

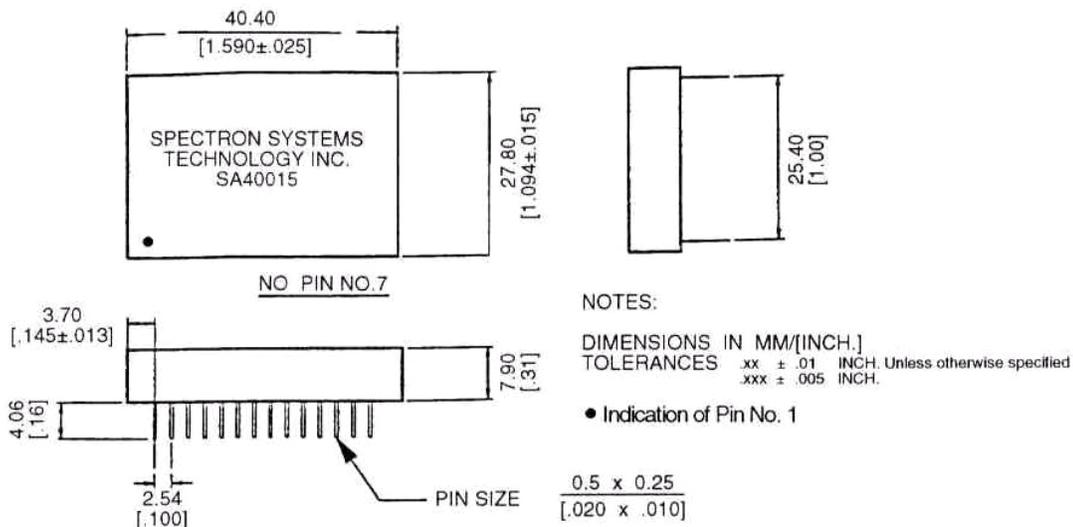
# SA40015 – Dual Axis CMOS Signal Conditioning Module

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



### SPECTRON SYSTEMS TECHNOLOGY INC.

595 OLD WILLETS PATH  
 HAUPPAUGE NY 11788  
 PHONE: 631 582-5600  
 FAX: 631 582-5671

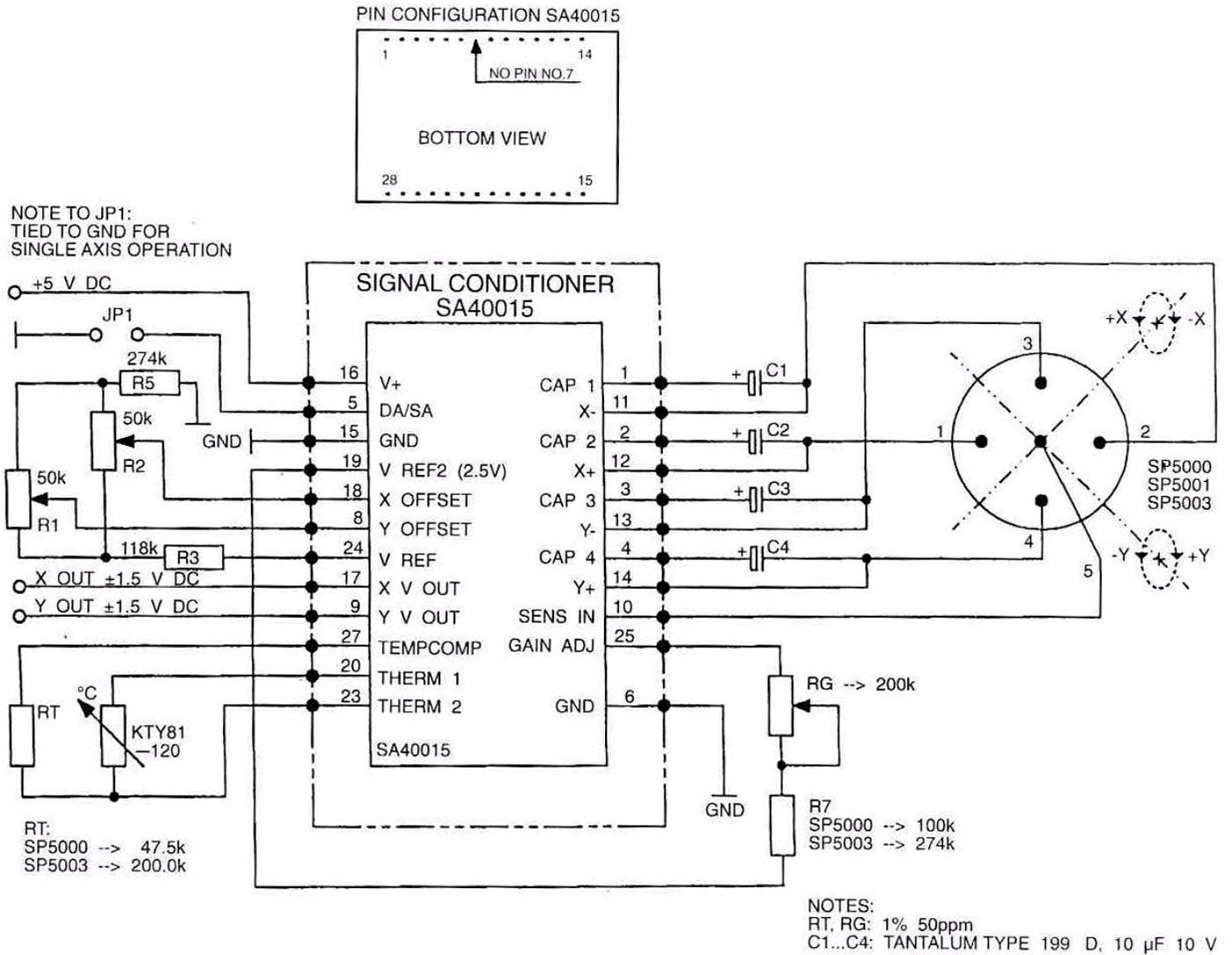


Specifications are subject to change without notice!

Doc.# SDS-108-0405

# SA40015 – Dual Axis CMOS Signal Conditioning Module

## Input/Output Connections



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



**SPECTRON SYSTEMS TECHNOLOGY INC.**

595 OLD WILLETS PATH  
HAUPPAUGE NY 11788  
PHONE: 631 582-5600  
FAX: 631 582-5671



**Specifications are subject to change without notice!**

Doc.# SDS-108-0405