The Variometer sensor is designed for use with FrSky telemetry systems.

Specifications

<table>
<thead>
<tr>
<th>Type: Variometer sensor</th>
<th>Operational Current: 30 mA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measures: -700 ~ 1000m with 0.1m (high precision version)</td>
<td>Dimensions: 31.1 x 18.3 x 6 mm (L x W x H)</td>
</tr>
<tr>
<td>1m (normal version) resolution</td>
<td>Weight: 3.1g</td>
</tr>
<tr>
<td>Operational Voltage: DC 4.7-10 V</td>
<td>Units: Metric or British units</td>
</tr>
</tbody>
</table>

The Variometer sensor calculates the altitude from atmospheric pressure. Atmospheric pressure will get lower as you go up in altitude, using this the sensor will estimate the altitude. An exact display cannot be performed if atmospheric pressure changes in weather. The Variometer sensor also can output the Altitude Rate via DA port. Altitude Rate formula: (Output DA Voltage – 1.65)/1.65=Altitude Rate speed/10.24.

What’s NEW!

The new Variometer sensor can act as “BRIDGE” between NON-S.Port FrSky telemetry sensor system and S.Port system.

The S.Port (Smart Port) is designed for the 2nd generation of FrSky system, which is a signal wire full duplex digital transmission interface provided by FrSky Electronic Co., Ltd. S.Port makes RC components/device setup much easier than conventional multi-wire looms. Any S.Port enabled devices (sensors, sound module, display module, user data interface that in line with FrSky S.Port protocol etc.) can be plugged in optionally directly.

When Data In port of this sensor connected to FAS (FrSky Ampere Sensor) sensor or Sensor Hub; this sensor can convert the data from FrSky Sensor Hub or FAS-100/40 to the S.Port system.

S.Port offers the superior ability with new high precision hub-less sensor and other dataset: smaller, easier, and faster (6 times more than conventional “hub system”).

FrSky V8 series and D series receivers DO NOT support Smart Port.

Installation

The Variometer sensor is only used with FrSky Two-Way (telemetry) receivers that offer digital data-stream port (Rx) and/or Smart Port.

Use provided cables to connect the Variometer sensor and other equipment(s).

1. Connect Variometer sensor to receiver D8R-II Plus/D8R-XP etc.:

   ![Image](https://www.frsky.com)

   Attention: it is similar method to connect Variometer sensor to D4R-II receiver:

<table>
<thead>
<tr>
<th>Variometer sensor (Data Out)</th>
<th>D4R-II Telemetry Port</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tx Port</td>
<td>Rx</td>
</tr>
<tr>
<td>DA port</td>
<td>A2</td>
</tr>
</tbody>
</table>

   Power supply Variometer sensor via Data Out port or S.Port from Receiver channel or separate battery.

2. Connect Variometer sensor to FrSky sensor hub (FSH-01) and Current sensor (FAS-100/FAS-40):

   ![Image](https://www.frsky.com)

   *the Variometer sensor packing is not including all the cables which may be used in connections.

Absolute altitude &Relative altitude

The Variometer output both absolute altitude and relative altitude; please refer to the display equipment’s instruction manual to switch between the two.

The relative altitude will start at 0m and it displays the altitude which changed from there. Even if the altitude of your airfield is high, it will start at 0m and the altitude difference from the airfield is displayed.

WARNING:

Failure to follow these safety precautions may result in severe injury to yourself and others.

1. To utilize the Variometer sensor, connect it to the digital data-stream port of FrSky Two-Way (telemetry) receivers or with S.Port of other receiver(s).
2. Ensure that the unit is connected properly to the receiver. Failure to do so could result in damage to the sensor.
3. Ensure that the unit is mounted in an area that will eliminate exposure to fuel, water and vibration.
4. To ensure that the Variometer sensor is functioning as desired, please test accordingly.
5. Do not fly until inspection is complete.

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