Web Tension Transducer

FEATURES

- Capacity range: 20, 50, 100, 200, and 500 lb (9.1, 22.7, 45.4, 90.1, and 227 kg)
- Full Wheatstone bridge design eliminates drift and recalibration problems
- Accommodates shaft misalignment up to 3°
- Rugged, compact size with high overload capability
- Measures low resultant tension forces with small wrap angles
- Scribe marked for precise alignment with resultant tension force
- Wide range of operating tensions
- Factory calibration eliminates need for on-site test weights
- Simple installation with pillow block or frame mounting
- Temperature compensated
- FM and CSA approved

FM APPROVED

APPLICATIONS

- Converting equipment
- Winders/unwinders/rewinders
- Coaters/laminators
- Printing presses

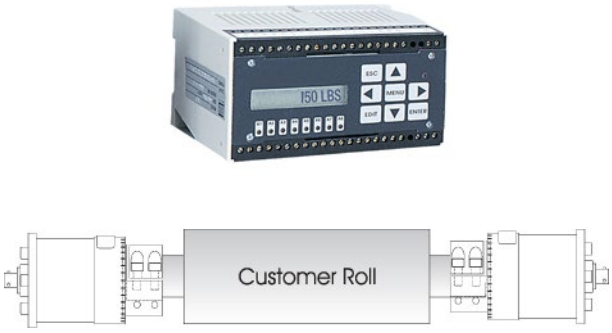
DESCRIPTION

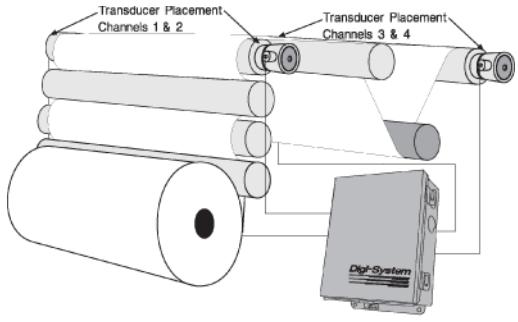
BLH Nobel GLT transducers provide stable, accurate, and repeatable performance for low force web tension applications with a wide range of operating tensions, a small wrap angle, or a high roller weight to tension force ratio. Performance improves by 50% versus half bridge semiconductor type cells and drift is basically eliminated. 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 operating at the low end of wide rangeability applications. Scribe marks allow for quick alignment of the GLT with the resultant tension force. Both frame (standard) and optional pillow block mounting configurations are available for dead shaft roller assemblies.

GLT series transducers for low-force web tension applications use a differential bending beam transducer with a full Wheatstone bridge for excellent stability, temperature, and performance specifications. Transducers are constructed of stainless steel for durability in corrosive environments.

Each unit can be rotated to measure the resultant tension force, not just a component of the force. The full bridge electrical output of each unit is calibrated within a tolerance of better than 0.25%. When coupled with BLH Nobel instrumentation, system calibration can be accomplished without using dead weights or other sources of known force. Zero and span settings also remain stable for tension forces operating at the low end of wide rangeability applications.

CONFIGURATION





Measure two independent tension zones with one transmitter

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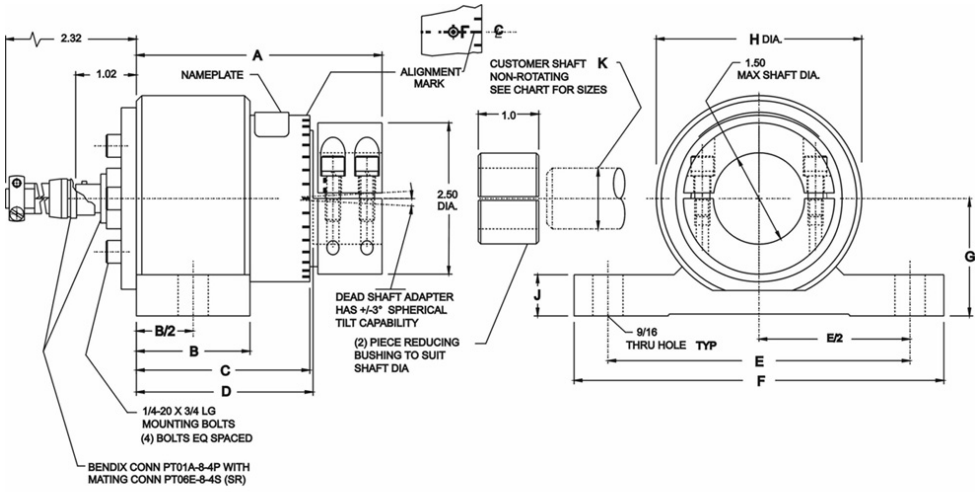
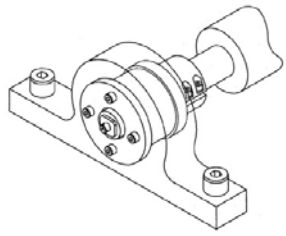
OUTLINE DIMENSIONS WITH PILLOW BLOCK OPTION



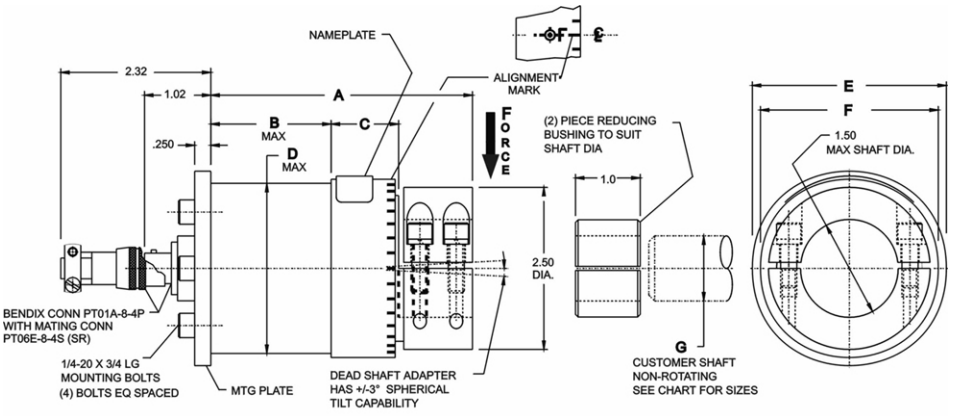


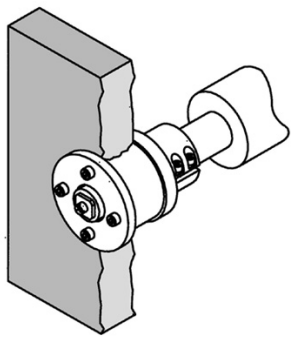
CONNECTOR COLOR CODE

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

CAPACITY (lbs)	A	B	C	D	E	F	G	H	J	K DIA.
20/50/100	3.63	1.75	2.44	2.60	4.00	5.38	1.63	3.00	.58	1/2, 3/4, 1, 1 1/4 & 1 1/2
200/500	4.04	1.88	2.85	2.98	5.00	6.12	1.94	3.40	.68	1, 1 1/4 & 1 1/2

TRANSDUCER OUTLINE DIMENSIONS





CAPACITY (lbs)	A	B	C	D Dia.	E Dia.	F	G Shaft Dia.
20/50/100	3.63	1.74	.87	2.375	2.75	2.50	1/2, 3/4, 1, 1 1/4 & 1 1/2
200/500	4.04	1.87	1.11	2.625	3.00	2.75	1, 1 1/4 & 1 1/2

CONNECTOR COLOR CODE

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

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AVAILABLE INSTRUMENTATION

PS 2010T

High-Speed
Display Transmitter

LCp-100

Precision Display Transmitter with
Profibus or AB Remote I/O
Interface

DXt-40

Tension Display
Left, Right, or Total

SPECIFICATIONS

PARAMETER	VALUE
PERFORMANCE	
Capacities	20, 50, 100, 200, 500 lb (9.1, 22.7, 45.4, 90.1, 227 kg)
Rated output (RO), nominal	2.000 mV/V ±0.25%
Nonlinearity	0.25%
Hysteresis	0.10%
Repeatability	0.02% RO
Creep (20 minutes)	0 05% RO
Zero balance	5.0% RO
ELECTRICAL	
Input resistance	350 Ω ±3 Ω
Output resistance	350 Ω ±3 Ω
Insulation resistance	<5000 MΩ
Recommended excitation	10 VAC/VDC
Maximum excitation	15 VAC/VDC
Electrical connector	Bendix—PT-01-8-4P with mating half—PT06E-8-4S (SR)

PARAMETER	VALUE
TEMPERATURE	
Operating range	–40 to 220°F (–40 to 105°C)
Compensated range	+30 to 130°F (–1 to 54°C)
Effect on zero balance	0.0015% RO/°F
Effect on rated output	0.0050% of load/°F
OVERLOAD RATING	
Safe load	200% rated capacity
Ultimate load	500% rated capacity
Safe Side load	100% rated capacity
MATERIAL	
All capacities	All Stainless Steel
DEFLECTION AT RATED CAPACITY	
All capacities	0.003–0.020 in
SEALING	
All capacities	EC IP65

NOTE: Shaft coupling spherical tilt capability = 3° max.
NOTE: Intrinsically safe systems must be installed in accordance with Drawing # 468872-2

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

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