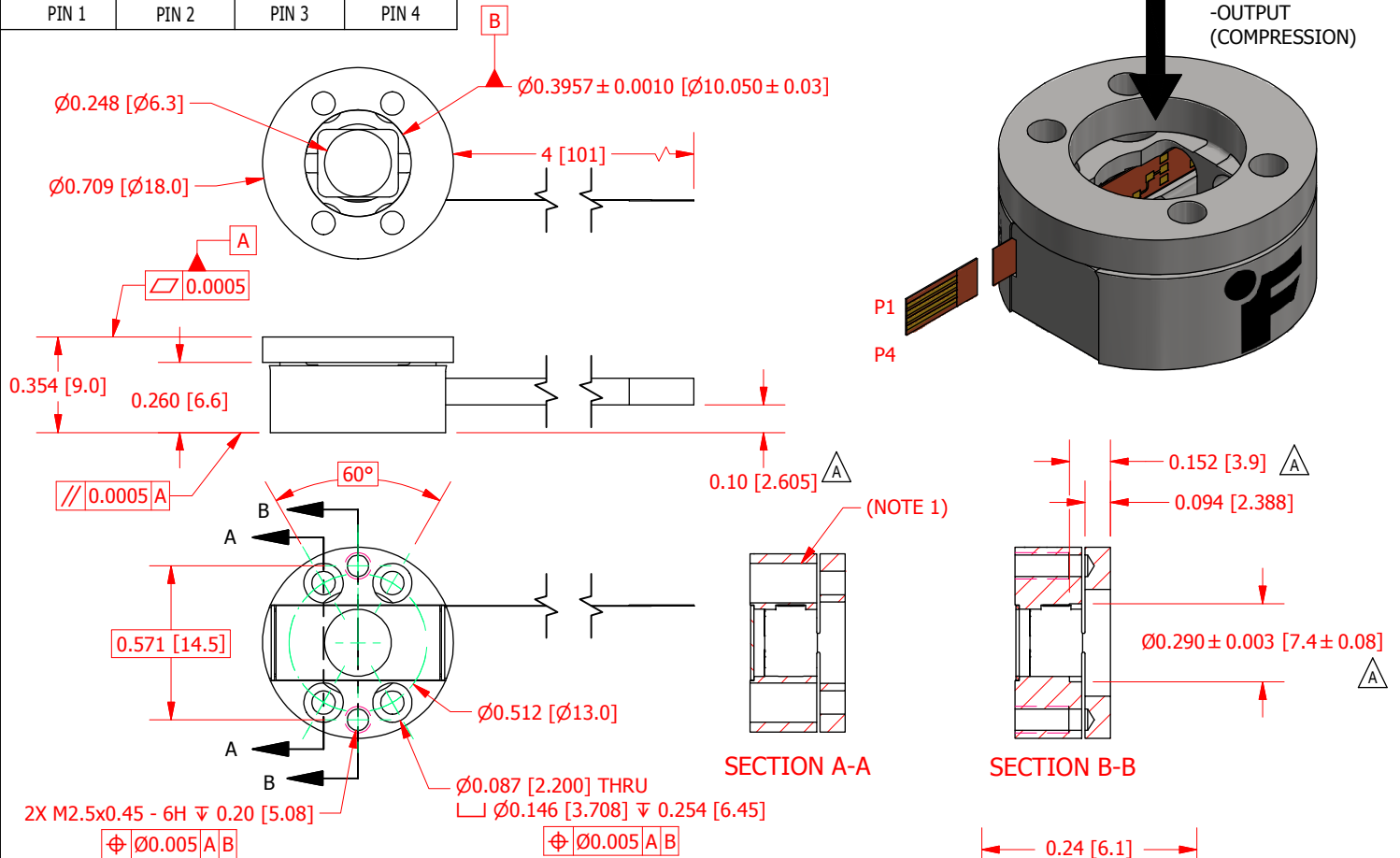


FUTEK MODEL QLA405

CUSTOM TENSION AND COMPRESSION THRU HOLE LOADCELL

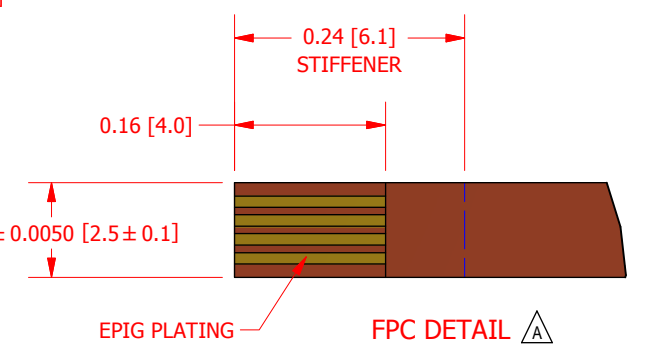
ITEM NUMBER: QSH01940

INCH [mm]		R.O.= Rated Output	
WIRING CODE			
+ Excitation	- Excitation	+ Signal	- Signal
PIN 1	PIN 2	PIN 3	PIN 4



SPECIFICATIONS:

RATED OUTPUT	1.8 mV/V nom. ^A
CAPACITY	50 lb. [222N]
SAFE OVERLOAD	150 % of R.O.
EXCITATION (VDC OR VAC)	7 MAX
BRIDGE RESISTANCE	350 Ω nom.
NONLINEARITY	±0.5% of R.O.
HYSTERESIS	±0.5% of R.O.
NONREPEATABILITY	±0.5% of R.O.
TEMP. SHIFT ZERO	±0.01% of R.O./°F (±0.018 of R.O./°C)
TEMP. SHIFT SPAN	±0.02% of LOAD/°F (±0.036 of LOAD/°C)
COMPENSATED TEMP.	60 to 160 °F (16 to 71 °C)
OPERATING TEMP	0 to 160 °F (-18 to 71 °C)
WEIGHT (approx)	0.03 lb [11.3 g]
MATERIAL	17-4 PH S.S.
DEFLECTION	0.0005 [0.013] nom.
FPC 4 Conductor 0.050 Pitch Cable 4" [100mm] Long	



NOTES:

1. SCREW HEAD CANNOT CONTACT CBORE WALLS (CUSTOM Ø0.13 [3.30] MAX SCREW HEADS REQUIRED)

CUSTOMER APPROVAL- COMPANY:		<h1 style="color: green;">OUTLINE DRAWING</h1>	<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 from:</i></p>	
CUSTOMER APPROVAL- NAME / DATE:				
REVISIONS: (Refer to dwg # revision sheet)		STANDARD NOTES: (Unless Otherwise Specified)	MODEL: QLA405	DWG No.: FO1449-A
A	3/13/2019	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	DRAWN BY: R. Walker	CREATED DATE: 10/20/2017
		ANGLE: ± 1/2° CHAMFER: ± 5° TOLERANCE: .X ± 0.1" .XX ± 0.01" .XXX ± 0.005"	APPROVED BY: M. Lisiak	APPROVED DATE: 10/29/2017
		3rd ANGLE PROJ.	CHECKED BY:	CAGE: 1X8M6 SHEET: 1 OF 1

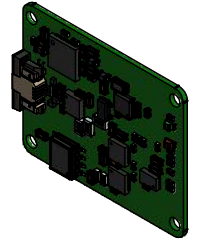
FUTEK MODEL IDC305

Digital Controller with SPI, UART, and Analog Output

DRAWING NUMBER: FI1431-B

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

Item #: QSH01916



SENSOR CONNECTOR

Pin	Code
1	-Signal
2	+Signal
3	Ground
4	Excitation

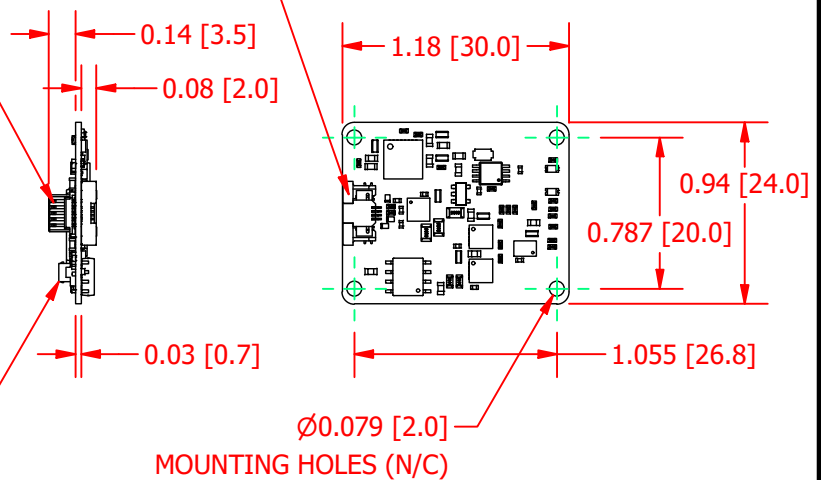
SENSOR CONNECTOR (BOTTOM CONTACT)
MFG #: 68710414522

BOARD TO BOARD CONNECTOR
MFG #: 0524651071

BOARD TO BOARD CONNECTOR

Pin	Code
1	CS
2	5.3V IN
3	MOSI
4	GROUND
5	DRDY
6	SCLK
7	N/C
8	MISO
9	3.3V IN
10	VOUT

PROGRAMMING CONNECTOR
MFG #: DF12C(3.0)-10DS-0.5V(81)



SPECIFICATIONS:

Power:

- 5.3VDC @ 17 mA => 0.0901 W
- 3.3VDC @ 21 mA => 0.0639 W (w/ LEDs off)
- 20-40mV peak-to-peak ripple in passband
- 20MHz bandwidth (cutoff 40dB @ 20MHz)

Total Consumption: 0.159 W or 159mW (w/ LEDs off)

SPI Output:

- 5 Wire:
 - CS
 - MISO
 - MOSI
 - SCLK
 - DRDY
- Logic Level: 3.3 VDC
- Clock Speed: 12.5 MHz (Max)
- Mode:
 - CPOL = 0
 - CPHA = 0
- Word:
 - Size: 32 Bits
 - Format:
 - Byte 1 (Bits 31:24): Command
 - Byte 2-4 (Bits 23:0): Binary Two's Complement Data
 - Note:
 - See latest revision of FUTEK document EM1026 for timing, commands, and communication structure

Sampling:

- Noise Free Resolution 19 Bits @ 5 SPS
- Noise Free Resolution 13 Bits @ 4800 SPS
- Sampling Rate: 5 or 4800 SPS
- Integral Nonlinearity: 0.01% of FSR
- Gain Drift: 2 ppm/°C (max)
- Zero Drift: ±7 nV/°C (max)

Stored Calibration:

- 11 Points (Including Zero)

Analog Output:

- Zero Balance: 2.5 VDC
- Negative Full Scale: 0.01 VDC
- Positive Full Scale: 5.0 VDC
- Bandwidth: 10 kHz
- Nonlinearity: 0.01% of FSR
- Gain Drift: ~20ppm/°C
- Zero Drift: ~40ppm/°C
- Noise: 40mVp-p @ 10kHz
- Load Impedance: > 2500Ω

Sensor Input:

- Excitation: 5 VDC
- Bridge Resistance: 350-5000Ω
- Sensitivity Range: ±1.40 - 1.80 mV/V

FUTEK
ADVANCED SENSOR TECHNOLOGY, INC.

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SHEET 1 OF 1