

REACH Wireless®

Surveying Guide

The purpose of this document is to provide a concise set of instructions for surveying a site for a REACH Wireless system installation. It is not a full manual and will not cover all product functions, settings and specifications.

Introduction

The objective of the survey is to determine whether the REACH loop-interface (Hub) and wireless devices will be in range of each other.

This means considering where the Apollo protocol wired loop can be broken and the REACH loop-interface (Hub) can be mounted. Once determined, each ideal location of wireless fire devices can be surveyed.

If link quality at a potential device location is not good enough, this will help you to either:

- Determine an alternative device location nearby where signal strength may be better.
- Determine a new location for the Hub that may better serve the device locations.
- Determine whether multiple Hubs are required.

Survey Kit Contents

1. Mock Loop Interface (Hub)

The bridge between the Apollo wired system and the wireless system. To be placed where a real device would be located at the start of the survey.

2. Mock Detector + Pole Attachment

To be used to determine suitable locations for product to be installed. The bi-colour LED will flash to indicate signal strength.

3. CR123 Varta Lithium-Ion Batteries (x6)

2x for detectors, 4x fo Hub (included)

4. AC/DC Power Adapter

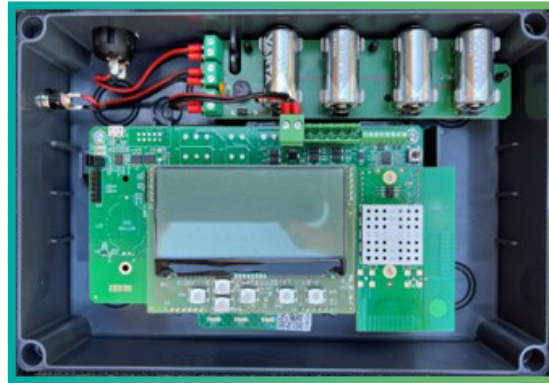
Global adaptors included. Hub can be powered by mains.



Preparing the Survey Kit

To prepare the survey kit, first remove the front cover of the mock Hub device.

1. Insert 4x of the CR123 batteries (included) as shown. Polarity (+/-) is indicated on the PCBA.
2. Next, flick the power switch to the 'ON' position. The screen should show the REACH logo.
3. Press the Enter button to continue.



The Hub's embedded display should illuminate as it powers on.

The survey will continue on the Hub's built-in display and buttons.

The user-interface consists of:

- Up/Down
- Left/Right
- Back
- Enter



Main Menu

From the Survey Kit Main Menu, the following options are presented:

Survey

- This is used for the point-to-point survey. We will do this second.

(Background) Scan

- This should be performed first, before the point-to-point survey.
- It will let you know which RF channels are the most congested or noisy so that you can avoid them.

Settings

- Only used to pair/un-pair the mock detector device.



Scan

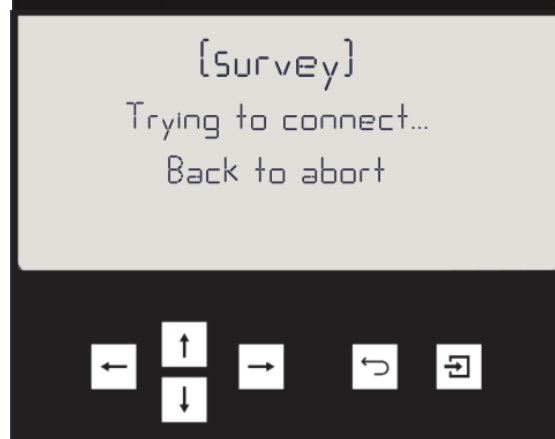
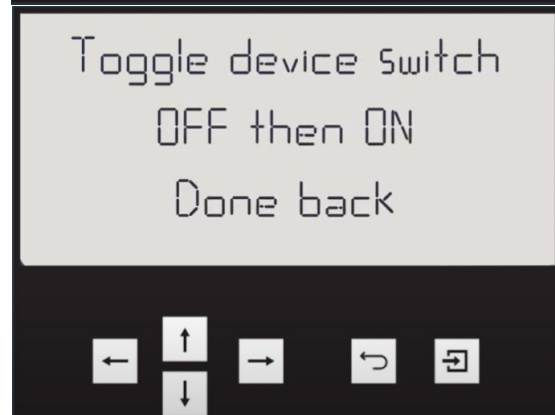
First run a scan of the area.

1. Select 'Scan' on the Main Menu. The scan will take up to 4 mins to complete.
2. Result will show in order of preference.
3. Record the results on survey sheet (available on apollo-fire.co.uk).
4. Repeat at every Hub location to get the best result

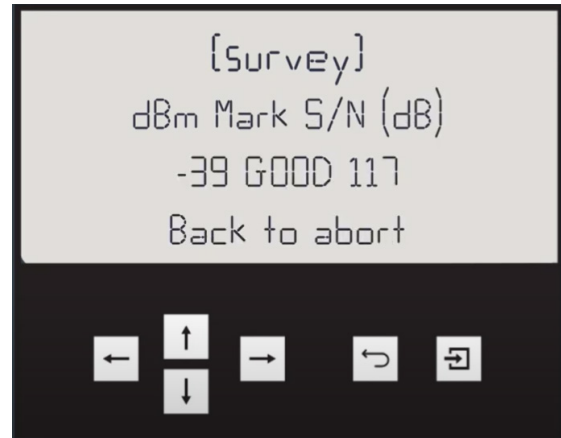
Survey

The point-to-point survey is used to determine the expected signal strength of each REACH device at the potential install locations.

1. Scroll down to 'Edit Chn' and select, this will let you select the preferred channels to use based of the scan result.
2. Return to the 'Survey' menu and select Start Survey.
3. Turn on the survey device, once powered up select 'Done'.



4. You are ready to survey



The LED readouts indicate suitability for a product to be installed in the location being tested.

Positive results = Green LED quick flash
Negative results = Red LED long flash

Results are often followed by a 1 second blank. The exception is the extremely bad result, to indicate range limit. Once this is exceeded, the LED will no longer flash until it comes back in-range.



The signal quality LED table shows the dBm ranges for each flash-type.

Apollo does not recommend marginal signal quality as a passing value, as this will result in variable connection strength, requiring repeated transmission and degraded battery-life.

Results of each survey point should be recorded in the REACH Survey Sheet (available as a free download on the Apollo website). It is important to keep this for the site installation.

Signal Quality LED Table				
Rssi (dBm)		LED Activity + Colour	Signal Quality	Ok to Install?
Min.	Max			
0	-65	● ● ● ● --	Excellent	Yes
-66	-75	● ● ● ● --	Good	
-76	-80	● ● ● ● --	Sufficient	
-81	-85	--- -- --	Marginal	No
-86	-90	--- -- --	Bad	
-91	-95	--- -- --	Very bad	
-96	-100	--- -- --	Extremely bad	
-101	-105	--- -- --	Range limit	

Once you have finished surveying, remember to remove the batteries from the detector device and switch the Hub power-switch to off to prevent discharging the system.