

FUTEK MODEL IDC305

Digital Controller with SPI, USB, and Analog Output

DRAWING NUMBER: FI1431-A

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)

Ø0.079 [2.0]
MOUNTING HOLES (N/C)

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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