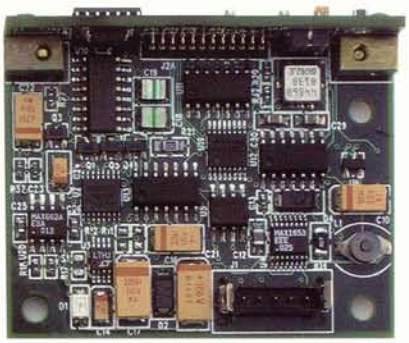
# TruePoint™ Compass Module

**A high performance digital magnetic compass with unique features and an affordable price.**

- Azimuth angle, true or magnetic
- Pitch and roll (tilt) angle
- 1 degree accuracy
- Data rates to 50 Hz.
- Temperature data output
- All solid state... no liquid filled sensors
- User-defined orientation plane
- Built-in magnetic compensation functions
- Small footprint, low power, light weight
- Evaluation kit with software available



*OEM Compass Module (actual size)*
*Patents Pending*

The TruePoint™ electronic compass is a true 3 axis digital compass module that can be mounted and used in any orientation. The compass technology is the result of nearly 10 years development and is the same as in the patented DRM®-III. Data from three silicon magnetometers and three MEMS accelerometers are combined to provide compass azimuth as well as pitch and roll angle. The World Magnetic Model is built-in so that the compass can automatically provide compass azimuth referenced to true north.

The Point Research binary data protocol provides extensive options for the system integrator and efficient communications at high update rates. Non-volatile initialization defaults allow the user to preset the personality of the compass with respect to orientation plane, magnetic declination, installation alignment, and data rate.

The magnetic compensation algorithm provides corrections for both hard and soft iron effects. The compensation procedure only requires the user to slowly turn in a circle. Data collection is automatic, and the user can monitor the progress and effectiveness of the corrections using the *CompassHost* test program.

To ensure future compatibility, the microcontroller firmware is easily upgraded in the field, without special equipment. An evaluation kit with demonstration software and an extensive user manual is available. The unit is supplied with a locking-type, keyed mating connector.

Options include NMEA0183 output format, other voltage input ranges, CMOS level serial data interface, extended operating temperature, and daughter board mounting.

## Applications

- Land or maritime navigation
- Laser rangefinders
- Robotic vehicles
- Antenna alignment
- Weapon aiming
- Camera control
- Motion tracking
- Magnetic anomaly detection

**Honeywell**

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# TruePoint™ Compass Module and Evaluation Kit

## TruePoint™ Compass Evaluation Kit

- Everything you need to get started, except power supply and Windows™ computer
- TruePoint™ digital magnetic compass module, standard
- Aluminum housing for mechanical protection
- 6 ft. data cable with standard RS-232 DB9 connector
- Connect power leads directly to your source
- *CompassHost* test software
  - Graphical display of azimuth and tilt
  - Data logging to ASCII file at user-defined intervals
  - World Magnetic Model (WMM2000) input-output controls
  - Magnetic anomaly compensation controls and display
  - User-definable non-volatile defaults
    - Horizontal plane
    - Magnetic declination
    - Data rate, Baud rate
  - Programmer / User manual
  - Test software operation
  - Mounting dimensions
- Installation suggestions
- Data cable wiring
- Software protocol message descriptions

## Operating Specifications

| Parameter | Value |
|---|---|
| Azimuth accuracy | 1 degree RMS, 0.1 deg. resolution |
| Pitch and Roll (Tilt) accuracy | 1 degree RMS, 0.1 deg. resolution |
| Temperature range | 0 to +70 deg. C, standard<br>-40 to +85 deg. C, optional |
| Shock | 500 G, half cycle sine, 0.5 ms. |
| Power required | 0.27 watts nominal |
| Supply voltage | 6 to 30 v. DC |
| Data update rate | Up to 50 samples / sec. |
| Mechanical dimensions | Board 2" x 1.5" x 0.5"<br>Housing 2.5" x 2.5" x 0.75" |
| Weight | Circuit module only = 0.6 oz.<br>With housing = 3.0 oz. |
| Data interface | RS-232, 9600 to 38,400 bits/sec. |

Specifications subject to change without notice.
DRM and TruePoint are trademarks of Point Research Corp.


*CompassHost Display*


*Compass Housing*

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