

## eCompass Series with Various Sensor Options

### ECS Series Standard eCompass



- Wide operating temp range
- Single Supply Operation
- RS232 & RS485 outputs available
- In-System Configuration and Test

- Unmanned vehicles
- Robotics
- Weather buoys
- Antenna positioning
- Marine navigation

- **3-axis magnetometer**
- **2-axis tilt sensor**

### ECL Series Low Power eCompass



- Wide operating temp range
- Single Supply Operation
- Low power
- RS232 & TTL outputs available
- In-System Configuration and Test

- Unmanned vehicles
- Robotics
- Weather buoys
- Antenna positioning
- Marine navigation

- **3-axis magnetometer**
- **2-axis tilt sensor**

### ECG Series eCompass with Gyros



- Exceptional dynamic performance
- High static accuracy
- RS232 & RS485 outputs available
- Precise calibration
- Single supply operation

- Robotics
- Platform stabilization
- Excavation machinery
- Irrigation equipment

- **3-axis magnetometer**
- **2-axis gyros**
- **2-axis tilt sensor**

### ECV Series 3D eCompass



- Wide operating range
- RS232 & RS485 outputs available
- Fast response
- Low Power
- Two independent serial channels
- In-System Configuration and Test

- Unmanned vehicles
- Robotics
- Platform stabilization
- Excavation machinery

- **3-axis magnetometer**
- **3-axis gyros**
- **3-axis accelerometer**
- **2-axis tilt sensor**

## Features & Benefits

## Applications

## Sensors

### Heading Performance

Accuracy:	±0.5° rms <sup>2</sup>	±0.5° rms <sup>2</sup>	±0.5°/±3.0° rms <sup>2</sup>	±0.5°/±3.0° rms <sup>2</sup>
Repeatability:	±0.3°	±0.2°	±0.3°	±0.3°
Response Time:	36 msec	75 msec	36 msec	36 msec
Dip Angle Range:	±80°	±80°	±80°	±80°
Tilt Range:	±42° (±60° optional)	±42° (±60° optional)	±42° (±60° optional)	±90° Pitch/±180° Roll
Update Range:	28 per second	14 per second	28 per second	28 per second

### Pitch & Roll Performance

Accuracy:	±0.3°	±0.2°	±0.3°	±0.3°
Repeatability:	±0.2°	±0.15°	±0.2°	±0.2°
Range:	±42°	±42°	±42°	±90° Pitch/±180° Roll
Settling Time:	0.5 sec	0.5 sec	0.5 sec	0.05 sec

### Electrical

Supply Current:	25 mA operating 10 mA sample 2 mA standby	15 mA operating 5 mA sample 50 µA standby	30 mA operating 10 mA sample 2 mA standby	40 mA operating 10 mA idle 5 mA standby
Supply Voltage:	6 – 45 Vdc unregulated 5.0 Vdc regulated	6 – 30 Vdc unregulated 5.0 Vdc regulated	6 – 45 Vdc unregulated 5.0 Vdc regulated	7 – 45Vdc unregulated

### Environmental

Operating Temperature Range:	-40° to +105° C	-20° to +70° C	-40° to +105° C	-40° to +105° C
Survival Temperature Range:	-50° to +150° C	-40° to +125° C	-50° to +150° C	-50° to +150° C
Humidity:	0 to 90%	0 to 90%	0 to 90%	0 to 90%

### Mechanical

Enclosure dimensions:	<b>Plastic Enclosure (P Option):</b> 2.205" W x 4.337" L x 0.981" H		<b>Aluminum Enclosure (A Option):</b> 2.382" W x 5.433" L x 1.220" H	
Enclosure material:	<b>Plastic Enclosure (P Option):</b> (ABS) Flame Retardant UL94 VO		<b>Aluminum Enclosure (A Option):</b> Diecast Aluminum Alloy (Type 360.1)	
Weight:	<b>Plastic Enclosure (P Option):</b> 3.2 oz. (90.7 grams)		<b>Aluminum Enclosure (A Option):</b> 7.2 oz. (204.1 grams)	
PCB Size:	1.8"W x 3.0"L x 0.6"H	1.6"W x 3.0"L x 0.6"/0.8"H	1.8"W x 3.0"L x 0.6"H	1.8"W x 3.0"L x 0.6"H
Connectors:	<b>Plastic Enclosure (P Option):</b> 8 pin, single-row, 0.1" friction header 6 pin RJ12 modular jack		<b>Aluminum Enclosure (A Option):</b> Circular, 6-pin female connector	

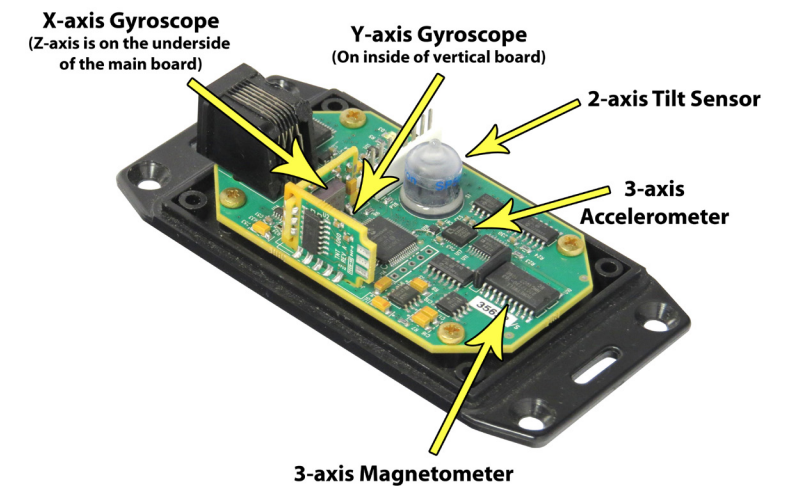
## Custom Applications



### THE JEWELL INSTRUMENTS ENGINEERING TEAM PROVIDES THE FOLLOWING:

- Modifying or customizing an existing designed model series
- A new part number configured from existing model series part and subassemblies
- A new application-specific custom design requiring special features and specifications
- Customized sensor for harsh environments
- A first-time design solution requiring close interaction between Jewell's design engineering team and the customer's team
- A customer proprietary sensors solution requiring non-disclosure agreement (NDA) between Jewell Instruments and our customer

## ECV SENSOR DIAGRAM



### Notes

1. All Specifications subject to change without notice on account of continued product development
2. May require calibration after installation to eliminate effect of local magnetic field