

BC-GPS2CAN-000

GPS2CAN-LQ



Key Features:

- GPS receiver and antenna in a single housing
- 12 Hz GPS rate
- Automatic lap time calculation for more than 300 race tracks
- Integrated magnet allows simple assembly on all magnetic surfaces
- CAN communication

Technical specifications

| Electrical characteristics | | | Mechanical characteristics | | |
|----------------------------|----|------------|----------------------------|-----------------|-----------------|
| Power supply | V | 5-16 | Dimensions | mm ³ | 36.6x49x15.8 |
| Max consumption, CAN | | | Weight | g | 65 |
| Searching for GPS | mA | 25 | Housing material | | PVC |
| GPS signal found | mA | 20 | Cable | | |
| | | | Type | | Raychem |
| | | | Wire cross section | | 5x AWG26 |
| | | | Length | mm | 1000 |
| | | | Connector | | Binder 712, 5PM |
| Environmental | | | Ordering information | | |
| Operating temperature | °C | -40 to +85 | BC-GPS2CAN-000 | | |
| Humidity | % | 5 to 95 | | | |
| Sealing class | | IP67 | | | |

CAN-identifiers (default)

| CAN-ID | Byte 0 | Byte 1 | Byte 2 | Byte 3 | Byte 4 | Byte 5 | Byte 6 | Byte 7 |
|--------|----------|--------|----------|--------|-----------|--------|----------|--------|
| 0x790 | V_Sat | | ValidSat | | HHMM | | Course | |
| 0x791 | Lat_dez | | | | Lon_dez | | | |
| 0x792 | Altitude | | | | MMDD | | SSHH | |
| 0x000 | HorAccu | | VerAccu | | SpAccu | | CourAccu | |
| 0x000 | Speed_N | | Speed_E | | Speed_D | | Speed_3D | |
| 0x000 | HDOP | | GDOP | | PDOP | | VDOP | |
| 0x000 | Year | Month | Day | Hour | Minute | Second | hSec | n.u. |
| 0x000 | Latitude | | | | Longitude | | | |
| 0x000 | A_Lat | | A_Lon | | Banking | | Yawrate | |
| 0x000 | COUNT#39 | | CPU_Load | | | | | |

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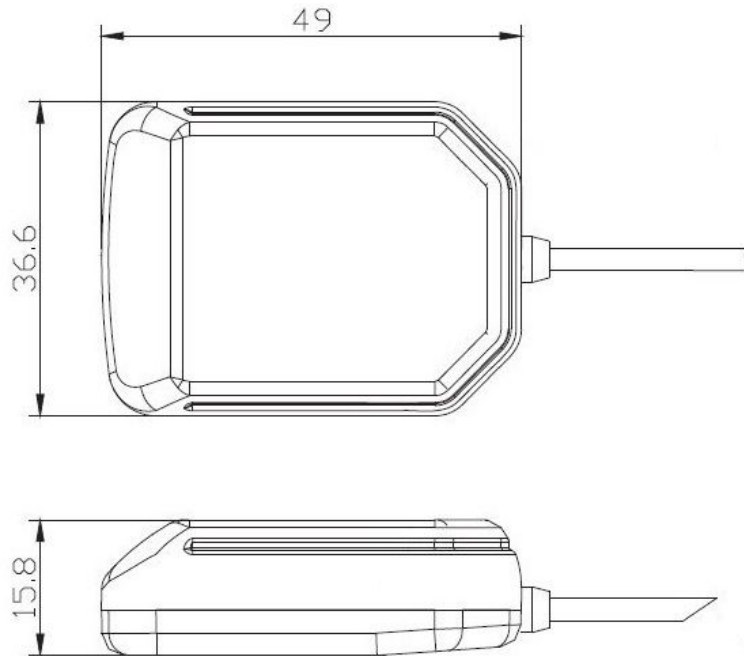
Formulas to calculate physical values

| Description | CAN ID | Channel | | Formula | Offset | Dimension |
|--|--------|-----------|---|------------------|-------------|---------------------|
| Speed over ground (2 dimensional) | 0x790 | V_Sat | = | 0.01*digits | + 0 | [km/h] |
| Validity & number of satellites & horizontal dilution of precision | 0x790 | ValidSat | = | 0.0001*digits | + 0 | |
| Hour/minutes | 0x790 | HHMM | = | 0.01*digits | + 0 | |
| Vehicle course (=direction) | 0x790 | Course | = | 0.01*digits | + 0 | |
| Latitude(decimal) | 0x791 | Lat_dez | = | 0.0000001*digits | + 0 | [deg] |
| Longitude(decimal) | 0x791 | Lon_dez | = | 0.0000001*digits | + 0 | [deg] |
| Altitude | 0x792 | Altitude | = | 0.01*digits | + 0 | [m] |
| Month/Day | 0x792 | MMDD | = | 0.01*digits | + 0 | |
| Seconds/hundreds of seconds | 0x792 | SSHH | = | 0.01*digits | + 0 | |
| Horizontal accuracy | 0x000 | HorAccu | = | 0.001*digits | + 0 | [m] |
| Vertical accuracy | 0x000 | VerAccu | = | 0.001*digits | + 0 | [m] |
| Speed accuracy | 0x000 | SpAccu | = | 0.036*digits | + 0 | [km/h] |
| Course accuracy | 0x000 | CourAccu | = | 0.01*digits | + 0 | [°] |
| North velocity(speed north-south) | 0x000 | Speed_N | = | 0.036*digits | - 1179.6121 | [km/h] |
| East velocity(speed east-west) | 0x000 | Speed_E | = | 0.036*digits | - 1179.6121 | [km/h] |
| Down velocity (speed down-up) | 0x000 | Speed_D | = | 0.036*digits | - 1179.6121 | [km/h] |
| Geometrical speed(3 dimensional) | 0x000 | Speed_3D | = | 0.036*digits | + 0 | [km/h] |
| Horizontal dilution of precision | 0x000 | HDOP | = | 0.01*digits | + 0 | |
| Geometric dilution of precision | 0x000 | GDOP | = | 0.01*digits | + 0 | |
| Position dilution of precision | 0x000 | PDOP | = | 0.01*digits | + 0 | |
| Vertical dilution of precision | 0x000 | VDOP | = | 0.01*digits | + 0 | |
| Year | 0x000 | Year | = | 1.0*digits | + 2000 | |
| Month | 0x000 | Month | = | 1.0*digits | + 0 | |
| Day | 0x000 | Day | = | 1.0*digits | + 0 | |
| Hour | 0x000 | Hour | = | 1.0*digits | + 0 | |
| Minute | 0x000 | Minute | = | 1.0*digits | + 0 | |
| Second | 0x000 | Second | = | 0.25*digits | + 0 | |
| Hundreds of seconds | 0x000 | hSec | = | 1.0*digits | + 0 | |
| Latitude(degree) | 0x000 | Latitude | = | 0.0000001*digits | + 0 | [°] |
| Longitude(degree) | 0x000 | Longitude | = | 0.0000001*digits | + 0 | [°] |
| Acceleration Latitude | 0x000 | A_Lat | = | 0.0010*digits | - 32.767 | [m/s ²] |
| Acceleration Longitude | 0x000 | A_Lon | = | 0.0028*digits | - 91.0194 | [m/s ²] |
| Declination of vehicle | 0x000 | Banking | = | 0.1*digits | - 3276.7 | [°] |
| Yaw rate of vehicle | 0x000 | Yawrate | = | 0.01*digits | - 327.67 | [°/s] |

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Technical drawing

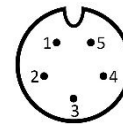


Connector layout

Connector type

Binder 712 5PM

| Pin | Name | Description | Color |
|-----|--------|-----------------|-------|
| 1 | CAN hi | CAN Bus high | white |
| 2 | CAN lo | CAN Bus low | green |
| 3 | GND | Ground | black |
| 4 | | Do not connect! | |
| 5 | Vext | Power supply | red |



front view