

Features & Benefits

Applications

Sensors

Heading Performance

Accuracy:	±0.5° rms²	±0.5° rms²	±0.5°/±3.0° rms²	±0.5°/± 3.0° rms²
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	5 – 45Vdc unregulated

Evironmental

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:	Plastic Enclosure (P Option): 2.205" W x 4.337" L x 0.981" H		Aluminum Enclosure (A Option): 2.382" W x 5.433" L x 1.220" H	
Enclosure material:	Plastic Enclosure (P Option): (ABS) Flame Retardant UL94 V0		Aluminum Enclosure (A Option): Diecast Aluminum Alloy (Type 360.1)	
Weight:	Plastic Enclosure (P Option): 3.2 oz. (90.7 grams)		Aluminum Enclosure (A Option): 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:	Plastic Enclosure (P Option): 8 pin, single-row, 0.1" friction header 6 pin RJ12 modular jack		Aluminum Enclosure (A Option): Circular, 6-pin female connector	

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 Gyro



- 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 gyroscope**
- **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 gyroscope**
- **3-axis accelerometer**
- **2-axis tilt sensor**

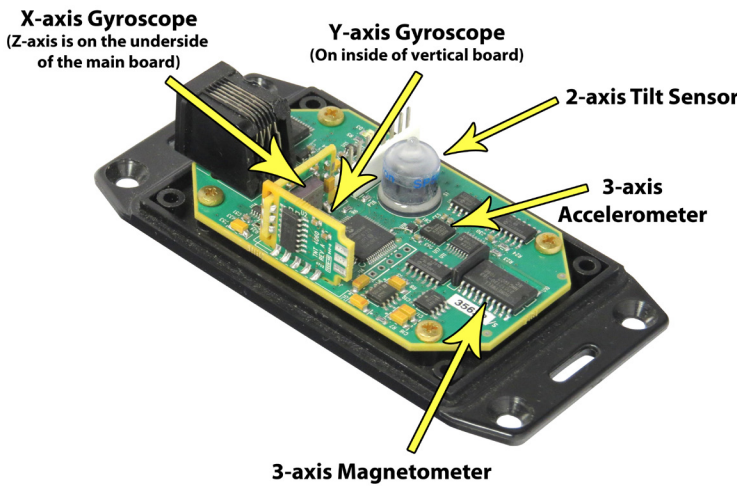
Custom
Applications



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