

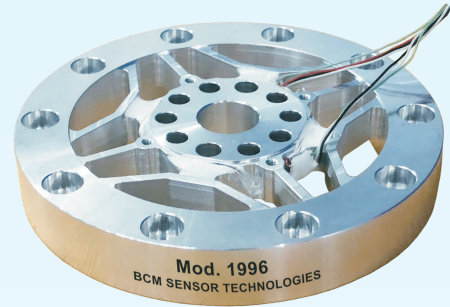
Model 1966/1996 Static Torque Transducers for Robot Joints

Description

Model 1966/1996 static torque transducer is specially designed for testing wrist joints of walking robots and for providing high-fidelity torque measurements in robotics.

Thanks to the advanced strain gauge technology from BCM SENSOR, the 1966/1996 can offer excellent non-linearity down to 0.2%fs with high stability. The transducers can work symmetrically, i.e., measuring torques in both directions: clockwise (positive torque) and anti-clockwise (negative torque).

The difference between the 1966 and 1996 is in its body material. The body of 1966 is made from aluminum alloy while that of 1996 is made from stainless steel.



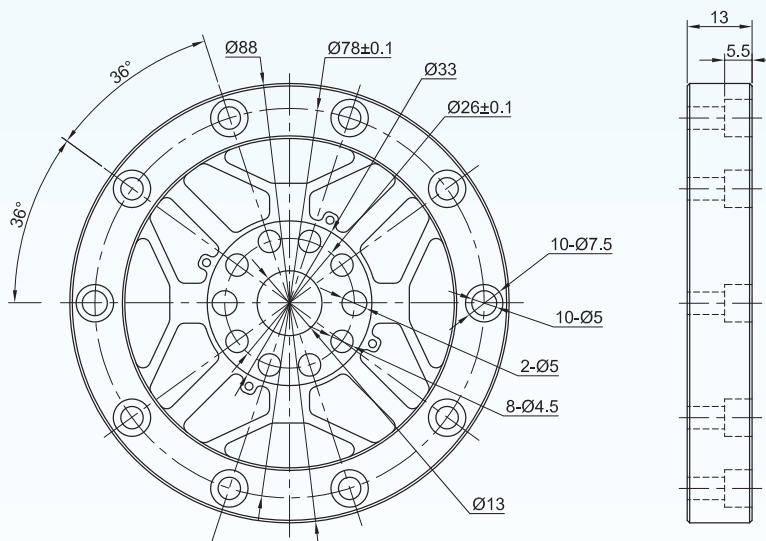
Features

- strain gauge technology
- range from 10Nm to 100Nm
- accuracy up to 0.5%fs
- excellent stability

Applications

- test for wrist joints of walking robots
- torque analysis

Dimensions



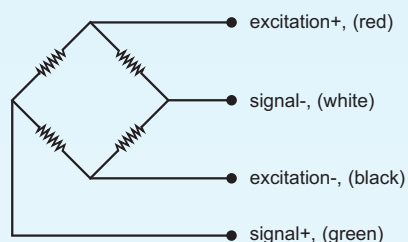
Note: All dimensions are in mm.

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Model 1966/1996

Static Torque Transducers for Robot Joints

Electrical Connection



Technical Data

Parameters	Units	Specifications
capacity	Nm	10, 30, 50, 80, 100
safe load limit	%fs	150
ultimate overload	%fs	200
output sensitivity at fs	mV/V	≥ 1.2
zero unbalance	mV/V	≤ ±0.05
accuracy	%fs	±0.5, ±1 (standard)
excitation (supply voltage)	Vdc	5, ..., 10
max. excitation voltage	Vdc	15
input resistance	Ω	700±70
output resistance	Ω	700±50
insulation resistance	MΩ	≥ 5000 @100Vdc
storage temp. range	°C	-35 ~ +80
operating temp. range	°C	-20 ~ +80
compensated temp. range	°C	-10 ~ +60
temp. coefficient of sensitivity	%fso/°C	≤ ±0.05
temp. coefficient of zero	%fso/°C	≤ ±0.05
load cell body material		aluminum alloy (1966), stainless steel (1996)
sealing		sealed with silicone rubber
mechanical interface		refer to the dimensions on the datasheets
electrical interface		4-color PVC isolated flying wires, 150mm
environment protection		IP65
unit weight	kg	~0.2 (1966), ~0.6 (1996)

Model 1966/1996

Static Torque Transducers for Robot Joints



Ordering Information

position (pos.) 1: model								
1966		1996						
pos. 2: capacities								
10Nm		80Nm						
30Nm		100Nm						
50Nm								
pos. 3: output sensitivity								
1.2mV/V								
pos. 4: accuracy								
0.5%fs				1%fs (standard)				
pos. 5: bridge resistance								
700Ω (R _{in} = 700±70Ω, R _{out} = 700±50Ω)								
pos. 6: mechanical interface								
(2xØ5+8xØ4.5)/10xØ7.5								
pos. 7: electrical interface								
4F/PVC/0.15 = 4-color PVC isolated flying wires, length = 150mm*								
*: The wire length can be customized on request.								
pos. 8: environment protection								
IP65								
pos. 9: customized specifications								
“(*)” is necessary only if any customized parameter is required, otherwise it is neglectable.								
pos.1	pos. 2	pos. 3	pos. 4	pos. 5	pos. 6	pos. 7	pos. 8	pos. 9

Examples of Ordering Code

- standard 1966/1996:
1966-30Nm-1.2mV/V-1%fs-700Ω-(2xØ5+8xØ4.5)/10xØ7.5-4F/PVC/0.15-IP65

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The listed dimensions, specifications, and ordering information are subject to change without prior notice.

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