

# VM2800A/VM3800A PORTABLE VIBRATION METER

## Datasheet

### OVERVIEW

The VM2800A & VM3800A portable Vibration Meter Kits have been designed for use as both an entry level and also a comprehensive vibration monitoring instrument for maintenance engineers across all types of industry.

The kits consist of the compact vibration meter, a hand held probe, a magnetic mount for more permanent installations, a protective carrying case, an instruction manual and battery chargers for both mains and in-car use.

The meters are microprocessor based and, by selection of the controls, can be easily set up to monitor acceleration (g) levels, velocity (in/sec), displacement ( $\mu\text{m}$ ) and bearing condition (BG or BV). A display hold function is also included.

The units, which conform to ISO 2954 and ISO 10816-3 also have an automatic alarm check for bearing condition.

Operating from an internal re-chargeable Lithium battery, the meters offer 48 hours of continuous operation. From flat, the units can be recharged in 3 hours using either the mains or in-car charger supplied with the kit.

Because of their compact size, ease of use and battery operation, the VM2800A & VM3800A allow engineers to monitor vibration levels on important machinery anywhere around the factory.

### FEATURES

#### VM2800A

- Velocity & bearing condition
- Used to monitor vibrations without installing equipment
- Rechargeable battery used with mains or in-car charger
- Sensor/cable fault indicator
- Display hold function
- Choice of metric or imperial measurement

#### VM3800A

- All above features PLUS:
- Temperature monitoring capability (laser temperature detector)

### APPLICATIONS

- Motors & Generators
- Fans, Pumps & Compressors
- Turbines
- Natural Gas Engines
- Piping Vibration
- Accuracy verification of installed shutdown switches and monitoring systems
- Turbochargers



### SPECIFICATIONS

| TECHNICAL PERFORMANCE (BOTH METERS) |   |
|-------------------------------------|---|
| Input                               | 100 mV/g, Constant current accelerometer, other inputs on request               |
| Accelerometer                       | Handheld, VM2800A supplied with 0.8 M cable, VM3800A supplied with 2.6 ft cable |
| Vibration Acceleration              | 0-50g pk  |
| Vibration Velocity                  | 0-13.5 in/s RMS   |
| Vibration Displacement              | 0-4,000 $\mu\text{m}$ pk-pk (0-158 mils pk-pk)                                  |
| Vibration Bearing Condition (BG)    | 0-18g TMS   |
| Vibration Bearing Condition (BV)    | 0-1 in/s RMS  |
| Accuracy                            | $\pm 5\%$   |
| Bearing Acceleration                | 5 Hz to 12 kHz  |
| Bearing Velocity                    | 10 Hz to 1 kHz  |
| Bearing Displacement                | 10 Hz to 1 kHz  |
| Bearing Condition (BG & V)          | 1 kHz to 12 kHz, Automatic Alarm Check for Bearing Condition                    |
| Display                             | LCD   |
| Hold Mode                           | Displays alarm status against ISO 2954 & ISO 10816-3                            |

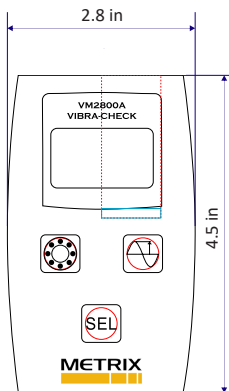
## SPECIFICATIONS (Continued)

| LASER TECHNICAL PERFORMANCE (VM3800A ONLY)            |  |
|---|--|
| Technical Temperature Range (Laser Sensor Range Only) | -40°F to +300°F  |
| Technical Laser Guide                                 | Red, <1 mW, IEC 60825-1 compliant  |
| Technical Distance Range                              | For temperature measurement, 0 to 2 meters (6.6 ft.), the farther away, the bigger the target. The laser sensor distance to spot diameter is a ratio of 8:1 (e.g. 1 meter distance provides a 0.125 meter diameter temperature field). |
| Technical Accuracy                                    | ±2%  |
| ENVIRONMENTAL (BOTH METERS)                           |  |
| Temperature Range (meter)                             | 14 to 122°F Operating<br>-4 to 140°F Storage   |
| Temperature Range (accel)                             | -4 to 194°F  |
| Sealing   | IP54 Dust tight and splash resistant   |
| EMC   | EN61326-1:2013   |

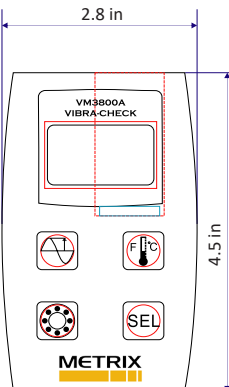
| ELECTRICAL (BOTH METERS) |  |
|--------------------------|--|
| Power                    | 3.6 Volts, 1700 mA hours, 48 hours continuous operation, lithium rechargeable battery, auto shut-off after 3 minutes |
| Battery Charge           | 3 hrs from flat, supplied with meter charger and car charger   |
| MECHANICAL (BOTH METERS) |  |
| Case Material            | Plastic  |
| Case Dimensions          | 13.5 in x 10.4 in x 3.1 in   |
| Case Weight              | 43 oz.   |
| Meter Dimensions         | 4.5 in x 2.8 in x 1 in   |
| Meter Weight             | Meter - 6 oz.<br>Accelerometer (incl cable) - 7 oz.  |
| Magnetic Mount           | 26.5 lbs pull strength   |
| Spike                    | 2.8 in   |

## WEIGHTS AND DIMENSIONS

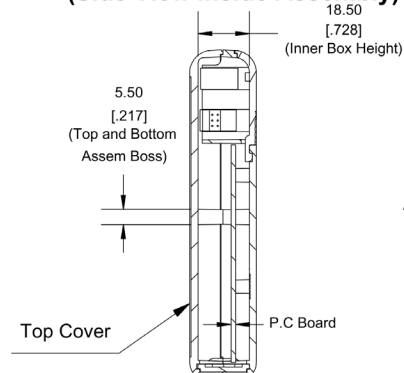
### VM2800A - Standard Model



### VM3800A - Deluxe Model



### (Side View Inside Assembly)



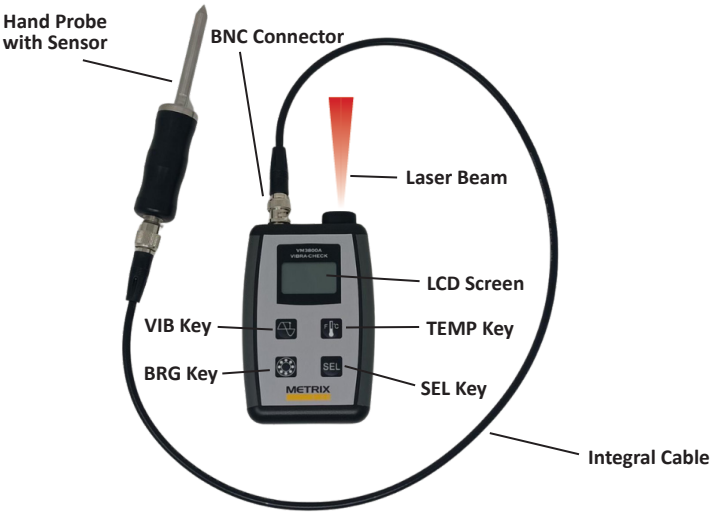
Units: mm [in]  
Aprox. Weight: 5.6 oz.

ORDERING INFORMATION

VM2800A - Standard Model



VM3800A - Deluxe Model



ACCESSORIES

| Product                                     | Part Number |
|---|-------------|
| Hand-Held Probe                             | VMA-10005   |
| Magnetic Mount with ¼-28” UNF Male Mounting | VMA-10010   |
| Stainless Steel Vibration Spike 75 mm       | VMA-10015   |
| 80 cm Cable with BNC & TNC Connectors       | VMA-10020   |
| In-Car Battery Charger                      | VMA-10025   |
| Mains Battery Charger                       | VMA-10030   |
| Carry Case                                  | VMA-10035   |
| Replacement Battery                         | VMA-10040   |

The above accessories are included with each kit.

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