

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.

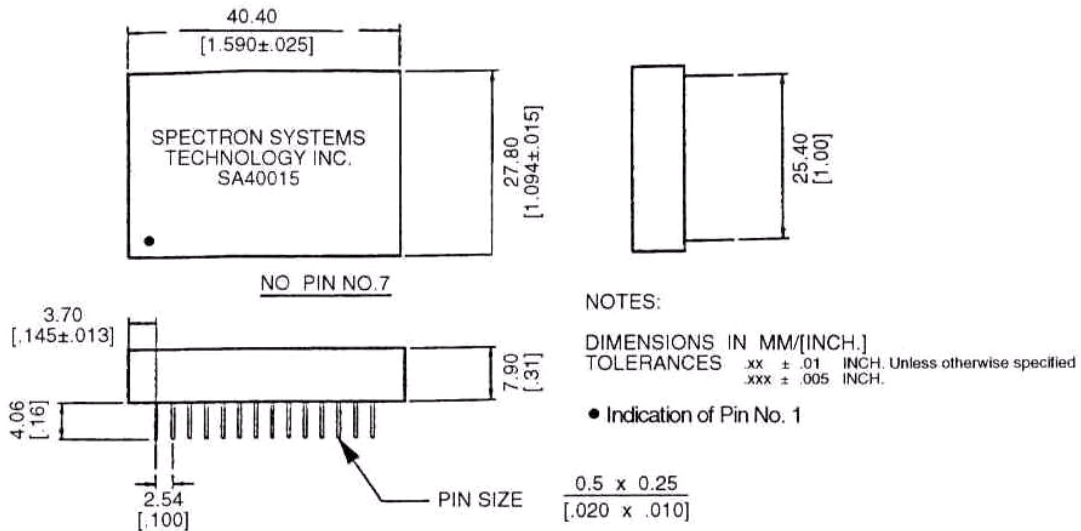
General Specifications

- 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_o (typical)
 - Scale 0.02% / C_o
- Output short duration Continuous (Vout and Vref2)
- Temperature range
 - Operating -20 to +70C_o
 - Storage -40 to +80C_o

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_o (nominal), to 0.03%/C_o (nominal). Please see wiring diagram for connection points.

Dimensions



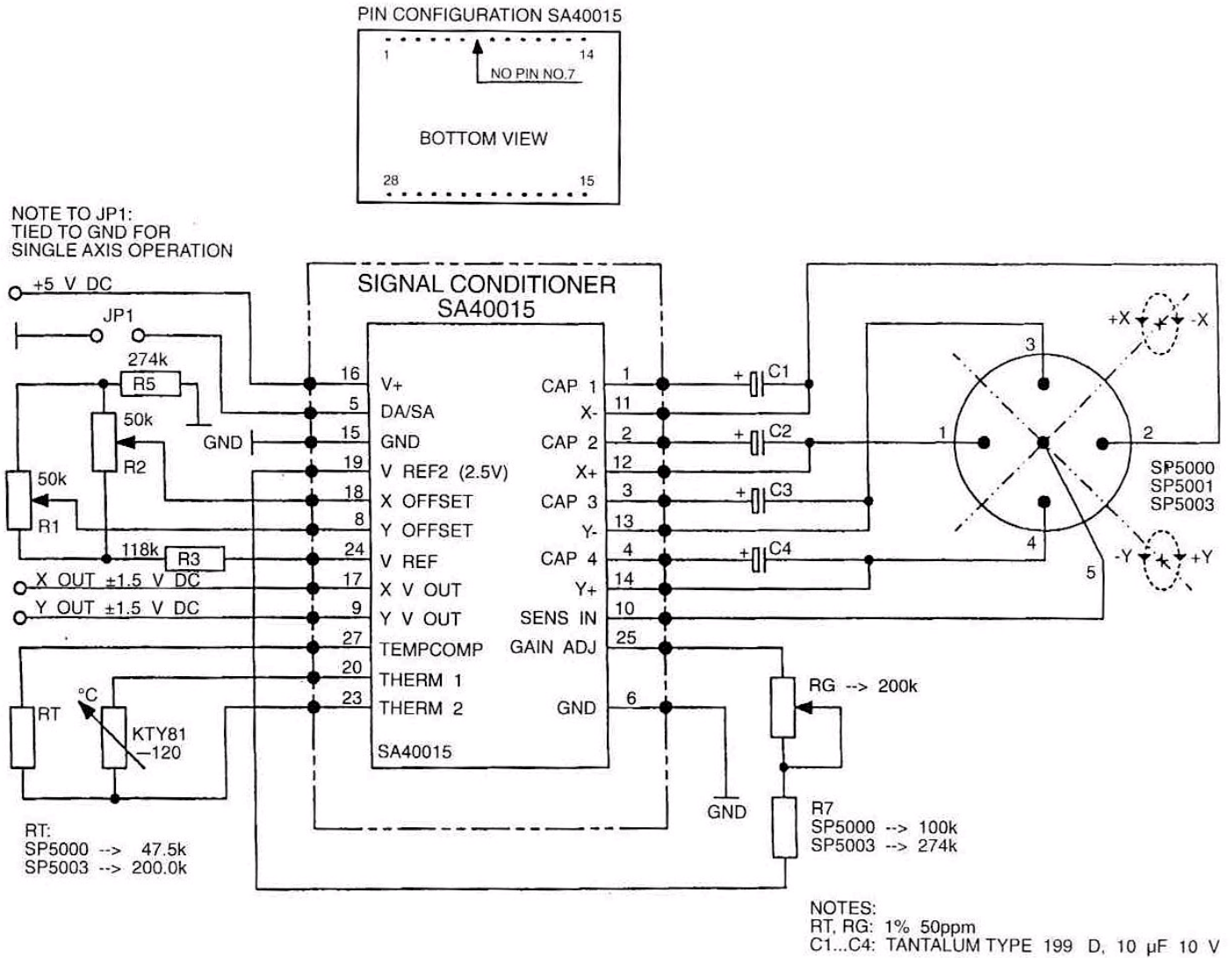
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Input/Output Connections



Consult factory for further technical information and ordering details!



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