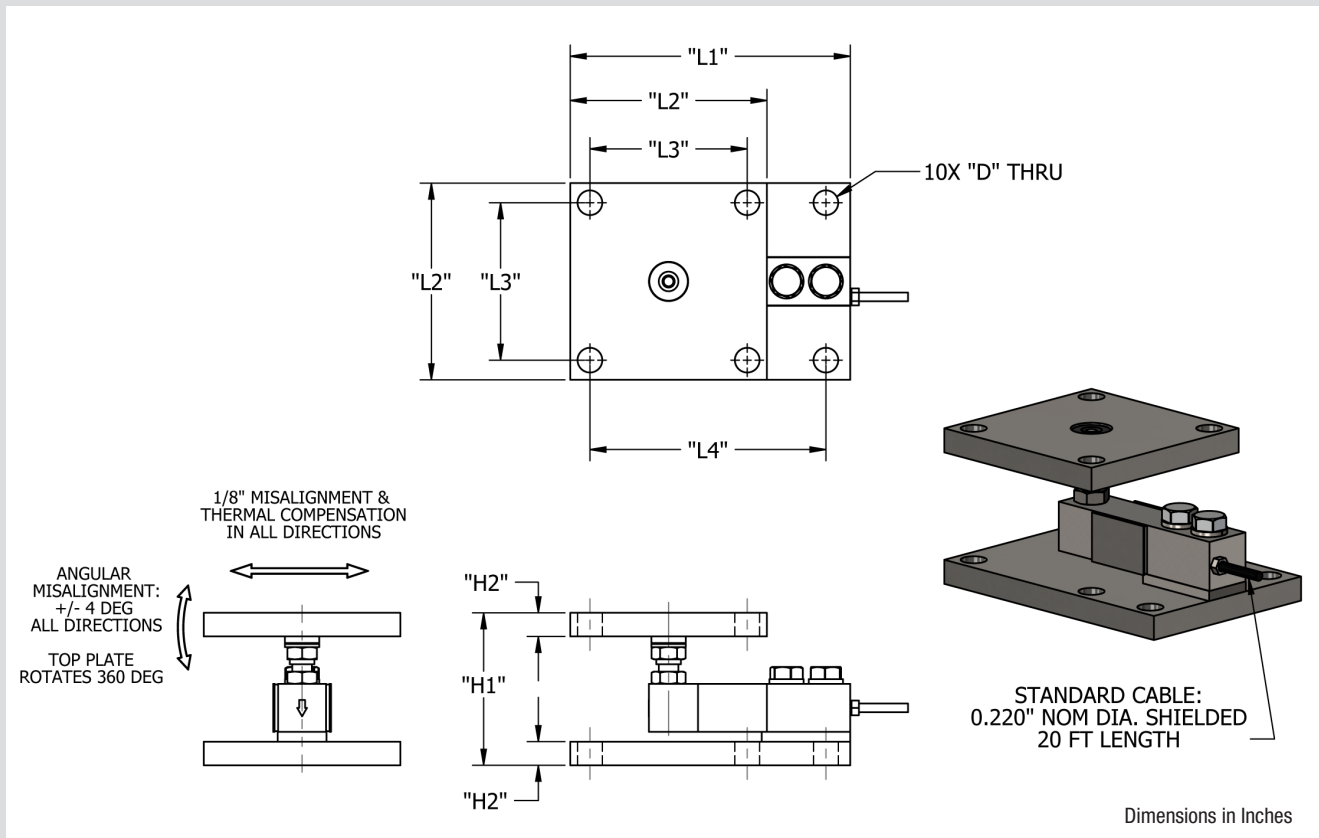
## ENVIRONMENTAL

Temperature, Operating	-4 to +140 °F (-20 to +60°C)
Temperature, Compensated	14 to +104 °F (-10 to +40°C)
Temperature, Storage	-60 to +185 °F (-50 to +85°C)
Temperature Effects	Zero < 0.0015% 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
FM Approval	
Intrinsically Safe:	Class I, II, III; Div.1 Groups A-G
Non-Incendive:	Class 1; Div.2 Groups A-D

# MF Typical System Configuration

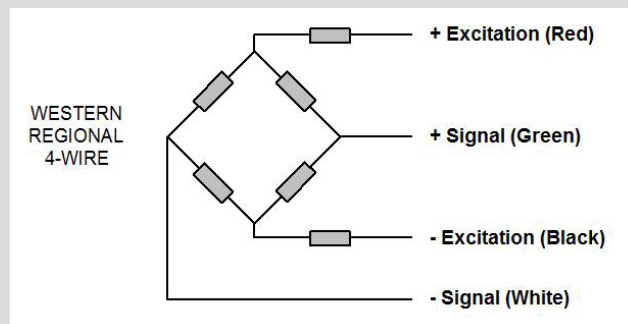


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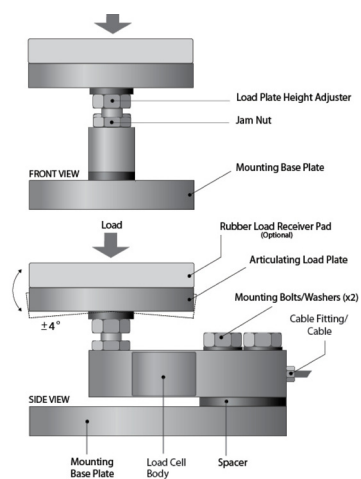
Capacity (LB)	H1 Adjustable	H2	L1	L2	L3	L4	D	Deflect	Weight
DIMENSIONS (INCHES)									
500	3.75 - 4.25	0.60	7.12	5.00	4.00	6.00	0.63	0.013"	15.0 LBS
1K, 2K, 2.5K, 4K, 5Kse	4.00 - 4.50	0.60	7.12	5.00	4.00	6.00	0.63	0.014" - 0.022"	15.0 LBS
5K, 10K	5.00 - 5.50	0.94	8.50	5.00	4.00	6.00	0.63	0.020" - 0.027"	26.0 LBS
15K, 20K	7.00 - 7.50	1.20	10.88	6.00	4.50	9.13	0.88	0.040"	49.0 LBS

## MF Wiring Diagram





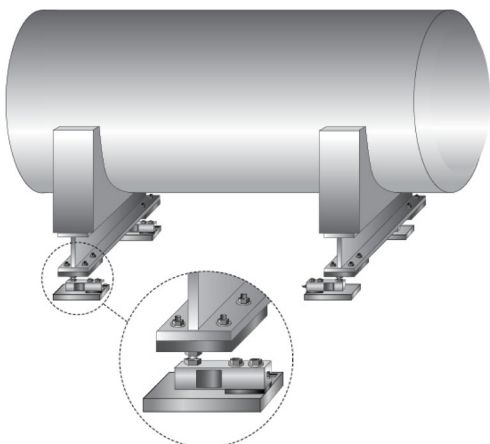
## Articulating Load Receiver Components



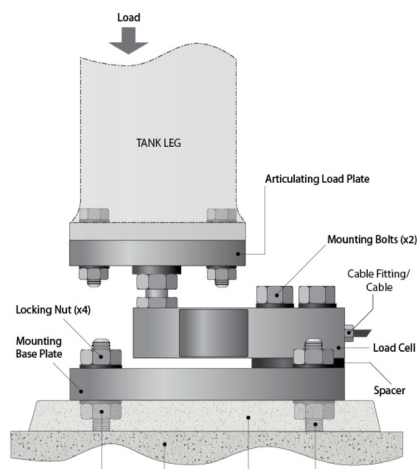
## Bin Weighing



## Horizontal Tank Weighing



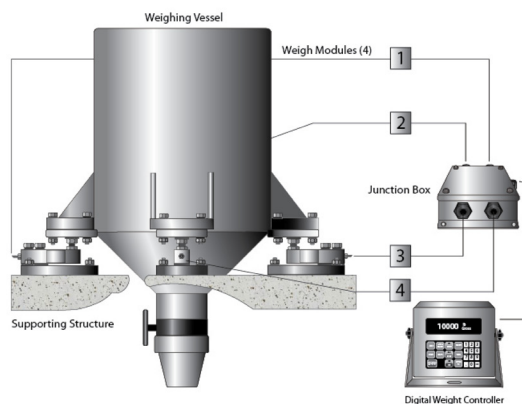
## Floor/Footer Installation Components



## In-Line Check Weighing



## Weighing Systems Components



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