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Bridging Gaps in Technology
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Rotary Torque Dual Shaft

RTDS

USER'S MANUAL

Read the user's manual carefully before starting to use the unit or software.
Producer reserves the right to implement changes without prior notice.

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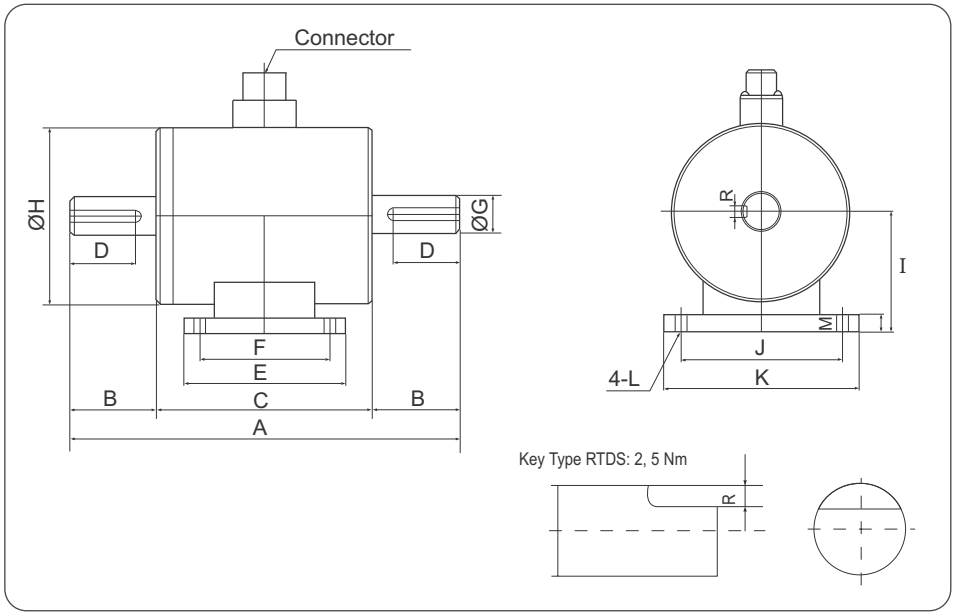
1. Technical Specification

Model	RTDS
Rated capacity (R.C.)	2Nm ~ 20000Nm
Rated output (R.O.)	1.5mV/V ±1%
Non-linearity	0.3% (0.1kgf-m under 0.5% R.O.)
Hysteresis	0.3% (0.1kgf-m under 0.5% R.O.)
Repeatability	0.2% of R.O.
Excitation recommanded	10V
Terminal resistance, input	350Ω±1%
Terminal resistance, output	350Ω±1%
Insulation resistance	2000MΩ
Temp. effect on zero balance	±0.1% R.O. /10°C
Temp. effect on rated output	±0.1% Load /10°C
Safe overload	120% R.C.
Cable length	Ø5.5mm, 4core shield cable, Length 2m

02. Dimension Details



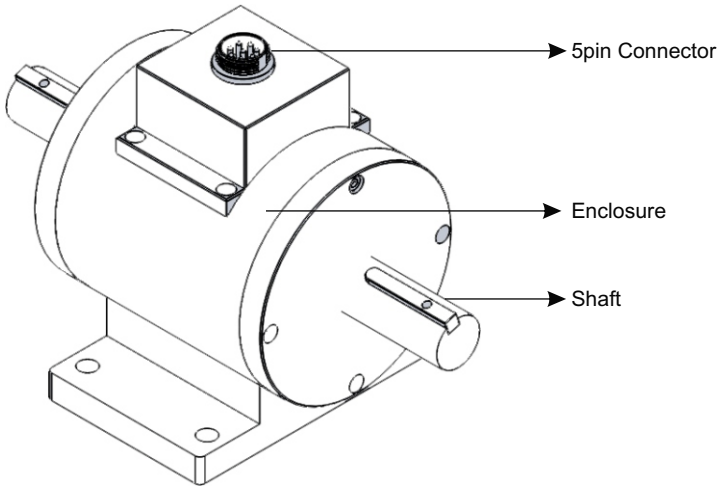
02. Dimension Table

Unit : mm

Capacity	A	B	C	D	E	F	ØG	ØH	I	J	K	ØL	M	R	R.P.M
2, 5 Nm	84	16	52	12	42	32	12	60	34	65	76	5.5	8	1.5	3000
10, 20, 30 Nm	90	16	58	12	46	32	18	72	41	80	94	6.5	8.5	5x5	5000
50, 100 Nm	180	42.5	95	35	64	50	18	80	58	80	100	7	12	5x5	5000
200, 500 Nm	220	55	110	45	100	84	32	100	68	98	115	7	12	10x8	4000
1000, 2000 Nm	280	80	120	69	120	98	47	100	66	124	148	8.5	15	12x8	4000
2500,3000,5000,10000Nm	390	130	130	100	126	100	90	172	115	154	180	11	20	25x14	2000
20000 Nm	440	150	140	120	148	110	115	210	130	190	228	13	23	32x18	2000

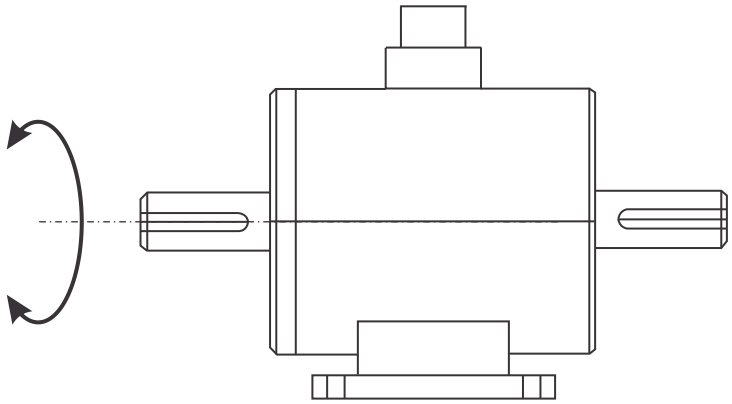
03. Product Description

RTDS

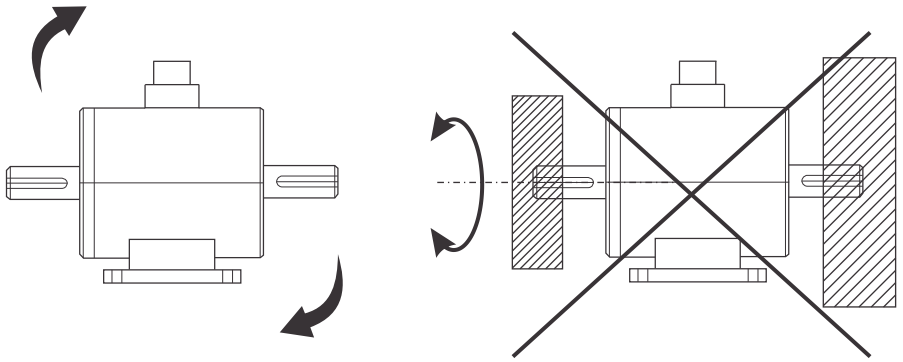


04. Procedure

Mount on flat and clean surface required.

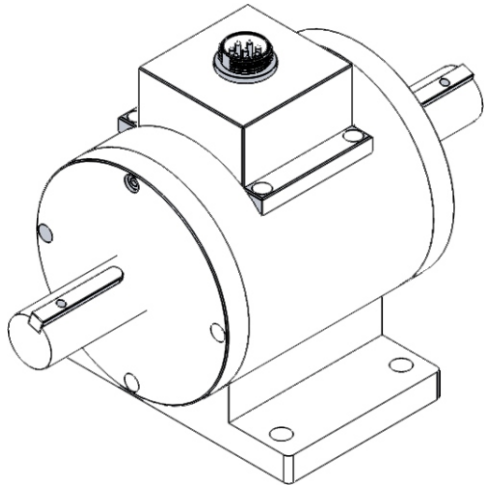


Torque must be in center in-line of axis whether its clockwise (or) anti-clockwise direction



04. Procedure

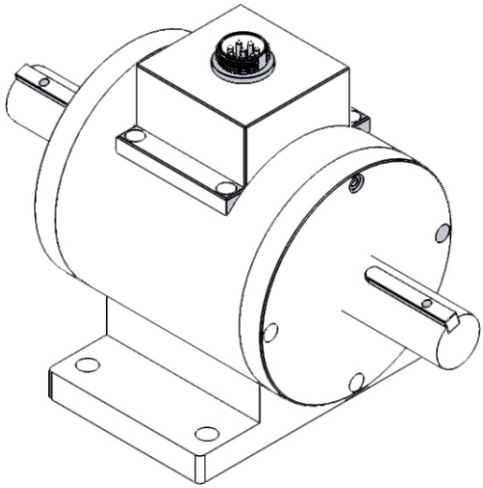
Mount the sensor by tighten screws in a 12 o'clock, 6o'clock, 9 o'clock, and 3 o'clock in a cross like manner (the same technique that is used when bolting your tires).



Screw Size	Torque (NM)
M6	2, 5
M8	10, 20, 30
M10	50, 100, 200, 500
M12	1000, 2000
M16	2500, 3000, 5000, 10000
M16	20000

05. Safety

- When installing the sensor, connect it to an instrument and monitor the output to prevent possible overload.
- If not sure about torque to be measured. Use feedback control to prevent sensor from overloaded.



06. Precautions

- Stray current can destroy the torque therefore do not pass welding current through the torque sensor. But never weld closer than 1.2 meter (4 feet) to any torque sensor without removing the torque sensor.
- Don't use in Harsh Environments without protection.

07. ⚠Warning

- The transducer must not be modified from the design or safety engineering point of view except with our express agreement. Any modification shall exclude all liability on our part for any damage resulting there from.
- Avoid Incorrect wireless pairing
- Ensure proper pairing with compactable device to avoid connectivity issues

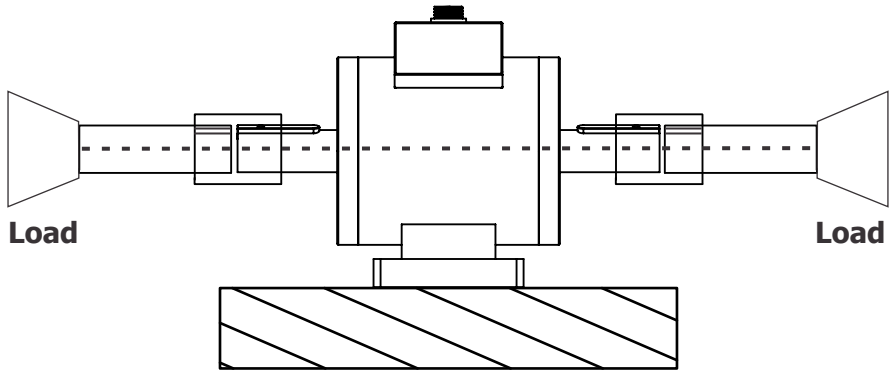
08. ⊘ DO'S

Caution

- Do not pull or carry torque sensor by cable.
- Any tampering or removal of cover cable connector or overload stop will void warranty.
- Always have sensor plugged in during installation to monitor output to avoid permanent zero shift and over load.

Mounting

1



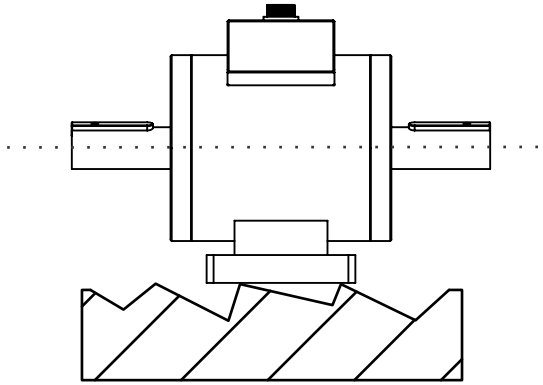
- ENSURE THE MOTOR SHAFT, TORQUE SHAFT & LOAD SHAFT TO BE IN PERFECT ALIGNMENT

☑ DO'S

- Visual inspection of product.
- Use stable power supply to prevent high voltage surges.
- Do not remove or tamper the covers of your sensor.
- Monitor the temperature of the environment to ensure that it does not exceed the Sensors operating temperature.
- Use flat, parallel and clean mounting surfaces. A dirty environment or an uneven surface can easily distort your data.
- The warming-up period of the sensor is approximately 5 minutes.
- Make sure that the torque you apply on your Torque Sensor is applied in-line
- For Hydraulic or Pneumatic Pressure applications, slowly monitor the torque on the torque sensor to avoid a dynamic overload
- If you think the Torque Sensor was overloaded, check the zero
- If several bolts are used to mount the sensor, make sure to tighten them down in a 12 o'clock, 6o'clock, 9 o'clock, and 3 o'clock in a cross like manner (the same technique that is used when bolting your tires).
- The sensor package should have included a Calibration Certificate. This is a very important document detailing the calibration data unique to your sensor

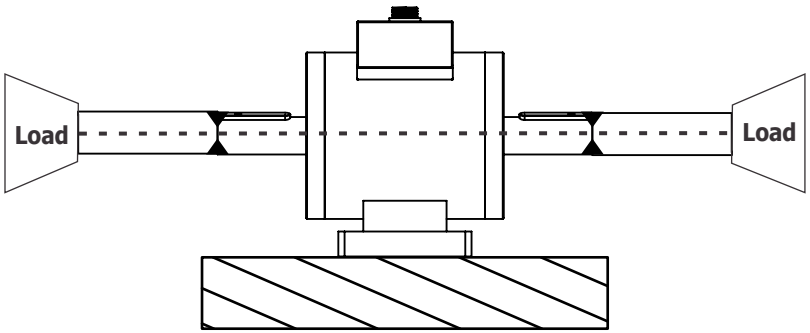
09. ⊗ DON'T

1



- DON'T INSTALL AN UNEVEN SURFACE

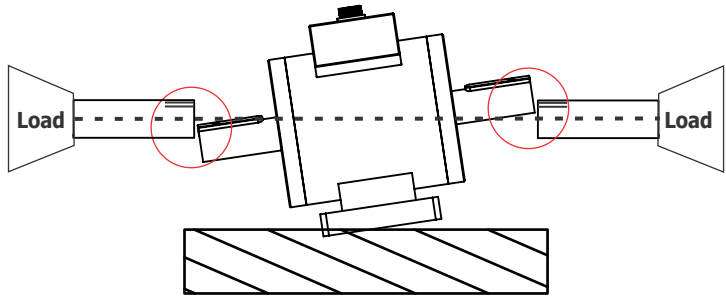
2



- DON'T WELD MATING COUPLER TO TORQUE SHAFT

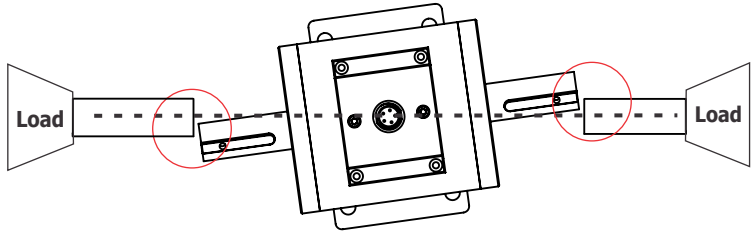
09. ⊗ DON'T

1



- ENSURE Z-AXIS ALIGNMENT

2



- ENSURE Y-AXIS ALIGNMENT

⊗ DON'T

- Exceeding the following
  a. Limit force
  b. Lateral limit forces
  c. Bending and torsional torques
  d. Breaking forces
  e. Permissible dynamic loads
  f. Temperature limits
  g. Electrical load limits
  h. Torque sensor not be over hang

- Placing heavy fixtures on the Torque Sensor that may overload it. Again, very critical for low capacity models.
- Avoid overloading the sensor as it may permanent damage or inaccurate measurements.
- Drop the sensor can damage internal components.

10. EMC Protection

Electrical and magnetic fields can often induce interference voltages in the measuring circuit. Please comply with the measuring circuit. Please comply with the following points:

- Avoid stray fields from transformers, motors and contact switches
- Please note that compensating currents flowing across the cable shield can cause significant interferences. If the sensor and its evaluation unit have different electrical potentials, an electrical connection with very low resistance must be provided.