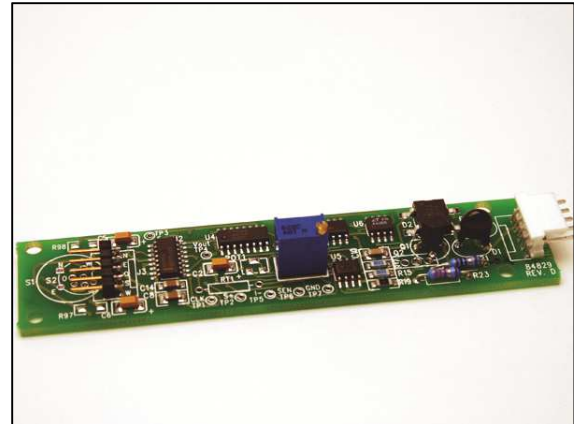


The Tulip-SC is a precision 4-20mA signal conditioning card for use with all Jewell Instruments miniature tilt sensors. Each Tulip-SC card operates one single axis tilt sensor. Tilt output is measured as a 4-20mA output. The Tulip-SC is current loop powered, so measurements can be made over long cable lengths using an economical 2-wire pair. Units also come with an on-board thermistor for measuring temperature. Jewell provides factory calibration for all Tulip-SC electronics when ordered with our 84053 and 84064 Ceramic, or Model 755- and 756- miniature tilt sensors.



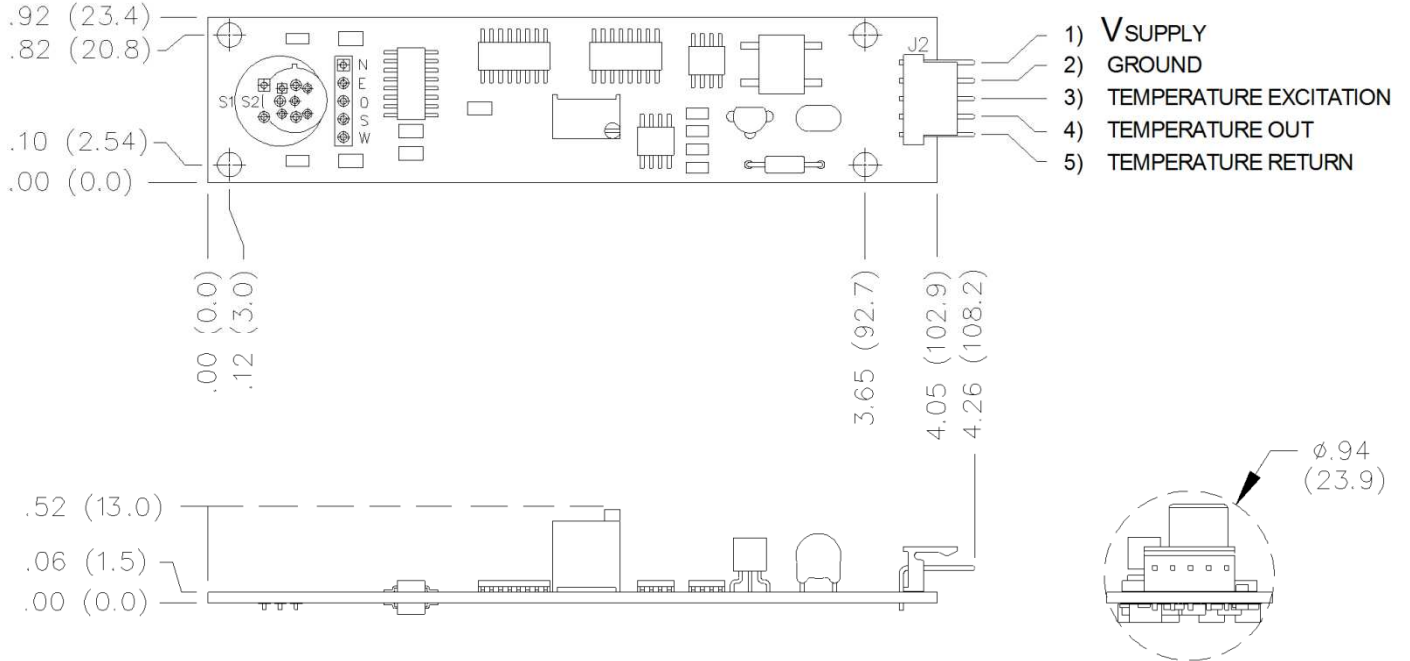
| | | | |
|----------------------|---|---------------------|--------------|
| Input Channels | 1 Tilt Channel (X or Y) | | |
| Output Signal | 4-20mA, 2-wire Current Loop | | |
| Gain Settings | Fixed | | |
| Standard Calibration | <u>Sensor Type</u> | <u>Scale Factor</u> | <u>Range</u> |
| | 755-Series | 0.0625°/mA | ±0.5° |
| | 756-Series | 0.625°/mA | ±5.0° |
| | 84053 | 0.375°/mA | ±3.0° |
| | 84064-02 | 6.25°/mA | ±50.0° |
| Output Filter | 0.15 sec ¹ | | |
| Temperature Output | 2500-Ohm thermistor, on-board (type-B curve) | | |
| Power | (0.02 Ampere x R + 10 VDC) < Vs < 29 VDC | | |
| Environmental | -40 to +85°C operation and storage, 0-90% humidity non-condensing | | |
| Dimensions | 4.05 x 0.92 x 0.51 in (103 x 23.4 x 13 mm), 0.5 oz (15 g) | | |
| Materials | Fiberglass PCB, surface mount components | | |

Specifications subject to change without notice on account of continued product research and development

Ordering Code:

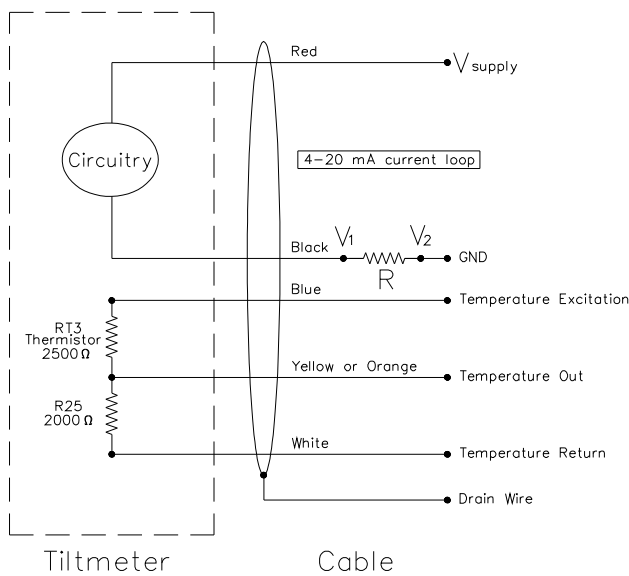
| Model no. | Part no. | Description |
|-----------|----------|--|
| TULIP-SC | 84829 | Tulip Signal Conditioning Card, 4-20mA, Single Channel, Fixed Gain and Filter |
| 70382-03 | 70382-03 | Miniature Tilt Sensor Hookup Cable, 9-conductor (3 twisted shielded triples), specify required length on order |

Dimensions:



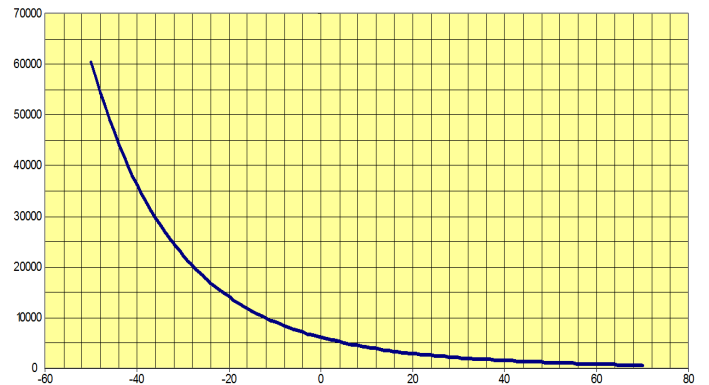
Dimensions in inches (mm)

Circuit Diagram:



Thermistor Output:

Resistance (ohms) vs. Temp
(U.S. Sensors LR252B1K, Type-B Curve)



$$T = 1/[A + B \ln(RT3) + C \ln(RT3)^3 + D \ln(RT3)^5] - 273.15$$

where T is in degrees Celsius and RT3 = thermistor resistance.
 A = 7.34862E-04; B = 3.38205E-04; C = -1.30862E-07; D = 1.21751E-09