

RMGZ 400/600 Series Force Measuring Roller

Nominal forces from 60 – 4000 N
[13.5 – 900 lbf]

Wide material processing range

10 times overload protection

Recalibration is not required

50 : 1 force measuring range

Wide measuring capability at high resolution

Lifetime lubricated ball bearings built-in

No maintenance necessary



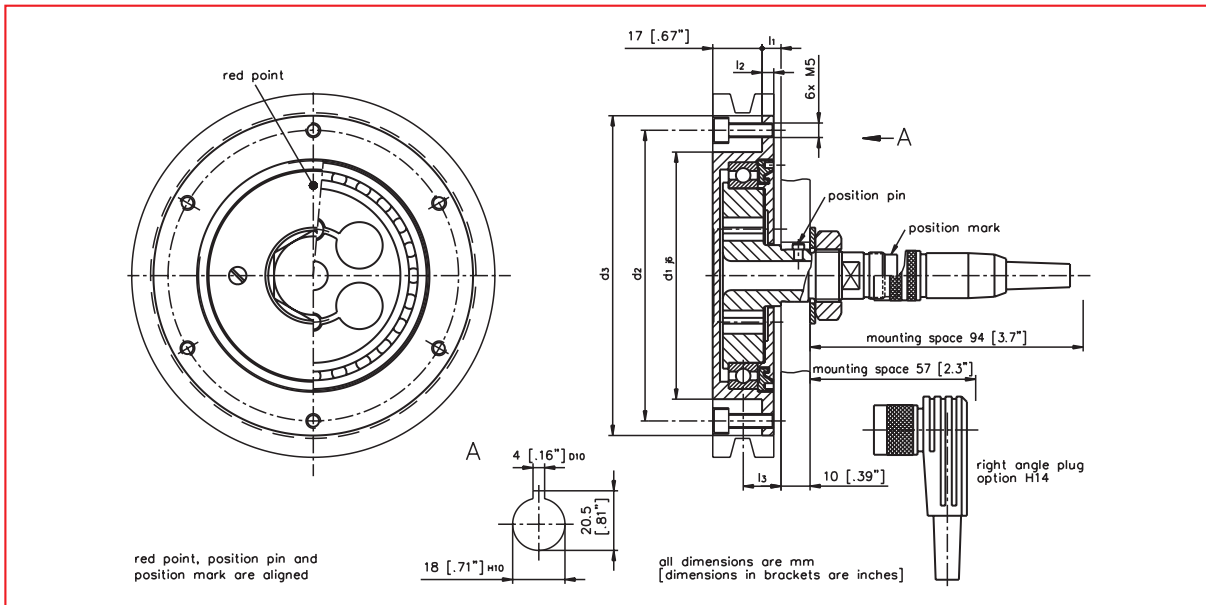
- **RMGZ 400/600 Series**

FMS force measuring roller RMGZ 400/600 series are used to measure the tension in wires, cables and narrow flat materials. An application specific sheave is mounted to the covering of the lifetime lubricated ball bearings. A mounting hole with a key-way is required in the machine frame. The key-way holds the position pin which prevents the sensor from twisting. The location of the position pin depends on the direction of force and the position of the red point.

- **Functional Description**

The force measuring rollers RMGZ 400/600 work based on an enhanced bending beam principal. This ensures maximum accuracy and high measuring sensitivity. Four foil-type strain gauges configured in a full Wheatstone Bridge are utilized to measure the material tension. A mechanical hard stop ensures the highest overload protection and makes the sensor virtually indestructible. This combination provides highest accuracy and reliability without the need for recalibration.

RMGZ 400/600 Series • Dimensions in mm



RMGZ 400/600 Series • Nominal Forces / Dimensions

RMGZ Series	Nominal Force N [lbf]	Order Code FMS	Dimensions						Load rating C dyn kN [lbf]	Speed limit rpm	Weight kg [lbs]
			d1	d2	d3	l1	l2	l3			
RMGZ 400	60 [13.5]	RMGZ 416B							11.8 [2653]	8500	0.75 [1.65]
	100 [22.5]	RMGZ 421B	85	100	110	6.5	4	13			
	200 [45]	RMGZ 422B	[3.34]	[3.94]	[4.33]	[0.256]	[0.157]	[0.512]			
	500 [112]	RMGZ 425B									
RMGZ 600	1000 [225]	RMGZ 631B	110	125	136	7.5	5	13.5	21.2 [4766]	6700	0.9 [1.98]
	2000 [450]	RMGZ 632B	[4.33]	[4.92]	[5.35]	[0.295]	[0.197]	[0.531]			
	4000 [900]	RMGZ 634B									

RMGZ 400/600 Series • Technical Data

Sensitivity	1.8 mV / V
Tolerance of sensitivity	< ± 0.2 %
Accuracy class	± 0.5 % (F _{nominal})
Temperature coefficient	± 0.1 % / 10 K
Temperature range	-10...+60 °C (option H 16: -10...+120 °C) 14...140 °F (option H 16: 14...248 °F)
Input resistance	350 Ω
Supply voltage	1...12 VDC
Overload protection	10 times nominal force
Material	Force sensor: stainless steel; Cover: aluminium
Protection class	Sealed against dust (IP 40)

Options:

H14 = Right angle connector

H16 = Temperature range up to 120 °C [248 °F]

Order code (example):

Sensor Type **RMGZ422B.H14**
Options

Scope of delivery:

Straight connector
(Sheave is not in the scope of delivery)

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