



Performance Benefits

Andantex USA Inc specializes in the design and application of web tension control product solutions.

Transducers, providing measurement and control of tension in wire, fiber and ribbons.

Tensi-Master[®] CR Tension Transducers are designed for supporting a customer supplied pulley assembly in applications such as printing, coating, cutting, plating, laminating, and embossing; and in the processing of tire cord, textiles, wire, tape, extensible film, thread and yarn, paper, foil, cellophane, and many other products.

Tensi-Master® CR Tension Transducers are easily applied, provide consistent quality, and are highly responsive for enhanced system performance. With heavy duty construction and a low maintenance design, they minimize downtime.

Design Features

Tensi-Master® CR Tension Transducers utilize a cantilevered "twin beam" to render greater sensitivity and response without sacrificing protection from overload and transients common to industrial process machinery.

Semiconductor strain gauges are bonded to the beam assembly, and provide a linear output signal as the beam assembly is deflected by the force acting on the pulley or roll.

Tensi-Master[®] CR Tension Transducers are available in eight different load ratings, providing tension sensing of wire, fiber and ribbons over an extremely wide range. With a versatile transducer orientation capability, they easily accommodate tension forces applied in any direction. Flexibility of installation is accomplished by adding mounting hardware to a basic module to complete the body style.

TENSION TRANSDUCERS

CANTILEVERED For Wire & Cables

Cantilevered Load Cells for Measurement and Control of Tension In Wire, Fiber & Ribbon Applications

- Negligible displacement of "twin beam" design resulting in high level linear output signal, high frequency response and overall system stability.
- Easily oriented at any angle to accommodate all web paths.
- Accommodates customer-mounted pulley.
- Heavy duty construction with corrosion resistant finish and dust seal.
- Incorporates a built-in overload stop.
- Accommodates "MS type connectors.
- Wide range of Maximum Force ratings.
- Wide operating temperature range.
- Corrosion-resistant finish and dust seal.

OPERATING PARAMETERS

It is recommended that the operating parameters do not exceed the maximum values in the table. Consult the factory if operation outside of these limits is required.

TRANSDUCER	RECOMMENDED MAXIMUM LIMITS						
MWF - LBS	ROLL WEIGHT POUNDS	ROLL WIDTH INCHES	SPEED RPM				
5	1.00	2.00	3500				
10	1.75	3.00	4000				
15	2.50	3.50	4000				
25	4.00	3.50	4250				
50	8.00	3.25	4500				
75	12.00	3.00	4500				
100	15.00	3.00	4500				
150	25.00	2.50	4500				

DIMENSIONS



TYPE TNSC CARTRIDGE WITH FL MOUNTING KIT



TYPE TNSC CARTRIDGE



A (MIN)



TYPE TNEC CARTRIDGE WITH PILLOW BLOCK MOUNTING KIT

DIMENSIONS ARE IN INCHES. ALLOW 2.5 INCHES CLEARANCE FOR CONNECTOR												
A	В	С	D	E	F	G	н	1	J	ĸ	L	м
0.625	0.55	2.50	1/2 - 13	2.375	2.44	-	2.10	2.75	1.03	1.55	2.88	3/8
					6				-			
N	0	P	Q	R	S	Т	U	V	W	X	Y	Z
3.25	0.50	4.00	4.00	1.74	5.38	0.58	1.63	1.02	1.75	-	1/2	1.50



Performance Benefits

Andantex USA Inc. specializes in the design and application of web tension control product solutions. Andantex USA Inc. Tension Transducers (Load Cells), provides measurement and control of web tension in continuous process machinery applications such as printing, embossing, slitting, coating, cutting, punching, laminating and folding; and in the production of paper, cellophane, cardboard, rubber, textiles, linoleum, foil, and extensible and photo film.

Andantex USA Inc. Transducers are force transducers that are easily applied, provide consistent product quality, and are highly responsive for enhanced system performance. Negligible motion maintains proper roll alignment.

Andantex USA Inc. Transducers are modular in design, providing the greatest degree of installation and application flexibility. With heavy-duty construction and a low maintenance design, they reduce the necessity of machine modifications while minimizing downtime.

Design Features

Andantex USA Tension Transducers utilize a cantilevered "twin beam" to render greater sensitivity and response without sacrificing protection from overload and transients common to industrial process machinery.

Semiconductor strain gauges are bonded to the beam assembly, and provide a linear output signal as the beams are deflected by the force acting on the transducer roll.

Andantex USA Inc. Transducer flexibility of installation is accomplished by adding mounting hardware to a basic module to complete the body style. Two basic module types are offered in two sizes each, with each size available in five different load ratings. This allows sensing of web tension over an extremely wide range. With an infinite transducer orientation capability, they easily accommodate tension forces applied in any direction.

Andantex USA Inc. Transducers are designed to accommodate shaft expansion and shaft misalignment up to one degree. They incorporate a temperature compensated bridge circuit, a split coupling mount, built-in overload stop, "MS" type connectors, and a corrosion resistant finish and dust seal.

ANDANTEX USA Inc.

TENSION TRANSDUCERS

CARTRIDGE-STYLE

Modular Force Transducers (Load Cells) Combining Highly Responsive Web Tension Measurement & Control with Installation Flexibility

- Negligible displacement of "twin beam" design, resulting in high level linear output signal, high frequency response and overall system stability.
- Easily oriented at any angle to accommodate all web paths.
- Available in two basic module types and two different sizes-with each size available in 5 different load ratings.
- Wide range of Maximum Working Force ratings In each type & size.
- Wide operating temperature range.
- Built-in overload stop.
- Accommodates "MS" type connectors
- Corrosion-resistant finish and dust seal.
- Accommodates shaft expansion & shaft misalignment up to 1°.

Mounting Option:









Type "S" Stud Mounted Type "FL" Flange Mounted Type "BR" Bearing Replacement

Type "PB" Pillow Block

Mounting Kit Configuration:

This diagram illustrates the Various configurations provided By the Andantex modular design.





Type FL Mounting KitSide Connector CartridgeSize FL-1T or FL-2TSC-1T / SC-2T



Type BR Mounting kit Size BR-1T or BR-2T

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Type PB Mounting Kit Size PB-1T or PB-2T

End Connector Cartridge EC-1T / EC-2T

Principle of Operation:

Diagram of "Twin Beam" Transducer Gaging and Wiring.

Basic wiring diagram To form a complete bridge.





Specifications:

Gage Resistance:	Each transducer contains half a bridge having a nominal resistance of
Gage Factor:	100 nominal
Excitation Voltage:	5.6 VDC or VAC (rms) maximum.
Output Signal @ rated MWF:	250 mV nominal / Transducer.
(Maximum Working Force)	500 mV nominal / Pair.
Operating Temperature Range:	0°F to +200°F. (Consult factory if operating temp. is greater than 200°F).
Sensitivity Change with	Less then 0.02%/F. of rated output typical.
Temperature:	
Humidity:	95% R.H.
Combined Non-Linearity and	±0.5% maximum of rated output
Hysteresis:	
Repeatability:	±0.2% maximum of rated output
Non-destructive Overload:	150% of M.W.F.
Ultimate Overload Rating:	300% of M.W.F.
"MZ" connectors:	MA-3102A-10SL-3P (3 Pin connector)
Input Impedance required:	5K Ohms per transducer. (10K/pair)
Output Impedance:	820 Ohms (nom.) per transducer or 1640 Ohms (nom.) per pair at 25°C.

Weight (Lbs. each):

Description	1T	2T
Cartridge Transducer	3.3	4.4
With "FL" Mounting Kit	4.2	6.0
With "BR" Mounting Kit	3.6	4.9
With "PB" Mounting Kit	6.0	8.5

Dimensions:



Type SC Cartridge with FL Mounting Kit



Type EC Cartridge with Br Mounting Kit





Type EC Cartridge with PB Mounting Kit

Type SC Cartridge

<u>Dimensions in</u>	<u>inches – Allow</u>	2.5 in. Cleara	<u>ance for Conne</u>	<u>ctor</u>

Size	Α	В	С	D	E	F	G	Н	I	J	K	L	Μ
1T (1.25)	1 25	0.55	2.50	1∕₂-13	2.375	2.44	2.60	2.10	2.75	0.87	2.25	3.63	3⁄8
2T (1.25)	1.25	0.60	2.75	‰-11	2.625	2.85	2.98	2.23	3.00	1.11	2.25	4.04	1⁄2
1T (1.50)		0.55	2.50	1∕₂-13	2.375	2.44	2.60	2.10	2.75	0.87	2 50	3.63	3⁄8
2T (1.50)		0.60	2.75	‰-11	2.625	2.85	2.98	2.23	3.00	1.11	2.50	4.04	1⁄2
	N	0	Р	Q	R	S	Т	U	v	w	Х	Y	Z
1T (1.25,1.50)	3.25	0.50	4.00	4.00	1.74	5.38	0.58	1.63	1.02	1.75	1.02	1⁄2	1.50
2T (1.25,1.50)	3.50	0.62	4.50	5.00	1.87	6.12	0.68	1.94	1.02	1.88	1.02	1/2	1.70

Shaft length to be:

"Between Frames Width" less than twice G for type "S" and "FL" installations. "Between Frames Width" less than twice J for type "BR" installations. Certified Mounting Dimensions Supplied upon request.

Option and Accessories:

- Transducer Bushings to reduce standard bore Size: 5/8", 3/4", 7/8", 1", 1-1/8, 1-3/16 (Note: Standard Bushing O.D. is 1.25 inches)
- Standard Transducer Cables: 20 ft, 50ft, 75ft, 90° Connecter or straight.

Reference and Part Number:

REFERENCE:	Side Connector (SC) Part Number
1T-025LB.SC (1.25)	901.025.SC
1T-050LB.SC (1.25)	901.050.SC
1T-075LB.SC (1.25)	901.075.SC
1T-100LB.SC (1.25)	901.100.SC
1T-150LB.SC (1.25)	901.150.SC
2T-150LB.SC (1.25)	902.150.SC
2T-250LB.SC (1.25)	902.250.SC
2T-400LB.SC (1.25)	902.400.SC
2T-600LB.SC (1.25)	902.600.SC
2T-1000LB.SC (1.25)	902.1000.SC

Cables	
REFERENCE:	Part Number
20' Cable Std. Ctr.	920.100.20
20' Cable 90° Ctr.	920.190.20
50' Cable Std. Ctr.	920.100.50
50' Cable 90° Ctr.	920.190.50
75' Cable Std Ctr.	920.100.75
75' Cable 90° Ctr.	920.190.75

REFERENCE:	End Connector (EC) Part Number
1T-025LB.EC (1.25)	901.025.EC
1T-050LB.EC (1.25)	901.050.EC
1T-075LB.EC (1.25)	901.075.EC
1T-100LB.EC (1.25)	901.100.EC
1T-150LB.EC (1.25)	901.150.EC
2T-150LB.EC (1.25)	902.150.EC
2T-250LB.EC (1.25)	902.250.EC
2T-400LB.EC (1.25)	902.400.EC
2T-600LB.EC (1.25)	902.600.EC
2T-1000LB.EC (1.25)	902.1000.EC

MOUNTING KIT	
REFERENCE:	Part Number
1T-MTK.BR	901.000.SC
2T-MTK.BR	902.000.SC
1T-MTK.FL	901.000.FL
2T-MTK.FL	902.000.FL
1T-MTK.PB	901.000.PB
2T-MTK.PB	902.000.PB