



APPLIED MEASUREMENTS LTD.
Transducer Specialists...

+44 (0) 118 981 7339

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<https://appmeas.co.uk>

DTD-P Parallel Shaft Reaction Torque Transducer

Key Features:

- Capacities: 0-10Nm to 0-10kNm
- 2mV/V Output (nominal)
- Environmental Protection: IP65
- Accuracy: $<\pm 0.1\%$ /Rated Capacity
- Custom Capacities to 50kNm+
- Robust Construction
- Maintenance-Free
- Keyways to BS4235-1
- UKAS Traceable Calibration Certificate Included
- 3 Year Warranty



Ideal for in-line static or semi-rotary torque measurement.

The DTD-P range of parallel shaft static/reaction torque transducers have keyed parallel shaft connections for in-line direct drive measurements and are designed specifically for the measurement of static and semi-rotary direct torque. They are particularly suited for use in calibration, development and testing applications, typical uses include the testing of electrical motors, hydraulic pumps, automotive transmissions, steering systems and aircraft actuators.

All ranges are constructed from stainless steel and are environmentally protected to IP65. The sensor is provided with an integral, robust bayonet lock military connector for quick and easy connection purposes.

The DTD-P can be customised to suit your particular application, including custom shaft sizes and configurations. Please [consult our expert sales team](#) to discuss your application in detail.

Options:

- Custom Shaft Sizes and/or Dimensions
- IP67 + IP68 Submersible/Underwater/Subsea Versions Available
- Amplified Analogue Outputs: 4-20mA / $\pm 10\text{Vdc}$ / 0-10Vdc / 0-5Vdc
- RS485 Digital Output: ASCII , Modbus or CAN Protocol
- Equivalents to Other Manufacturers
- 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 Versions
- Mounting Options
- Rationalised/Standardised Outputs
- Wireless Version (via T24 Instrumentation)



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Applications:






- Calibration Applications
- Development Applications
- Testing Applications
- Electrical Motor Testing
- Testing of Hydraulic Pumps
- Automotive Transmissions
- Steering Systems
- Aircraft Actuators
- Robotics

Specification:

Rated Capacity (RC)	Nm	0-10, 0-20, 0-50, 0-100, 0-200, 0-250, 0-500, 0-1000, 0-2k, 0-5k, 0-10k,
Operating Modes	Clockwise (CW)/Counter-Clockwise (CCW) / Clockwise (CW) & Counter-Clockwise (CCW)	
Sensitivity (RO)	mV/V	2 nominal
Zero Balance/Offset	±%/Rated Output	<1
Output Symmetry (CW vs. CCW)	±%/Rated Output	<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	<0.01
Temperature Effect on Output	±/Reading/ °C	<0.01
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	-20 to +80
Compensated Temperature Range	°C	+20 to +70
Storage Temperature Range	°C	-20 to +80
Safe Overload	% of Rated Capacity	150
Ultimate Overload	% of Rated Capacity	300
Maximum Safe Shear Load		see dimension table
Maximum Safe Bending Moment		see dimension table
Fundamental Resonant Frequency?		
IP Rating (Environmental Protection)		IP65
Weight		see dimension table
Fatigue Rating		10 ⁸ cycles typical (10 ⁹ cycles on fatigue rated version)
Cable Length (as standard)		3 metres
Cable Type		4-core screened PUR, Ø4.6mm
Construction		Stainless Steel
Resolution		1 part in 250,000 (with appropriate instrumentation)

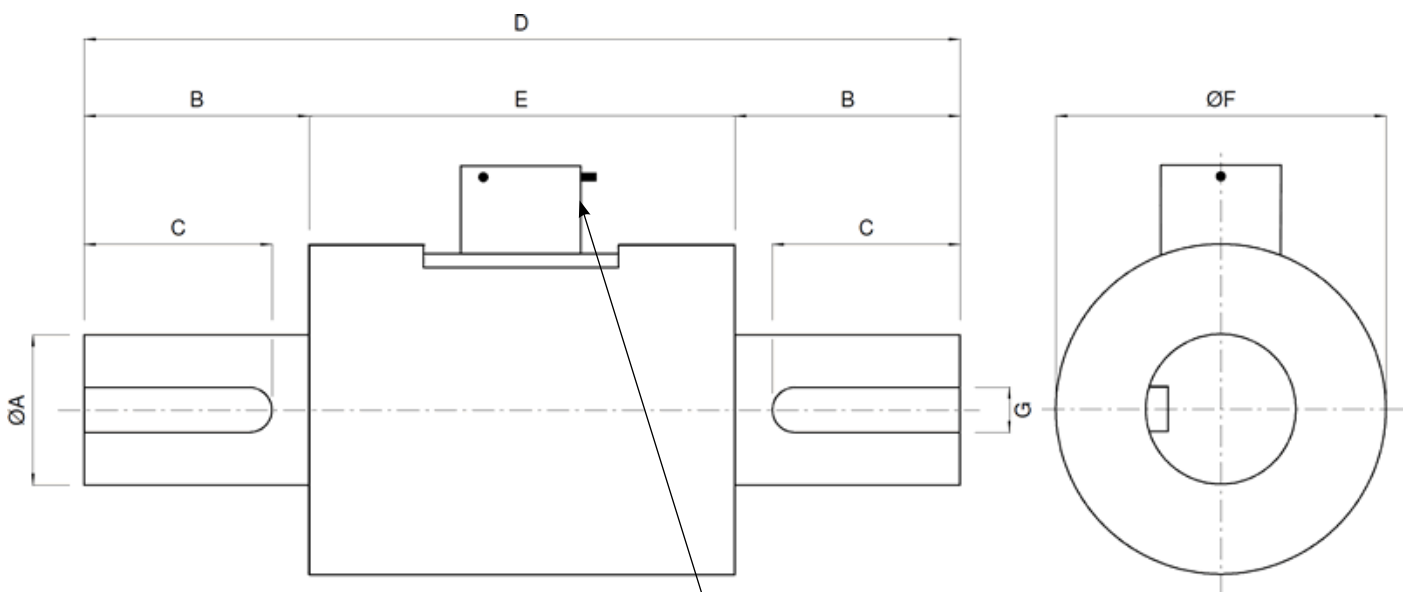


Wiring Diagram:

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)	ØA h6	B	C	D	E	ØF	G	H	Weight (kg)	Torsional Stiffness
0-10, 0-20	12	25	23	100	50	38	4	2.5		
0-50, 0-100	20	30	25	126	66	44	6	3.5		
0-200, 0-250	30	45	40	162	72	60	8	4.0		
0-500	30	45	40	162	72	60	8	4.0		
0-1000	50	75	45	232	82	74	14	5.5		
0-2500, 0-5000, 0-10,000	75	115	110	320	90	85	20	7.5		
0-10,000	100	150	145	430	130	110	28	10		



Cable gland with fixed cable on capacities from 10Nm to 100Nm.
6-pin bayonet-lock connector to MIL-C-26482, shell size 10 from 200Nm upwards.



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Ordering Codes:

Core Product	Capacity (inc Engineering Units)	Cable Length (m)	Specials Code	Example Result
DTD-P	10Nm	003	000	DTD-P-10Nm-003-000
DTD-P	20Nm	003	000	DTD-P-20Nm-003-000
DTD-P	50Nm	003	000	DTD-P-50Nm-003-000
DTD-P	100Nm	003	000	DTD-P-100Nm-003-000
DTD-P	200Nm	003	000	DTD-P-200Nm-003-000
DTD-P	250Nm	003	000	DTD-P-250Nm-003-000
DTD-P	500Nm	003	000	DTD-P-500Nm-003-000
DTD-P	1000Nm	003	000	DTD-P-1000Nm-003-000
DTD-P	2500Nm	003	000	DTD-P-2500Nm-003-000
DTD-P	5000Nm	003	000	DTD-P-5000Nm-003-000
DTD-P	10,000Nm	003	000	DTD-P-10,000Nm-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](#)