A wireless Mesh IoT sensor system

User Manual

vicotee.com/pdf/usermanual
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1 QUICK START GUIDE

Vicotee Bifrost

<table>
<thead>
<tr>
<th>Setup Bifrost Gateway</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1: Register gateway on Vicotee Portal</strong></td>
</tr>
<tr>
<td>Use Device Id &amp; Security Code printed on label for web portal</td>
</tr>
<tr>
<td>Or scan QR code with a smartphone for app</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Setup Bifrost Gateway</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>2: Connect gateway to internet</strong></td>
</tr>
<tr>
<td>Turn ON gateway connect to internet, and wait for gateway to connect to the Vicotee cloud service; see below for details</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Setup Bifrost Gateway</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>3: View gateway on the Vicotee Portal</strong></td>
</tr>
<tr>
<td>Gateway will show up in the “Manager” part of the Portal</td>
</tr>
</tbody>
</table>
### Vicotee Njord

**Series 10000 – 1zzzz**

<table>
<thead>
<tr>
<th><strong>1: Register node on Vicotee Portal</strong></th>
<th><strong>2: Connect any external sensors</strong></th>
</tr>
</thead>
</table>
| Use Device Id & Security Code printed on label for web portal  
Or scan QR code with a smartphone for app | : Only applicable for selected models |

<table>
<thead>
<tr>
<th><strong>3: Turn ON node</strong></th>
<th><strong>4: Wait for node to connect to gateway</strong></th>
<th><strong>5: Collect data</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Press power button to turn node ON</td>
<td>Vicotee logo will flash until connection has been established; see below for details</td>
<td>Watch data flow into the Vicotee Portal either on web or app</td>
</tr>
</tbody>
</table>
2 NJORD LOGO FLASH SIGNALS

The Vicotee logo on the Njord nodes double as a simple user interface by use of flashing LED signals. Refer to table below for definition of signals.

![Fig. 1 Vicotee Flashing Logo](image)

<table>
<thead>
<tr>
<th>Flash Sequence</th>
<th>Message</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quick Flash (<em>-</em>-<em>-</em>)*</td>
<td>0.5 sec ON / 1.0 sec OFF</td>
</tr>
<tr>
<td>Slow Flash (<strong>---</strong><em>---<strong>---</strong></em>)</td>
<td>1.5 sec ON / 1.5 sec OFF</td>
</tr>
<tr>
<td>2 * Rapid Flash (<em>-</em> *)</td>
<td>0.2 sec ON / 0.2 sec OFF 3 sec pause then repeat</td>
</tr>
<tr>
<td>3 * Rapid Flash (<em>.</em>-* *)</td>
<td>0.2 sec ON / 0.2 sec OFF 3 sec pause then repeat</td>
</tr>
</tbody>
</table>

Node Starting up – Continuous until 30 seconds after connection to gateway has been established

Node configuration update is being received and implemented

Node is offline or has low power

System error

3 BIFROST LED FLASH SIGNALS

The Bifrost gateway is equipped with two LEDs to indicate communication state to the Vicotee cloud service (☁) and to the wireless mesh network (_WIFI_).

![Bifrost Gateway](image)

When connected the LEDs will be continuously lit, when receiving data on either network the LEDs will flash.

<table>
<thead>
<tr>
<th>Flash Sequence</th>
<th>Message</th>
</tr>
</thead>
<tbody>
<tr>
<td>LED OFF(---)</td>
<td>OFF</td>
</tr>
<tr>
<td>LED ON (***)</td>
<td>Continuously Lit</td>
</tr>
<tr>
<td>LED Flashing (<strong><strong>-</strong><em>-</em></strong>-***)</td>
<td>1 sec ON / 150 msec OFF</td>
</tr>
</tbody>
</table>

Not connected

Gateway connected

Receiving data
4  VICOTEE WEB PORTAL

The backbone of the data handling of the Vicotee sensor system is the Vicotee Web Portal. This cloud-based portal is built on the Virinco WATS technology. Data is accessible from the cloud either through the web portal using a web-browser or through our dedicated app for smartphone/tablet access.

4.1 GETTING STARTED

In order to log and access data from Vicotee devices users will need to create a profile on the Vicotee Web Portal. This is done by going to https://portal.vicotee.com and clicking the Join/Sign in link in the topmost right-hand corner.

![Vicotee Web Portal Getting Started Page](image)

*Fig. 2 Vicotee Web Portal Getting Started Page*
4.2 Setting up Accounts

With a profile in place, it is possible to set up a number of accounts in the system in order to keep track of several Vicotee networks and share these with colleagues or friends.

All users have a default account set up when the profile is created and new accounts are added by clicking the plus sign (+) next to the dropdown list of available accounts and giving the new account a name using the Name-box. Any accounts shared to the active profile from other profiles will appear in the dropdown list automatically.

Accounts can be shared between profiles in the system by adding their e-mail addresses in the bottommost field in the screen.
4.3 **REGISTERING DEVICES**

In order to capture data from nodes, both nodes and gateways need to be registered to an account. This is done by selecting the account to which the device is to be added and entering the device Id and Code. These are printed on the device label.

With device information entered into the Vicotee Web Portal, turn on the device and the system will allow the device to connect and start logging data.

![Register Device Page](image)

**Fig. 4 Vicotee Web Portal Register Device Page**

4.4 **MANAGING DATA**

With accounts set up and devices registered (See above paragraphs on how to do this), data should start flowing into the system. With a couple of devices attached, the data manager overview should resemble Fig. 5 showing historical data for the attached sensors, in this case a series of humidity and temperature sensors.
Selecting any of the sensors, using the menu on the left-hand side of the screen, will open a window for the specific sensor with the possibilities to see the data as a chart (Fig. 6) or as a grid (Fig. 7) as well as setting options for the specific sensor. In the grid view, a number of filters can be set up in order to select which data is shown.
Fig. 6 Looking at data from a specific sensor in chart mode

Fig. 7 Looking at data from a specific sensor in grid mode
Switching the Data Manager to data analysis mode allows for more in-depth analysis of sensor data, e.g. comparison of data from different sensors as shown in Fig. 9.
5 VICTEE PORTAL APP

All functionality of the Vicotee web portal can also be found in the Vicotee app, downloadable through Google Play and Apple App store.

More info and screen shots to come.

6 TECHNICAL DOCUMENTATION

Datasheets and other technical documentation for both Bifrost and Njord devices can be downloaded from http://vicotee.com.
Object of the declaration:

Product: Vicotee Njord
Series: 10000 – 1zzzz

Manufacturer: Vicotee AS
Address: Gråterudveien 20, NO-3036 Drammen, Norway

This declaration is issued under the sole responsibility of the manufacturer

The object of the declaration described above is in conformity with the relevant Union harmonization legislation:

2014/30/EU    The Electromagnetic Compatibility (EMC) Directive
2011/65/EU    The Restriction of the use of certain hazardous substances (RoHS) Directive

Conformity is shown by compliance with the applicable requirements of the following documents:

Radio    EN 300 328 v1.8.1 (2012-04)
IEEE 802.15.4e

EMC    ETSI EN 301 489-17 V2.2.1 (2012-09)

Signed for and on the behalf of: Vicotee AS

Place of issue:    Drammen, Norway
Date of issue:    October 21, 2016
Name:     Richard Evje Pettersen
Position:    CEO
Signature:

The technical documentation for the product is available from the above address.
8  CE DECLARATION OF CONFORMITY – BIFROST

EU Declaration of Conformity

Object of the declaration:

Product: Vicotee Bifrost

Manufacturer: Vicotee AS

Address: Gråterudveien 20, NO-3036 Drammen, Norway

This declaration is issued under the sole responsibility of the manufacturer

The object of the declaration described above is in conformity with the relevant Union harmonization legislation:

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