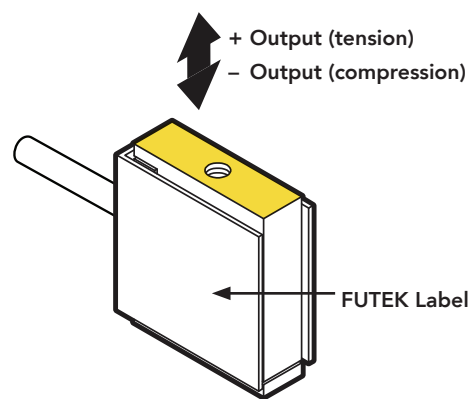




## FEATURES

- Up to 10 times the overload protection
- Overload is available in Tension and Compression
- Light weight
- Notable nonlinearity
- Miniature size

 Active end



## SPECIFICATIONS

### PERFORMANCE

Nonlinearity	±0.1% of RO
Hysteresis	±0.1% of RO
Nonrepeatability	±0.05% of RO

### ELECTRICAL

Rated Output (RO)	See chart on third page
Excitation (VDC or VAC)	10 max
Bridge Resistance	See chart on third page
Insulation Resistance	≥500 MOhm @ 50 VDC
Connection	#29 AWG, 4 conductor, spiral shielded silicone cable, 5 ft [1.5 m] long
Wiring Code	WC1

### MECHANICAL

Weight (approximate)	0.7 oz [19.3 g] (10 g–10 lb) 0.9 oz [24.7 g] (25–100 lb)
Safe Overload	1000% of RO
Material	Aluminum (10–250 g)
IP Rating	IP40

### TEMPERATURE

Operating Temperature	-60 to 200°F [-50 to 93°C]
Compensated Temperature	60 to 160°F [15 to 72°C]
Temperature Shift Zero	±0.01% of RO/°F [0.018% of RO/°C]
Temperature Shift Span	±0.02% of Load/°F [0.036% of Load/°C]

### CALIBRATION

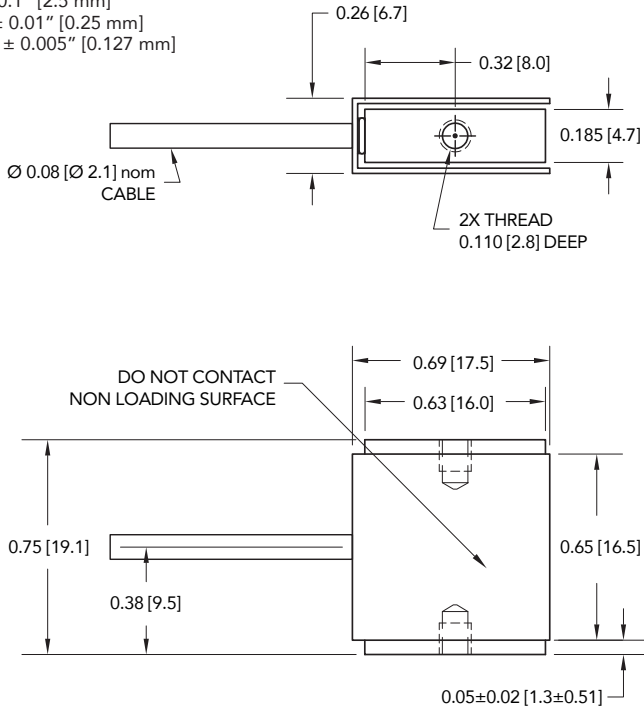
Calibration Test Excitation	5 VDC
Calibration (standard)	5-pt Tension
Calibration (available)	Compression

### CONFORMITY

RoHS	EU 2015/863
CE	EN55011; EN61326-1

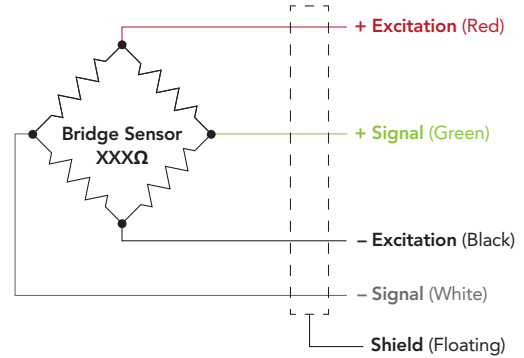
## DIMENSIONS inches [mm]

TOLERANCE:  
 .X ± 0.1" [2.5 mm]  
 .XX ± 0.01" [0.25 mm]  
 .XXX ± 0.005" [0.127 mm]



## WIRING CODE (WC1)

RED	+ EXCITATION
BLACK	- EXCITATION
GREEN	+ SIGNAL
WHITE	- SIGNAL
SHIELD	FLOATING



## CAPACITIES

ITEM #	g	N	RO (nom)	Bridge Resistance	Shunt Calibration Value	Deflection (in.)	Natural Frequency (Hz)
FSH03867	10 g	0.1	0.5 mV/V	1000 Ohm nom	301 kOhm	0.004	140
FSH03868	20 g	0.2	1 mV/V			0.008	140
FSH03869	50 g	0.5	2 mV/V	150 kOhm	0.010	200	
FSH03870	100 g	1.0			0.008	300	
FSH03871	250 g	2.5			0.007	530	

Drawing Number: F11455-A

FUTEK reserves the right to modify its design and specifications without notice.

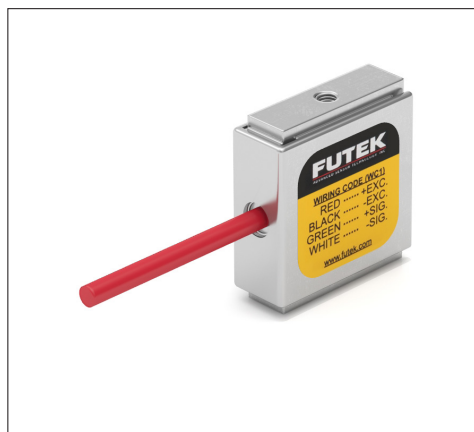
www.futek.com



RoHS



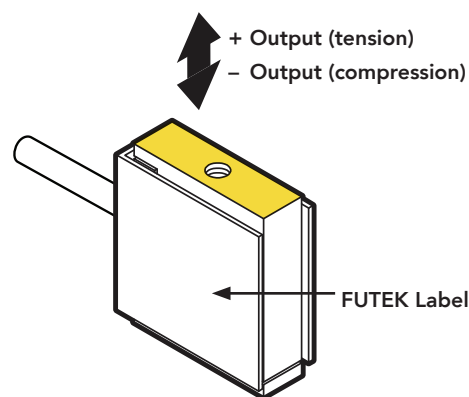
U.S. Manufacturer



## FEATURES

- Up to 10 times the overload protection
- Overload is available in Tension and Compression
- Light weight
- Notable nonlinearity
- Miniature size

 Active end



## SPECIFICATIONS

### PERFORMANCE

Nonlinearity	±0.1% of RO
Hysteresis	±0.1% of RO
Nonrepeatability	±0.05% of RO

### ELECTRICAL

Rated Output (RO)	See chart on third page
Excitation (VDC or VAC)	10 max
Bridge Resistance	See chart on third page
Insulation Resistance	≥500 MOhm @ 50 VDC
Connection	#29 AWG, 4 conductor, spiral shielded silicone cable, 5 ft [1.5 m] long
Wiring Code	WC1

### MECHANICAL

Weight (approximate)	0.7 oz [19.3 g] (10 g–10 lb) 0.9 oz [24.7 g] (25–100 lb)
Safe Overload	1000% of RO
Material	Aluminum (10–250 g)
IP Rating	IP40

### TEMPERATURE

Operating Temperature	-60 to 200°F [-50 to 93°C]
Compensated Temperature	60 to 160°F [15 to 72°C]
Temperature Shift Zero	±0.01% of RO/°F [0.018% of RO/°C]
Temperature Shift Span	±0.02% of Load/°F [0.036% of Load/°C]

### CALIBRATION

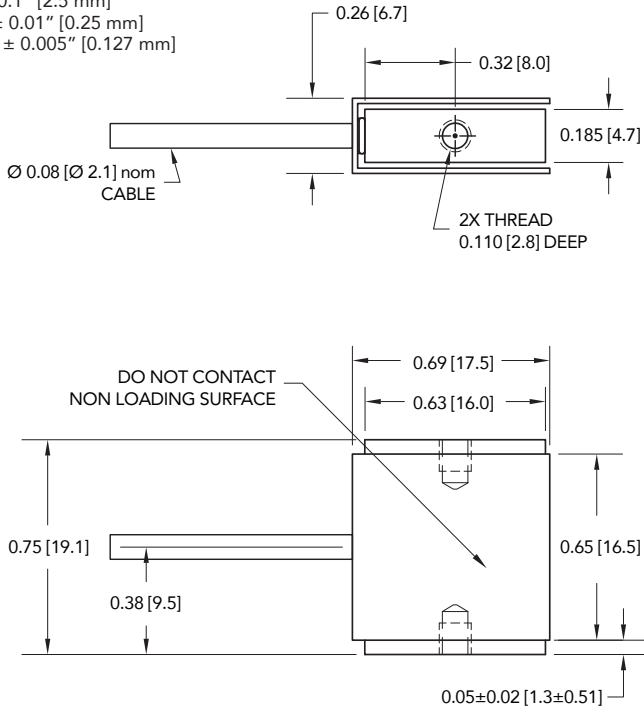
Calibration Test Excitation	5 VDC
Calibration (standard)	5-pt Tension
Calibration (available)	Compression

### CONFORMITY

RoHS	EU 2015/863
CE	EN55011; EN61326-1

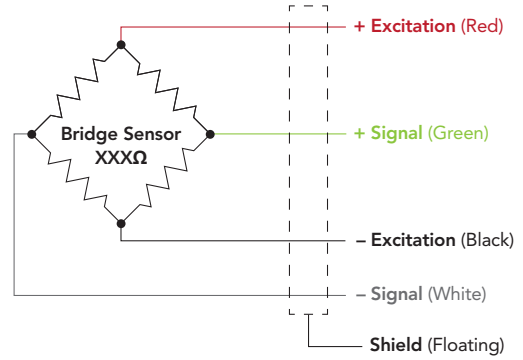
## DIMENSIONS inches [mm]

TOLERANCE:  
 .X ± 0.1" [2.5 mm]  
 .XX ± 0.01" [0.25 mm]  
 .XXX ± 0.005" [0.127 mm]



## WIRING CODE (WC1)

RED	+ EXCITATION
BLACK	- EXCITATION
GREEN	+ SIGNAL
WHITE	- SIGNAL
SHIELD	FLOATING



## CAPACITIES

ITEM #	g	N	RO (nom)	Bridge Resistance	Shunt Calibration Value	Deflection (in.)	Natural Frequency (Hz)
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FSH03870	100 g	1.0			0.008	300	
FSH03871	250 g	2.5			0.007	530	

Drawing Number: F11455-A

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[www.futek.com](http://www.futek.com)



RoHS



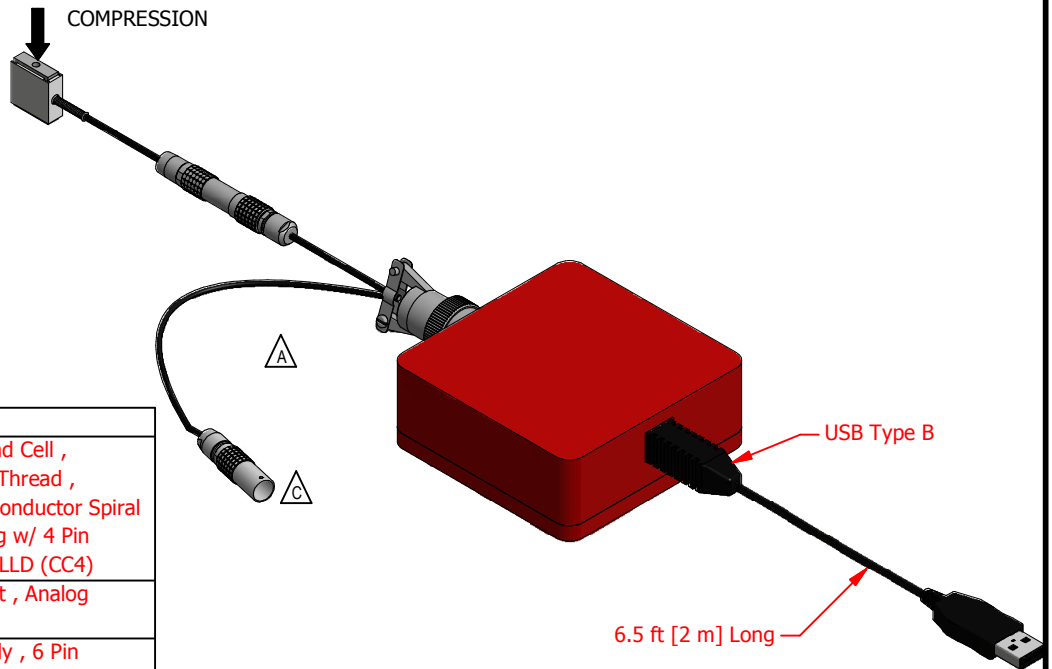
U.S. Manufacturer

# FUTEK MODEL LSB200 & QIA121

*Robust S-Beam Junior Load Cell with Low Noise, High Speed, and High Resolution USB, and Voltage Output*

ITEM NUMBER: See Table on Page 1

INCH [mm] | R.O.= Rated Output



Item #	Description
QSH01738	LSB200 , 2500 g , JR S-Beam Load Cell , Material - 17-4 PH S.S. , M3x0.5-Thread , Overload Protection , 29 Awg 4 Conductor Spiral Shielded Silicone Cable , 1 ft Long w/ 4 Pin Lemo Receptacle - PHG.0B.304.CLLD (CC4)
QSH01707	QIA121 , USB and Voltage Output , Analog Output , Red Powder Coated
FSH03813	QIA121 Cable Connector Assembly , 6 Pin Bendix (PT06A-10-6S-SR) to 4 Pin Lemo (FGG.0B.304.CLAD35) and 2 Pin Lemo (PHG.0B.302.CLLD42) , 2x 29 Awg 4 Conductor Spiral Shielded , 6.5 ft Long and 1.64 ft long

## SPECIFICATIONS

OUTPUTS	ASCII and 0-10 VDC <span style="float:right">▲</span>	Bandwidth	1 kHz
CAPACITY	2500 g [24.5 N] <span style="float:right">▲▲</span>	Bridge Excitation	10 VDC <span style="float:right">▲▲</span>
SAFE OVERLOAD	1000% of R.O. (Compression)	Gain Adjustment	Field Programmable
POWER SUPPLY (VDC)	USB Bus	Offset Adjustment	Field Programmable
NONLINEARITY	±0.1% of R.O.	Integrated Shunt	Field Programmable
HYSTERESIS	±0.1% of R.O.	CMRR	120 db
NONREPEATABILITY	±0.05% of R.O.	Analog Noise Output	< 8 mVp-p <span style="float:right">▲▲</span>
TEMP. SHIFT ZERO	±0.02% of R.O./°F (±0.036 of R.O./°C)	Internal Resolution	24 bit
TEMP. SHIFT SPAN	±0.02% of LOAD/°F (±0.036 of LOAD/°C)	Noise Free Bits	up to 19 bits
COMPENSATED TEMP (Sensor Only)	13 to 113 °F (-11 to 45 °C) <span style="float:right">▲▲</span>	ASCII Output Format	8 Character Hex Format (24 bit)
OPERATING TEMP	32 to 158 °F (0 to 70 °C)	Integrated Pigtail Filter	50/60 Hz Rejection
MATERIAL (Sensor)	17-4 PH S.S. <span style="float:right">▲▲</span>		
IP RATING (Sensor)	IP40		
CALIBRATION:	5 pt Compression		
SENSOR CABLE:	29 AWG, 4 Conductor, Spiral Shielded Silicone Cable w/ 4 Pin Lemo Plug PHG.0B.304.CLLD <span style="float:right">▲</span>		
QIA121 CABLE:	USB Cable A-B Mate Double Shielded		
QIA121 CONNECTOR:	6 Pin Bendix PT02E-10-6P <span style="float:right">▲</span>		

Sampling Rate	Resolution (Noise Free Bits)
5	19
50	18
100	17
300	16.5
1200	15.5

**dspm** *Industria*  
sensori & trasduttori

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info@dspmindustria.it

www.dspmindustria.it

CUSTOMER APPROVAL- COMPANY:

CUSTOMER APPROVAL- NAME / DATE:

REVISIONS: (Refer to dwg # revision sheet)

A	12/17/13
B	3/27/2014
C	5/7/2014

## OUTLINE DRAWING

STANDARD NOTES: (Unless Otherwise Specified)

ALL DIMENSIONS ARE IN INCHES

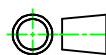
DRAWING INTERPRETATION DIMS. PER ASME-Y14.5M

REMOVE BURRS AND BREAK SHARP EDGES .005 - .015

THREADS PER HANDBOOK H-28

DIMENSIONS ARE SHOWN AFTER PLATING

3rd ANGLE PROJ.



ANGLE:  
± 1/2°

CHAMFER:  
± 5°

TOLERANCE:  
.X ± 0.1"  
.XX ± 0.01"  
.XXX ± 0.005"

This drawing is submitted solely for the information and exclusive use of the original addressee. It is not to be divulged in whole or in part, by any firm or individual without written permission.

**FUTEK**  
ADVANCED SENSOR TECHNOLOGY, INC.

MODEL: **LSB200 & QIA121**

DWG No.: **FO1355-C**

DRAWN BY: *E. Pano*

CREATED DATE: *9/20/2013*

APPROVED BY: *R. Walker*

APPROVED DATE: *3/27/2014*

CHECKED BY:

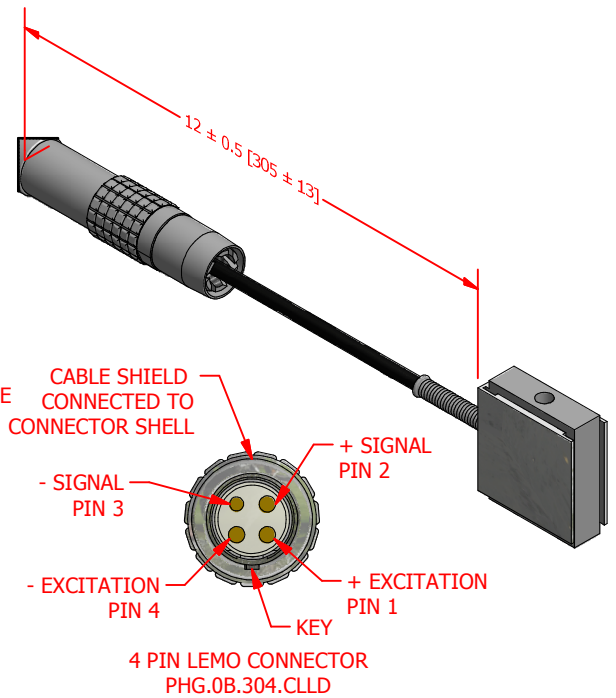
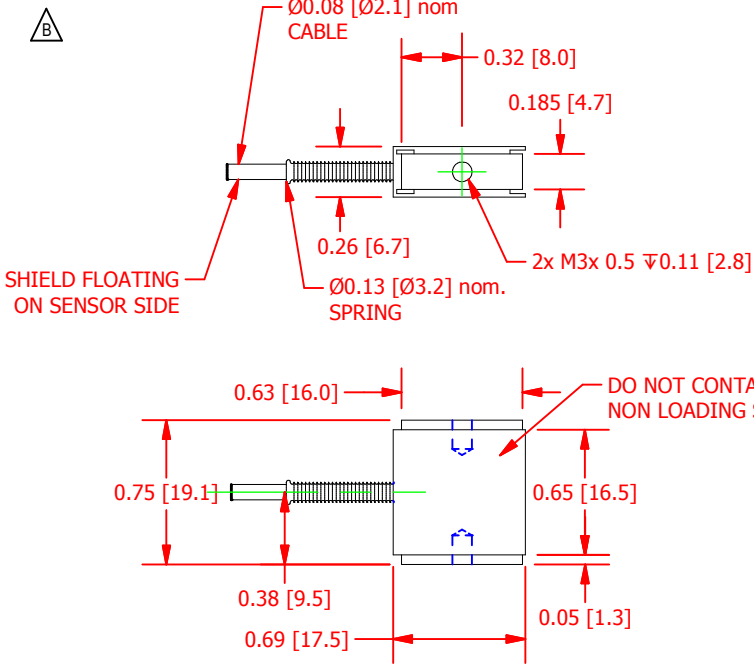
CAGE: 1X8M6 SHEET: 1 OF 3

# FUTEK MODEL LSB200 & QIA121

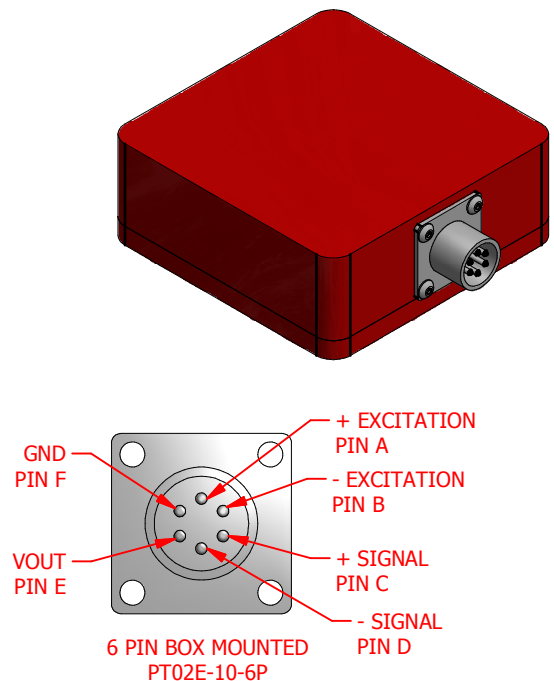
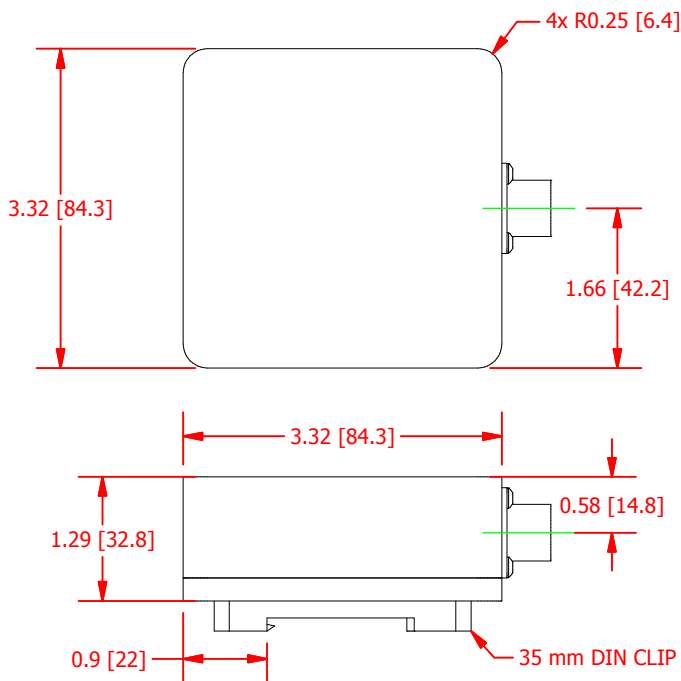
*Robust S-Beam Junior Load Cell with Low Noise, High Speed, and High Resolution USB, and Voltage Output*

ITEM NUMBER: See Table on Page 1



INCH [mm] | R.O.= Rated Output



ITEM#: QSH01738



ITEM#: QSH01707

<p>CUSTOMER APPROVAL- COMPANY:</p>	<h2 style="color: green;">OUTLINE DRAWING</h2>	<p><i>This drawing is submitted solely for the information and exclusive use of the original addressee. It is not to be divulged in whole or in part, by any firm or individual without written permission.</i></p>	 <p>ADVANCED SENSOR TECHNOLOGY, INC.</p>
<p>CUSTOMER APPROVAL- NAME / DATE:</p>			
<p>REVISIONS: (Refer to dwg # revision sheet)</p> <p><b>DSPM Industria</b>                  sensori &amp; trasduttori</p> <p>Via Paolo Uccello 4 - 20148 Milano                  Tel +39 02 48 009 757 Fax +39 02 48 002 070                  info@dspmindustria.it www.dspmindustria.it</p>	<p>3rd ANGLE PROJ.</p> 	<p>DRAWN BY: <i>E. Pano</i></p> <p>APPROVED BY: <i>R. Walker</i></p> <p>CHECKED BY:</p>	<p>CREATED DATE: <i>9/20/2013</i></p> <p>APPROVED DATE: <i>3/27/2014</i></p> <p>CAGE: 1X8M6 SHEET: 2 OF 3</p>

# FUTEK MODEL LSB200 & QIA121

Robust S-Beam Junior Load Cell with Low Noise, High Speed, and High Resolution USB, and Voltage Output

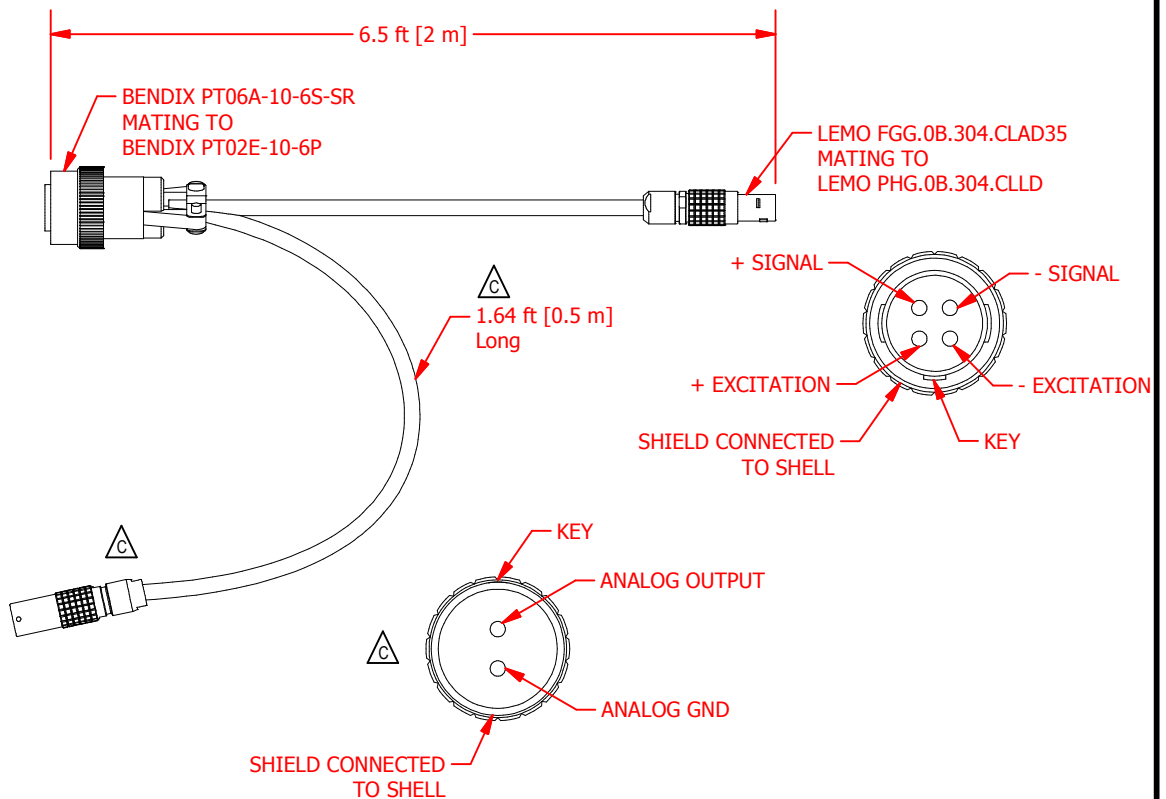
ITEM NUMBER: See Table on Page 1

INCH [mm] | R.O.= Rated Output



BENDIX WIRING CODE	
Pin	Wire
A	+ Excitation
B	- Excitation
C	- Signal*
D	+ Signal*
E	Vout
F	GND/ Shield

\* Pins C and D are switched in order to provide positive polarity in Compression



ITEM#: FSH03813

CUSTOMER APPROVAL- COMPANY:	<h2 style="color: green;">OUTLINE DRAWING</h2>	This drawing is submitted solely for the information and exclusive use of the original addressee. It is not to be divulged in whole or in part, by any firm individual without written permission	<p>ADVANCED SENSOR TECHNOLOGY, INC.</p>
CUSTOMER APPROVAL- NAME / DATE:		MODEL: <b>LSB200 &amp; QIA121</b>	DWG No.: <b>FO1355-C</b>
REVISIONS: (Refer to dwg # revision sheet) <p>sensori &amp; trasduttori</p> <p>Via Paolo Uccello 4 - 20148 Milano                  Tel +39 02 48 009 757 Fax +39 02 48 002 070                  info@dspmindustria.it www.dspmindustria.it</p>	STANDARD NOTES: (Unless Otherwise Specified) ALL DIMENSIONS ARE IN INCHES DRAWING INTERPRETATION DIMS. PER ASME-Y14.5M REMOVE BURRS AND BREAK SHARP EDGES .005 - .015 THREADS PER HANDBOOK H-28 DIMENSIONS ARE SHOWN AFTER PLATING 3rd ANGLE PROJ. <div style="display: flex; align-items: center;"> </div>	DRAWN BY: <i>E. Pano</i> APPROVED BY: <i>R. Walker</i> CHECKED BY:	CREATED DATE: <i>9/20/2013</i> APPROVED DATE: <i>3/27/2014</i> CAGE: 1X8M6 SHEET: 3 OF 3
		ANGLE: ± 1/2° CHAMFER: ± 5° TOLERANCE: .X ± 0.1" .XX ± 0.01" .XXX ± 0.005"	