



**INFORM : PROTECT : DEPLOY**

## **Reactec Analytics Platform**

# **Retrofitting the Basestation with Communications Module**

This document provides information about fitting a Communications Module to an existing Basestation.

**Document Date: 15 September 2016**  
**Document Version: 290-106-7**

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## About this document

This document is supplied as a part of the Reactec Analytics Platform.

**Intended Purpose** This document provides information about fitting a Communications Module to an existing Basestation.

**Intended Audience** This document is intended for Communications Module installers.

**Conventions used** This guide uses the following formats for safety notices:



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*Indicates a hazardous situation which, if not avoided, could result in death or serious injury.*

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*Indicates a hazardous situation which, if not avoided, could result in moderate injury, damage the product, or lead to loss of data.*

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**Notice**

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*Indicates a hazardous situation which, if not avoided, may seriously impair operations.*

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*Additional information relating to the current section.*

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# Contents

<b>About this document</b> .....	<b>iii</b>
<b>Contents</b> .....	<b>iv</b>
<b>1 Components Overview</b> .....	<b>v</b>
<b>1.1 Basestation</b> .....	<b>v</b>
<b>1.2 Communications Module</b> .....	<b>v</b>
<b>2 Installation</b> .....	<b>vii</b>
<b>2.1 Prerequisites</b> .....	<b>vii</b>
<b>2.2 Upgrade the Basestation Software</b> .....	<b>vii</b>
<b>2.3 Install the Communications Module</b> .....	<b>vii</b>
2.3.1 Installation for Mobile Phone Connection .....	viii
2.3.2 Installation for LAN with DHCP Configuration .....	viii
2.3.3 Installation for LAN with a Static IP Address Configuration .....	ix
<b>2.4 Confirm Communications</b> .....	<b>xi</b>
<b>3 Troubleshooting</b> .....	<b>xii</b>
<b>3.1 Troubleshooting installation</b> .....	<b>xii</b>
<b>3.2 Contacting Reactec support</b> .....	<b>xii</b>

# 1 Components Overview

This section provides an overview of the components of the Reactec Analytics Platform.

## 1.1 Basestation

The Basestation is a central unit which provides data archiving and charging for up to 8 HAVmeters.



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**Figure 1: Basestation**

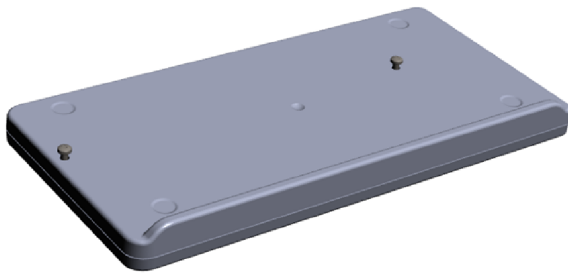
The Basestation assigns a HAVmeter to an operator when signed out at the start of a shift. When the HAVmeter is returned, the Basestation automatically downloads tool usage (HAV exposure) data and recharges the HAVmeter.

All data downloaded by the Basestation is stored permanently in the internal Basestation memory. After it has been internally stored, the HAV exposure data is transmitted to the Reactec Analytics Platform by the Communications Module for analysis in the Analytics Software.

The Basestation also provides administration and security functions using a keypad and display. These are used by Basestation administrators during installation or when troubleshooting.

## 1.2 Communications Module

The Communications Module connects to the Basestation and transmits the HAV exposure data to the Analytics Software over a mobile network or by Ethernet connection to a Local Area Network.



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**Figure 2: Communications Module**

Connection to the communications module is simplest via a UK mobile network signal. In the event a signal is not available the communications module can be connected to a local area network by configuring the DHCP or a Static IP address.

The SIM included in the Communications Module has a roaming capability on Vodafone, O2 and EE network providers. The Communications Module shall check signal strength for different network providers and shall connect to the strongest one.

## 2 Installation

This section provides information on how to install components of the Reactec Analytics Platform.

### 2.1 Prerequisites

Before installing the Communications Module, ensure that you have done the following:

- Checked the packaging list to ensure you have all components
- Confirmed access to the RAP Analytics Software
- Provided an Ethernet cable to a LAN if choosing an Ethernet connection since no mobile phone signal exists.

### 2.2 Upgrade the Basestation Software

The Basestation software will require to be upgraded (to version 12.14 or above) to enable the Basestation to use the Communications Module.

1. Remove all HAVmeters from Basestation.
2. Insert SD Card 1 into the Basestation external SD card slot. The Basestation will display 'Installing updates' then 'Please wait'
3. When the Basestation returns to the home display, Insert SD Card 2 into the Basestation external SD card slot. The Basestation will display 'Installing updates' then 'Please wait'
4. When the Basestation returns to the home display, Insert SD Card 3 into the Basestation external SD card slot. The Basestation will display 'Updating units' and then return to the home display.
5. Return the HAVmeters to the Basestation.

The HAVmeter's software is also upgraded when it is returned to the Basestation. Each HAVmeter takes 5 minutes to upgrade.

### 2.3 Install the Communications Module

The Communications Module can be retrofitted onto an existing Basestation to allow transmission of data to the Analytics Software.

Before installing it should be determined if there is mobile phone signal coverage in the area where to mount the Basestation / Communications module will be mounted. If not then the Ethernet connector should be used to connect via a local area network (LAN). Before installing for use with a LAN it should be determined if the LAN is to be configured for DHCP or a Static IP address. The

## 2 Installation

following three sections describe the alternative install processes for mobile phone versus LAN configured for DHCP versus LAN configured for a Static IP address.

### 2.3.1 Installation for Mobile Phone Connection

1. Disconnect the existing power supply from the Basestation.
2. Remove the Basestation from the current installation site.
3. Mount the Communications Module on the installation site, or place on the chosen surface.
4. Attach the Basestation to the Communications Module using the fittings.
5. Connect the power cable between the Basestation and Communications Module.
6. Connect the Communications Module to the Basestation using the 9-pin serial cable through the serial ports.
7. Connect the antenna to the Communications Module through the antenna port.



*If mobile network coverage is poor, use a 50 ohm coaxial cable to locate the antenna in a position with better coverage.*

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8. Reconnect the existing power supply to the Basestation.
9. If you have received an Allocation Magnetic Swipe Card, wait until the amber light on the Communications Module is illuminated, and then Magnetic Swipe the Allocation Magnetic Swipe Card through the Basestation.
10. Contact Reactec Technical Support on 0131 221 0920 to allocate the Basestation to the correct Reactec Analytics Platform account.

### 2.3.2 Installation for LAN with DHCP Configuration

1. Disconnect the existing power supply from the Basestation.
2. Remove the Basestation from the current installation site.
3. Mount the Communications Module on the installation site, or place on chosen surface.
4. Attach the Basestation to the Communications Module using the fittings.
5. Connect the power cable between the Basestation and the Communications Module.
6. Connect the Communications Module to the Basestation using the 9-pin serial cable through the serial ports.
7. Connect the LAN Ethernet connector to the Ethernet Connector on the Communications Module.



## 2 Installation

8. Plug the mains power supply into the Communications Module and lock the screw connector in place.
9. If you have received an Allocation Magnetic Swipe Card, wait until the amber light on the Communications Module is illuminated, and then swipe card through the Basestations.
10. Contact Reactec Technical Support on 0131 221 0920 to allocate the Basestation to the correct Reactec Analytics Platform account.

### 2.3.3 Installation for LAN with a Static IP Address Configuration

Before installing the communication module at the location of use the communication module will need to be configured while accessing a mobile phone signal to configure the Static IP address via Reactec's Analytic Platform software. Carrying out this process will require access as an administrator to the Reactec Analytic Platform software

1. Using a web browser, navigate to [www.reactecanalyticsplatform.com](http://www.reactecanalyticsplatform.com).
2. Enter Username and Password to **Login**.
3. On the Toolbar, click **Data/Project Manager**. The Groups page opens by default.
4. Click **Basestations & Docking Stations**.
5. Click **Edit** for the Basestation / Docking Station. The Edit page opens.
6. Select **static** for the **IP Settings**.
7. Enter the required information to define the Static IP address for the connection.
8. Click **Save**.

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Dashboard HAVS Tools Resources Data/Project Manager Users

MANAGE GROUPS  
Groups  
Regions  
Divisions

ASSET ADMIN  
Basestations & Docking Stations  
Operators  
Tools

DATA  
View/Upload  
Data Allocation  
Corrections  
Export Data  
Tool Category Request

You have a subscription that is due to expire in 16 days

## Edit Basestation [Help](#)

Hardware ID 5335312E5952594A3430343239333030

External ID

Name

Group Unassigned Resources

Current Status OK

Last Data Upload Attempt 14/04/2016 08:02:07 (No Data Available)

Data Last Received 13/04/2016 15:17:47

Settings  Use global settings  Override global settings

IP Settings  DHCP  Static

Ip Address

Subnet Mask

Gateway Ip

Dns Server1

Dns Server2

9. Disconnect the existing power supply from the Basestation.
10. Remove the Basestation from the current installation site and take to a location with a mobile phone signal.
11. Place the Communications Module on a flat surface.
12. Attach the Basestation to the Communications Module using the fittings.
13. Connect the power cable between the Basestation and the Communications Module.
14. Connect the Communications Module to the Basestation using the 9-pin serial cable through the serial ports.
15. Connect the antenna to the Communications Module through the antenna port.
16. Plug the mains power supply into the Communications Module and lock the screw connector in place.

## 2 Installation

17. If you have received an Allocation Magnetic Swipe Card, wait until the amber light on the Communications Module is illuminated, and then swipe card through the Basestations.
18. Contact Reactec Technical Support on 0131 221 0920 to allocate the Basestation to the correct Reactec Analytics Platform account.
19. Leave unit connected until the next download is configured for the Basestation. Should be no more than 24 hours. When a Communications Module has been successfully configured for a Static IP address, the Basestation LCD will display 'ETH-R' in place of 'GPRS-R'.
20. Disconnect the power supply from the Communications Module and move the connected Communications Module and Basestation to the desired installation location.
21. Connect the LAN Ethernet connector to the Ethernet Connector on the Communications Module.

## 2.4 Confirm Communications

After you have installed the Communications Basestation and upgraded the Basestation software, perform a test to check that data is transmitted to the Analytics Software.

► *For more information, refer to the "Software Administration Guide"*

1. Login to the Analytics Software.
2. Click **Data/Project Manager**.
3. Under **ASSET ADMIN**, click **Basestations**.
4. Set data upload to minimum of every 2 hours.
5. Complete a test shift with a HAVmeter.
  - a. Sign out a HAVmeter from the Basestation.
  - b. Attach the HAVmeter to a tool, and use for a short time.
  - c. Return the HAVmeter to the Basestation.
6. In the Analytics Software under **ASSET ADMIN**, click **Basestations**.

The Basestation is added to the group of **Unallocated Resources**.

The data is automatically sent to the Analytics Software at the next scheduled data upload time set in the Analytics Software. Disconnecting and reconnecting the unit from the power supply can be used to trigger an immediate data upload.

## 3 Troubleshooting

This section provides information about troubleshooting issues that may arise.

### 3.1 Troubleshooting installation

The installation may be unsuccessful for the following reasons:

- Communications Module antenna does not have an adequate UK mobile network signal at the installation site.

To resolve this, the Communications Module antenna may be positioned remotely.

1. Connect the 50 ohm coaxial cable to the antenna port.
2. Connect the antenna to the other end of the cable.
3. Position the antenna remotely where it will receive an adequate signal.

A mobile phone which receives an EDGE GPRS or 2G signal can be used to determine where there is an adequate signal.

### 3.2 Contacting Reactec support

Contact Reactec support with any issues using one of the following options:

**Tel:** +44 (0) 131 221 0920

**Email:** [helpdesk@reactec.com](mailto:helpdesk@reactec.com)

**Website:** [www.reactec.com/helpdesk](http://www.reactec.com/helpdesk)