



**APPLIED MEASUREMENTS LTD.**  
Transducer Specialists...

+44 (0) 118 981 7339

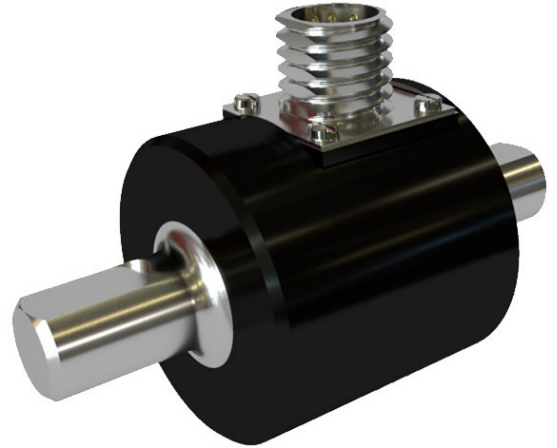
[info@appmeas.co.uk](mailto:info@appmeas.co.uk)

[www.appmeas.co.uk](http://www.appmeas.co.uk)

## YDNS Miniature Parallel Shaft Static Torque Transducer

### Key Features:

- Capacities 0-0.2Nm to 0-1000Nm
- 1.3mV/V Output
- Non-Linearity:  $<\pm 0.1\%$ /Rated Output
- Very Compact Size
- Low Cost
- 0.1% Accuracy Class
- Suitable for Low Torque Measurements
- Static or Semi-Rotary Applications
- UKAS Traceable Calibration Certificate Included
- 3 Year Warranty



The YDNS series of miniature parallel shaft static torque sensors have parallel shaft connections for in-line direct drive measurements and are suited to applications where static or semi-rotary torque (less than 1 revolution) is to be measured. Typical applications include the testing of electrical motors, hydraulic pumps, automotive transmissions, steering systems and aircraft actuators.

They offer superb 0.1% accuracy performance coupled with minimal space requirements through their very compact dimensions.

All YDNS miniature reaction torque sensors offer a 1.3mV/V output signal which can be fed into any of our range of digital indicators, signal conditioners and digitisers to provide a complete torque measurement system.

The YDNS 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
- Amplified Analogue Outputs: 4-20mA /  $\pm 10\text{Vdc}$  / 0-10Vdc / 0-5Vdc
- RS485 Digital Output: ASCII, Modbus or CAN Protocol
- Custom Capacities
- Supplied With Any Instrumentation and Calibrated as a Complete System with Traceable Certificate
- 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:

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

## Specification:

Rated Capacity (RC)	Nm	0.2, 0.5, 1, 2, 5, 10, 20, 50, 100, 200, 500, 1000
Rated Output (FSO)	mV/V	1.3 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	<0.010
Temperature Effect on Output	±/Reading/ °C	<0.010
Bridge Resistance	Ohms	350
Insulation Resistance	Megaohms @ 500Vdc	5000 @ 50Vdc
Excitation Voltage	Volts AC or DC	10 recommended (2-15 acceptable)
Operating Temperature Range	°C	-10 to +60
Compensated Temperature Range	°C	-20 to +70
Storage Temperature Range		-10 to +60
Safe Overload	% of Full Scale Output	150
Ultimate Overload	% of Rated Capacity	300
IP Rating (Environmental Protection)		IP50
Weight		see dimension table
Fatigue Rating		10 <sup>8</sup> cycles typical
Cable Length (as standard)		3 metres
Cable Type		Ø4mm, screened
Construction		Stainless Steel + Aluminium
Resolution:		1 part in 250,000 (with appropriate instrumentation)



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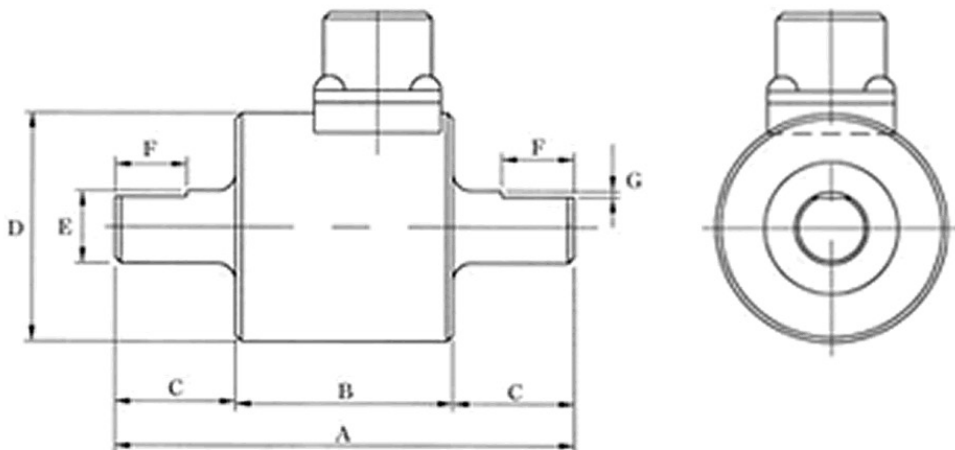
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### Wiring Diagram:

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

### Dimensions (mm):

CAPACITY (Nm)	A	B	C	ØD	ØE	F	G
0.2, 0.5, 1, 2, 5	76	36	20	38	12	15	1
10	76	36	20	38	16	15	5x5
20, 50	81	41	20	52	22	15	6x6
100, 200	103	43	30	62	30	22	8x7
500, 1000	125	45	40	84	56	30	14x9





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## Ordering Codes:

Core Product	Capacity (inc Engineering Units)	Cable Length (m)	Specials Code	Example Result
YDNS	0.2Nm	003	000	YDNS-0.2Nm-003-000
YDNS	0.5Nm	003	000	YDNS-0.5Nm-003-000
YDNS	1Nm	003	000	YDNS-1Nm-003-000
YDNS	2Nm	003	000	YDNS-2Nm-003-000
YDNS	5Nm	003	000	YDNS-5Nm-003-000
YDNS	10Nm	003	000	YDNS-10Nm-003-000
YDNS	20Nm	003	000	YDNS-20Nm-003-000
YDNS	50Nm	003	000	YDNS-50Nm-003-000
YDNS	100Nm	003	000	YDNS-100Nm-003-000
YDNS	200Nm	003	000	YDNS-200Nm-003-000
YDNS	500Nm	003	000	YDNS-500Nm-003-000
YDNS	1000Nm	003	000	YDNS-1000Nm-003-000

## Associated Products:



[TR150 Handheld Indicator](#)



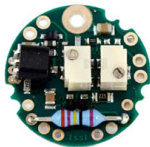
[T24 Wireless Telemetry Range](#)



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



[DSC-USB USB Signal Digitiser](#)



[ICA Miniature Strain Gauge Amplifier](#)



[SGA Signal Conditioner/Amplifier](#)