Wireless Rotary Torque Sensor | DTDR-F

Accurate and Adaptable, Wireless Direct Torque Measurement

- **Lead Time:** 11 weeks

AT A GLANCE

- Capacities: 0-10Nm to 0-50,000Nm
- Wireless Telemetry Data Output
- Non-Linearity: <±0.25%/Rated Capacity
- Battery-Powered (Rechargeable In-Situ)
- Max Speed: 6500rpm (Balanced to Grade G6,3 as-per ISO 21940-11

- **Advanced Cable-Free Wireless Monitoring up to 800m**
- **Ideal for PC Logging, Analysing and Reporting**
- **Fast and Simple Installation with Customised Flange Designs**

DESCRIPTION

The DTDR-F series of wireless torque sensors incorporate a **battery-powered wireless telemetry transmission system**, providing a cable-free measurement device suited to both constantly rotating and static torque measurement applications.

The wireless torque sensor uses the latest 'T24' range of wireless telemetry equipment from Mantracourt Electronics, which features an **advanced power management system** provides **superb battery life** of up to 1 year based on a transmission rate of once per minute. Increasing the rate to once per second will still yield 27 days of uninterrupted operation.

The wireless torque sensor's **data output stream can be received by any module in the T24 telemetry range**, which includes the T24-AO1 analogue output module, the T24-HS handheld display and the T24-BSu USB base station which comes complete with free software to allow monitoring and logging of torque measurements in real-time on a PC or laptop.

Multiple modules from the T24 range can be used with the wireless torque sensor simultaneously, i.e. analogue output module, a handheld display and the USB base station, giving you the ability to have as much, or as little monitoring and control as you need.

The wireless torque transducer's **flange design can be modified** to match existing couplings, or to fit into space-restricted situations if required.
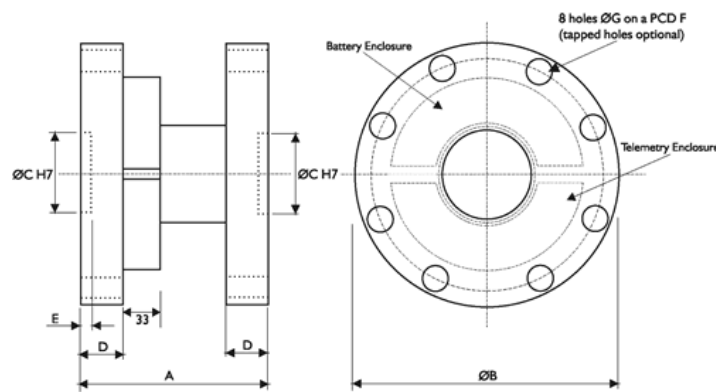
TECHNICAL SPECIFICATIONS

Rated Capacity (RC)	Nm	0-10, 0-25, 0-50, 0-100, 0-200, 0-500, 0-1000, 0-2000, 0-3000, 0-5000, 0-10k, 0-20k, 0-30k, 0-50k (Higher and lower capacities also available)
Operating Modes		Clockwise (CW)/Counter-Clockwise (CCW) / Clockwise (CW) & Counter-Clockwise (CCW)
Output		2.4GHz Wireless Telemetry: Compatible with all T24 Modules*

Rated Capacity (RC)	Nm	0-10, 0-25, 0-50, 0-100, 0-200, 0-500, 0-1000, 0-2000, 0-3000, 0-5000, 0-10k, 0-20k, 0-30k, 0-50k (Higher and lower capacities also available)
Output Bandwidth		up to 200Hz (2kHz optional)
Non-Linearity	±%/Rated Output (BFSL)	<0.1 typical
Hysteresis	±%/Full Scale Output	<0.1
Repeatability	±%/Full Scale Output	<0.05
Temperature Effect on Zero	±Reading/ ˚C	<0.010
Temperature Effect on Output	±/Reading/ ˚C	<0.020
Operating Temperature Range	˚C	0 to +50 (temperature range when charging +15 to +45)
Compensated Temperature Range	˚C	+10 to +50
Safe Overload	% of Rated Capacity	150
Ultimate Overload	% of Rated Capacity	>200
IP Rating (Environmental Protection)		IP65
Weight		Speak to sales
Fatigue Rating	Fully Reversed Cycles	20 million (standard version) / 200 million (fatigue-rated version)
Power Supply		Integrated 3.6V Lithium-Ion Rechargeable Battery
Battery Life Guide	tx rate (Hz) / hours (approx)	3/700, 10/200, 20/100, 50/35, 200/30 (also applies to 2kHz option)
Range	metres	120 (in ideal conditions)
Maximum Rotational Speed	rpm	6500
Balancing		Grade G6,3 (per ISO 21940-11 standards)
Construction Materials		Aluminium Alloy (>500Nm) / Stainless Steel (1000Nm>) & Acetal
*2kHz model is only compatible with T24-AO1, T24-AO1I, T24-BSi, T24-BSu Modules and the T24 Toolkit Software.		

Product Dimensions

Capacity (Nm)	A (mm)	ØB (mm)	ØC H7 (mm)	D (mm)	E (mm)	F (mm)	ØG (mm)
0-10	100	150	38	13	2	72	10.1
0-25	100	150	38	13	2	72	10.1
0-50	100	150	38	13	2	72	10.1
0-100	100	150	38	13	2	72	10.1
0-200	100	150	38	13	2	72	10.1

Capacity (Nm)	A (mm)	ØB (mm)	ØC H7 (mm)	D (mm)	E (mm)	F (mm)	ØG (mm)
0-500	100	150	38	13	2	72	10.1
0-1000	110	150	38	19	2	72	10.1
0-2000	110	160	38	19	2	72	10.1
0-3000	130	203	50	30	3	177	16.2
0-5000	140	203	50	35	3	177	16.2
0-10,000	150	203	50	38	3	177	16.2
0-20,000	155	240	60	42	3	200	20.2
0-30,000	180	280	60	50	4	235	24.2
0-50,000	180	280	60	50	4	235	24.2

ORDERING CODES & OPTIONS

Core Product	Capacity (inc Engineering Units)	Cable Length (m)	Specials Code	Result
DTDR-F	10Nm	000	000	DTDR-F-10Nm-000-000
DTDR-F	25Nm	000	000	DTDR-F-25Nm-000-000
DTDR-F	50Nm	000	000	DTDR-F-50Nm-000-000
DTDR-F	100Nm	000	000	DTDR-F-100Nm-000-000
DTDR-F	200Nm	000	000	DTDR-F-200Nm-000-000
DTDR-F	500Nm	000	000	DTDR-F-500Nm-000-000
DTDR-F	1000Nm	000	000	DTDR-F-1000Nm-000-000
DTDR-F	2000Nm	000	000	DTDR-F-2000Nm-000-000
DTDR-F	3000Nm	000	000	DTDR-F-3000Nm-000-000
DTDR-F	5000Nm	000	000	DTDR-F-5000Nm-000-000
DTDR-F	10,000Nm	000	000	DTDR-F-10000Nm-000-000
DTDR-F	20,000Nm	000	000	DTDR-F-20000Nm-000-000
DTDR-F	30,000Nm	000	000	DTDR-F-30000Nm-000-000
DTDR-F	50,000Nm	000	000	DTDR-F-50000Nm-000-000

Array

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