



MM-601B

Force Gauge

MM-601B is a portable electronic force gauge designed to be carried around a production site to set and verify force for resistance spot welders.

KEY FEATURES

- Simple and accurate handheld force measurement
- HOLD and ZERO functions
- One touch tare setting (ZERO)
- Dual power source: rechargeable internal batteries or external adaptor
- External I/O for analog output and measurement hold
- Easy-view LCD
- Analog force output

FORCE SENSORS



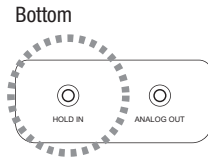
MA-521-01 / MA-522-01

WELD FORCE MEASURING RANGE (N)

		1	10	100	1000	10000
MA-520-01	2~93.1 N	[Range bar from 1 to 100]				
MA-521-01	20~931 N	[Range bar from 10 to 1000]				
MA-522-01	200~9310 N	[Range bar from 100 to 10000]				

EXTERNAL CONTROL FOR MEASUREMENT HOLD

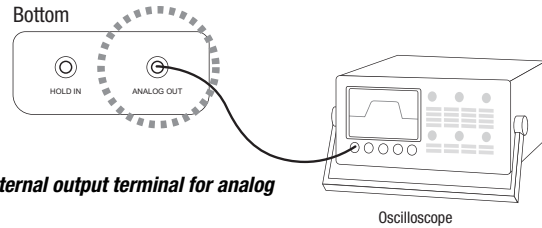
HOLD maintains the measurement of the peak value on the display. When connected to a weld head with an external cable, the HOLD can be activated by the weld head's internal micro switch upon reaching peak force.



External input terminal for measurement HOLD

ANALOG OUTPUT

Weld force can be measured with an external device; such as an oscilloscope. It shows the timing when weld force becomes stable, aiding initial squeeze time set-up.



External output terminal for analog

TECHNICAL SPECIFICATIONS

Model	MM-601B
Measuring range	0.20~9.50 kgf / 0.20~9.31 daN (0.45-20.9 lbf) (MA-520)
	2.00~95.0 kgf / 2.00~93.1 daN (4.5-209 lbf) (MA-521)
	20.0~950 kgf / 20~931 daN (45-2093 lbf) (MA-522)
Measuring accuracy	+/- 5% of full scale
Display	Decimal point & unit: automatically set depending on measurement range (kg / daN selectable)
	Overload: Displays "OVER!!" with intermittent buzzer
	Low battery alert: "BATTERY" flashes seven times before automatically turning the power off
Auto-power OFF	Power off after seven minutes idle time
	When not connected with a sensor, automatically powers off after three minutes
External control of measurement HOLD	HOLD value measured by externally applied contact closure signal
Analog output	Output impedance 5 k Ω min
Operating temperature	0 to 40° C
Power	NiMH battery 1.2 V x 4 pc. (4.8 V)
Accessories	AC adapter (battery charger), leather case, carrying case, external HOLD input cable, noise filter

WEIGHT & DIMENSIONS

Dimensions (W x D x H)	2.91 in x 1.18 in x 6.46 in (74 mm x 30 mm x 164 mm)
Weight	1.1 lb (0.5 kg)

TECHNICAL SPECIFICATIONS OF FORCE SENSOR

Model	MA-520	MA-521	MA-522
Measuring range	0.20~9.31 daN (0.45-20.9 lbf)	2.00~93.1 daN (4.5-209 lbf)	20~931 daN (45-2093 lbf)
SWL (Software Limit)	9.31 daN	93.1 daN	931 daN
AL (Absolute Limit)	1.5 times of SWL		
Measurement accuracy	+/- 3% of SWL		
Weight	200 g (0.44 lb)		250 g (0.571 lb)

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