



Controls

The Series MG force gauges have three keys for controlling all functions of the instrument.

- POWER** Turns the instrument on and off. It is also used to select an option in the setup mode.
- PEAK** Used to select Tension Peak, Compression Peak or normal (real time) display mode. The actual peak readings are always captured and can be displayed at any time.
- ZERO** Zeros any tare value (up to the full capacity of the gauge) and clears the peak readings stored in memory.

Display

The display consists of a 4 1/2-digit section and several indicators. Their functions are listed below.

- LO BAT** Low battery voltage indicator
- C** Compressive force indicator
- T** Tensile force indicator
- C PEAK** Peak compressive force indicator
- T PEAK** Peak tensile force indicator
- LB, KG, N, G** Units of measurement (model dependent)
- (dashes) Overload (>110% of range)

Operation

The default mode of operation of the Series MG is the normal (real time) mode. If the peak readings are to be observed as they occur, then the mode of operation can be changed by pressing PEAK until the desired mode (C PEAK or T PEAK) appears on the display. Please note that this action affects only the display. The actual tensile and compressive peak readings are captured automatically and can be cleared from the memory by either pressing ZERO or shutting off the gauge.

The gauge is equipped with an automatic shutdown feature which will shut it off after a selected period of inactivity (readings do not change by more than ±10 counts and no keys are pressed). The entire display will flash for 5-7 seconds as a warning of the imminent shutdown. If during this time any condition indicating activity occurs, the internal timer will be reset and the instrument will continue its operation. To change the default setting of 30 minutes, hold PEAK while turning on the gauge. Press PEAK repeatedly until 'AOFF' appears. Press POWER to select this function. The current setting will flash on the display. Use the PEAK key to scroll through the displayed choices and POWER to select. Press POWER again at the 'donE' prompt in order to save the setting.

The displayed units of measurement and the default mode of operation (peak or normal) can be changed by entering the setup mode as described above, pressing POWER at the 'init' prompt and selecting the desired settings using the PEAK and the POWER keys.

Power

The gauge may be powered by the internal 9V battery, or by the included AC adapter. The need for the battery replacement is indicated by a 3-step sequence: 1 - a steady LO BAT appears on the display indicating the last 10% of the battery life, 2 - LO BAT begins to flash indicating the need for an immediate battery replacement, 3 - the entire dis-

play except LO BAT flashes for several seconds and then the instrument shuts off.

Calibration

To properly calibrate this instrument, application of an exact load appropriate for your model will be required. **It must be in pounds as indicated by the model number.** For example, the MG50 requires a 50 lb calibration weight regardless of displayed units.

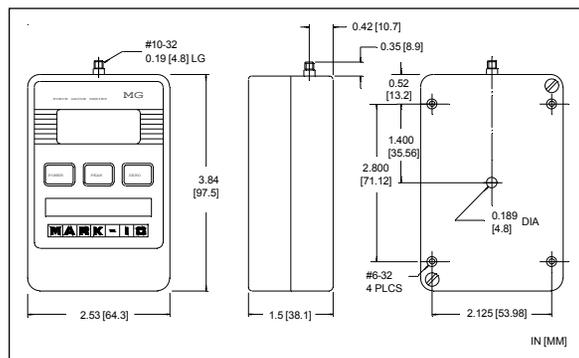
While holding PEAK, turn the gauge on. Press PEAK repeatedly until 'CAL' appears on the display and press POWER three times to select the calibration mode. At the 'null' prompt press ZERO. At the 'SPAN' prompt apply your test weight and press POWER. The display will show "uuuu" or "nnnn" if the test weight is insufficient or excessive accordingly. If this happens, the only way to terminate the calibration mode is by momentarily disconnecting the battery or connecting the AC adapter without plugging it into a wall outlet. This will stop the calibration procedure without making any changes to the previous calibration data.

A successful calibration is indicated by 'donE' on the display. Press POWER to save the changes and resume normal operation.

Model	Capacity x graduation
MG025	0.25 x 0.0002 lb, 100 x 0.1gF, 1 x 0.001N
MG05	0.5 x 0.0005 lb, 250 x 0.2 gF, 2.5 x 0.002 N
MG2	2 x 0.002 lb, 1 x 0.001 kgF, 10 x 0.01 N
MG10	10 x 0.01 lb, 5 x 0.005 kgF, 50 x 0.05 N
MG20	20 x 0.02 lb, 10 x 0.01 kgF, 100 x 0.1 N
MG50	50 x 0.05 lb, 25 x 0.02 kgF, 250 x 0.2 N
MG100	100 x 0.1 lb, 50 x 0.05 kgF, 500 x 0.5 N
MG200	200 x 0.2 lb, 100 x 0.1 kgF, 1000 x 1 N

Mounting

The instrument housing is reversible and may be rotated 180° for test stand mounting by unscrewing two screws on the back, rotating the housing and reassembling. In addition to the #6-32 screws, a 0.188" [4.77 mm] dia. load-carrying pin should be utilized so as not to stress the threads.



Specifications

ACCURACY	±0.5% of full scale ±1digit
SAMPLING RATE	30 readings/second
DISPLAY RATE	2.5/s in normal mode, 30/s in peak mode
SAFE OVERLOAD	150% of gauge capacity. Display shows ---- (dashes) above 110%
POWER	9V battery or AC adapter
BATTERY LIFE	30 hours of continuous operation
SIZE	3.7" x 2.5" x 1.5" (94.0mm x 63.5mm x 38.1mm)
WEIGHT	0.65 lb (0.3 kg)

Mark-10 Corporation has been an innovator in the Force and Torque measurement field since 1979. We strive to achieve 100% customer satisfaction through excellence in product design, manufacturing and customer support. In addition to our standard line of products, we can provide modifications for special applications. Please contact us for further information or with suggestions for improvement.

Series **MG**

DIGITAL FORCE GAUGE

USER'S GUIDE