

# IN LINE TORQUE TRANSDUCERS & MONITORS

MRTT series

## Introduction:

MRTT series of precision strain gauge based load cells are available in (0.1 to 1000 kg.m), more than 50 different models virtually offering solution to in-line torque measurement related to paper/plastic industries, petrochemical industry, organic/inorganic chemical, heavy electrical/mechanical industries, machine tools, non-conventional energy, solids state physics application and many uncountable defense/nuclear applications. Careful selection design topology ensures better controllability and reliability with additional integrated power/voltage and control/protection. Company offers tailor made solution to custom requirement.

## Operating Principle:

Strain-gage load cells convert the load acting on them into electrical signals. The gauges themselves are bonded onto a rotary shaft. In most cases, four strain gages are used to obtain maximum sensitivity and temperature compensation. Two of the gauges are usually in tension, and two in compression, and are wired with compensation adjustments. When weight is applied, the strain changes the electrical resistance of the gauges in proportion to the load. This strain gauge bridge is excited through rotary transformer and amplified by in shaft installed amplifier card. Output signal is collected through either IR diode or magnetically coupled transformer.



MRTT- 002 (saic torque measurement)



MRTT- 005 (in-line-rotary type)



MRTT-010(flange type)

## Electrical/Mechanical specifications of Rotary Torque transducer

Torque <50000.0 Kg.m.

model	T <sub>olerating</sub> [Kg]	R.P.M. [x100]	Bearing size [inches]	material [ceramic coated]	Mounting Of load cell	% linearity/ thermal drift/°C [1:100]	T <sub>Break-away</sub> [Kg] % T <sub>operating</sub>	% Repeatability/ accuracy	T <sub>operati</sub> ng °C
MRTT-00001	5.0	15/30	1.0	M. S/ S. S	option	100/0.03	150	0.03/99.9	70
MRTT-00002	5.0	15/30	1.0	M. S/ S. S	option	100/0.03	150	0.03/99.9	70
MRTT-00010	10.0	15/30	1.0	M. S/ S. S	option	100/0.03	150	0.03/99.9	70
MRTT-00020	20.0	15/30	1.0	M. S/ S. S	option	100/0.03	150	0.03/99.9	70
MRTT-00050	50.0	15/30	2.0	M. S/ S. S	option	100/0.03	150	0.03/99.9	70
MRTT-00100	100.0	15/30	3.0	M. S/ S. S	option	100/0.03	150	0.03/99.9	70
MRTT-00200	200.0	15/30	3.0	M. S/ S. S	option	100/0.03	150	0.03/99.9	70
MRTT-00500	500.0	15/30	3.5	M. S/ S. S	option	100/0.03	150	0.03/99.9	70
MRTT-00100	1000.0	15/30	3.5	M. S/ S. S	option	100/0.03	150	0.03/99.9	70
MRTT-02000	2000.0	10/7	4.0	M. S/ S. S	option	100/0.03	150	0.03/99.9	70
MRTT-05000	5000.0	10/7	5.0	M. S/ S. S	option	100/0.03	150	0.03/99.9	70
MRTT-10000	10000.0	6/4	6.0	M. S/ S. S	option	100/0.03	150	0.03/99.9	70
MRTT-50000	50000.0	6/4	8.0	M. S/ S. S	option	100/0.03	150	0.03/99.9	70

## Rotary Torque transducer and signal conditioners specification:

Operating voltage 220 volts/110volts A.C or 24 volts D  
 Excitation current 0.0- 12 VOLTS/500 mas  
 Regulation better than 0.5 % of measurement  
 Accuracy 99.5% of set point  
 Repeatability 100 percent  
 Response time 0.05 -10.0 sec  
 Interface Signal 0.0-12.0 volts D.C. (proportional to tension)  
 Step down ratio 1:100  
 Control option constant torque/speed mode/synchronous mode  
 Display RPM/Torque in 3½ & 4½ digit red glow LED/LCD display  
 Protection: Over/under voltage & with power on Indication



MRTT-00100



Torque display

Three numerals x 10 after MRTT indicates power of load cell and last two x 100 indicate armload cell with tailor specs are also available.

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