

## 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  $\pm 0.05$  to  $\pm 2$  Nm ( $\pm 0.04$  to  $\pm 1.5$  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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## CD1110

Low Ranges Dynamic Torquemeter

### 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 <sup>1</sup>	CD1110-A1	CD1110-A2
Supply Voltage	1 to 10Vdc regulated	10 – 30Vdc	±12 to ±18Vdc
Sensitivity "FSO" <sup>2</sup>	See table "FS"	±2V ±0.2V	±5V ±0.2V
Zero Offset <sup>2</sup>	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 <sup>6</sup>	1 kΩ <sup>6</sup>
Insulation under 50Vdc	≥100MΩ	≥100MΩ	≥100MΩ

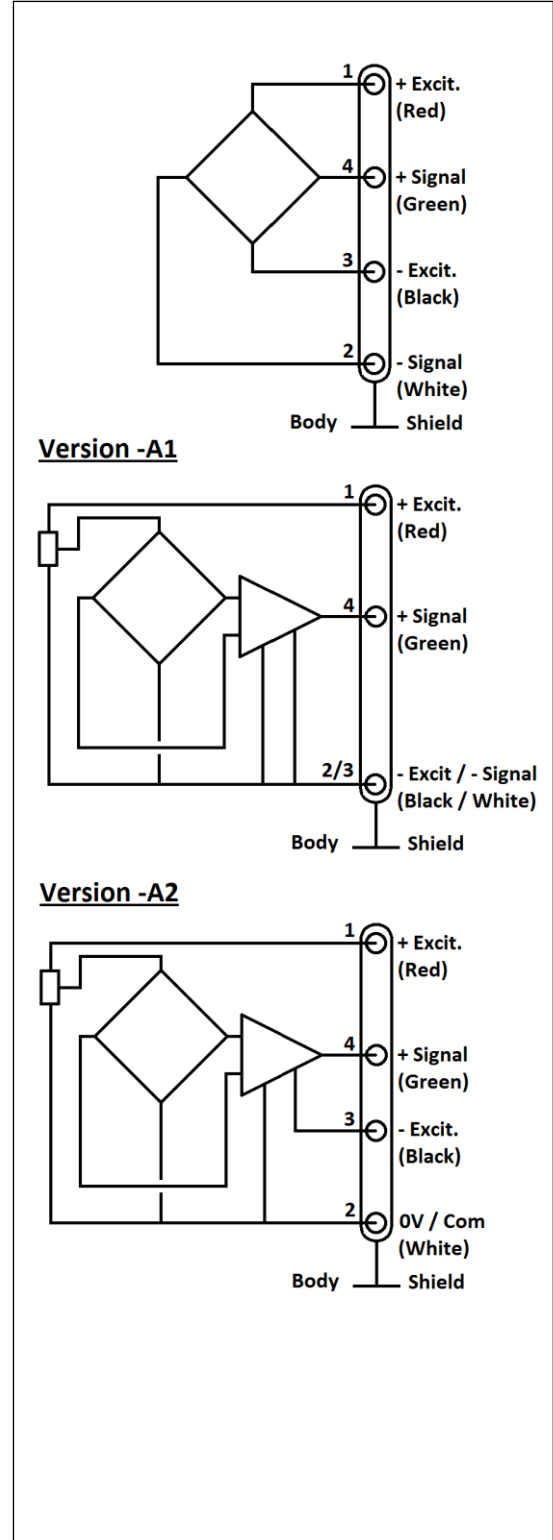
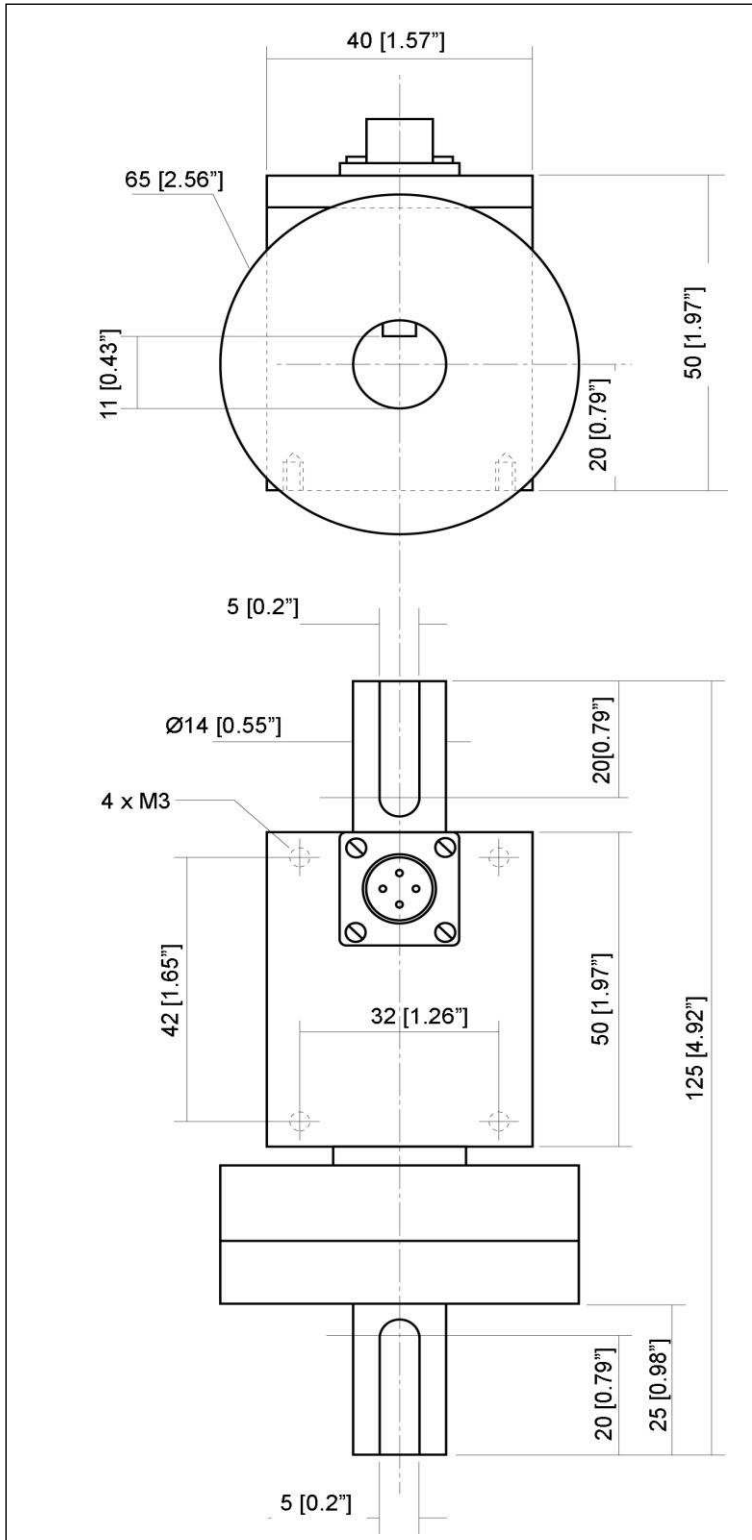
### Notes

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)



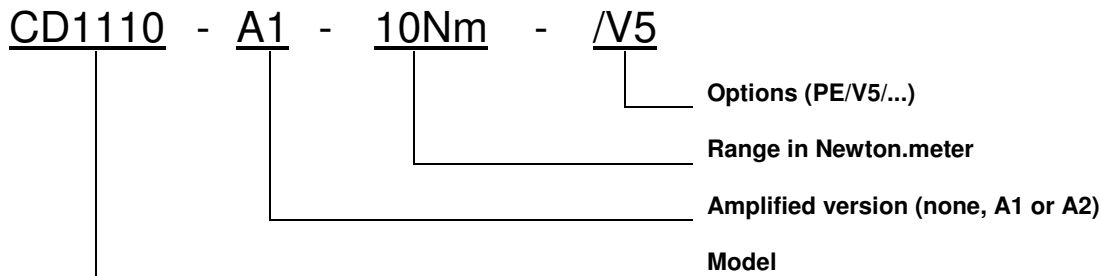
## CD1110

Low Ranges Dynamic Torquemeter

### Options

<b>A1</b> : Amplified Tension output with unipolar power supply
<b>A2</b> : Amplified Tension output with bipolar power supply
<b>FMC</b> : Mating connector fitting with 2 m [6.6 ft] cable
<b>V00</b> : Non-standard power supply calibration, replace "00" with value in Volt (standard 10Vdc, unamplified sensor only)
<b>PE</b> : 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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