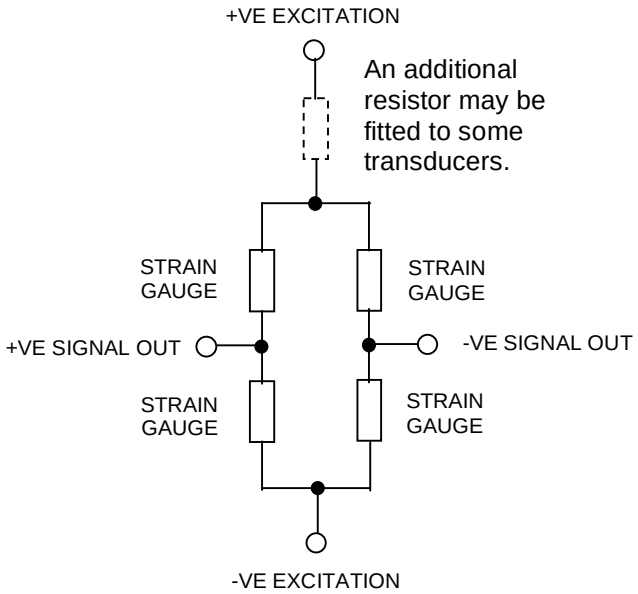
mV/V TORQUE TRANSDUCERS

OPERATORS HANDBOOK (PART NO. 34258)

ISSUE 1

TRANSDUCER SERIAL NUMBER	
TRANSDUCER MODEL NUMBER	
CALIBRATION CERTIFICATE NUMBER (if applicable)	

SHUNT CALIBRATION RESISTOR SPECIFICATION (if applicable)	
Value	
Applied across pins	
mV/V output	
Torque output	



PIN CONNECTIONS	
	+VE EXCITATION
	-VE EXCITATION
	+VE SIGNAL OUT
	-VE SIGNAL OUT

CONNECTOR TYPE (PATTERN 105)	✓
4 WAY	
6 WAY	
10 WAY	

NOTE:- The differential voltage output for STATIC and ROTARY transducers goes positive for clockwise torque's, and negative for anti-clockwise torque's.

NOTE:- Annular transducers have eight 175 ohm gauges but will still resistively conform to the above diagram. The differential voltage output of an Annular goes positive for anti - clockwise torque as it has been designed to measure reaction torque.

NORBAR TORQUE TOOLS LTD, Beaumont Road, Banbury, Oxfordshire, OX16 1XJ, UNITED KINGDOM
Tel : + 44 (0) 1295 270333, Fax : + 44 (0) 1295 753643
www.norbar.com enquiry@norbar.com

INTRODUCTION

The Transducers covered by this handbook are in line Static, Rotary, or Annular, four wire bridge, millivolt per volt (mV/V) transducers.

GENERAL SPECIFICATIONS

Accuracy	See calibration certificate supplied with transducer.
Calibration units	N.m, lbf.ft or lbf.ins as standard, but other units of Torque are available i.e cN.m, dN.m, Kgf cm and Kgf m.
Maximum Bridge Excitation	10 Volts D.C.
Zero setting tolerance	better than ± 3% F.S.D.
Operating Temperature Range	-10ºC - +50ºC.
Storage Temperature Range	-20ºC - +70ºC.
Temperature Co-efficient	< ± 0.01%/ºC. Full Scale Defection on zero. < ± 0.03%/ºC. Full Scale Defection on span.
Maximum working overload	120% of rated capacity.
Absolute maximum torsion	150% of rated capacity.

SPECIFIC DETAILS FOR ROTARY TRANSDUCERS

Drive (inches)	Rotary capacity			Maximum speed (r.p.m.)
	N.m	lbf.ft	lbf.ins	
¼ Sq	15	10	100	5000
¼ Hex	15	10	100	5000
⅜ Sq	100	75	1000	2500
½ Sq	150	100	1000	2500
½ Sq	250	150	-	2500
¾ Sq	800	500	-	1500
1 Sq	1500	1000	-	1500

STANDARD VERSION: Continuous rotation up to the maximum speed shown.

IMPULSE VERSION: 1:4 Run / Stop duty cycle (Not to be run continuously). Used where shock loading is encountered. Not designed for impact type tools.

INTERFACING TRANSDUCERS WITH NON NORBAR EQUIPMENT

ELECTROMAGNETIC COMPATABILITY

Electromagnetic compatibility is the responsibility of the system designer. To help in this task Norbar recommend the following :

(i) Use good quality screened transducer cable.
(ii) Keep transducer cable length to a minimum.
(iii) Keep transducer cable away from high voltage cables.

TRANSDUCER EXCITATION CONSIDERATIONS

An accurate, stable and low noise supply should be used to excite the Transducer.