CS1060
Reaction Torquemeter

SPECIFICATIONS

- **Square male coupling**
- **Range from ±5 to ±7,000 Nm (±4 to ±5,600 lbf. ft)**
- **Stainless Steel**
- **Cable Gland or Connector Output**
- **Built In Amplifier per Request**

FEATURES

- Suited for static applications
- Square male coupling
- High Level Output Model with Integrated Amplifier

APPLICATIONS

- Non-Rotating parts torque measurement
- Test and Measurement
- Laboratory and Research
- Robotics and effectors

The **CS1060** has been designed to measure reaction torque. Its sensing element is based on thin layer strain gauges in a Wheatstone bridge configuration.

Optionally the torque sensor can receive an on-board amplifier for high-level output.

With a long standing experience as a designer and manufacturer of sensors, TE CONNECTIVITY often works with customers to design or customize sensors for specific uses and testing environments.

On request, Instruction documents can be provided to ease the selection and use of our sensors and provide helpful tips.

STANDARD RANGES (FS)

Range in Nm (FS)	5 to 100	101 to 300	301 to 800	801 to 3k	3001 to 7k
Range in lbf.ft (FS)	4 to 80	81 to 240	241 to 640	641 to 2.4k	2401 to 5.6k
Stiffness in Nm/rad	$2x10^2$ to $1x10^4$	$1x10^4$ to $4x10^4$	$4x10^4$ to $1.2x10^5$	$1.2x10^5$ to $6x10^5$	$6x10^5$ to $1.8x10^6$
Stiffness in lbf.ft/rad	$1.4x10^1$ to $6.9x10^2$	$6.9x10^2$ to $2.7x10^3$	$2.7x10^3$ to $8.2x10^3$	$8.2x10^3$ to $4.1x10^4$	$4.1x10^4$ to $1.2x10^5$

PERFORMANCE SPECIFICATIONS (typical values at temperature 23±3°C)

Parameters	
Operating Temperature Range (OTR)	-20 to 80º C (-4 to 176° F)
Compensated Temperature Range (CTR)	0 to 60º C (32 to 140° F)
Zero Shift in CTR	<0.5% F.S./ 50º C [/100° F]
Sensitivity Shift in CTR	<1% of reading / 50° C [/100° F]
Range (F.S.)	±5 Nm to ±7 kNm [±4 lbf.ft to ±5.6 klbf.ft]
Over-Range	
Without Damage	1.5 x F.S.
Accuracy	
Combined Non-Linearity & Hysteresis	±0.25%F.S.

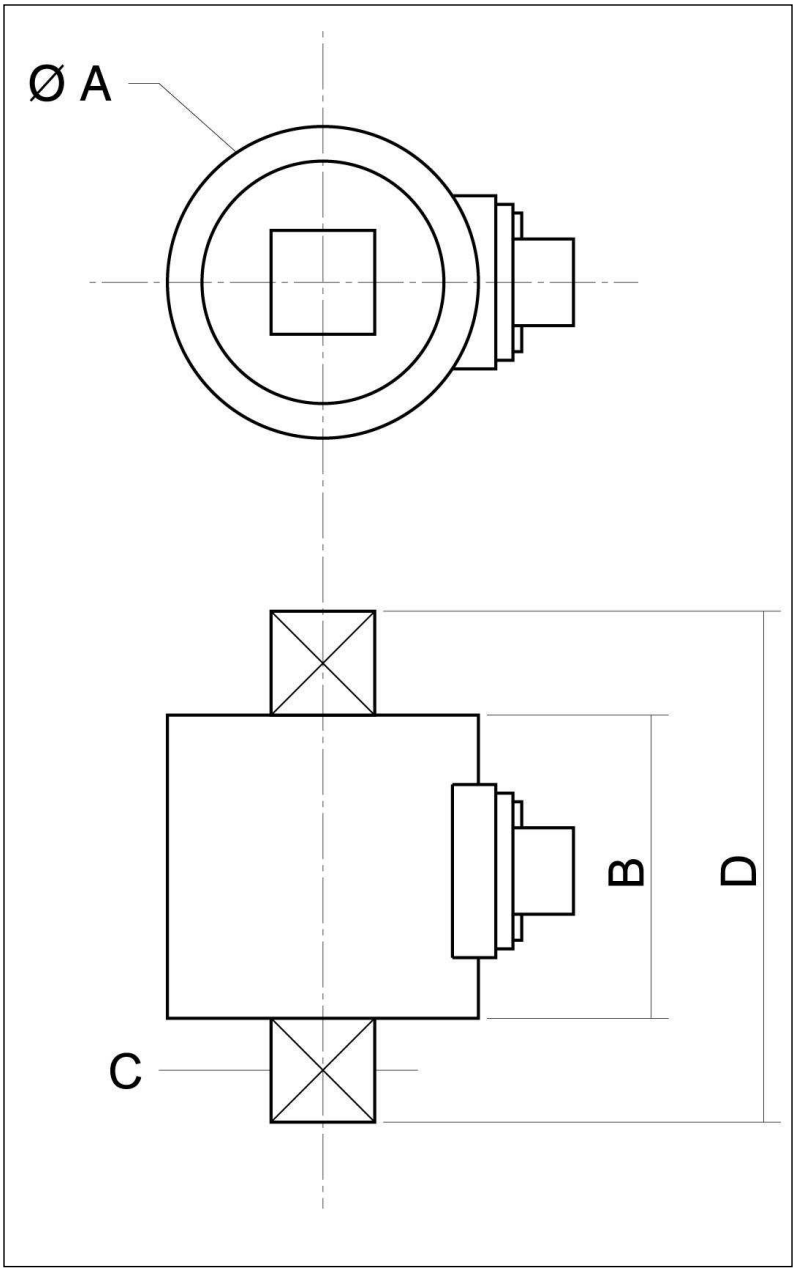
Electrical Characteristics

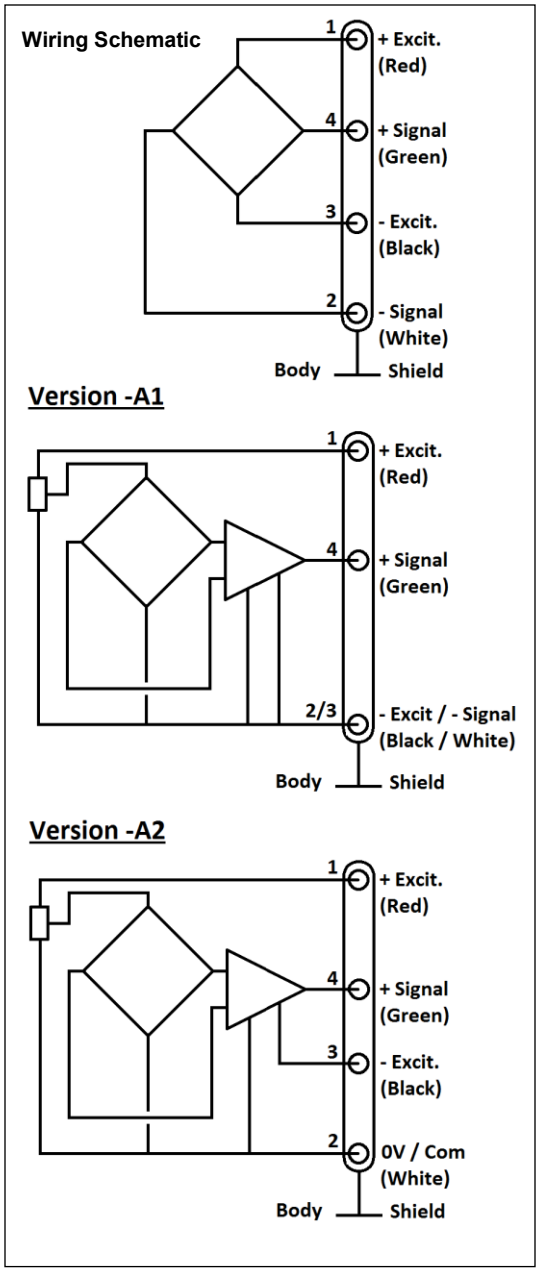
Model	**CS1060** [1]	**CS1060-A1**	**CS1060-A2**
Supply Voltage	1 to 10Vdc regulated	10 to 30Vdc	±15Vdc (±12 to ±18Vdc)
Sensitivity "FSO" [2]	±2mV/V	±2V ±0.2V	±5V ±0.2V
Zero Offset [2]	<±1mV	2.5V ±0.2V	0V ±0.2V
Input Impedance/Consumption	350 to 700Ω	<50mA	<30mA
Output Impedance	350 to 700Ω	1 kΩ [6]	1 kΩ [6]
Insulation under 50Vdc	≥100MΩ	≥100MΩ	≥100MΩ

Notes

1. Sensors are calibrated with 10Vdc power supply as standard.
2. Signal goes positive in CW strain with standard wiring configuration. Other signal output on request
3. Electrical Termination: Connector output including mate
4. Material: Body in stainless steel and housing in aluminum alloy
5. Connection: Square male couplings standard, other connection types on request (smooth shaft, cotter pin, etc)
6. Output impedance < 100Ω on request
7. CE conformance according to EN 61010-1, EN 50081-1, EN 50082-1

DIMENSIONS & WIRING SCHEMATIC (IN METRIC AND IMPERIAL)





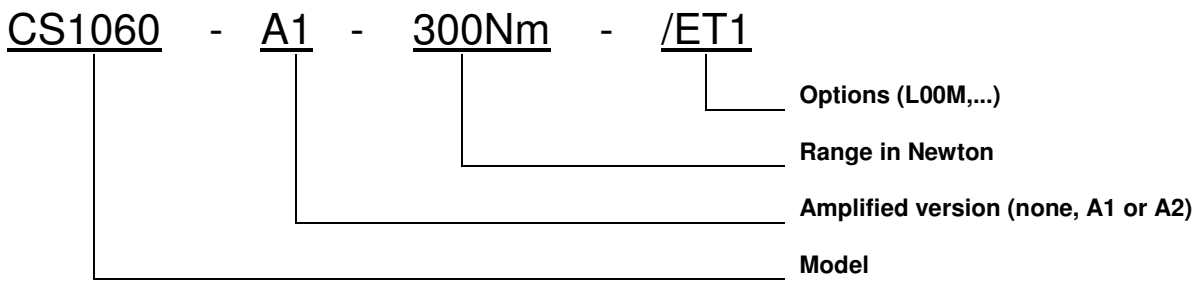
Dimensions in mm [inch]

Range in Nm [in lbf.ft]	5 to 100 [4 to 80]		101 to 300 [81 to 240]		301 to 800 [241 to 640]		801 to 3000 [641 to 2400]		3001 to 7000 [2401 to 5600]	
A	35	[1.38]	40	[1.57]	50	[1.97]	65	[2.56]	85	[3.35]
B	35	[1.38]	40	[1.57]	45	[1.77]	55	[2.17]	60	[2.36]
C	12.7	[1/2"]	19	[3/4"]	25.4	[1"]	38.1	[1"1/2]	50.8	[2"]
D	59	[2.32]	80	[3.15]	95	[3.74]	135	[5.31]	160	[6.30]

OPTIONS

A1 : Amplified Tension output with unipolar power supply
A2 : Amplified Tension output with bipolar power supply
Z14 : CTR -20 to 100° C [-4 to 212° F] OTR=CTR
V00: Non-standard power supply calibration, replace “00” with value in Volt (standard 10Vdc, unamplified sensor only)
PE : Cable Gland Termination with 2 m [6.6 ft] cable

ORDERING INFORMATION



SUPPLIED ACCESSOIRES

EFMX-4M : mating plug Jaeger 530-801-006 with clamp 530-841-006