

Product Specifications: Cell*Mate V3 Load Monitoring System

Functional Specifications

The Motion Laboratories Cell*Mate V3 Load Monitoring System shall be designed to monitor dynamic and static loads in real time. The system shall be comprised of up to 8 Load*Cells, 1 Cell*Mate Hub and 1 Cell*Mate Digital Display, along with 6-Pin XLR cables. The Cell*Mate V3 Load Monitoring System shall be part of the A-17 series.



Load*Cells

Features

- The Load*Cell shall be available in a load rating of 2 Ton (metric), 5 Ton, or 6 Ton.
- The 2 Ton and 5 Ton Load*Cell shall have a 5:1 safety factor.
- The 6 Ton Load*Cell shall have a 6:1 safety factor.
- The Load*Cell shall be assembled with CM Super Strong Anchor Shackles.
- The Load*Cell shall utilize a Wheatstone Bridge, to attain a high level of accuracy.
- The Load*Cell shall have a 6-pin XLR data output connector.
- The Load*Cell shall have Chrome Plated Steel Spherical Bearings that self-align when under load.
- The Load*Cell shall be RF Shielded to protect electronic components.
- The Load*Cell shall transmit data via a digital signal, using RS485 communication protocol.
- The Load*Cell shall transmit data in 1 pound increments.
- The Load*Cell shall be capable of measuring 1,200 times per second.¹
- The Load*Cell shall be tested and certified to an accuracy of 2%.
- The Load*Cell shall transmit data to a hub with a maximum cable length of 1000 feet.
- The Load*Cell shall be manufactured in the USA.

Physical Specifications

The Load*Cell shall be made of 17-4PH Stainless Steel.

The Load*Cell shall have a Housing made of 16 gauge 1020 Steel and have a Dark Grey Sparkle Metallic Gloss Smooth powder coat finish.

The Load*Cell shall have Chrome Plated 4140 Steel Spherical Bearings.

The Load*Cell shall have a weight of 5.1 pounds (2 Ton Metric), 8.7 pounds (5 Ton) & 14.4 pounds (6 Ton).

The Load*Cell shall have the following shackle sizes: 5/8" (2 Ton Metric), 3/4" (5 Ton) & 7/8" (6Ton).

¹ The Load*Cell measures 1200 times per second capturing the peak load on the Load*Cell. The Cell*Mate Hub reads each channel's cell every 50 milliseconds and displays that load information on the Cell*Mate Touch Screen Display. Please see V3 system specification for any additional information.

Cell*Mate Hub

Features

- The Cell*Mate Hub shall be universal to all V3 system components including the Data Logger, Wireless Adapter, and Warden
- The Cell*Mate Hub shall feature Powercon In/Thru connectors for powering multiple Hubs from one power source.
- The Cell*Mate Hub shall utilize 6-pin XLR connectors, for data communication.
- The Cell*Mate Hub shall have a truss clamp.
- The Cell*Mate Hub shall have individual self-resetting fuses on each Load*Cell port.
- The Cell*Mate Hub shall transmit data via a digital signal, using RS485 communication protocol.
- The Cell*Mate Hub shall have a green LED Data link indicator.

Physical Specifications

The Cell*Mate Hub shall be made of .090 inch thick 5052 aluminum with a Blue Matte Fine Texture powder coat finish. The Cell*Mate Hub shall have a 1/4" thick Boltaron 4335 Extruded Acrylic PVC Alloy shell. The Cell*Mate Hub shall be dimensions shall be 15.5" L x 3.75" W x 4.5" H. The Cell*Mate Hub shall have a weight of 5.9 lbs.

Cell*Mate Display

Features

- The Cell*Mate Digital Display shall be universal to all V3 system components.
- The Cell*Mate Digital Display shall have five LCD displays, The last display on the right is a touch screen device for menu control
- The Cell*Mate Digital Display shall display weight in pounds or kilograms.
- The Cell*Mate Digital Display shall display weight in one pound increments.
- The Cell*Mate Digital Display shall have user selectable Load*Cell LCD numbering for flexibility with larger systems.
- The Cell*Mate Digital Display shall have user selectable Upper and Lower Limits.
- The Cell*Mate Digital Display shall have user selectable Tare settings.
- The Cell*Mate Digital Display shall have a Peak Hold function, that allows the user to view Peak weight measurements on all channels.
- The Cell*Mate Digital Display shall have 1 IEC input power connector.

Physical Specifications

The front panel shall have a 19 inch rack width and be constructed of .125 inch thick 5052 aluminum with a Black Matte Smooth powder coat finish with a .090 inch thick 5052 aluminum insert with a Blue Matte Fine Texture powder coat finish.

The rear panel shall be 17 inches wide and be constructed of .090 inch thick 5052 aluminum with a Blue Matte Fine Texture powder coat finish.

The chassis shall be made out of 18 gauge 1020 steel and have a Black Satin Fine Texture powder coat finish.

The Cell*Mate Digital Display shall have dimensions 19.0"W x 3.5"H x 5.5"D.

The Cell*Mate Digital Display shall have a weight of 8.3 lbs.

Data Cables

Features

- The data cables shall use Neutrik 6-Pin XLR connectors.
- The data cables shall be shielded

Physical Specifications

The cables shall be 22 AWG 6 conductor, and consist of 3 twisted pairs.
The cables shall have a foil wrap and braided shield with a drain wire.
The cables shall have a flexible PVC jacket.

Additional Cell* Mate System Products

Load*Cell Reader
Data*Logger
Wireless Adapter
WardEN

Electrical Specifications

The Cell* Mate Hub shall have power requirements of 100-240VAC 50/60Hz.
The Cell* Mate Digital Display shall have power requirements of 100-240VAC 50/60Hz.
The Cell* Mate Load*Cell shall have a 12Vdc input from the Cell* Mate Hub's internal switching power supply.

Environmental Specifications

The unit shall be NEMA 1 Rated, for indoor use only.

Ratings and Certifications

The Motion Laboratories Cell* Mate Load*Cell shall be tested to its full range using certified test equipment. This test results in a proof of performance certificate issued with each cell, indicating compliance with the listed specifications. In order to ensure their performance, the Load*Cell shall require annual recertification by a Motion Laboratories Certified Technician.

Motion Laboratories' Cell* Mate system Hub and Display utilizes UL and/or UR components and is built to the standards of the National Electric Code (NEC).