



APPLIED MEASUREMENTS LTD.
Transducer Specialists...

+44 (0) 118 981 7339

info@appmeas.co.uk

<https://appmeas.co.uk>

DTD-F Flange Type Static Torque Transducer

Key Features:

- Capacities: 0-10Nm to 0-50kNm
- 2mV/V Output (1.5mV/V on 20kNm+)
- Environmental Protection: IP65
- Accuracy: $<\pm 0.1\%$ /Rated Capacity
- Custom Capacities to 200kNm+
- Robust Construction
- UKAS Traceable Calibration Certificate Included
- 3 Year Warranty

Ideal for the measurement of direct torque



The DTD range of flanged static torque transducers are designed for the measurement of direct torque and have end flanges for bolting between machinery where a direct drive is required. Typical applications include fatigue applications, the testing of automotive drives, aircraft actuator and industrial robots.

Ranges from 10Nm to 10kNm are constructed from stainless steel while ranges from 20kNm and upwards are made from alloy steel.

As standard the DTD-F models are environmentally protected to IP65 and are provided with an integral, robust Lemo connector for quick and easy connection purposes.

The DTD-F can be customized to suit your particular application, including custom flange sizes and fixing configurations, as well as versions with sealing to IP68 for applications where operating conditions are particularly harsh or involve total submersion. Please [consult our expert sales team](#) to discuss your application in detail.

Have a look at our [full range of flange torque transducers](#).

Options:

- IP68 Submersible/Underwater/Subsea Versions Available
- Custom Flange Sizes and/or Dimensions
- Amplified Analogue Outputs: 4-20mA / ± 10 Vdc / 0-10Vdc / 0-5Vdc
- RS485 Digital Output: ASCII, Modbus or CAN Protocol
- Through-Hole/Annular Versions
- Custom Capacities
- Equivalents to Other manufacturers Available
- Internal Shunt Calibration Facility
- TEDS (Transducer Electronic Data Sheet)
- TEDS Allows Plug & Play with TEDS Enabled Instrumentation.
- USB Version (via DSC-USB)
- High Temperature Versions
- Vacuum Application Versions
- Single or Multi-Channel PC-Based Monitoring & Data Logging System
- Fatigue Rated - Available all Capacities
- Mounting Options
- Rationalised/Standardised Outputs
- Wireless Version (via T24 Instrumentation)



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Applications:

- Fatigue Applications
- Automotive Drive Testing
- Aircraft Actuator
- Industrial Robots
- Quality Assurance Departments
- Torque Tool Testing
- Measuring Fastening or Breakaway Torque of Bolts & Nuts
- Calibrating Automated Torque Screwdrivers, Spanners & Wrenches
- In-Line Torque Measurement
- Portable Torque Testing Equipment
- Robotics

Specification:

DTD-F		
Rated Capacity (RC)	Nm	0-10, 0-20, 0-50, 0-100, 0-200, 0-300, 0-500, 0-1000, 0-2k, 0-3k, 0-5k, 0-10k, 0-20k, 0-30k, 0-50k
Operating Modes	Clockwise (CW)/Counter-Clockwise (CCW) / Clockwise (CW) & Counter-Clockwise (CCW)	
Sensitivity (RO)	mV/V (nominal)	10Nm = 0.6 / 20Nm = 0.7 / 50Nm = 1.0 / 100Nm to 50kNm = 1.5-1.8 typical
Zero Balance/Offset	±%/Rated Output	<1
Output Symmetry (CW vs CCW)		<0.25% typical
Non-Linearity	±%/Full Scale Output	<0.1
Hysteresis	%/Full Scale Output	<0.1
Repeatability	±%/Full Scale Output	<0.1
Temperature Effect on Zero	±%/Full Scale Output/ °C	<0.010
Temperature Effect on Output	±/Reading/ °C	<0.020
Bridge Resistance	Ohms	700 nominal
Insulation Resistance	Megaohms	>5000 @ 50Vdc
Excitation Voltage	Volts AC or DC	10 recommended (2-15 acceptable)
Operating Temperature Range	°C	0 to +80
Compensated Temperature Range	°C	+20 to +60
Storage Temperature Range	°C	0 to +80
Safe Overload	% of Rated Capacity	150
Ultimate Overload	% of Rated Capacity	300
IP Rating (Environmental Protection)		IP65
Weight		see dimension table
Fatigue Rating		20 million fully reversed cycles
Cable Length (as standard)		3 metres
Cable Type		M8 Binder connector with mating 3 metre cable assembly
Construction		10Nm to 10kNm = Stainless Steel, 20kNm to 50kNm = Alloy Steel
Resolution		1 part in 250,000 (with appropriate instrumentation)

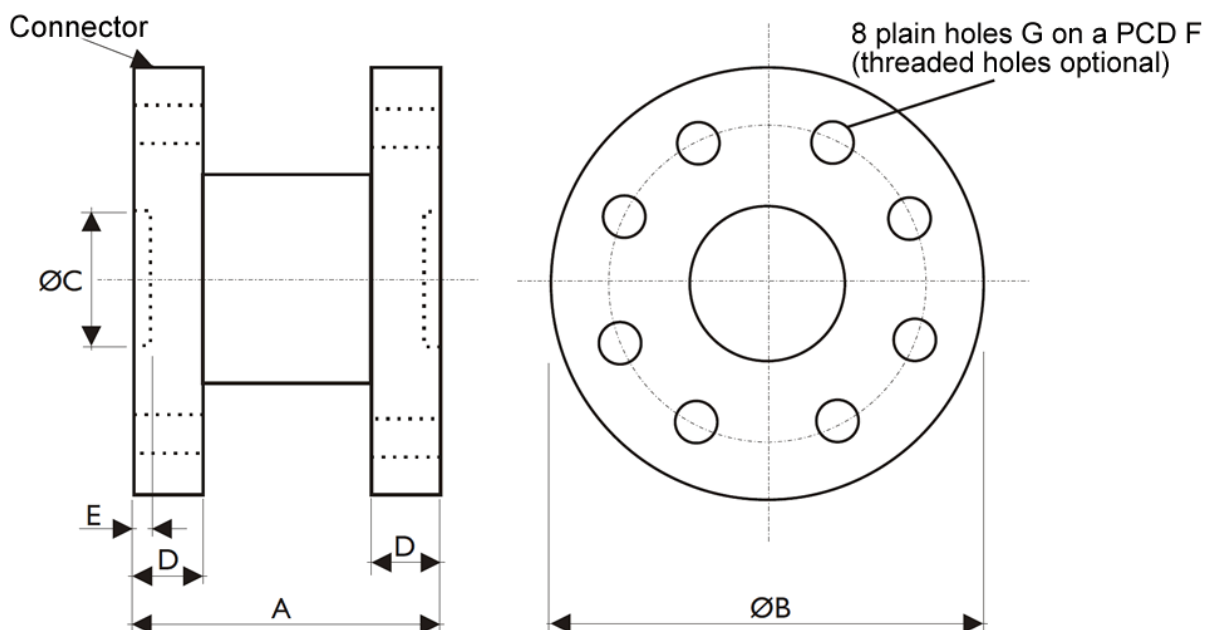


Wiring Diagram:

Wire	Designation
Red	+ve excitation
Blue	-ve excitation
Green	+ve signal (clockwise)
Yellow	-ve signal
Screen	To ground - not connected to sensor body

Dimensions (mm):

RANGE (Nm)	A	ØB	ØC	D	E	ØF	G	Dimensions kg (approximate)
0-10	76	100	38.1	13	2	82.5	8.2	1.4
0-20	76	100	38.1	13	2	82.5	8.2	1.4
0-50	76	100	38.1	13	2	82.5	8.2	1.4
0-100	76	100	38.1	13	2	82.5	8.2	1.4
0-200	76	100	38.1	13	3	82.5	8.2	1.4
0-300	76	100	38.1	13	3	82.5	8.2	1.4
0-500	76	100	38.1	13	3	82.5	8.2	1.4
0-1000	90	125	50.1	19	6	108	10.2	3.1
0-2000	90	125	50.1	19	6	108	10.2	3.1
0-3000	120	150	50.1	35	6	108	16.3	8.7
0-5000	120	205	80.1	38	8	165	16.3	16.9
0-10000	190	205	80.1	38	8	165	16.3	17.2
0-20000	216	250	102	32	8	203	20.5	21.7
0-30000	226	355	152	50	8	280	26	65.8
0-50000	226	355	152	50	8	280	26	65.8





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Ordering Codes:

Core Product	Capacity (inc Engineering Units)	Cable Length (m)	Specials Code	Example Result
DTD-F	10Nm	003	000	DTD-F-10Nm-003-000
DTD-F	20Nm	003	000	DTD-F-20Nm-003-000
DTD-F	50Nm	003	000	DTD-F-50Nm-003-000
DTD-F	100Nm	003	000	DTD-F-100Nm-003-000
DTD-F	200Nm	003	000	DTD-F-200Nm-003-000
DTD-F	300Nm	003	000	DTD-F-300Nm-003-000
DTD-F	500Nm	003	000	DTD-F-500Nm-003-000
DTD-F	1000Nm	003	000	DTD-F-1000Nm-003-000
DTD-F	2000Nm	003	000	DTD-F-2000Nm-003-000
DTD-F	5000Nm	003	000	DTD-F-5000Nm-003-000
DTD-F	10,000Nm	003	000	DTD-F-10,000Nm-003-000
DTD-F	20,000Nm	003	000	DTD-F-20,000Nm-003-000
DTD-F	30,000Nm	003	000	DTD-F-30,000Nm-003-000
DTD-F	50,000Nm	003	000	DTD-F-50,000Nm-003-000

Associated Products:



[TR150 Handheld Indicator](#)



[T24 Wireless Telemetry Range](#)



[Intuitive4-L Panel-Mount Indicator](#)



[DSC-USB USB Signal Digitiser](#)



[ICA Miniature Strain Gauge Amplifier](#)



[SGA Signal Conditioner/Amplifier](#)