Web Tension Transducer

FEATURES

- Capacity range: 20, 50, 100, 200, and 500lb (9.1, 22.7, 45.4, 90.1, and 227kg)
- 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

DESCRIPTION

BLH 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.

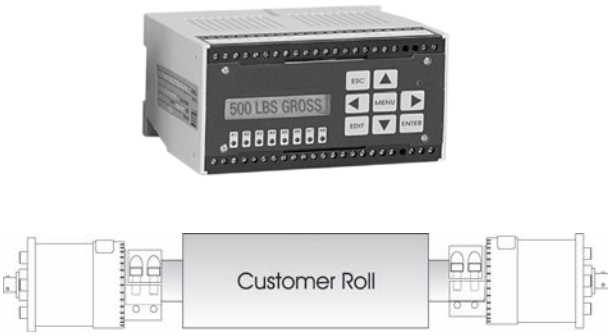
GLT series transducers for low-force web tension applications use a differential bending beam transducer with a full Wheatstone bridge for excellent stability, temperature, and performance specifications. Transducers are constructed of stainless steel for durability in corrosive environments.

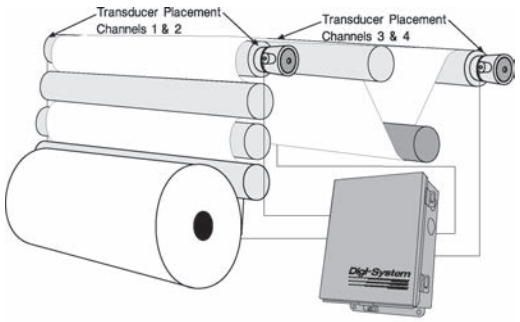
Each unit can be rotated to measure the resultant tension force, not just a component of the force. The full bridge electrical output of each unit is calibrated within a tolerance of better than 0.25%. When coupled with BLH instrumentation, system calibration can be accomplished without using dead weights 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.

APPLICATIONS

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

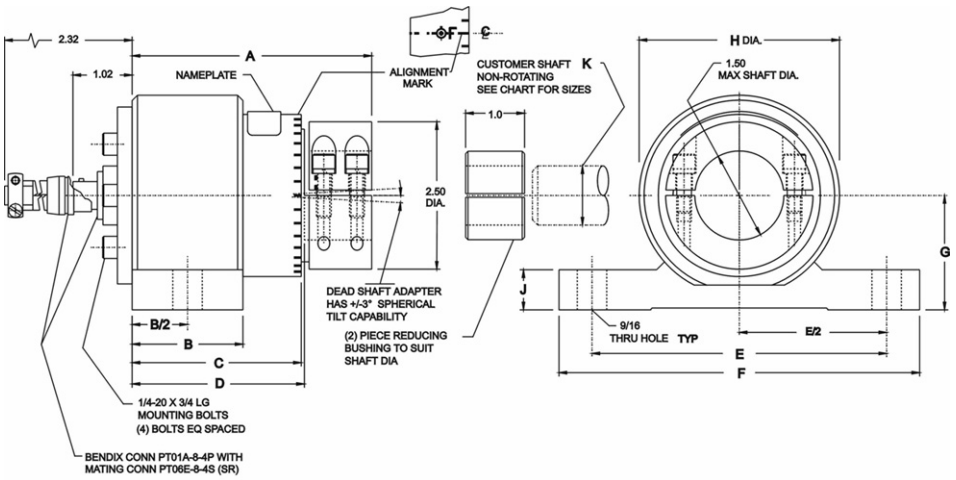
CONFIGURATION

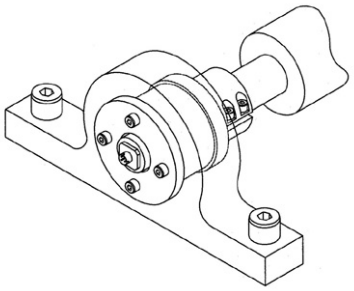




Measure two independent tension zones with one transmitter

OUTLINE DIMENSIONS WITH PILLOW BLOCK OPTION



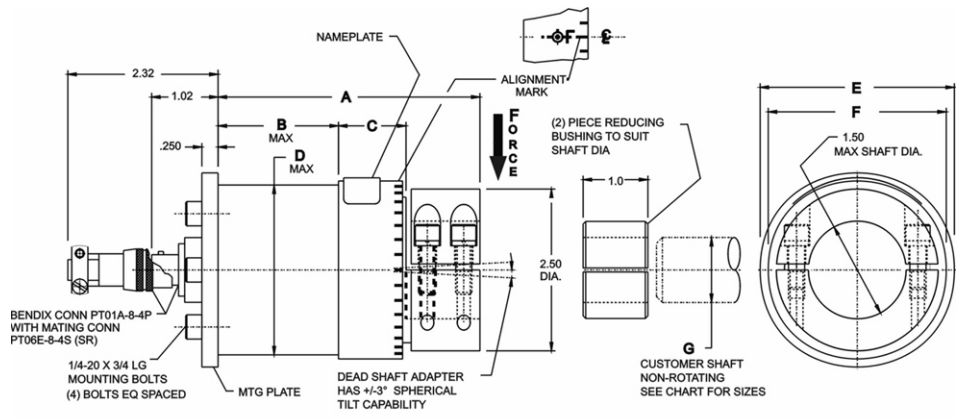


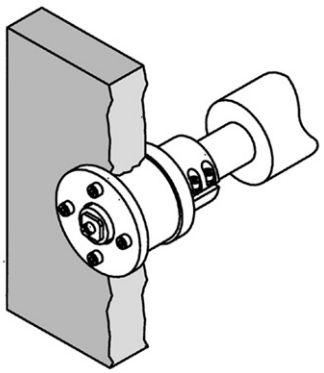
CONNECTOR COLOR CODE

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

SPECIFICATIONS

Performance (% Rated Output)

Rated Capacity	20, 50, 100, 200, 500 lb (9.1, 22.7, 45.4, 90.1, 227kg)
Rated Output (RO), nom.	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 ohms ± 3 ohms
Output Resistance	350 ohms ± 3 ohms
Insulation Resistance	< 5000 megohms
Recommended Excitation	10Vac/dc
Maximum Excitation	15Vac/dc
Electrical Connector	Bendix - PT-01-8-4P with mating half - PT06E-8-4S (SR)

Approvals

FM (Factory Mutual)	3611 (Class I, II, III; Div.1,2; Groups A-G)
CSA	C22.2 (Class I, II,III; Div.1,2; Groups A-G)

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	0.0050% 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

Materials

All Capacities	All Stainless Steel

Deflection at Rated Capacity

All Capacities	0.003 - 0.020 inches

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

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