



INFORM : PROTECT : DEPLOY

Reactec Analytics Platform

Communication Basestation Installation Guide

This document provides information about installing the Basestation and Communications Module.

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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 installing the Basestation and Communications Module.

Intended Audience This document is intended for Basestation and Communications Module installers.

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



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



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

Notice

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



Additional information relating to the current section.

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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.



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.

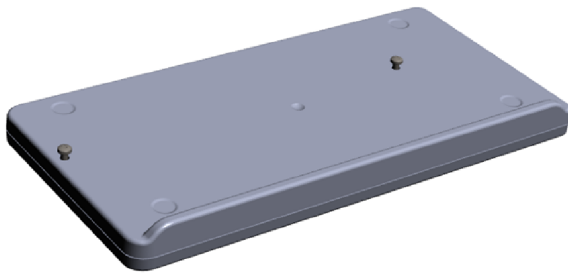


Figure 2: Communications Module

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.

1.3 HAVmeter

The HAVmeter is an easy-to-use, portable device that monitors hand arm vibration (HAV) risk assessment exposure data over the duration of an operator's shift. It is used in conjunction with HAVmeter Tags, which are permanently mounted on the vibrating equipment.



Figure 3: Unattached HAVmeter

The HAVmeter is magnetically attached to the HAVmeter Tool Tag on the tool. Current HAV risk assessment exposure levels are shown on the HAVmeter display.

1 Components Overview

The HAVmeter indicator lights use a traffic light system (green, amber, red) to indicate when specified exposure values are reached . This allows the operator to take action to limit further exposure.

A Basestation is used to both charge and collect data from the HAVmeter.

Operators sign a HAVmeter out of the Basestation at the start of each shift using their Operator ID card. This assigns the HAVmeter to the operator for that shift and ensures the correct HAV exposure limits are on the HAVmeter for that operator.

2 Installation

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

2.1 Prerequisites

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

- Checked the packaging list to ensure you have all components
- Identified a suitable location
 - ▶ *For more information, see "Locating the Communications Basestation" on page viii*
- Provided access to a power supply (240V mains supply or 12V DC vehicle supply)
- Confirmed access to the RAP Analytics Software
- Provided an Ethernet cable to a Local Area Network (LAN), if there is no mobile phone signal at the installation location.

2.2 Locating the Communications Basestation

When identifying a location for the Communications Basestation, consider the following:

- The Communications Basestation should be wall mounted on an installation site with at least a 150mm clearance above.
- If the Communications Basestation must be placed horizontally, ensure the area is clear on all sides of the Basestation, with a 300mm clearance above.
- Ensure that the installation site does not block, cover or insert obstructions through the openings on the Basestation.
- The Communications Module requires a UK mobile network signal to operate or access to a Local Area Network.

Ensure that there is sufficient mobile network coverage at the location, or accessible using an additional 50 ohm coaxial cable to extend the antenna (available from Reactec), or an available LAN connection.



Do not mount or place the Communications Basestation on an unstable surface or near a heat source, such as a radiator, or in direct sunlight, because this can damage the units.

2.3 Installing the Communications Basestation

The Communications Basestation consists of a Basestation and Communications Module. They are installed together 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 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 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. Mount the Communications Module on the installation site, or place on the chosen surface.
2. Attach the Basestation to the Communications Module using the fittings.
3. Connect the Communications Module to the Basestation using the 9-pin serial cable through the serial ports.
4. Connect the power cable between the Basestation and Communications Module.
5. 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.

6. Plug the mains power supply into the Basestation and lock the screw connector in place.
7. Plug the mains cable into a 240V socket and switch on.

Alternatively, the Basestation can be powered directly from a 12V DC vehicle supply.

For this type of supply, a 5A fuse must be fitted, and it is recommended that a second battery which provides a minimum of 100 Ah is installed in the vehicle.

Plug the vehicle supply cable into the Basestation and lock the screw connector in place.

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.

2 Installation

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.
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.

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.
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.

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. 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'.
19. Disconnect the power supply from the Communications Module and move the connected Communications Module and Basestation to the desired installation location.
20. Connect the LAN Ethernet connector to the Ethernet Connector on the Communications Module.

2.4 Setting the time and date

The Basestation is provided with preset time and date settings.

After power on the Communications Module automatically obtains updated local time and date settings from the mobile network.

These can be updated if required.

Setting the time

1. Using the keypad, navigate the menus to `Main Menu > Settings?`, then press **OK**.
2. Enter the security passcode, then press **OK**.
3. Navigate the `Settings` menu to `Set Time?`, then press **OK**.
4. Using the keypad enter the time in the 24hr format `HH:MM`, then press **OK**.

Setting the date

1. Using the keypad, navigate the menus to `Main Menu > Settings?`, then press **OK**.
2. Enter the security passcode, then press **OK**.
3. Navigate the `Settings` menu to `Set Date?`, then press **OK**.
4. Using the key pad enter the date in format `DD/MM/YY`, then press **OK**.

2.5 Setting the security passcode

The security passcode used for accessing some administration functions can be changed .

1. Using the keypad, navigate the menus to `Main Menu > Settings?`, then press **OK**.
2. Enter the current security passcode, then press **OK**.
3. Navigate the `Settings` menu to `Change Passcode?`, then press **OK**.
4. Enter a new 6 digit security passcode using the keypad.
5. Enter the new 6 digit security passcode again to confirm.

2.6 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

Website: www.reactec.com/helpdesk