

Features

- Over torque protection
- Integrated Mechanical Stops
- High Level Output Model with Integrated Amplifier

Applications

- Low range dynamic applications
- Process control equipment
- Test and Measurement
- Robotics and effectors
- Laboratory and Research

CD1110

Low Ranges Dynamic Torquemeter

SPECIFICATIONS

- Range from ± 0.05 to ± 2 Nm (± 0.04 to ± 1.5 lbf.ft)
- Keyed Shaft couplings
- Integrated Mechanical Stops
- Aluminum shaft
- Cable Gland or Connector Output

The **CD1110** of dynamic torque sensors have extremely low operating ranges protected by mechanical stops permitting an overload of 10 times the measurement range.

The rugged design provides accurate bidirectional torque measurements at rotary speed up to 2000 rpm.

As option, the **CD1110** can receive an on-board amplifier for high-level voltage output. Signal amplification is accomplished before transmission via the slip ring assembly, thus eliminating the noise generated by the contacts. It is also possible to eliminate the contact residual drag torque by placing the transducer sensing element directly in contact with the torque to be measured.

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.

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Standard Ranges (Fs)

Range in Nm (FS)	0.05	0.1	0.3	0.5	1	2
Range in lbf.ft (FS)	0.037	0.074	0.221	0.369	0.738	1.475
Unamplified output in mV	±150	±150	±150	±15	±15	±15
Offset in mV	<±10	<±10	<±10	<±1	<±1	<±1
Rotation in rpm	≤2000 (Bidirectional operation)					

Performance Specifications (Typical Values At Temperature 23±3°C)

Parameters	
Operating Temperature Range (OTR)	-20 to 80° C (-4 to 176° F)
Compensated Temperature Range (CTR)	0 to 60° C (32 to 140° F)
Zero Shift in CTR	Up to 0.3Nm: <±2% F.S./50°C [1/100°F] From 0.5Nm: <±0.5% F.S./50°C [1/100°F]
Sensitivity Shift in CTR	Up to 0.3Nm: <±2% of reading /50°C [1/100°F] From 0.5Nm: <±1% of reading /50°C [1/100°F]
Over-Range	
Without Damage	10 x F.S. or 10Nm [max. 8lb-ft]
Accuracy	
Combined Non-Linearity & Hysteresis	±0.25% F.S.
Protection index	IP50

Electrical Characteristics

Model	CD1110 ¹	CD1110-A1	CD1110-A2
Supply Voltage	1 to 10Vdc regulated	10 – 30Vdc	±12 to ±18Vdc
Sensitivity "FSO" ²	See table "FS"	±2V ±0.2V	±5V ±0.2V
Zero Offset ²	See table "FS"	2.5V ±0.2V	0V ±0.2V.
Input Impedance / Consumption	Up to 0.3Nm: 2250Ω From 0.5Nm: 700Ω	<30mA	<30mA
Output Impedance	Up to 0.3Nm: 750Ω From 0.5Nm: 700Ω	1 kΩ ⁶	1 kΩ ⁶
Insulation under 50Vdc	≥100MΩ	≥100MΩ	≥100MΩ

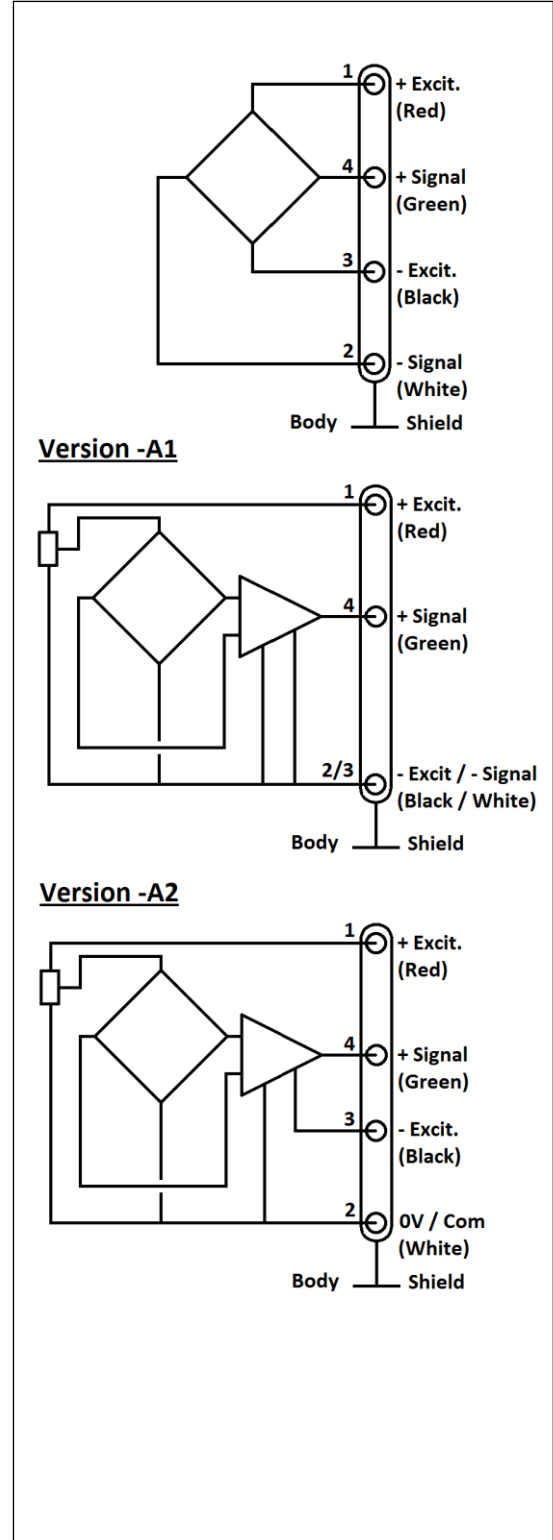
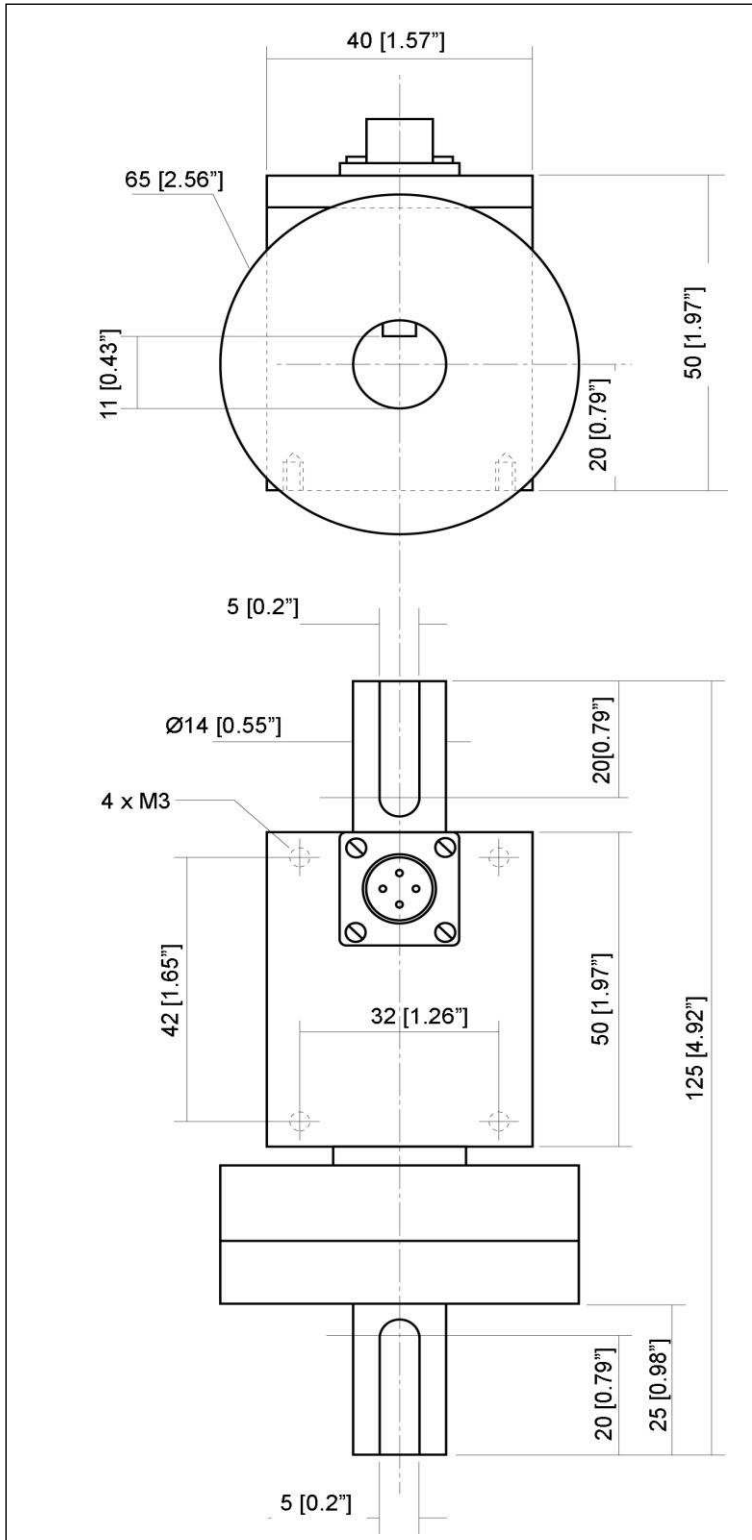
Notes

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 and housing in aluminum alloy
5. Connection : Keyed shaft 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

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Dimensions & Wiring Schematic (In Metric And Imperial)



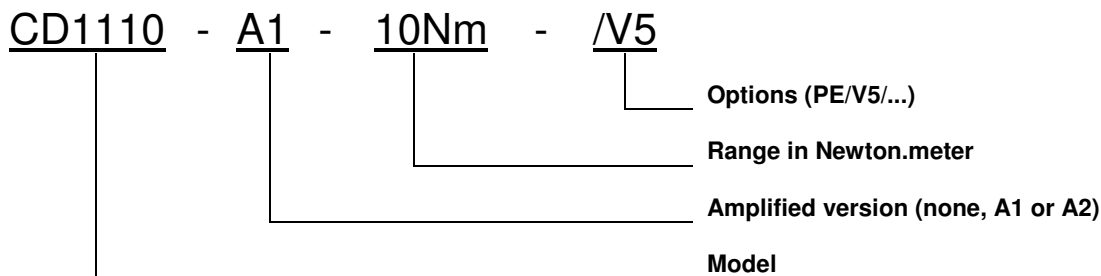
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Low Ranges Dynamic Torquemeter

Options

A1 : Amplified Tension output with unipolar power supply
A2 : Amplified Tension output with bipolar power supply
FMC : Mating connector fitting with 2 m [6.6 ft] cable
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 Accessories

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

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中国大陆

西安鑫源宇通电子科技有限公司
陕西省西安市高新区锦业路70号航
天恒星园区1号厂房一层南
Tel: 400-780-9688
sales@senstechxyz.com

中国香港

深大实业有限公司
香港新界沙田安平街6号新贸易
中心B座13楼06室
Tel: +86 17792099916
info@caltropinstruments.com

新加坡

深大实业有限公司
香港新界沙田安平街6号新贸易
中心B座13楼06室
Tel: +86 17792099919
info@senstechxyz.com

