

32-1041 REV 0



The Series BG Digital Force Gauge is an advanced force measurement instrument, with sophisticated measurement capabilities, data outputs, computer control capabilities, and a long list of features and configurable settings.

## Specifications

Accuracy:	±0.2% of full scale ±1 digit
Sampling rate:	65 readings/s
Display rate:	2.5 updates/s in normal mode / 65 updates/s in peak mode
Power:	AC or rechargeable battery with Intelligent Power Management System (IPM), a 3-step system that warns the user via a "LO BAT" indicator and then powers off the gauge.
Battery life:	8-10 hours of continuous use
Selectable units of measurement:	lbF, N, kg/g (depending on model)
Outputs:	Standard
RS-232	Fully configurable up to 9600 baud. Includes Gauge Control Language (GCL) for full computer control of all functions.
Mitutoyo (Digimatic)	Serial BCD suitable for all Mitutoyo SPC-compatible devices
Analog	±1 VCD, ±0.25% of full scale at capacity. + for compression, - for tension.
General purpose I/O	Three open collector outputs and one input (utilizing Mitutoyo lines)
Set points	Three open collector lines (utilizing Mitutoyo lines)
Configurable settings:	Analog filter, digital filters, RS-232, outputs selection (other than RS-232), automatic output (RS-232), automatic shutoff, initial (default), averaging mode, calibration
Load cell deflection:	0.010 in [0.25 mm] at full capacity
Safe overload:	150% of full scale (display shows "----" at 110% and above)
Weight (gauge only):	BG012 - BG200: 0.95 lb [0.4 kg], BG500: 1.12 lb [0.5 kg]
Environmental requirements:	40° F - 100° F [5°C - 45°C], <96% humidity (non-condensating)
Thermal effects:	Zero: 0.03% of full scale/°C, Span: 0.01% of full scale/°C
Housing construction:	Aluminum
Included accessories:	Chisel, cone, V-groove, hook, flat, extension
Warranty	3 years (see individual statement for further details)

## Features

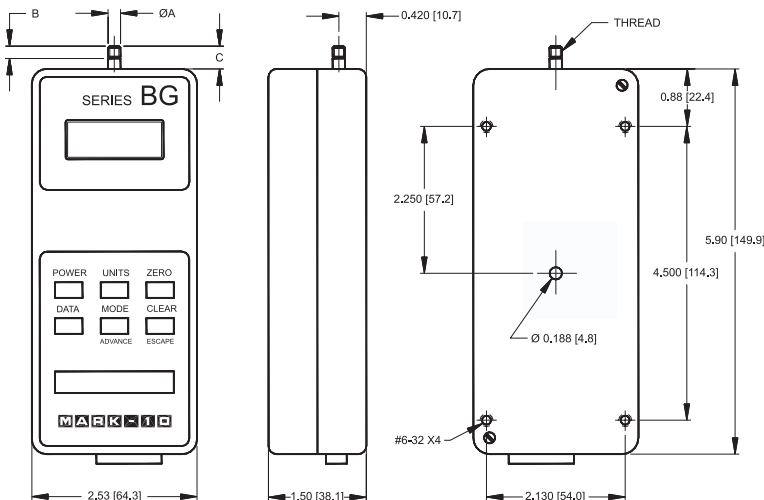
Data outputs	RS-232, Mitutoyo (Digimatic), and analog outputs. Automatic timed output (RS-232) included.
Set points	Programmable high and low force set points for triggering external devices (ex. motorized test stand, alarm, etc).
Data averaging	Calculates average force over a specified time (programmable)
External trigger	Useful for contact or switch activation force testing and data capture
Reversible housing	Housing can be reversed for handheld or test stand use

## Optional Equipment

Output cables	Various data output cables are available
Hi / lo limits indicator 11-1022	Set limit conditions for a test - the indicator will display red lights for high and low limits, and a green light to indicate passing.
Overload protection module 11-1042	Protects the force gauge against overloads during motorized tests. Adjustable from 10% to 150% of gauge's full capacity. For use with motorized test stands.
Set point cable 09-1090	Stops test stand travel at programmable high and low set points for tension and compression forces. For use with motorized test stands.

## Dimensions

in [mm]



	BG012 - BG200	BG500
ØA	0.200 [5.8]	0.312 [7.9]
B	0.19 [4.8]	0.44 [11.2]
C	0.35 [8.9]	0.31 [7.9]
Thread	#10-32	5/16-18

## Ordering Information

Model No.	Capacity x Resolution
BG012	0.12 x 0.00005 lbF, 50 x 0.02 gF, 0.5 x 0.0002 N, 110V
BG025	0.25 x 0.0001 lbF, 100.00 x 0.05 gF, 1 x 0.0005 N, 110V
BG05	0.5 x 0.0002 lbF, 250 x 0.1 gF, 2.5 x 0.001 N, 110V
BG2	2 x 0.001 lbF, 1 x 0.0005 kgF, 10 x 0.005 N, 110V
BG5	5 x 0.002 lbF, 2.5 x 0.001 kgF, 25 x 0.01 N, 110V
BG10	10 x 0.005 lbF, 5 x 0.002 kgF, 50 x 0.02 N, 110V
BG20	20 x 0.01 lbF, 10 x 0.005 kgF, 100 x 0.05 N, 110V
BG50	50 x 0.02 lbF, 25 x 0.01 kgF, 250 x 0.1 N, 110V
BG100	100 x 0.05 lbF, 50 x 0.02 kgF, 500 x 0.2 N, 110V
BG200	200 x 0.1 lbF, 100 x 0.05 kgF, 1000 x 0.5 N, 110V
BG500	500 x 0.2 lbF, 250 x 0.1 kgF, 2500 x 1 N, 110V

For 220V operation, add suffix E to model number. Example: BG10E