



Features & Benefits

Applications

Performance Specs

Angular Range ¹	±0.5°	±10°	±6°	±80°
Resolution	0.000057°	0.000057°	<0.0001°	0.001°
Repeatability	0.000057°	0.0001°	0.0002°	0.02°
Non-Linearity, Half span (%) ²	1	0.5	2	1
Time Constant (sec)	0.5	0.4	0.15	0.15
Ks Temp Coefficient (%/°C) ³	0.04	0.05	0.04	-
Kz Temp Coefficient (bias/°C) ⁴	±0.00017	±0.00057	±0.0002	-

Electrical

Available Channels	X-tilt, Y-tilt	-	-
Signal Conditioners	All	84828, 84800 & Tulip	84828, 84800 & Tulip
Power Requirements	3-5V AC, 400 Hz to 10 kHz	3-5V AC, 400 Hz to 10 kHz	3-5V AC, 400 Hz to 10 kHz

Environmental

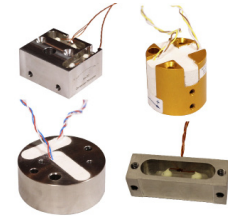
Operating Temperature Range	-25 to +80°C	-50° to +125°C	-50° to +125°C
Storage Temperature Range	-25 to +80°C	-75° to +150°C	-75° to +150°C

Mechanical

Weight	See datasheet	84053: 24g; 595777: 9.5g	84064: 24g 59577: 5g
Dimensions in cm (LxWxH)	See datasheet	With bracket: 4.42 x 2.36 x 1.83 Without: 3.81 x 0.57 x 1.6	With bracket: 4.42 x 2.26 x 1.7 Without: 1.78 x 0.46 x 1.5
Materials	304 SS or Anodized Al	Ceramic sensor, gold anodized Al, Teflon lead wire	Ceramic sensor, gold anodized Al, Teflon lead wire

Tilt Sensors

**755-Series & 756-Series
High-Gain & Mid-Range Sensors**



- Single or dual-axis
- Vertical or horizontal mounting
- Same sensors used in the 500 & 700-Series tiltmeters
- Vacuum-compatible versions available

- X-ray mirrorstlescope mounts
- Wind tunnel models
- Medical devices

**84053
Mid-Range Ceramic
Sensor Assembly**

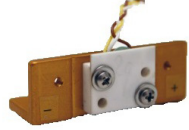


- Fast warm-up, high sensitivity, high repeatability & excellent long-term stability
- Anodized aluminum bracket to strengthen the assembly & simplify installation & repositioning

- Leveling and positioning for test and measurement

**59577
Mid-Range Ceramic Sensor
(Without Mounting Bracket)**

**84064-02
Wide-Angle
Ceramic
Sensor Assembly**



- Fast warm-up & excellent thermal, mechanical & long-term stability
- Anodized aluminum bracket for strength & easy installation

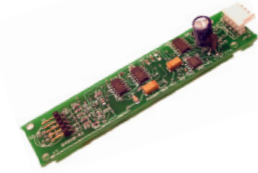
- Leveling and positioning for test and measurement

**59579-02
Wide-Angle
Ceramic Sensor
(Without Mounting Bracket)**



Signal Conditioners

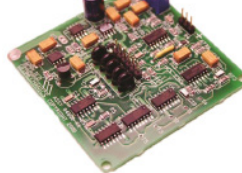
**84828
Basic Signal Conditioner**



- Slim, low-profile design for small spaces
- Single-ended voltage output
- Circuit is reverse polarity protected

- OEM

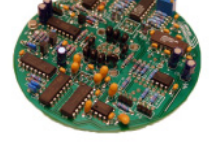
**84800
Single-Channel
Signal Conditioning Card**



- Wide input voltage range, reverse polarity protection & transient surge protection
- 2-pole Butterworth low-pass filter can be tuned to special requirements
- Drives analog voltage output signals over cable lengths longer than 300m

- OEM

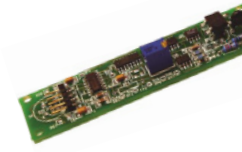
**83162
Dual-Channel Signal
Conditioning Card**



- Amplifier for an LM35 temperature sensor
- Will drive cable lengths over 1000m
- Single-level transient surge protection included

- OEM

**Tulip
4-20mA Signal
Conditioning Card**



- Small size, easy setup & fast response time
- Current loop powered for long cable length
- Operate with normal or reverse polarity

- OEM
- Control Systems

**IRIS
Digital Signal
Conditioning Card**



- 16-bit A/D converter
- 540K of onboard FLASH memory
- Real-time clock
- Measures temperature
- RS232 or RS422 output

- Digital data streams or onboard recording of tilt measurement

**781
Signal Conditioning Unit
(Bench Top)**



- Rugged aluminum case
- Drives tilt & temperature signals over 1000m cable lengths
- Switches for control gain and low-pass filter settings, and power on-off

- Laboratory & factory testing/measurement

Features & Benefits

Applications

Performance Specs

Input Channels	1 Tilt Channel (X or Y)	X & Y Tilt 1 LM35 Temp Sensor	1 Tilt Channel: X or Y	2 Tilt Channels (X & Y)	2 tilt channels (X & Y) 1 LM35 Temp. Sensor
Output Signal	±4 VDC	±5 VDC ±10 VDC	4-20mA, 2-wire current loop	RS232, RS422 & ASCII	±8 VDC ±16VDC
Gain Settings	Fixed	Fixed	Fixed	-	Two switchable, 10:1
Output Filters	0.15 sec	Roll-off: 12 dB/octave	0.15 sec	-	Filter on: 7.5 sec, Off: 0.05 Roll-off = 6 dB/octave
Temperature Output	0.1°C/mV, 0° = 0mV 0°C = 2.5 V	0.1°C/mV	0.1°C/mV (single-ended)	On-board temperature sensor	0.1°C/mV (single-ended)

**Electrical
Environmental**

Operating Temperature Range	-25 to +70°C	-25 to +70°C	-25 to +70°C	-40 to +85°C	-40 to +85°C	-25 to +70°C
Storage Temperature Range	-25 to +70°C	-30°C to +100°C	-30°C to +100°C	-40 to +85°C	-40 to +85°C	-30°C to +100°C
Power Requirements	+8 to +24 VDC +10.5 to +26.5 VDC	8 to 18 VDC	±11 to ±15 VDC	<29 VDC	7-28 VDC	±11 to ±15 VDC

Mechanical

Weight	0.5 oz.	0.75 oz.	1.06 oz.	0.5 oz.	1.1 oz.	0.9 kg.
Dimensions in CM (LxWxH)	10.3 x 2.3 x 1.3	6.3 x 6.3 x 1.6	9.8 x 2.8	10.3 x 2.3 x 1.3	6.7 x 6.7 x 2.5	8.8 x 1.2 x 2.1
Materials	Fiberglass PCB surface mount components	Fiberglass PCB surface mount components	Fiberglass PCB thru-holed soldered components	Fiberglass PCB Surface mount components	Fiberglass PCB	Painted Al
Tilt Sensors	755 & 756-Series, 84053 & 84064-02	755 & 756-Series, 84053 & 84064-02	755 & 756-Series	755 & 756-Series, 84053 & 84064-02	755 & 756-Series	755 & 756-Series

NOTE: Specifications are subject to change without notice. For complete specifications, sensor capabilities and ordering information, please visit www.jewellinstruments.com 1 - Custom Ranges also available on request 2 - Non-linearity represents maximum deviation from linear regression line, typical; <0.05% linearity or better achievable using a 5th order polynomial 3 - Ks = % change in scale factor per °C 4 - Kz = bias shift per °C.