



RTA/RTD Rotary Torque Transducers

Series of single and dual range rotary torque transducers.

The RTA and RTD series of rotary torque transducers provide accurate torque measurement at speeds of up to 50,000rpm and range from 0.2Nm up to 5000Nm.

The series has integral signal conditioning providing a $\pm 5V$ output and they also provide 60 TTL pulses for additional speed measurement. For speeds below 7000rpm, a 360-pulse option is also available.

The RTA and RTD series of single and dual range torque transducers have turndown ratios of 10:1 or 5:1. RS232 communications is an added option, along with a range of digital readouts for torque, speed and power if required.

For pricing, availability or further technical information about the RTA and RTD torque transducers, please contact us online at www.crane-electronics.com or alternatively, email us at sales@crane-electronics.com.

Technical Specification

Full scale output:	0 \pm 5V
Accuracy (RTA):	< \pm 0.1% fs
Operating Temp:	0 to +60°C
Overload Capacity:	150% fs
RTD lower scale:	< \pm 0.4%fs
Storage Temp:	-25 to +80°C
Supply Voltage:	11 to 30VDC
Repeatability:	\pm 0.02% fs
Zero Shift:	< \pm 0.005%/C°
Power Consumption:	<10W
Maximum Frequency:	1 kHz
Span Shift:	< \pm 0.01%/C°

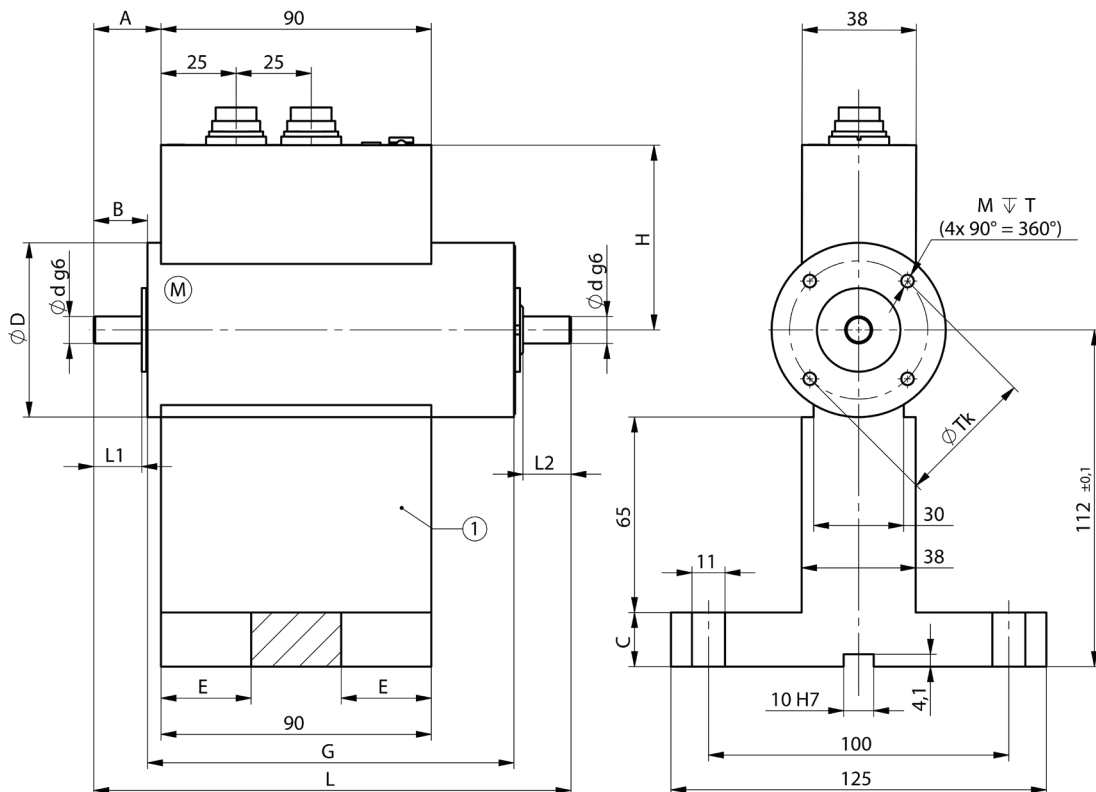
Model RTA/RTD	Rated Torque (Nm)	Std. Max Speed	Option Max Speed	Torsional Rigidity (kNm/rad)	Model RTA/RTD	Rated Torque (Nm)	Std. Max Speed	Option Max Speed	Torsional Rigidity (kNm/rad)
0.2	0.2	20000	50000	0.08	50	50	12000	30000	11.70
0.5	0.5	20000	50000	0.08	100	100	12000	30000	15.20
1	1.0	20000	50000	0.15	200	200	8000	20000	74.00
2	2.0	20000	50000	0.38	500	500	8000	20000	97.80
5	5.0	20000	50000	0.78	1000	1000	8000	20000	134.00
10	10	20000	50000	1.72	2000	2000	5000	10000	506.00
20	20	20000	50000	2.70	5000	5000	5000	10000	685.00

Dimensions

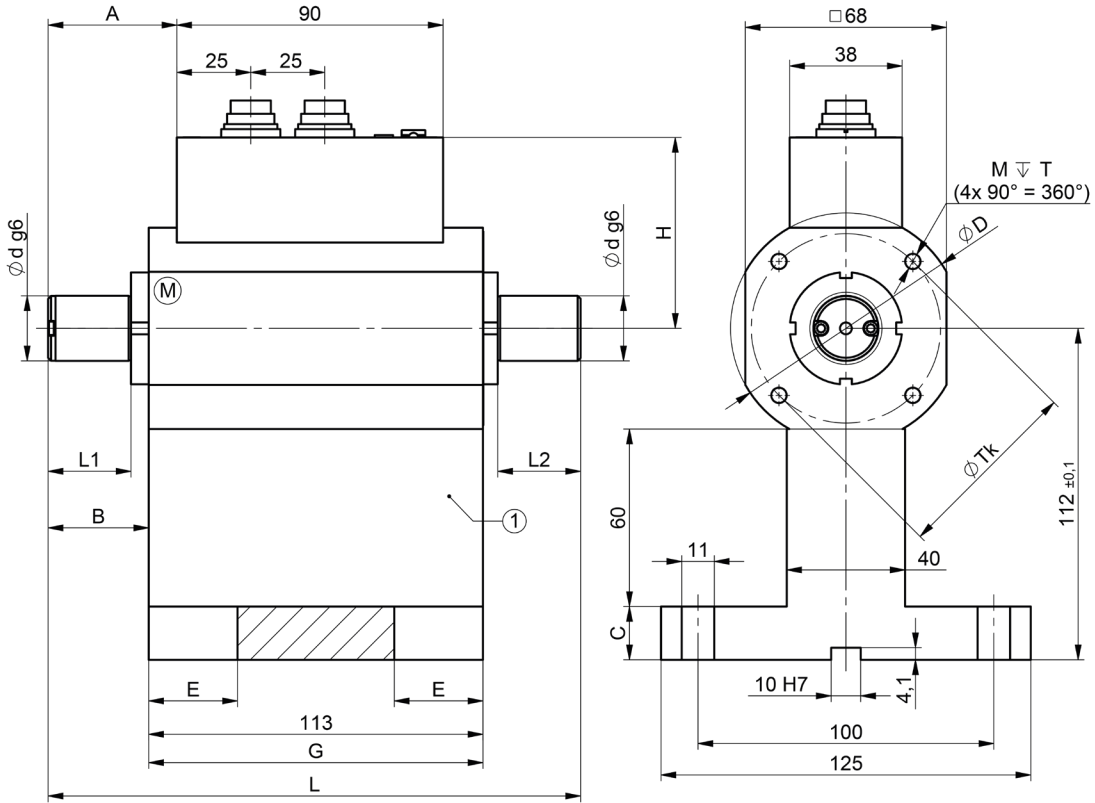
Dimensions are the same for both the standard and high-speed units.

MODEL	A	B	C	E	G	H	TK	M	T	D	d (g6)	L	L1	L2
RTA/D 0.2/0.5/1	22.5	18	18	30	122	61.5	46	M5	6	58	9	159	16	16
RTA/D 2/5	24.5	20	18	30	122	61.5	45	M5	6	58	10	163	18	18
RTA/D 10/20	26.5	22	18	30	122	61.5	46	M5	6	58	12	167	20	20
RTA/D 50/100	43.5	34	18	30	113	64.5	64	M6	12	78	22	180	28	28
RTA/D 200/500/1000	90	65	15	32	137	78.5	87	M6	12	98	42	267	61	61
RTA/D 2000/5000	159.5	124.5	20	47	169	97	132	M6	16	143	70	418	120	120

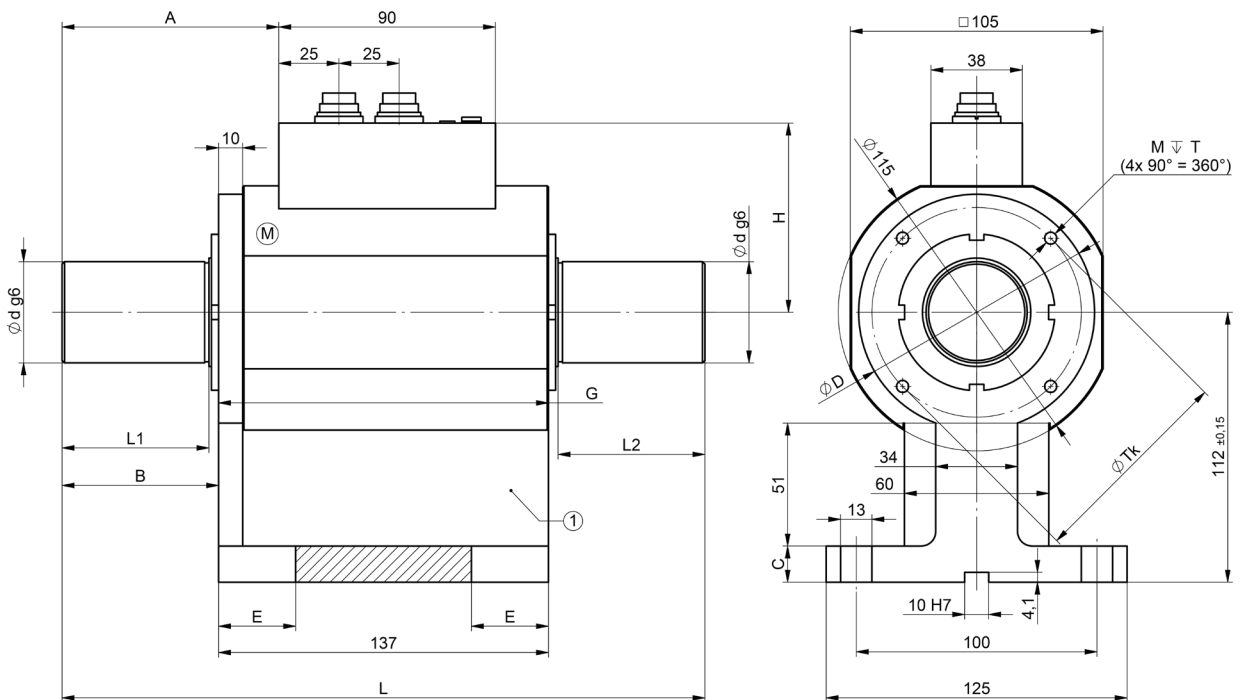
RTA/RTD 0.2 / 20

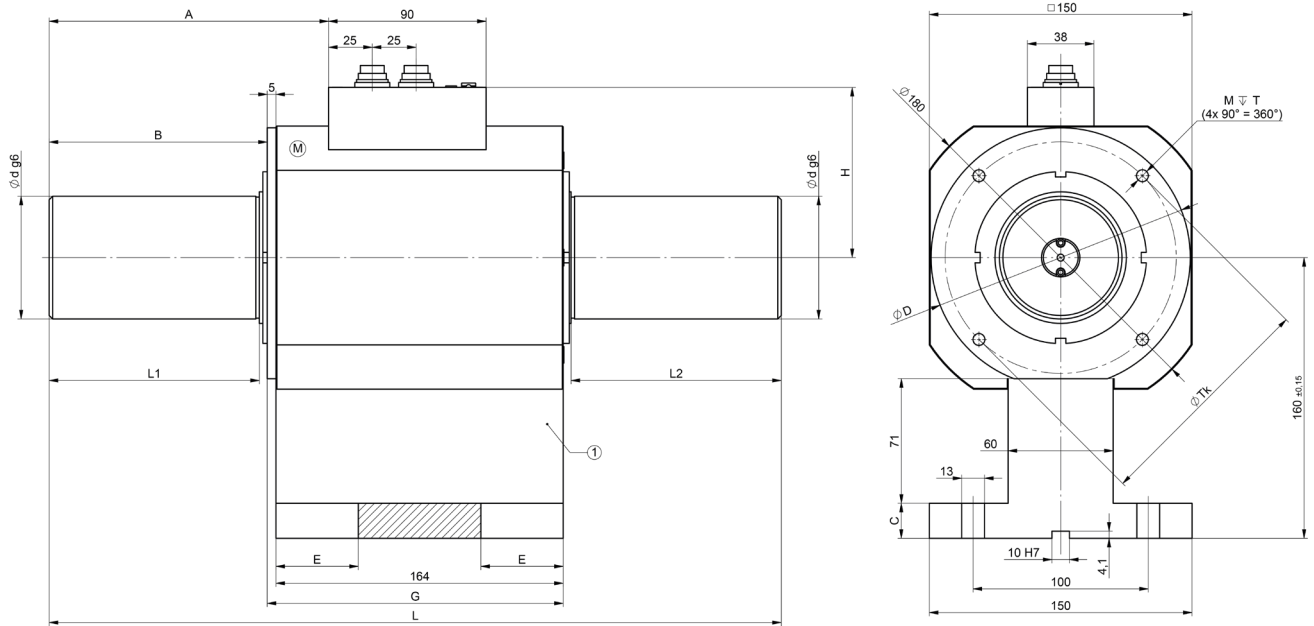


RTA/RTD 50 / 100



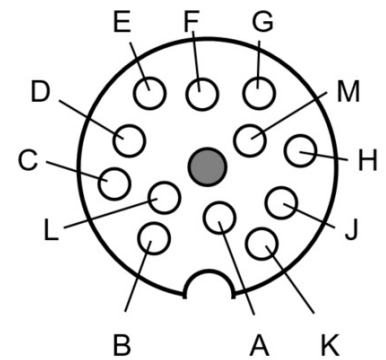
RTA/RTD 200 / 500 / 1000





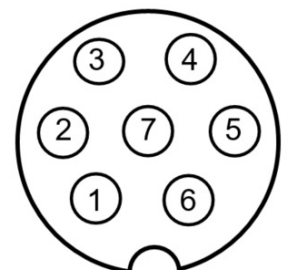
Wiring Details

PIN	Function & Description		
A	Supply Voltage - GND ground relating to $+U_B$	G	Speed/Angle of rotation on pulses - Track B - Active, TTL Level, 90° displaced only option H, W
B	RS-232C Interface - TXD (Digital send path)	H	Speed/Angle of rotation on pulses - Track A - Active, TTL Level
C	Torque Output - Voltage output $\pm 5/10$ VDC at $\pm M_{nom}$ at >10 k Ω $5/10$ VDC at control signal activation	J	Speed/Angle of rotation on pulses - Track Z - Active, TTL Level, reference pulse only option H, W
D	Torque Output - AGND - Ground relating to U_A	K	100% Control Input - Control Off: 0 ... 2 VDC, On: 3,5 ... 30 VDC, $R_{i,K} = 10$ k Ω
E	Digital Ground Potential - Ground relating to speed- or angle of rotation pulses, control input, digital connection to RS-232C	L	RS-232C Interface - RXD (Digital receive path)
F	Supply Voltage - $+U_B$ 11 - 30 VDC, power consumption <10 W	M	Shield - In sensor connected to housing



RTD only

PIN	Function & Description
1	Measuring Range Selection - Amplification Normal (1:1) with 0 - 2 VDC. Extended (1:x) with 3,5 - 30 VDC
2	Scaling selector switch acknowledgment output - ACK 0 VDC at normal (1:1), 24 VDC at (1:x)
3	RS-232C Interface - DGND, Ground relating the RS-232C interface
4	100% Control Input - Control Off: 0 ... 2 VDC, On: 3,5 ... 30 VDC
5	RS-232C Interface - TXD Serial send path of the torque sensor
6	RS-232C Interface - RXD Serial receive path of the torque sensor
7	Measuring Range Selection - OGND Opto isolated ground for measuring range selection and control input



Locations

