

DIGITAL REMOTE

M3i

- FORCE & TORQUE
- INTERCHANGEABLE SENSORS
- ONE DISPLAY - MANY SENSORS
- COMPUTER INTERFACES
- SELECTABLE UNITS



Model R01
Tension/
Compression
Sensors



Model R02
Compact
Compression
Sensors



Model R03
Inline Tension/
Compression
Sensors



Model R04
Miniature Tension/
Compression
Sensors



Model R50
Universal Torque
Sensors



Model R51
Universal Torque
Sensors
Interchangeable
Attachments

M3i - Remote Display
with R01 Tension/
Compression Sensor



The unique **M3i Digital Remote Force and Torque Gauge** features extreme versatility with several force and torque sensors available for quick attachment to the M3i display.

The various force and torque sensors offer a wide range of capacities extending from 1/4 lbf to 10,000 lbf of force and 10 ozf-in to 100 lbf-in of torque.

The M3i with its remote sensors uses the M3 Force Gauge display with a force or torque sensor attached by remote cable. Thus, the M3i provides the same operational features found on the M3 Force Gauge with the integral sensor now remotely located by cable.

CONSTRUCTION

- M3i Display - Cast aluminum housing.
- Coiled or un-coiled cable connects gauge to sensor.
- Sensors - Refer to individual specifications on the following pages.

OPERATION

- Selected sensor attaches to M3i display for immediate use.
- Selectable force units: lbf, kgf, gf or N.
- Selectable torque units: lbf-in, ozf-in, kgf-mm, kgf-m, N-cm or N-m.
- Peak sampling rate: 2,000 Hz.
- Display rate: 2.5/sec.
- Data outputs: USB, RS232, Mitutoyo, Analog ± 1 Vdc.

POWER REQUIREMENTS

- Rechargeable NiMH 9V battery for 10 hours of use with 8 hour charge.
- "Lo Bat" warning then gauge turns off.
- Selectable auto shut-off, after 30 minutes of inactivity, conserves battery.

ACCESSORIES

- Various output cables are available.
- Hi / Lo limits indicator to set limit conditions for a test.
- Set point cable for use with motorized test stands.

ACCURACY

- Total System: M3i Display ($\pm 0.2\%$) + Sensor ($\pm 0.XX\%$). See individual sensors.

WEIGHT & DIMENSIONS:

- Weight: 0.7 lb [0.3 kg].
- Dimensions: 4" H x 2½" W x 1½" D.

Prices and specifications are subject to change without notice.

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TENSION / COMPRESSION

Model R01



SPECIFICATIONS

Accuracy: $\pm 0.15\%$ of full scale + M3i ($\pm 0.1\%$).

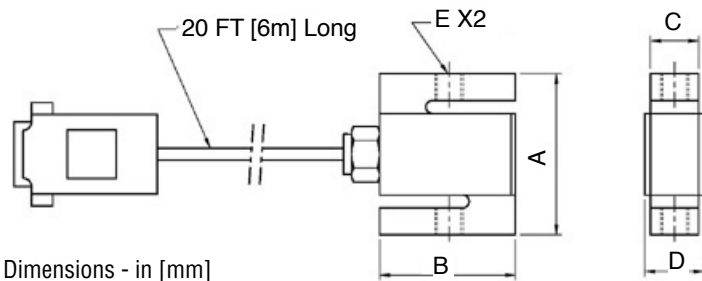
Safe Overload: 150% of full scale.

Weight: 1.9 - 3.0 lb (0.4 - 1.4 kg).

MODEL	CAPACITY/GRADUATION				PRICE
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M3i	Digital Remote Force/Torque Indicator – 110 / 220 VAC				\$595*
MR01-50	50 lbf x 0.05 lbf	25 kgf x 0.02 kgf	250 N x 0.2 N		595
MR01-100	100 lbf x 0.1 lbf	50 kgf x 0.05 kgf	500 N x 0.5 N		595
MR01-200	200 lbf x 0.2 lbf	100 kgf x 0.1 kgf	1000 N x 1 N		595
MR01-500	500 lbf x 0.5 lbf	250 kgf x 0.2 kgf	2500 N x 2 N		595
MR01-1000	1000 lbf x 1 lbf	500 kgf x 0.5 kgf	5000 N x 5 N		595
MR01-2000	2000 lbf x 2 lbf	1000 kgf x 1 kgf	10000 N x 10 N		595
MR01-5000	5000 lbf x 5 lbf	2500 kgf x 2 kgf	25 kN x 0.02 kN		845
MR01-10000	10000 lbf x 10 lbf	5000 kgf x 5 kgf	50 kN x 0.05 kN		845

*For total system add M3i price to sensor price.



Dimensions - in [mm]

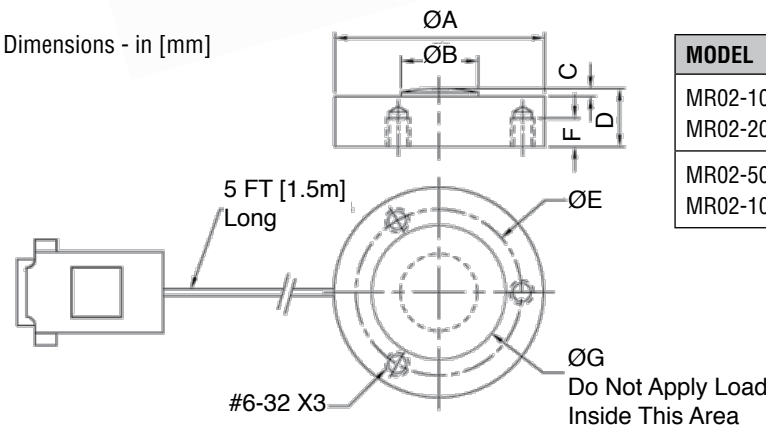
MODEL	A	B	C	D	E
MR01-50	2.40 [61.0]	2.00 [50.8]	0.46 [11.7]	0.65 [16.5]	1/4-28 UNF
MR01-100			0.71 [18.0]	0.90 [22.9]	1/2-20 UNF
MR01-200					
MR01-500					
MR01-1000	3.90 [99.1]	3.00 [76.2]	0.96 [24.4]	1.15 [29.2]	3/4-16 UNF
MR01-2000					
MR01-5000					
MR01-10000					

COMPACT COMPRESSION

Model R02



Dimensions - in [mm]



MODEL	CAPACITY/GRADUATION				PRICE
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M3i	Digital Remote Force/Torque Indicator – 110 / 220 VAC				\$595*
MR02-100	100 lbf x 0.1 lbf	50 kgf x 0.05 kgf	500 N x 0.5 N		745
MR02-200	200 lbf x 0.2 lbf	100 kgf x 0.1 kgf	1000 N x 1 N		745
MR02-500	500 lbf x 0.5 lbf	250 kgf x 0.2 kgf	2500 N x 2 N		745
MR02-1000	1000 lbf x 1 lbf	500 kgf x 0.5 kgf	5000 N x 5 N		745
MR02-2000	2000 lbf x 2 lbf	1000 kgf x 1 kgf	10000 N x 10 N		745
MR02-5000	5000 lbf x 5 lbf	2500 kgf x 2 kgf	25 kN x 0.02 kN		745
MR02-10000	10000 lbf x 10 lbf	5000 kgf x 5 kgf	50 kN x 0.05 kN		745

*For total system add M3i price to sensor price.

MODEL	ØA	ØB	C	D	ØE	F	ØG
MR02-100- MR02-2000	1.23 [31.3]	0.32 [8.1]	0.05 [1.3]	0.39 [9.9]	1.0 [25.4]	THRU	0.83 [21.1]
MR02-5000- MR02-10000	1.48 [37.6]	0.43 [10.9]	0.07 [1.8]	0.62 [15.8]	1.25 [31.8]	0.25 [6.4]	1.08 [27.4]

SPECIFICATIONS

Accuracy: $\pm 0.5\%$ of full scale + M3i ($\pm 0.15\%$).

Safe Overload: 150% of full scale.

Weight: From 0.4 lb (0.2 kg).

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MINIATURE TENSION/COMPRESSION
Model R04


MODEL	CAPACITY/GRADUATION					PRICE
M3i	Digital Remote Force/Torque Indicator – 110 / 220 VAC					\$595*
MR04-025	0.25 lbf x 0.0002 lbf	100 gf x	0.1 gf	1 N x	0.001 N	995
MR04-05	0.5 lbf x 0.0005 lbf	250 gf x	0.2 gf	2.5 N x	0.002 N	995
MR04-2	2 lbf x 0.002 lbf	1 kgf x	0.001 kgf	10 N x	0.01 N	995
MR04-5	5 lbf x 0.005 lbf	2.5 kgf x	0.002 kgf	25 N x	0.02 N	995
MR04-10	10 lbf x 0.01 lbf	5 kgf x	0.005 kgf	50 N x	0.05 N	995
MR04-20	20 lbf x 0.02 lbf	10 kgf x	0.01 kgf	100 N x	0.1 N	995
MR04-50	50 lbf x 0.05 lbf	25 kgf x	0.02 kgf	250 N x	0.2 N	995
MR04-100	100 lbf x 0.1 lbf	50 kgf x	0.05 kgf	500 N x	0.5 N	995

*For total system add M3i price to sensor price.

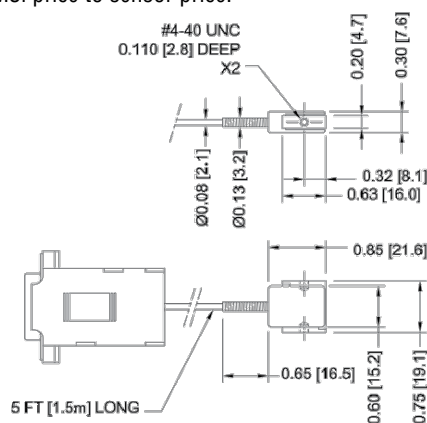
SPECIFICATIONS

Accuracy: $\pm 0.2\%$ of full scale + M3i ($\pm 0.1\%$).

Weight: 0.015 lb.

Dimensions: 0.30" H x 0.85" W x 0.75" D.

Dimensions - in [mm]


INLINE TENSION/COMPRESSION
Model R03


MODEL	CAPACITY/GRADUATION					PRICE
M3i	Digital Remote Force/Torque Indicator – 110 / 220 VAC					\$595*
MR03-025	0.25 lbf x 0.0002 lbf	100 gf x	0.1 gf	1 N x	0.001 N	775
MR03-05	0.5 lbf x 0.0005 lbf	250 gf x	0.2 gf	2.5 N x	0.002 N	775
MR03-2	2 lbf x 0.002 lbf	1 kgf x	0.001 kgf	10 N x	0.01 N	650
MR03-5	5 lbf x 0.005 lbf	2.5 kgf x	0.002 kgf	25 N x	0.02 N	650
MR03-10	10 lbf x 0.01 lbf	5 kgf x	0.005 kgf	50 N x	0.05 N	650
MR03-20	20 lbf x 0.02 lbf	10 kgf x	0.01 kgf	100 N x	0.1 N	650
MR03-50	50 lbf x 0.05 lbf	25 kgf x	0.02 kgf	250 N x	0.2 N	650
MR03-100	100 lbf x 0.1 lbf	50 kgf x	0.05 kgf	500 N x	0.5 N	650

*For total system add M3i price to sensor price.

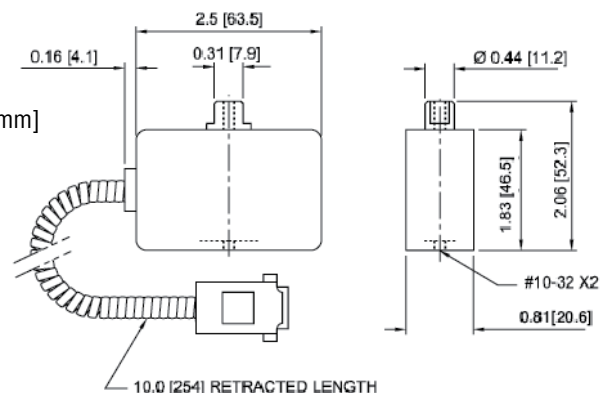
SPECIFICATIONS

Accuracy: $\pm 0.15\%$ of full scale + M3i ($\pm 0.1\%$).

Weight: 0.4 lb.

Dimensions: 0.396" H x 2.5" W x 2" D.

Dimensions - in [mm]



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UNIVERSAL TORQUE

Model R50



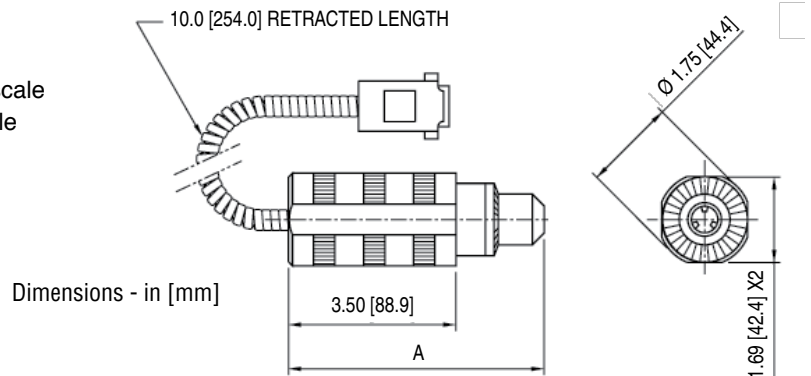
MODEL	CAPACITY/GRADUATION			PRICE
M3i	Digital Remote Force/Torque Indicator – 110 / 220 VAC			\$595*
MR50-10Z	10 x 0.01 ozf-in	7 x 0.005 kgf-mm	7 x 0.005 N-cm	845
MR50-20Z	20 x 0.02 ozf-in	14 x 0.01 kgf-mm	14 x 0.01 N-cm	845
MR50-50Z	50 x 0.05 ozf-in	36 x 0.05 kgf-mm	35 x 0.05 N-cm	845
MR50-12	12 x 0.01 lbf-in	-	135 x 0.1 N-cm	795
MR50-50	50 x 0.05 lbf-in	-	570 x 0.5 N-cm	795
MR50-100	100 x 0.1 lbf-in	-	1150 x 1 N-cm	795

*For total system add M3i price to sensor price.

SPECIFICATIONS

Accuracy: $\pm 0.35\%$ of full scale + M3i ($\pm 0.1\%$).
 Safe Overload: MR50-10Z - MR50-50Z: 300% of full scale
 MR50-12 - MR50-50: 150% of full scale
 Weight: 1.4 lb. [0.6 kg]

MODEL	A
MR50-10Z - MR50-50Z	4.82 [122.4]
MR50-12 - MR50-100	5.19 [131.8]



UNIVERSAL TORQUE - INTERCHANGEABLE ATTACHMENTS

Model R51

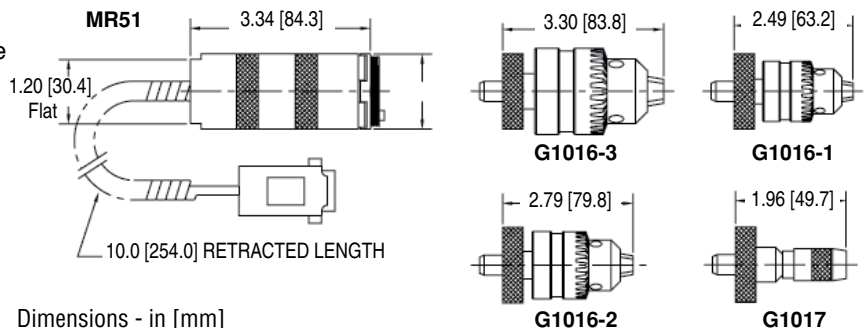


MODEL	CAPACITY/GRADUATION			PRICE
M3i	Digital Remote Force/Torque Indicator – 110 / 220 VAC			\$595*
MR51-10Z	10 x 0.01 ozf-in	7 x 0.005 kgf-mm	7 x 0.005 N-cm	795
MR51-20Z	20 x 0.02 ozf-in	14 x 0.01 kgf-mm	14 x 0.01 N-cm	795
MR51-50Z	50 x 0.05 ozf-in	36 x 0.05 kgf-mm	35 x 0.05 N-cm	795
MR51-12	12 x 0.01 lbf-in	-	135 x 0.1 N-cm	745
MR51-50	50 x 0.05 lbf-in	-	570 x 0.5 N-cm	745
MR51-100	100 x 0.1 lbf-in	-	1150 x 1 N-cm	745
G1016-1	Jacobs chuck for MR51, 0.028" - 0.25"			135
G1016-2	Jacobs chuck for MR51, 0.062" - 0.375"			140
G1016-3	Jacobs chuck for MR51, 0.078" - 0.5"			145
G1017	Bit holder for MR51, 1/4" hex			145

*For total system add M3i price to sensor price.

SPECIFICATIONS

Accuracy: $\pm 0.2\%$ of full scale + M3i ($\pm 0.1\%$).
 Safe Overload:
 MR51-10Z - MR51-50Z: 300% of full scale
 MR51-12 - MR51-50: 150% of full scale
 MR51-100 - 150% of full scale
 Weight: 1.4 lb.
 Chuck and bit capacities:
 G1016 - 1: 0.028 - 0.25 in [0.7 - 6.3 mm]
 G1016 - 2: 0.062 - 0.375 in [1.6 - 9.5 mm]
 G1016 - 3: 0.078 - 0.5 in [2.0 - 12.7 mm]
 G1017 - 0.25 in [6.3 mm] hex



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