Low Tension Transducer

FEATURES

- Capacity range: 20, 50, 100, 200, and 500 lb (9.1, 22.7, 45.4, 90.7, and 227 kg)
- Single bolt mounting with visual alignment marks for direct measurement of resultant force
- Repeatability better than 0.02% rated output
- Wide range of operating tensions (rangeability)
- Minimal deflection allows high operating speeds
- Factory calibrated for minimum start-up time
- Stainless steel construction with high overload capability

APPLICATIONS

- Converting equipment
- Winders/unwinders
- Coaters
- Laminators
- Printing presses

DESCRIPTION

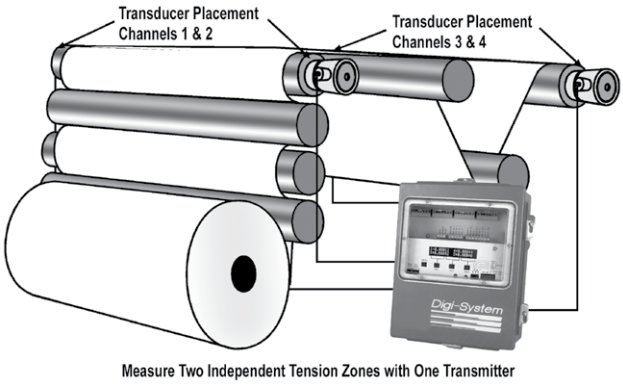
LTT technology combines precision strain gage force transducers with dead shaft mounting options to produce the highest accuracy web tension measurement systems available. LTT series transducers, developed for low force web tension applications, incorporate a differential bending beam design with a full Wheatstone Bridge strain gage configuration. This design provides stable, accurate, and repeatable measurement over a wide range of operating tensions while virtually eliminating temperature drift.

All LTT capacities are equipped with mechanical overload protection.

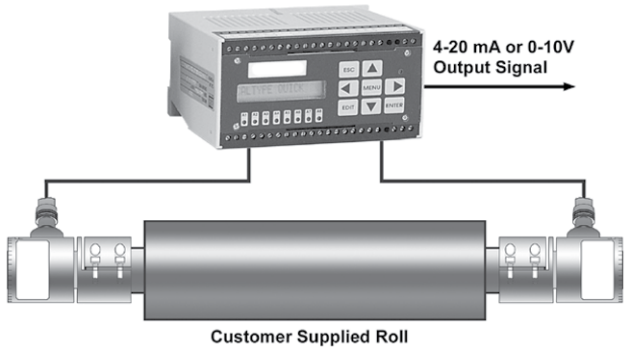
Available with a mounting configuration for dead shaft applications (with horizontal or vertical support surfaces), the LTT can be rotated to measure the resultant tension force, not just a component of the force.

Factory calibration, with closely matched output signals, eliminates field calibration and costly recalibration after the initial setup. Zero and span settings remain stable for tension forces at the low end of wide rangeability applications. The full bridge design (as opposed to half bridge) provides moderate accuracy when using a single transducer on one end of the roll.

CONFIGURATION



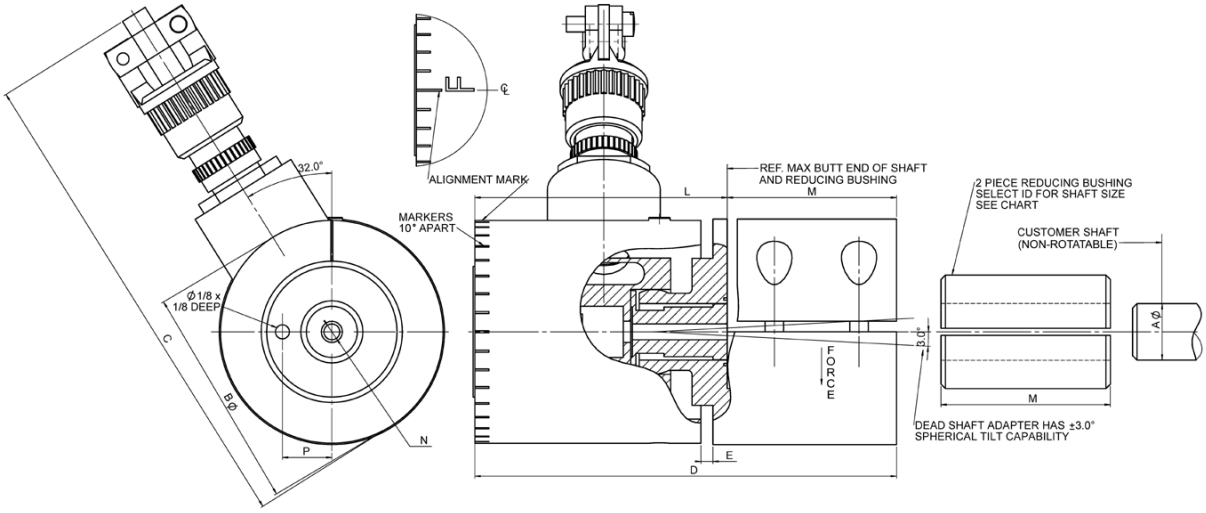
Measure Two Independent Tension Zones with One Transmitter



Customer Supplied Roll

Low Tension Transducer

OUTLINE DIMENSIONS—LTT WITH DEAD SHAFT ADAPTER



PART NAME	CAP (lbs)	A SHAFT (NOM)	BØ	C	D (MAX)	E	L (REF)	M	N	P
		1/2	1.97	4 3/8	3.75	0.11	2.25	1.50	1/2-20UNF-2B x 9/16 DEEP	0.438
LTT 20	20	5/8								
LTT 50	50	3/4								
LTT 100	100	7/8								
		1								
		1	3.47	5 29/32	5.68	0.16	3.68	2.00	5/8-18UNF-2B x 11/16 DEEP	0.750
		1 1/4								
LTT 200	200	1 1/2								
LTT 500	500	1 3/4								
		2								

NOTE:

1. ALL DIMENSIONS IN TABLE - IN INCHES.

CONNECTOR COLOR CODE

EXCITATION	GREEN	(+)	C
	BLACK	(-)	B
OUTPUT	WHITE	(+)	D
	RED	(-)	A

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SPECIFICATIONS

PARAMETER	VALUE
PERFORMANCE (% RATED OUTPUT)	
Rated capacities	20, 50, 100, 200, 500 lb (9.1, 22.7, 45.4, 90.7, and 227 kg
Rated output (RO)	2.000 mV/V ±0.25%
Nominal repeatability	0.02% RO
Maximum combined error	0.05% RO
Zero balance	5.0% RO
Creep (20 minutes)	0.03% RO
Temperature effects on zero balance	0.002% RO/°F (0.0036% RO/°C)
Temperature effects on rated output	0.002% of reading/°F (0.0036% of reading/°C)
ELECTRICAL	
Input resistance	350 Ω ±3 Ω
Input output resistance	350 Ω ±3 Ω
Recommended excitation	10 VAC/VDC
Maximum excitation	15 VAC/VDC
TEMPERATURE	
Operating range	–40 to 220°F (–40 to –105°C)
Compensated range	+15 to 130°F (–10 to 65°C)

PARAMETER	VALUE
OVERLOAD RATING	
Safe load	200% rated capacity
Safe side load	100% rated capacity
Ultimate load	300% (or better) rated capacity
MATERIAL	
All load cell parts	stainless steel
Bendix connector	cadmium plated aluminum
SEALING	
Environmental class	IP67
DEFLECTION AT RATED CAPACITY	
20 lb	0.0055 in
50 lb	0.0045 in
100 lb	0.0035 in
200 lb	0.0210 in
500 lb	0.0148 in

Note: Transducer axis misalignment ±3° max.
Note: Environmental sealing optionally available; may affect measured accuracy by 1 ounce or less
Note: Install Intrinsically safe systems with Drawing # 468872-1

BLH Nobel is continually seeking to improve product quality and performance. Specifications may change accordingly.