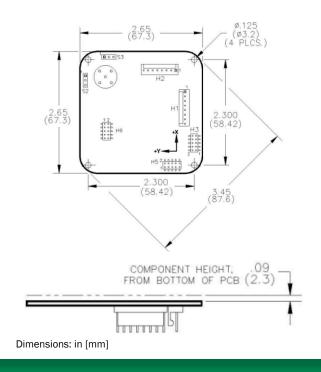# Jewell Instruments

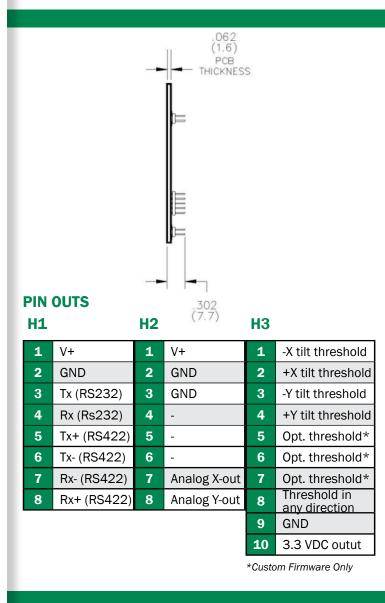**MAKING SENSE OUT OF MOTION**

# Model IRIS-SC

## Digital Signal Conditioning Card

The IRIS-SC digital signal conditioning card is a powerful control device designed for use with all Jewell miniature tilt sensors. Output is ASCII RS232 or RS422(485) serial. Standard firmware includes five user-programmable alarm/trigger thresholds for tilts tilt switch/control applications. When a selected threshold is reached, the circuitry sets the output high on one of the pins in the H3 control connector. Other firmware features include user programmable data output rates, sample averaging, autozero (nulling), and baud rate. The IRIS-SC can also log up to 22,000 samples to internal memory for data dump/download on user command. All IRIS-SC units include calibration when ordered with Jewell miniature tilt sensors (specify calibrated range on order).

Dimensions: in [mm]

## PIN OUTS

| H1 | | H2 | | H3 | |
|---|---|---|---|---|---|
| 1 | V+ | 1 | V+ | 1 | -X tilt threshold |
| 2 | GND | 2 | GND | 2 | +X tilt threshold |
| 3 | Tx (RS232) | 3 | GND | 3 | -Y tilt threshold |
| 4 | Rx (Rs232) | 4 | - | 4 | +Y tilt threshold |
| 5 | Tx+ (RS422) | 5 | - | 5 | Opt. threshold* |
| 6 | Tx- (RS422) | 6 | - | 6 | Opt. threshold* |
| 7 | Rx- (RS422) | 7 | Analog X-out | 7 | Opt. threshold* |
| 8 | Rx+ (RS422) | 8 | Analog Y-out | 8 | Threshold in any direction |
| | | | | 9 | GND |
| | | | | 10 | 3.3 VDC outut |

*Custom Firmware Only*

# PERFORMANCE SPECIFICATIONS

| | |
|---|---|
| INPUT CHANNELS | Two Tilt Channels (X and Y tilt) |
| OUTPUT SIGNALS | RS232 and RS422(RS485 Full Duplex) Digital Serial, ASCII |
| RESOLUTION | 16-bit ADC |
| SAMPLE RATES | User-selectable from 10/second to 1/hour |
| TEMPERATURE OUTPUT | On-board Temperature Sensor |
| DATA STORAGE | 512 kB of nonvolatile Flash Memory available* (approx. 22,000 samples) |
| BAUD RATE | 9600 (default), 19200, 28800, 57600, 115200, 230400 |
| DATA FORMAT | NMEA XDR, Trimble TCM, Ashtech, Simple (X, Y, temp., S/N) |
| CONTROL OUTPUTS | 8 TTL-compatible CMOS control outputs (0-5 VDC); 20mA source Power per channel (not to exceed 100mA across all 8 channels) |
| POWER REQUIREMENTS | 7-28 VDC @ 27 mA, 250 mV ripple max., reverse polarity and surge protected. |
| CONNECTIONS | Four 24-in cables included: Two for signal (H1, one for RS232 and another for RS485); Power (H2); Control Output (H3) |
| ENVIRONMENTAL | -40° to +85°C operating and storage; 90% humidity, noncondensing |
| DIMENSIONS AND WEIGHT | 67 x 67 x 25mm max. (2.6 x 2.6 x 1.0 inches); 31g (1.1 oz) |

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

## ORDERING CODE

| PART NO. | DESCRIPTION |
|---|---|
| 84833-02 | IRIS Signal Conditioning Card, RS232/RS422 Output, 16-bit, Dual Channel, Fixed Gain |

## ACCESSORIES

| PART NO. | DESCRIPTION |
|---|---|
| 84063-01 | Extra 24-in Cable Assembly, RS232 , H1 Header to DB9-sub Connector |
| 84063-02 | Extra 24-in Cable Assembly, Power (H2) |
| 84088-01 | Extra 24-in Cable Assembly, RS422 , H1 Header to DB9-sub Connector |
| 84083-01 | 24-in Tilt Switch Control Cable (Connects to H3 Terminal), Tinned Ends |
| 00254-02 | Transformer, 100-240VAC to 12VDC |