

# SA40011 ñ Dual Axis Signal Conditioning Module

The SA40011- *Dual Axis Signal Conditioning Module* is a bipolar DC input/output operated device, specifically designed to interface directly with the entire line of *SP5000 Series Dual Axis Tilt Sensors*. This PC board mountable 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 SA40011 also features overload protection, and is 100% reliability tested to provide the highest quality available.

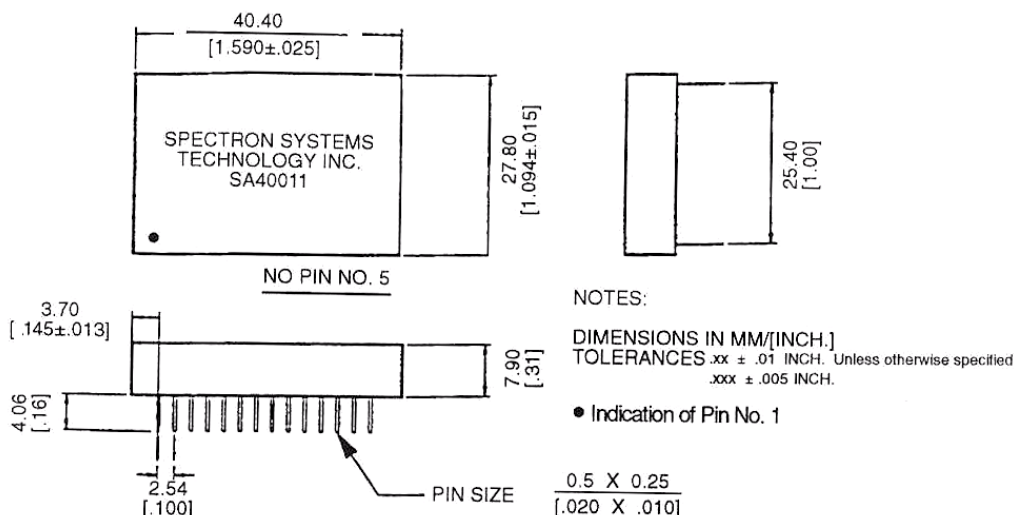
## General Specifications

Input voltage ..... +/-10 to +/-16Vdc  
 Input current ..... 12mA  
 Sensor excitation .. 10 V pp, square wave  
 Input impedance ... 5 megohms  
 Output ..... +/-7Vdc @ +/-10Vdc input  
 Time constant . 150 msec  
 Offset adjustment ..... +/-1Vdc  
 Output ripple ..... 0.2% / Vdc output  
 Temperature coefficients (module w/out sensor)  
     - Null ..... 60 microvolts / C<sup>o</sup> (typical)  
     - Scale . 0.02% / C<sup>o</sup>  
 Output short duration ..... Continuous  
 Temperature range  
     - Operating ..... -20 to +70C<sup>o</sup>  
     - Storage ..... -40 to +80C<sup>o</sup>

### Temperature Compensation

- Temperature compensation of the assembly (module and sensor) can be accomplished using an external silicon temperature sensor (KTY81-120) and resistor (47k ohm typical). With this configuration, it is possible to reduce the scale temperature coefficient error from a 0.3%/C<sup>o</sup> (nominal), to 0.03%/C<sup>o</sup> (nominal). Please see wiring diagram for connection points.

## Dimensions

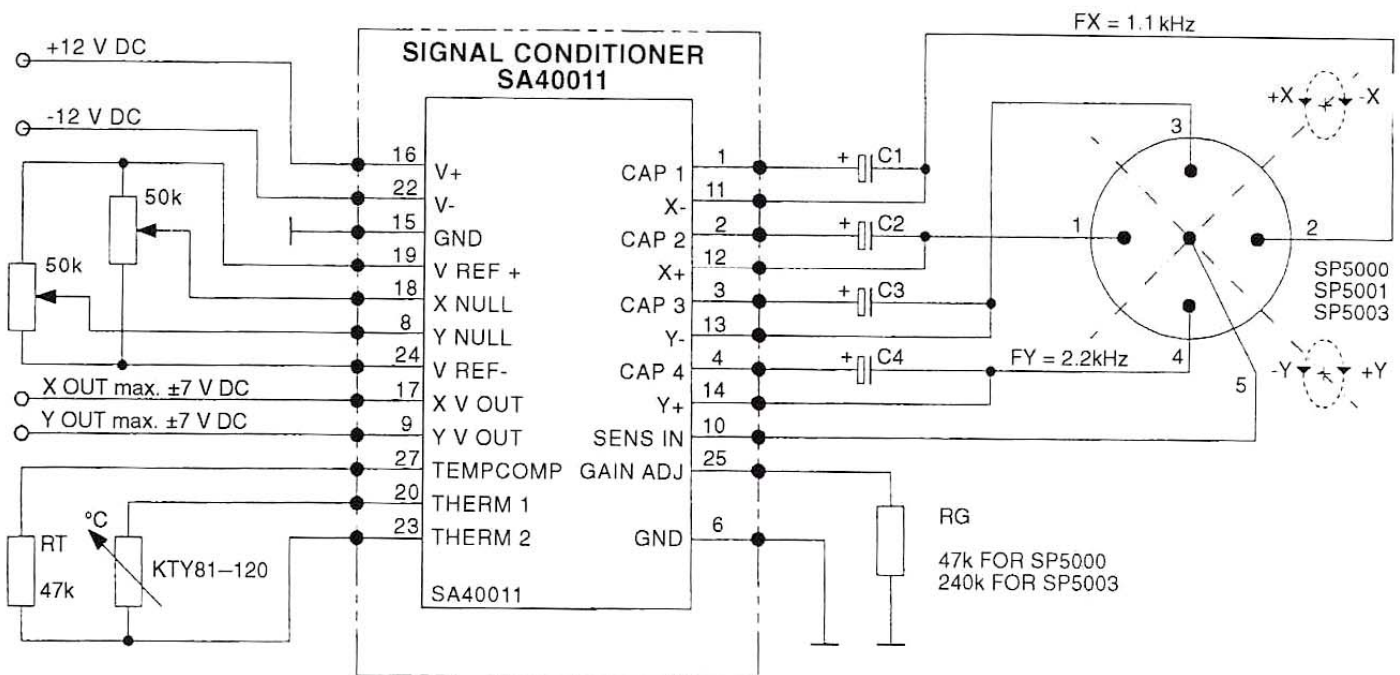
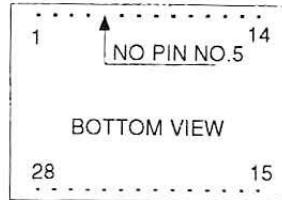


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## Input/Output Connections

PIN CONFIGURATION SA40011



NOTES:

RT, RG: 1% 50ppm  
C1...C4: TANTALUM TYPE 199 D

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

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