

User Manual – Satellite Hub

Hivemind

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System components:

- **Satellite Communication Hub** model 2 (see fig.1)
- Plastic mounting plate
- Required: 4xAA lithium batteries

Getting Started

1. **Hub mounting:** Position the hub within 10m of the hives/sensors. The hub can be secured under a hive strap or mounted under a PLASTIC hive lid using the mounting plate (fig.1).

Do not mount under a metal lid as this will block the communication signals. The green Hivemind sticker must always be facing up to the sky, even if mounted under a plastic lid. If the hub is secured under a metal strap, ensure the strap goes over the battery section of the hub as shown below, not the satellite communication section as this may decrease the signal strength.

2. **Sensor connection:** For each hive sensor, install and connect it as specified in its user manual. **This step should be repeated every time sensors are moved in relation to the hub to ensure continued operation.**

3. **Login:** Now browse to hivemind.co.nz/login and log in (first time you will need to create a password) to see your hives working away. If your hub is suspended, you will see a button labeled “Activate”. Click this to start data coming in. Note it may take up to one day before the first data report.



Fig. 1: **Above:** Satellite communication hub items
Below: Strap over green label, not antenna area



Fig. 2. Battery cover removed

4. **USA customers:** you may opt into the Bee Informed program. Visit “My Account” → “My Details” and scroll down to “Link with Bee Informed” to find out more.

Maintenance

Hub batteries: Unscrew battery compartment and install four AA **lithium** batteries as shown. Replace cover using all six screws. Tighten firmly but **do not over-tighten** (0.5 Nm torque). Over-tightening or under-tightening will destroy the hub by water ingress.

Specifications – Hub

Dimensions: 170 x 85 x 25 mm

Weather proofing: IP67, IP68, IP69K

Operating temperature: -20 to 60°C

Battery life: up to 1 year; replaceable with 4 x AA 1.5V Lithium only

Maximum distance device to hub: 10m to 50m typical (signal depends what objects are in between)

Maximum number of sensor devices: 14

Location: Location (via satellite) accurate to within 10m radius

Regulatory Compliance

The satellite transmitter complies assuming a minimum operating distance of 20cm:

- CE (Europe Aus/NZ): ETSI EN 301: 441 V1.1.1, 489-1 V1.8.1(2008-04), 489-20 V1.2.1(2002-11)
- US FCC CFR47 parts 2, 15, and 25, UL913 intrinsically safe for Class I Division 1 Groups A-D
- Canada ICES-003
- EN60950-1:2006 Part 1; 1.7.13 notice: “Caution! Risk of explosion if battery is replaced by an incorrect type. Dispose of used batteries according to their instructions.”

FCC Notice: This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation. Device contains SM220 FCC ID: U90-SM220



Warranty

1. Purchased product warranty is 12 months from the date of purchase, day / mth / year as follows. Repair or replacement will be made to any faulty product returned to the purchasing location within that time. Hivemind will bear the cost of repair unless the product has been mistreated or operated outside specification. Hivemind will pay transit costs for only the transit of the product between the purchasing location and the repair facility.
2. Leased products have a perpetual warranty as follows. Hivemind will cover repair and shipping costs for damage from ordinary wear and tear. If the product has been mistreated or operated outside specification then the customer is liable to pay for the cost of the product and return shipping.

Other details of warranty are specified in the Hivemind Terms and Conditions at <http://hivemind.co.nz/agreement>.