



SPARES FOR INSTRUMENTATION PRODUCTS

8	SPARES FOR INSTRUMENTATION PRODUCTS
38876	Rechargeable Battery Pack for Pro-Log, TST & TTT
29610	¼" Female - ½" Male Sleeve Adaptor
29611	½" Female - ¾" Male Sleeve Adaptor
29612	½" Female - 1" Male Sleeve Adaptor
29613	¾" Female - 1" Male Sleeve Adaptor
29614	¾" Female - ½" Male Sleeve Adaptor

4	SERIAL DATA LEAD KIT
60248	Serial Data Lead Kit
<p>Note: Serial Data Lead Kit is not suitable for use with HE Instrument and TruCheck™ 2</p>	
60259	USB to Serial Data Lead (Does not work with USM)
<p>This kit enables Norbar 'CE Marked' instruments (Post January 1996 ETS, TWA and DTS plus all Pro-Test, TST and TTT) to connect to most PCs.</p>	

PART NUMBER SUFFIX SYSTEM

Transducers can be ordered for use with Norbar's current range of instruments (TST, TTT, TTL-HE and T-Box™ 2), and as Industry Standard (mV/V calibrated) for certain display instruments from other manufacturers.

A part number suffix system is used to identify the type of calibration required. For example, a 1,000 N·m Static Transducer for use with a TTT instrument would become part number 50772.LOG.

SUFFIX	USAGE	CERTIFIED IN
.LOG	TST, TTT, TTL-HE & T-Box™ 2	Torque Units
.IND	Instruments of non Norbar manufacture (check with Norbar for suitability) and TST, TTT, TTL-HE & T-Box™ 2	mV/V

Where the transducer suffix .LOG is used, the transducer is calibrated with an instrument, as a system, a calibration certificate is provided in torque units. A full scale mV/V figure is also supplied.

STATIC TRANSDUCER BENCH STANDS

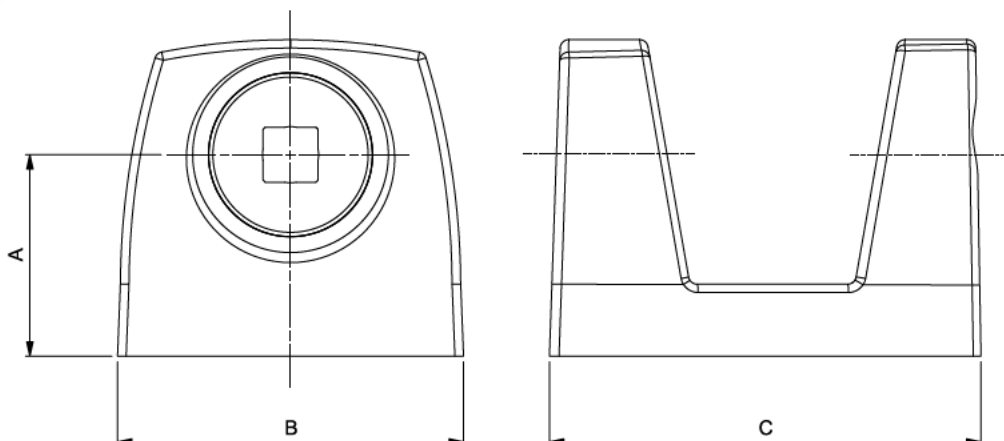
4	BENCH STANDS FOR STATIC TORQUE TRANSDUCERS
50211	Small frame size (10 N·m) ¼" sq.
50212	Small frame size (50 N·m) ⅜" sq.
50213	Small frame size (100/250 N·m) ½" sq.
50220	Large frame size (250/500 N·m) ¾" sq.
50221	Large frame size (1,000/1,500 N·m) 1" sq.
50127.BLK9005*	Extra large size (7,000 N·m) 1½" sq.
52014	¼" Insert for Small Bench Stands
52015	⅜" Insert for Small Bench Stands
52016	½" Insert for Small Bench Stands
52017	¾" Insert for Large Bench Stands
52018	1" Insert for Large Bench Stands

* Dimensions available on request



Model	Small Frame Size	Large Frame Size
Part Number	50211 50212 50213	50220 50221
Dimensions (mm)	A	70
	B	120
	C	150
Weight (kg)	0.8	2.5

Bench stands ensure the correct mounting of Norbar's Static Torque Transducers up to 7,000 N·m (5,000 lbf·ft).





STATIC TRANSDUCERS



The accuracy and quality of the Norbar Static Torque Transducers has made them the first choice of many calibration laboratories throughout the world. Up to 5,000 N·m (5,000 lbf·ft) classified to BS7882:2017, typically better than Class 1 for the primary classification range ($\pm 0.5\%$ of reading from 20% to 100% of full scale).

- Robust, heat treated, alloy steel torsion shaft design
- Designed to ignore non-torsional forces
- Operates in clockwise and counter-clockwise directions
- Calibration up to 100,000 N·m with a UKAS accredited Certificate
- Calibrated in clockwise direction as standard. Counter-clockwise provided on request
- Smart transducers have a built in memory circuit which contains essential information about the transducer. This information can be read by Norbar's TST, TTT, TTL-HE & T-Box™ 2 instruments meaning that when the transducer is connected, it is immediately recognised and ready for use
- Smart transducers can also be used with many other instruments, however these will operate as normal ratio calibrated (mV/V) transducers - the Smart data will not be read

Static Transducers ¼" through to 1"

4	STATIC TRANSDUCERS - 0.1 - 1,500 N·m	
50587.xxx*	0.1 - 1 N·m	¼" M/F
50588.xxx	0.25 - 2.5 N·m	¼" M/F
50589.xxx	0.5 - 5 N·m	¼" M/F
50590.xxx	1 - 10 N·m	¼" M/F
50591.xxx	2.5 - 25 N·m	⅜" M/F
50592.xxx	5 - 50 N·m	⅜" M/F
50593.xxx	10 - 100 N·m	½" M/F
50594.xxx	25 - 250 N·m	½" M/F
50701.xxx	25 - 250 N·m	¾" M/F
50596.xxx	50 - 500 N·m	¾" M/F
50772.xxx	100 - 1,000 N·m	1" M/F
50766.xxx	150 - 1,500 N·m	1" M/F

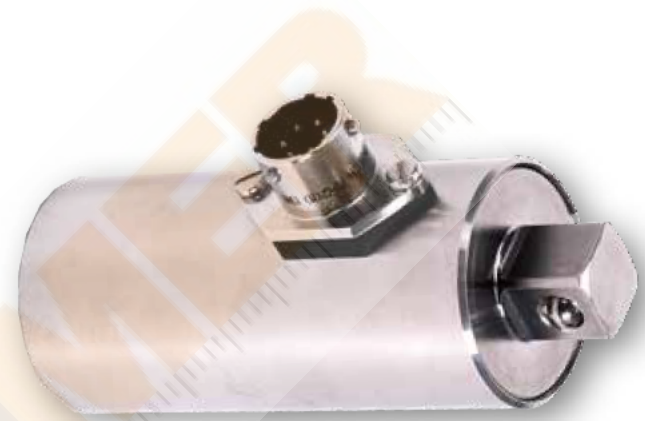
4	STATIC TRANSDUCERS - 0.1 - 1,000 lbf·ft	
50611.xxx	0.1 - 1 lbf·ft	¼" M/F
50615.xxx	0.5 - 5 lbf·ft	¼" M/F
50618.xxx	1 - 10 lbf·ft	¼" M/F
50620.xxx	2.5 - 25 lbf·ft	⅜" M/F
50836.xxx	5 - 50 lbf·ft	½" M/F
50624.xxx	10 - 100 lbf·ft	½" M/F
50625.xxx	25 - 250 lbf·ft	½" M/F
50702.xxx	25 - 250 lbf·ft	¾" M/F
50627.xxx	50 - 500 lbf·ft	¾" M/F
50773.xxx	100 - 1,000 lbf·ft	1" M/F

4	STATIC TRANSDUCERS - 1 - 1,000 lbf·in	
50610.xxx*	1 - 10 lbf·in	¼" M/F
50612.xxx	2.5 - 25 lbf·in	¼" M/F
50614.xxx	5 - 50 lbf·in	¼" M/F
50617.xxx	10 - 100 lbf·in	¼" M/F
50619.xxx	25 - 250 lbf·in	⅜" M/F
50621.xxx	50 - 500 lbf·in	⅜" M/F
50623.xxx	100 - 1,000 lbf·in	½" M/F

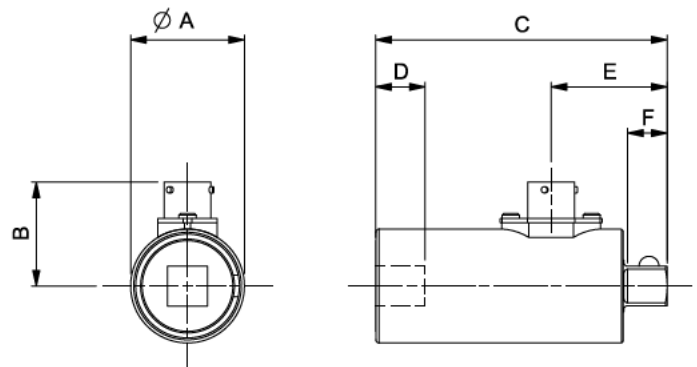
4	STATIC TRANSDUCERS - 10 - 100 ozf·in	
50609.xxx*	10 - 100 ozf·in	¼" M/F

TD2.CCW Alternative calibration direction for transducers up to 1,500 N·m / 1,000 lbf·ft when ordered with new unit

xxx Indicates .LOG or .IND versions, please see page 88.
 * .LOG versions not suitable for use with TST, TTT or TTL-HE, purchased pre Feb 2016.



Model	¼" M/F	⅜" M/F	½" M/F	¾" M/F	1" M/F	
Part Number	50587.xxx 50588.xxx 50589.xxx 50590.xxx 50611.xxx 50615.xxx 50618.xxx 50610.xxx 50612.xxx 50614.xxx 50617.xxx 50609.xxx	50591.xxx 50592.xxx 50620.xxx 50619.xxx 50621.xxx	50593.xxx 50594.xxx 50836.xxx 50624.xxx 50625.xxx 50623.xxx	50701.xxx 50596.xxx 50702.xxx 50627.xxx	50772 xxx 50766 xxx 50773 xxx	
Dimensions (mm)	ØA	36	36	36	54	54
	B	33	33	33	42	42
	C	86	90	93	142	147
	D	10	13	16	24	29
	E	30	34	37	46	51
	F	6.5	10	13	22	26
Weight (kg)	0.6	0.6	0.6	1.5	1.7	





STATIC TRANSDUCERS



Static Transducers 1½" through to 3½" Male to Female (M/F)

4	STATIC TRANSDUCERS - 250 - 7,000 N·m	
50703.xxx	250 - 2,500 N·m	1½" M/F
50791.xxx	300 - 3,000 N·m	1½" M/F
50599.xxx	500 - 5,000 N·m	1½" M/F
50669.xxx@	700 - 7,000 N·m	1½" M/F

4	STATIC TRANSDUCERS - 250 - 5,000 lbf-ft	
50704.xxx	250 - 2,500 lbf-ft	1½" M/F
50630.xxx	500 - 5,000 lbf-ft	1½" M/F

TD5.CCW@ Alternative calibration direction for transducers from 1,501 - 7,000 N·m / 1,001 - 5,000 lbf-ft when ordered with new unit

4	STATIC TRANSDUCERS - 1,000 - 100,000 N·m	
50776.xxx	1,000 - 10,000 N·m	2½" M/F
50797.xxx	2,500 - 25,000 N·m	2½" M/F
50781.xxx	5,000 - 50,000 N·m	2½" M/F
50783.xxx	8,000 - 80,000 N·m	3½" M/F
50816.xxx	10,000 - 100,000 N·m	3½" M/F

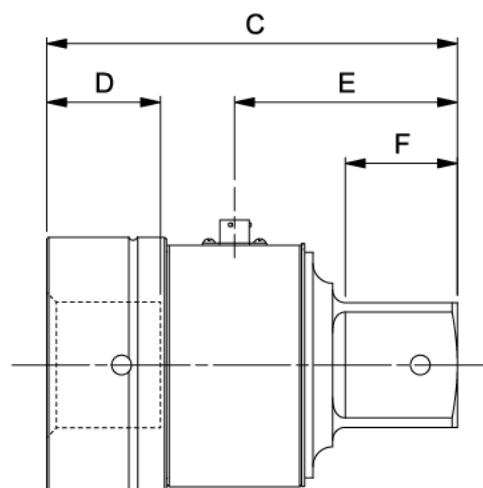
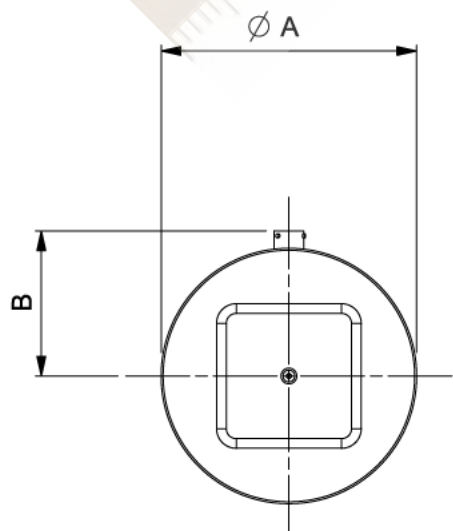
4	STATIC TRANSDUCERS - 1,000 - 60,000 lbf-ft	
50777.xxx	1,000 - 10,000 lbf-ft	2½" M/F
50798.xxx	2,500 - 25,000 lbf-ft	2½" M/F
50799.xxx	3,000 - 30,000 lbf-ft	2½" M/F
50782.xxx	6,000 - 60,000 lbf-ft	3½" M/F

TD3.CCW+ Alternative calibration direction for transducers from 7,001 - 100,000 N·m / 5,001 - 100,000 lbf-ft when ordered with new unit

- xxx Indicates .LOG or .IND versions, please see page 88.
- * .LOG versions not suitable for use with TST, TTT or TTL-HE, purchased pre Feb 2016.
- @ UKAS accredited calibration up to 6,000 N·m. A non-accredited value at 7,000 N·m is extrapolated and provided for reference only.
- + UKAS accredited calibration up to 80,000 lbf-ft. A non-accredited value at 100,000 lbf-ft is extrapolated and provided for reference only.



Model	1½" M/F	2½" M/F	3½" M/F	
Part Number	50703.xxx 50791.xxx 50599.xxx 50669.xxx 50704.xxx 50630.xxx	50776.xxx 50797.xxx 50781.xxx 50777.xxx 50798.xxx 50799.xxx	50783 xxx 50816 xxx 50782 xxx	
Dimensions (mm)	ØA	95	130	160
	B	59	80	107
	C	160	209	292
	D	41	59	91
	E	85	114	147
	F	38	57	76
Weight (kg)	4.5	11.5	16.5	





STATIC TRANSDUCERS



Static Transducers 2½" through to 3½" Male to Male (M/M)

4	STATIC TRANSDUCERS - 2,500 - 100,000 N·m	
50603.xxx	2,500 - 25,000 N·m	2½" M/M
50794.xxx	5,000 - 50,000 N·m	3½" M/M
50796.xxx	10,000 - 100,000 N·m	3½" M/M

4	STATIC TRANSDUCERS - 2,500 - 100,000 lbf·ft	
50635.xxx	2,500 - 25,000 lbf·ft	2½" M/M
50795.xxx	5,000 - 50,000 lbf·ft	3½" M/M
50637.xxx+	10,000 - 100,000 lbf·ft	3½" M/M

TD3.CCW+ Alternative calibration direction for transducers from 7,001 - 100,000 N·m / 5,001 - 100,000 lbf·ft when ordered with new unit

4	STATIC TRANSDUCERS - 15,000 - 200,000 N·m	
-	15,000 - 150,000 N·m	4½" M/M
-	20,000 - 200,000 N·m	4½" M/M

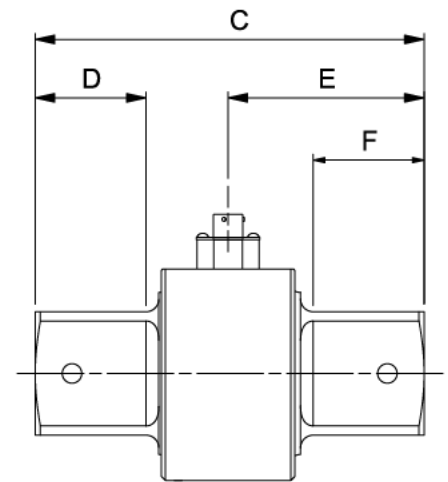
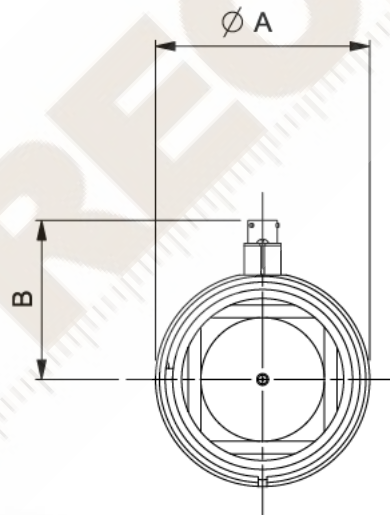
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* .LOG versions not suitable for use with TST, TTT or TTL-HE, purchased pre Feb 2016.

@ UKAS accredited calibration up to 6,000 N·m. A non-accredited value at 7,000 N·m is extrapolated and provided for reference only.

+ UKAS accredited calibration up to 80,000 lbf·ft. A non-accredited value at 100,000 lbf·ft is extrapolated and provided for reference only.

Model	2½" M/M	3½" M/M	
Part Number	50603.xxx 50635.xxx	50794.xxx 50796.xxx 50795.xxx 50637.xxx	
Dimensions (mm)	∅A	110	165
	B	82	95
	C	200	271
	D	57	76
	E	100	135
	F	57	76
Weight (kg)	11.5	16.5	



4	STATIC TRANSDUCERS
SECCAL.CW	Secondary calibration in one direction on static transducers with 2½" square drives to extend the range below 10% of the rated capacity, when ordered with new unit
SECCAL.CW+CCW	Secondary calibration in two directions on static transducers with 2½" square drives to extend the range below 10% of the rated capacity, when ordered with new unit
ADDCALPOINTS.NEW	Additional calibration steps below 10% of rated capacity to 2% for transducers up to 7,000 N·m (5,000 lbf·ft) when ordered with new unit



FLANGE MOUNTED TRANSDUCERS (FMT)



FMT 2 N-m

Flange Mounted Transducers (FMT) incorporate mounting points for securely fixing the transducer to the working surface. The transducer lead is also included and is fitted with a high quality connector, suitable for attachment to TST, TTT and T-Box™ 2 instruments.

4	FMT
50671.xxx*	0.04 - 2 N·m ¼" sq. dr. with Joint Simulator
50672.xxx	0.5 - 10 N·m ¼" sq. dr. with Joint Simulator
50673.xxx	1.25 - 25 N·m ¼" + ⅜" sq. dr. with Joint Simulator
50677.xxx*	0.4 - 20 lbf·in ¼" sq. dr. with Joint Simulator
50678.xxx	5 - 100 lbf·in ¼" sq. dr. with Joint Simulator
50679.xxx	12.5 - 250 lbf·in ¼" + ⅜" sq. dr. with Joint Simulator

4	FMT
50844.xxx	3 - 60 N·m ½" + ⅜" sq. dr. with Joint Simulator
50674.xxx	7.5 - 150 N·m ½" + ⅜" sq. dr. with Joint Simulator
50680.xxx	5 - 100 lbf·ft ½" + ⅜" sq. dr. with Joint Simulator
50675.xxx	20 - 400 N·m ½" + ¾" sq. dr.
50681.xxx	12.5 - 250 lbf·ft ½" + ¾" sq. dr.

4	FMT
50676.xxx	30 - 1,500 N·m ½", ¾" + 1" sq. dr.
50682.xxx	20 - 1,000 lbf·ft ½", ¾" + 1" sq. dr.
TD1.CCW	Counter-clockwise calibration for FMT & STB when ordered with new unit

xxx Indicates .LOG or .IND versions, please see page 88.
 * If using this transducer with a Series 1 TST or TTT (Part No.s 43198 - 43201) or a Pro-Log Display instrument, please contact Norbar.
 Includes integral transducer lead with connector to suit TST, TTT and T-Box™ 2



FMT 400 N-m

FMT 1,500 N-m

Model	FMT (2 N m - 25 N m)	FMT (60 N m - 400 N m)	FMT (1,500 N m)
Part Number	50671 xxx 50672 xxx 50673 xxx 50677 xxx 50678 xxx 50679 xxx	50844.xxx 50674.xxx 50680.xxx 50675.xxx 50681.xxx	50676.xxx 50682.xxx
Dimensions (mm)	ØA	5.5	8.5
	ØB	64	90
	C	63	65
Weight (kg)	0.8 (2 N m & 20 lbf in) 0.8 (10 N m & 100 lbf in) 0.9 (25 N m & 250 lbf in)	3.3 (60 N m, 150 N m & 100 lbf ft) 1.5 (400 N m) 2.7 (250 lbf ft)	7.0

4	FMT (Ancillary Section)
50539	2 N·m Joint Simulator (also fits TST)
50540	10 N·m Joint Simulator (also fits TST)
50541	25 N·m Joint Simulator (also fits TST)
50845	60 N·m Joint Simulator
50692	150 N·m Joint Simulator
50819	400 N·m Joint Simulator
52236	¼" Hexagon - ¼" Square Drive Adaptor
52237	¼" Hexagon - ⅜" Square Drive Adaptor
52251	⅜" Female Square - 22 mm Bi-Square Adaptor
52246	½" Female Square - 22 mm Bi-Square Adaptor
52245	¾" Female Square - 22 mm Bi-Square Adaptor
52254	½" Female Square - 35 mm Bi-Square Adaptor
52241	¾" Female Square - 35 mm Bi-Square Adaptor
52242	1" Female Square - 35 mm Bi-Square Adaptor



FMT Mounting Brackets

4	FMT Mounting Brackets
62221.BLK9005	FMT Mounting Bracket 2 - 400 N·m
62220.BLK9005	FMT Mounting Bracket 150 - 1,500 N·m

