# Jewell Instruments

Model 84800

Single-channel Signal Conditioning Card

The model 84800 is a compact, high performance signal conditioner for use with all Jewell Instruments miniature tilt sensors. Each 84800 conditioning card will drive one tilt channel (X or Y), and one LM35 temperature sensor. Output is a stable ±5 DC voltage (±10 VDC differential). Units also include a built-in 1.75 sec low-pass Butterworth filter for superior noise rejection (specify custom filter times on order), and the square form factor allows for easy packaging in OEM and end-user assemblies.

The model 84800 will drive signals over cable lengths of 300m. Distances between card and tilt sensor can be up to 100m. Use the 84800 signal conditioning card for peak performance from any of our 755-series, 756- or Ceramic Miniature Tilt Sensors.

PIN OUTS

1	8-18 VDC
2	SIG GND
3	PWR GND
4	+Tilt
5	-Tilt (differential)
6	Temperature
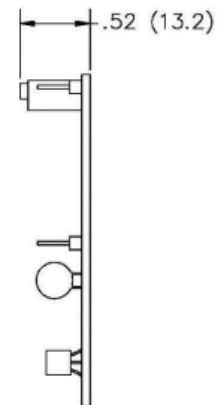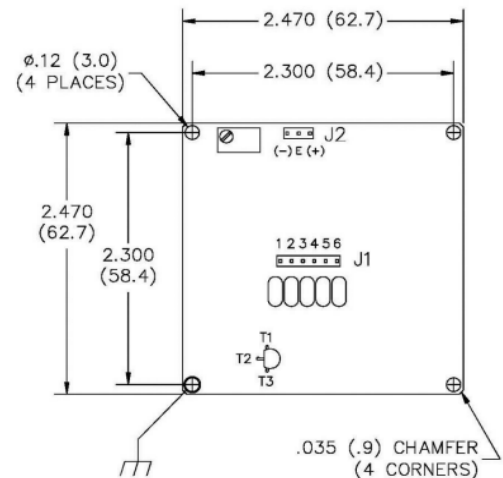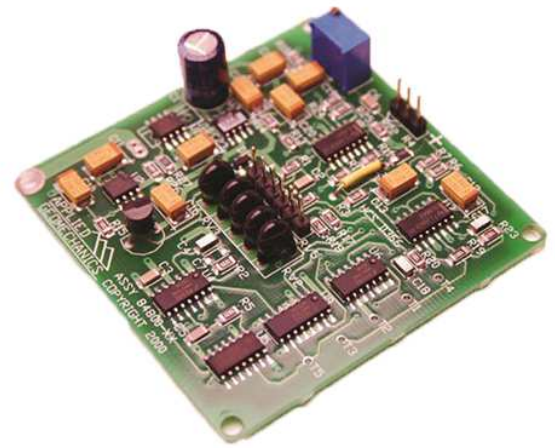
Dimensions: in [mm

PERFORMANCE SPECIFICATIONS

INPUT CHANNELS	Two Tilt Channels (X and Y tilt), One LM35 Temp. Sensor		
OUTPUT SIGNALS	±8 VDC Single-ended (±16 VDC differential)		
GAIN SETTINGS	Fixed gain		
STANDARD CALIBRATION	Sensor Type	Scale Factor	Range
	755-series	0.1°/V	±0.5°
	756-series	1.0°/V	±5.0°
	84053 Ceramic	0.6°/V	±3.0°
	84064-02 Ceramic	10°/V	±50°
OUTPUT FILTERS	2-pole Butterworth low-pass filter, roll-off = 12 dB/octave		
TEMPERATURE OUTPUT	0.1°C/mV (single-ended)		
OUTPUT IMPEDANCE	270 Ohms		
POWER REQUIREMENTS	8 to 18 VDC@ 8 mA typical, 250 mV ripple max.; reverse polarity protected		
CONNECTIONS	Sensor: Au-plated 100 mil header pins; Power/signal: J1 100 mil header pins		
ENVIRONMENTAL	-25° to +70°C Operation, -30°C to +100°C Storage, 0-90% humidity non-condensing		
MATERIALS	Fiberglass PCB, surface mount components		
DIMENSIONS AND WEIGHT	2.47 x 2.47 x 0.63 inches (63 x 63 x 16 mm), 0.75 oz (21 g)		

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

ORDERING CODE

MODEL NO.	FILTER f (Hz)	TYPICAL TIME CONSTANT (s)
84800 - 01	0.183	1.750
84800 - 02	1.829	0.175
84800 - 03	0.638	0.500
84800 - 04	0.318	1.000
84800 - 05	0.064	5.000