

DSIT Strain gauge inline torque transducers with dual and three range option

A range of extremely compact and versatile strain gauge transducers in a special configuration for easy use in static and semi-rotary applications. Torque may be applied in either direction, the readout of both magnitude and direction being given on the D3A/B Transducer Display Module. Particularly suitable for precision tightening and checking of fastener torques. Designed primarily for use with standard socket wrenches, the transducer body is fitted with standard male/female square drives, size according to torque range (see table below).

The shaft and strain gauge assembly are housed in a sleeve of light alloy. DSIT 1-9 have a synthetic rubber sleeve which acts as a strain relief as shown below. DSIT 10 and above are fitted with Plessey connectors. The signal conditioning amplifier, which incorporates a zero setting

control, is housed in a small unit in the cable run. All transducers have an identical output for full scale, and are therefore completely interchangeable with others in the strain gauge series.

Dual & Three Range Option.

Transducers can be supplied with either a dual or a three range option. The basic transducer which must be the size needed for the maximum torque required, will then give full scale readings for 100%, 50% or 20% of its range, depending on the position selected by a rotary switch mounted on the inline amplifier box. Thus a DSIT 3 with the Three Range option will give full scale readings of three consecutive ranges, say 0-1Nm, 0-2Nm or 0-5Nm, with an accuracy of 1% of f.s.d. The range selected is indicated at the rotary switch by illuminated LEDs.

Cable Length. 2 metres from transducer to amp. unit. .5 metres from amp. unit to D3A/B Module.

Power Supply. Provided by the D3A/B Torque Display Module.

Output. ±1 volt d.c. for full scale deflection, the polarity depending on direction of torque applied.

Accuracy. ±1% of full scale, when readout on D3A Module. ±0.5% of full scale to order using D3B Module.

Linearity. Better than 0.25% of f.s.d.

Resolution. Better than 1% analogue (D3A) ±0.25% digital (D3B)

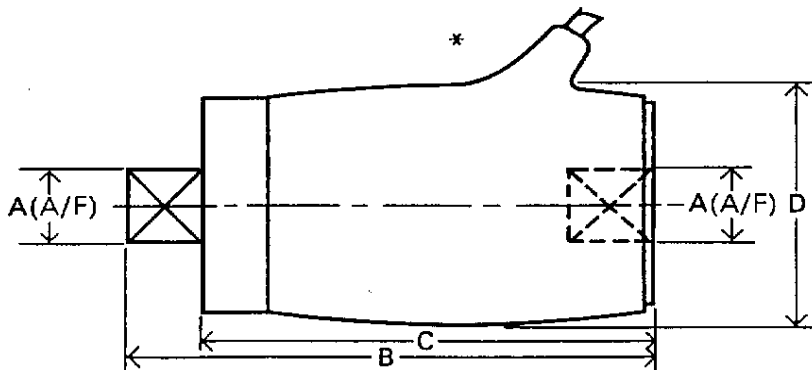
Safe Overload. 150%.

Max. Overload. 300%.

Operating Temperature Range. 0-50°C.

Temperature Coefficient. Better than 0.1% per °C.

Hysteresis. Less than 0.5%.



DSIT	Torque range		Dimensions				
	F.P.S.	M.K.S.	S.I.	A Square A/F	B Overall length	C Body length	D Body length
1	0-10 lb.f.in.	1-10 kg.f.cm.	0-1 Nm	.250 in.	64 mm.	56 mm.	32 mm.
2	0-20 lb.f.in.	0-20 kg.f.cm.	0-2 Nm	.250 in.	64 mm.	56 mm.	32 mm.
3	0-50 lb.f.in.	0-50 kg.f.cm.	0-5 Nm	.250 in.	64 mm.	56 mm.	32 mm.
4	0-100 lb.f.in.	0-100 kg.f.cm.	0-10 Nm.	.375 in.	67 mm.	56 mm.	32 mm.
5	0-200 lb.f.in.	0-200 kg.f.cm.	0-20 Nm.	.375 in.	67 mm.	56 mm.	32 mm.
6	0-500 lb.f.in.	0-500 kg.f.cm.	0-50 Nm.	.500 in.	70 mm.	56 mm.	32 mm.
7	0-100 lb.f.ft.	0-10 kg.f.m.	0-100 Nm.	.500 in.	106 mm.	90 mm.	52 mm.
8	0-200 lb.f.ft.	0-20 kg.f.m.	0-200 Nm.	.750 in.	112 mm.	90 mm.	52 mm.
9	0-500 lb.f.ft.	0-50 kg.f.m.	0-500 Nm.	.750 in.	112 mm.	90 mm.	52 mm.
10	0-1000 lb.f.ft.	0-100 kg.f.m.	0-1000 Nm.	1 in.	108 mm.	76 mm.	89 mm.*
11	0-2000 lb.f.ft.	0-200 kg.f.m.	0-2000 Nm.	1.500 in.	138 mm.	93 mm.	102 mm.*
12	0-5000 lb.f.ft.	0-500 kg.f.m.	0-5000 Nm.	2 in.	138 mm.	93 mm.	102 mm.*

* Units above DSIT 10 are fitted with Plessey Connectors (see description).