

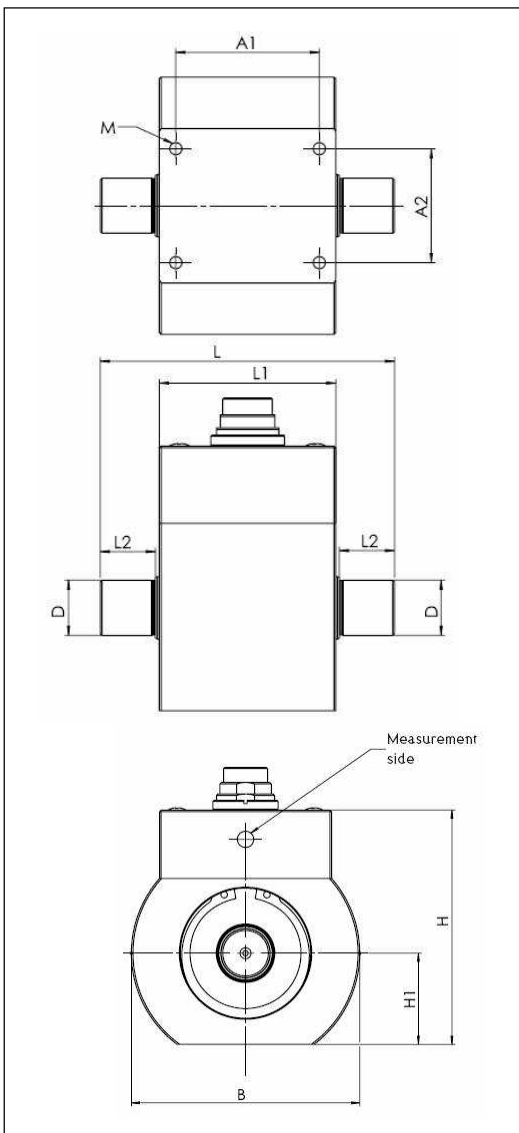


CD9515 SERIES

Contactless Low-Cost Torque Sensor

SPECIFICATIONS

- ◆ Full Scale Range 5 to 1000 N.m
- ◆ Broad Input Voltage Range
- ◆ Current Output and Voltage Output
- ◆ Small Outline
- ◆ Measurement Accuracy : $\leq 0.5\%$ Full Scale
- ◆ Speed Detection (Option)



The torque transducers series CD9515 are suitable for applications in laboratory as well as in industrial environment because of their compact outline and their multiple mounting options. The contactless transmission of supply voltage and measuring signal enables continuous operation with low wear out and no service. For varying applications these transducers are available also with optional speed detection. The integrated measurement amplifier is supplied with 11,5 to 30 Vdc and outputs an analog signal of 0 to $\pm 5V$ and also a current output of 10 mA ± 8 mA. Due to the broad range of supply voltage the transducer can be operated directly at a PLC. This transducer should be used only with the especially designed couplings

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Mechanical Dimensions in mm

Model	CD9515-1			CD9515-2			CD9515-3	
FS in N.m	5/10/20			50/100/200			500/1000	
L	80			90			120	
Ø B	70			75			105	
H	72			77,5			97.5	
H1 ±0.05	28			30			40	
Ø D g6	15			24			40	
L1	48			52			65	
L2	15			18			26	
A1	39			42			55	
A2	31			35			50	
M	M4 x 6			M4 x 6			M5 x 10	
Weight ca. [g]	350			600			2000	
Tr/min max.	22,000			16,000			9,000	
Spring Constant [N.m/rad]	1.1	2.7	5.4	20	36	52	289	419
Moment of inertia [g.cm ²]	134	135	136	398	405	424	3350	3519
Inertia - Drive side [g.cm ²]	116	117	117	292	296	305	1879	1963
Inertia - Measurement side [g.cm ²]	18	18	19	106	109	119	1471	1556
Maximum Axial Load [N]	930	930	930	1580	1580	1580	3920	3920
Maximum radial Load [N]	25	45	90	210	420	845	1420	2875

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

Parameters	
Operating Temperature Range (OTR)	0 to 60° C (32 to 140° F)
Compensated Temperature Range (CTR)	5 to 45° C (41 to 113° F)
Zero Shift in CTR	0.05% F.S. / °C (0.02% of F.S. / °F)
Sensitivity Shift in CTR	0.02%/° C of reading (0.01% / °F of reading)
Over-Range	
Without Damage	2 x F.S.
Accuracy	
Linearity	±0.3% F.S.
Hysteresis	±0.3% F.S.

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Electrical Characteristics

Model	CD9515
Supply Voltage	11.5 to 30 Vdc
Signal "FSO"	±5 V
Offset	≤100 mV
Rise up time 10-90%	2ms
Bandwidth at -3dB	1kHz
Consumption	Approx. 200mA
Current output	10 ±8 mA – Burden max. 500 Ω
Internal resistance	100 Ω
Ripple	<50 mVss

Speed Detection option characteristic

Option	Speed (-N)
Rotary speed max.	10 000 rpm
Internal Pull up	10 kΩ (5V level)
External Pull up	24V max / 20 mA
Pulses/revolution	60
Output	Open-collector
Internal Pull Up	4.7 kΩ (5 V level)
External Pull Up	24 V max / 20 mA

Notes

1. Electrical Termination: connector output, mating plug need to be supplied separately
12 pin connector for sensors alone or for sensor with optional speed detection
2. Protection Ingres IP 40 DIN400050

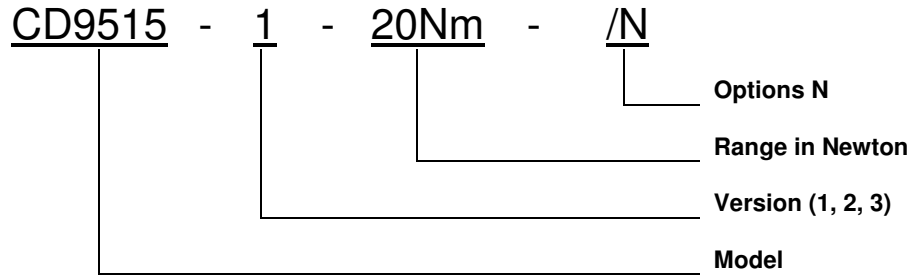
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OPTIONS

N : Speed Detection (Notes: Rev. Max: 10,000rpm; Pulses/Rev.: 60)

ORDERING INFORMATION



RECOMMENDED ACCESSORIES

Description	Part Number
KD12 : Mating 12 Pin for torque or/and option speed	NCETACC001KD12