

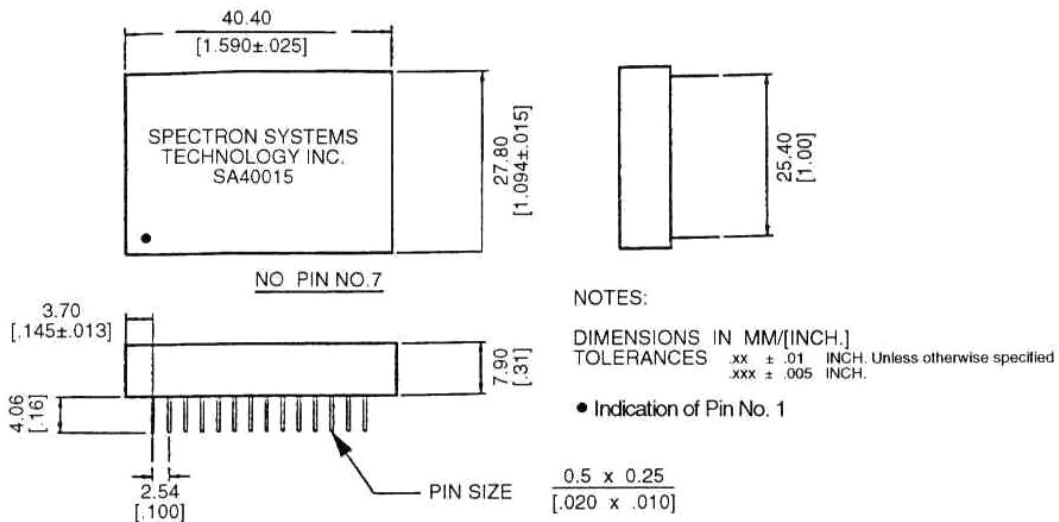
# SA40015 ñ Dual Axis CMOS Signal Conditioning Module

The SA40015 *Dual Axis CMOS Signal Conditioning Module* is a DC input/output operated device, which operates off a single ended supply, and provides a bipolar DC output. Specifically designed to interface directly with the entire line of *SP5000 Series Dual Axis Tilt Sensors*, this low power consumption conditioner is ideal for battery driven applications. Featuring a PC board mountable design, the module internally converts the DC input voltage into an AC excitation voltage for the sensor, and demodulates the sensor output into a smooth amplified DC output voltage. Incorporating a proprietary signal processing algorithm, and an external temperature compensation sensor (optional), normal measurement errors are severely reduced. The SA40015 also features overload protection, and is 100% reliability tested to provide the highest quality available.

## General Specifications

- Input voltage .....+5Vdc, +/-5%
- Input current ..... 1.5mA
- Sensor excitation ..... 3 V pp, square wave
- Input impedance . . . . . 5 megohms
- Output ..... +/-1.5Vdc (Ref. 2.5Vdc) Time constant . . . . . 70 msec
- Offset adjustment . . . . . +/-0.2Vdc
- Output ripple ... . . . . 0.2% / Vdc output
- Temperature coefficients (module w/out sensor)
  - Null ..... 60 microvolts / C<sub>o</sub> (typical)
  - Scale ..... 0.02% / C<sub>o</sub>
- Output short duration ..... Continuous (Vout and Vref2) Temperature range
  - Operating ... . . . . -20 to +70C<sub>o</sub>
  - Storage ..... . . . . . -40 to +80C<sub>o</sub>
- Temperature Compensation
  - Temperature compensation of the assembly (module and sensor) can be accomplished using an external silicon temperature sensor (KTY81-120) and a resistor (see wiring diagram for typical values). With this configuration, it is possible to reduce the scale temperature coefficient error from a 0.3%/C<sub>o</sub> (nominal), to 0.03%/C<sub>o</sub> (nominal). Please see wiring diagram for connection points.

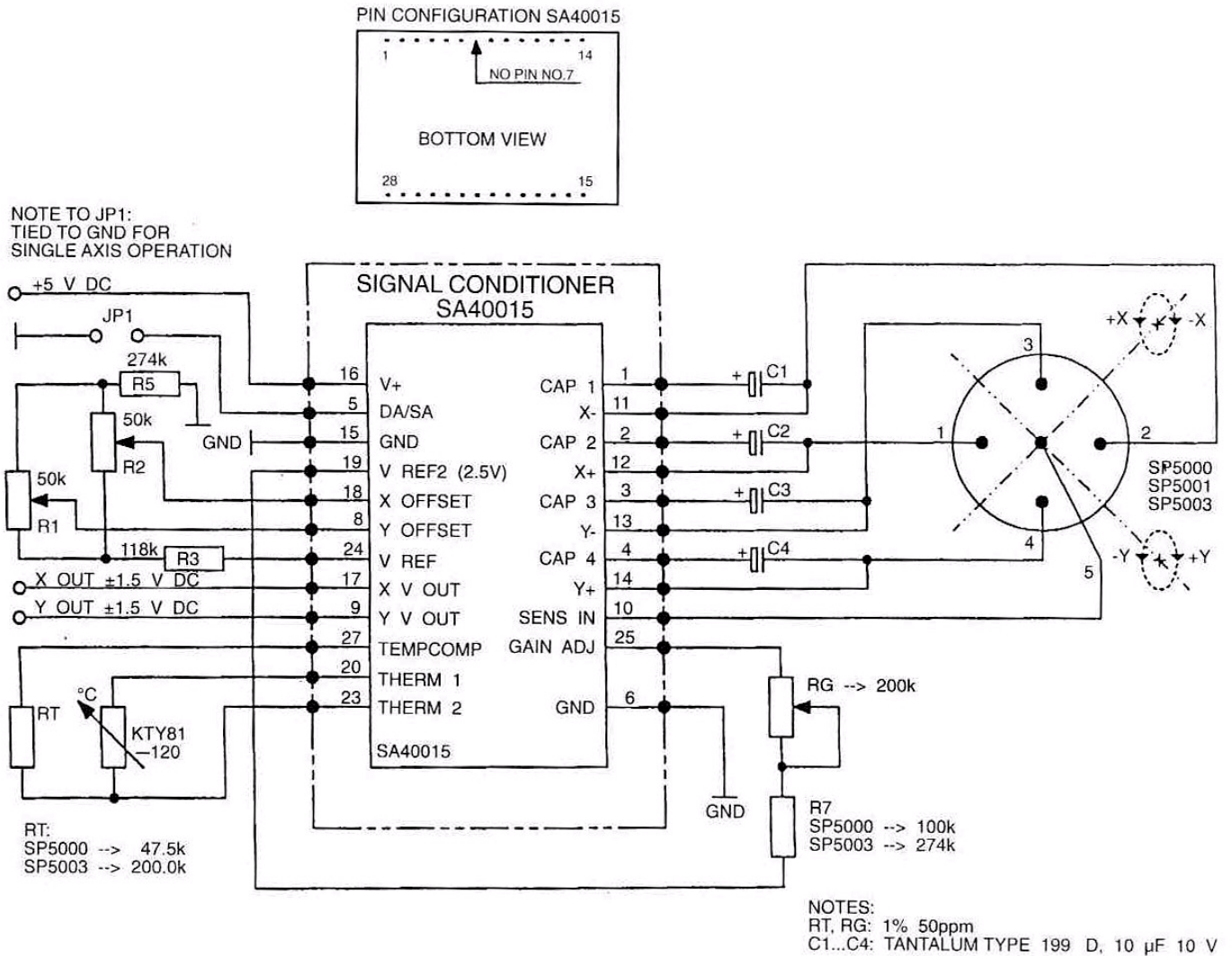
## Dimensions



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## Input/Output Connections



*Consult factory for further technical information and ordering details!*

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