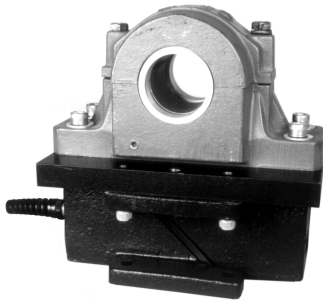


## Web Tension Measurement Modules



### FEATURES

- Capacity range: 500, 1K, 2K, 5K, 10K, 20K and 50K lb (227, 454, 907, 2.27K, 4.54K, 9K and 22.7K kg)
- Rugged stainless steel 'I' beam sensing section
- Resultant forces measure in the up or down direction
- Full Wheatstone bridge with SR-4® foil strain gages
- Factory calibration eliminates need for on-site test weights
- Optional adapter plate designed for on-site installation of overload safety stops
- FM and CSA approved

### DESCRIPTION

HTZ-3 Web Tension Measurement Modules are designed to mount directly below roller pillow blocks in new or existing installations. Each module includes an integral mounting pad for use with an optional pillow block adapter plate. Adapter plate design allows upward or downward measurement and provides safety stop installation points at each corner. Transducers are machined from high strength stainless steel to yield a rugged 'I' Beam sensing section. A full Wheatstone bridge array of temperature compensated, Foil SR-4® Strain Gages are attached to this section and calibrated for precision accuracy. Resulting temperature stability is due to closely matching the expansion coefficient of the sensing section to the gages.

Module sealing meets NEMA 4 and IP65 requirements. An integral cable conduit fitting, epoxy sealed strain gages, and a stainless steel transducer ensure long-term reliability in wet or washdown locations.

Space required below the pillow block bearing is minimal, resulting in negligible line profile changes on retrofit installations. Overall height of the 1000 pound module is 2 inches. BLH provides HTZ-3 sizing recommendations based upon the actual sensing roll configuration.

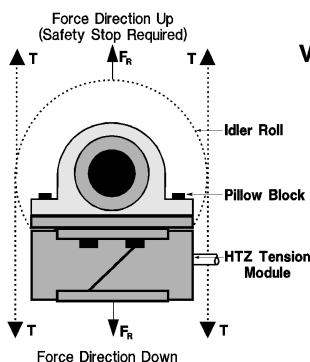
Modules are calibrated and certified with matched output signals to permit on-site, push-button system calibration.

### APPLICATIONS

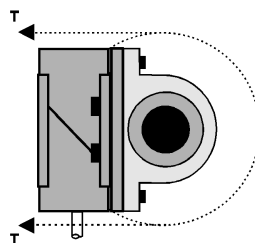
- Paper producing machines
- Roofing shingle manufacturing
- Printing presses
- Laminator zones
- Dryer zones
- Coating zones
- Felt measurement

### CONFIGURATION - SYMMETRICAL WRAP ANGLES ONLY

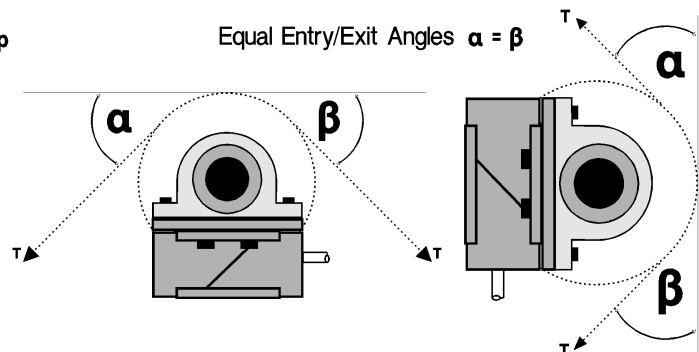
#### Horizontal Mounting 180° Wrap with Force Directed Up or Down



#### Vertical Mounting 180° Wrap



#### Equal Entry/Exit Angles $\alpha = \beta$



### SPECIFICATIONS

#### Performance (% Rated Output)

Capacity	500, 1K, 2K, 5K, 10K, 20K, 50K lb (227, 454, 907, 2.27K, 4.54K, 9K and 22.7K kg)
Rated Output (R.O.)	2.0 mV/V±0.1%
Repeatability	0.01% R.O.
Combined Error (best fit)	0.10% R.O.
Zero Balance	5% R.O.
Creep (20 minutes)	0.03% R.O.
Temperature Effects:	
Zero Balance	0.0017% R.O/°F (0.003%/°C)
Output	0.0020% Reading/°F (0.0036%/°C)

#### Electrical

Input & Output Resistance	350Ω±3Ω
Recommended Excitation	10 or 15Vac/dc
Maximum Excitation	18Vac/dc

#### Temperature

Operating Range	-40 to 220°F (-40 to 105°C)
Compensated Range	30 to 130°F (-1 to 54°C)

#### Overload Rating - % Rated Capacity

Safe Load	150
Ultimate Load	300

#### Material

Beam	15-5PH Stainless Steel
Brackets	Ductile Iron with Enamel Paint*
Environmental Class	NEMA 4/IP65
Moisture Protection	IEC Recommendation 68-2-4 Test D, 100 Cycles

#### Deflection Under Load Unit Weight

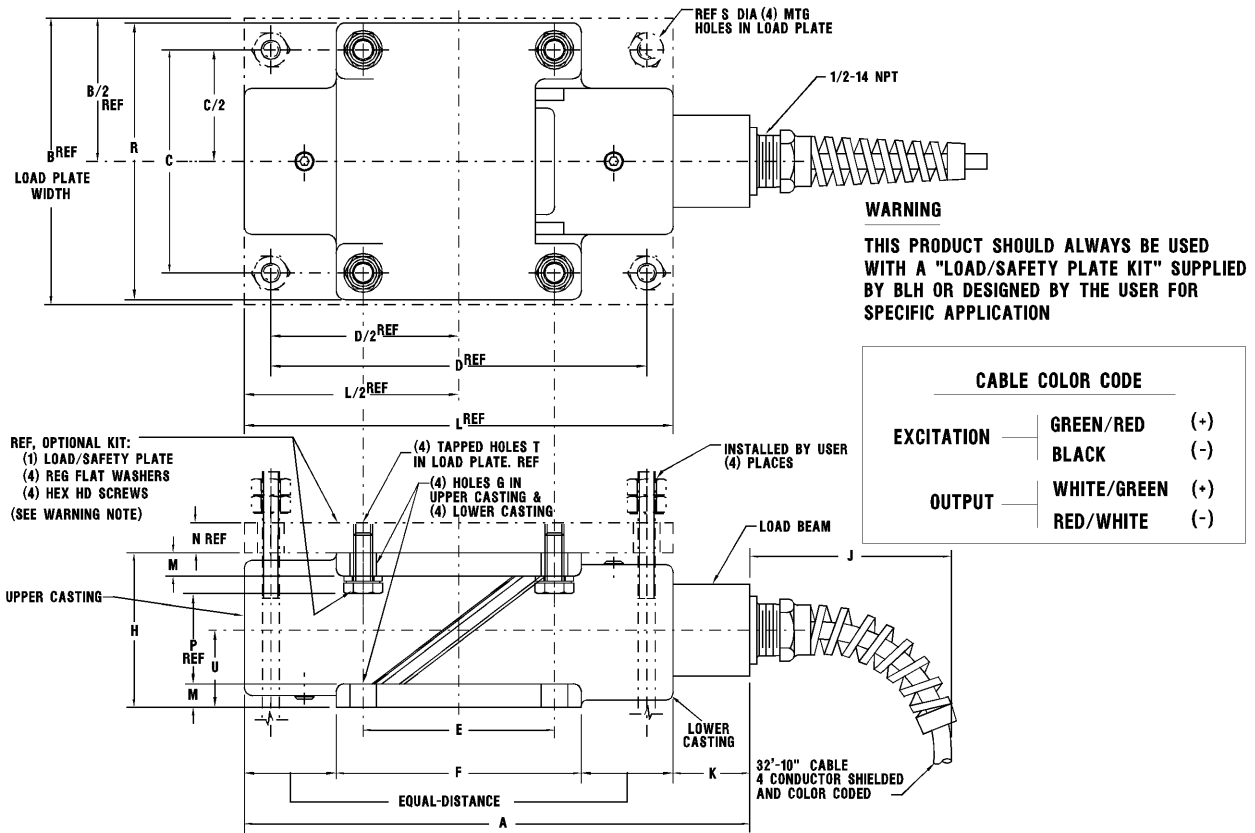
Capacity (lb)	Deflection	Weight
500, 1K	0.012 in.	10 lb
2K	0.013 in.	15 lb
5K	0.027 in.	15 lb
10K	0.023 in.	35 lb
20K	0.047 in.	50 lb
50K	0.066 in.	75 lb

#### 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)

\* single component, waterborne polyurethane copolymer - high gloss

**OUTLINE DIMENSIONS**



CAPACITY (lb)	A	B REF	C	D REF	E	F	G	H	J	K	L REF	M TYP	N REF	P REF	R	S REF	T REF	U	
500	7.50	4	3.0	5.0	2.56	3.5	.32	2.00	3	1.50	6	.31	1/2	1.16	3.88	.50	1/4-20	1.00	
1,000																			
2,000	8.25	4 1/2	3.62	6.0	3.12	4.0	.43	2.50			1.25	7	.38	5/8	1.43	4.5	.62	3/8-16	1.25
5,000																			
10,000	9.00	5 1/2	4.42	8.0	3.92	5.0	.43	3.34				9	.56	3/4	1.91	5.5	.75	3/8-16	1.67
20,000	10.00	6 1/2	5.06	8 3/4	4.18	5.5	.50	3.88		FLUSH WITHIN	10	.75	7/8	2.03	6.38	.88	7/16-14	1.94	
50,000	12.00	8	6.00	10	5.00	6.5	.69	4.60		+/- .12	12	1.00	1 1/4	2.03	7.50	1.00	5/8-11	2.30	

Dimensions shown in inches.

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

## Disclaimer

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