SCOUT200 Series Quick Start Guide

Overview

- **SCOUT220–IS & SCOUT240–IS** are intrinsically safe portable data collectors designed for hazardous environments. The data collectors are **ATEX Zone 1** and **CSA Class 1 Zone 1** compliant.
- **COMMTEST220 & COMMTEST240** are portable data collectors that cater to environments without explosive gases.
- The industrial handheld is an intrinsically safe interface device.
- **S1 Collector** app runs on the industrial handheld.

⚠️ Important Safety Information ⚠️

Scout200 Series uses an accelerometer with a powerful magnet base. Do not use your data collector before reading the product safety advisory in the Installation and Operation Manual.

- Do not attach a sensor to a component which may be at a high voltage.
- Do not place a sensor magnet mount near an object that is sensitive to magnetic fields.
- Ensure cables cannot become entangled with moving machinery.
- Your data collector is a precision instrument. Handle it with care.
- Read the all the product safety information in the SCOUT200 Series User Guide.

Fundamentals

Charge Device

To charge the device before initial use, plug the supplied charger into the data collector's **DC port**.

It takes about three hours to fully charge the device.

Attach Strap or Belt Clip

To use the **neck strap**, attach the strap to the **safety breakaway rings** installed on two corner rails. **Attach to the safety breakaway rings only. Do not attach the strap directly to the corner rails.**

To attach the **belt clip** (applies to COMMTEST200 models only), place the bottom two corners of the data collector into the clip. Press down on the top two corners of the belt clip to enable the data collector to be engaged.
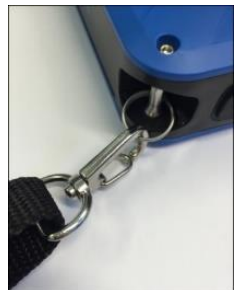
109M1270–01 Rev. F

Power Device

To turn the data collector on, press the **power button** ⏻ .

Buttons, LEDs, and Connectors

Buttons

Power on/off button.

Action button executes the functionality of the primary button on the current toolbar in the app. The primary button is identified by a yellow highlight. This functionality is mostly used for on-route recording.

LEDs

The **Power** LED remains solid green when the device is on. It flashes to indicate low battery.

The **Charging** LED remains steady and amber while the device is charging.

Bluetooth LED is steady when the device is paired with an industrial handheld, but the link is idle.
The LED flashes while the device transfers data to S1 Collector app.
The LED is off if the data collector is not currently connected to an industrial handheld.

Connectors

DC Connector
Insert the supplied 12V adapter into the DC connector to charge the data collector.
Charge the device in a safe area only.

CH1 & CH2+ LEMO Connectors are silver with double alignment keys.
Connect sensors to these inputs.
Use the CH2+ connector with the triple adapter or a triax for four channel models.

TACH Connector is black with single alignment key.
Connect a tachometer or Keyphasor to Tach Connector.

S1 Collector App Fundamentals

Download and Install S1 Collector App

1. Make sure your handheld device is connected to Wi-Fi.

2. Open the **Google Play Store** app ▶ .

3. Search for the **S1 Collector** app published by Baker Hughes / Bently Nevada and install.

If your handheld does not have an internet connection, download the ".apk" installation file to a computer and transfer the file via USB to the handheld. The .apk file is available through your System 1 licensing account on: Flexnet: https://bakerhughes.flexnetoperations.com/

See the SCOUT200 Series User Guide (109M1269) section 4 for more details.

Open S1 Collector App

1. Turn on your industrial handheld.

2. Select **Applications** ⊞ .

3. Find and select **S1 Collector** 📱 .

Pair S1 Collector App with SCOUT200 Series

1. Open the **S1 Collector App**.

2. Select **Devices** 📱 .

3. Wait while the handheld scans to find nearby data collectors. A list of available devices is displayed.

4. Select your data collector using its serial number. A message is displayed while the app connects to the data collector.

When you connect to a data collector, your industrial handheld device displays a **Bluetooth Pairing Request** message. Select **Pair** to proceed.
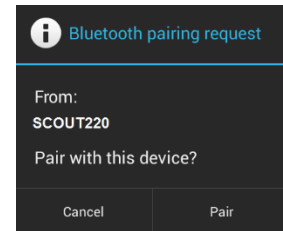

S1 Collector App – Main Buttons

Back / Home — Return to the previous screen. Tap and hold to display a list of recently accessed screens including the app's main menu.

ROUTES — Record vibration for a predetermined list of machine locations.

MEASURE — Take an off-route recording such as spectrum and waveform measurements.

BALANCING - Perform in-field rotor balancing, following the Initial-Trial-Balance sequence of readings.

SYNC — Send recorded data from the S1 Collector app to System 1. Receive updated folder and route information from System 1.

RECORD REVIEW — Conduct a quick onsite review of recordings on the handheld.

DEVICES — Pair the handheld with a data collector and view information about the paired device.

SETTINGS — Set preferences for your industrial handheld, app, database, language, and measurement units.
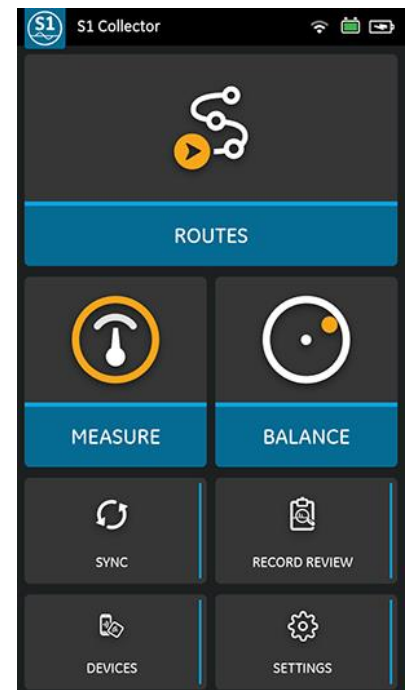
Sync Data

Sync Data Using USB Tethering

1. On the S1 Collector app's main menu, select **SYNC** 🔄 .

2. Select the **USB** option.

3. Use a USB cable to connect the device to the computer hosting System 1.

4. From the displayed message on the handheld, select **OK**. Device settings are displayed.

5. In **Tethering & portable hotspot**, enable **USB tethering**.

6. Press **Back** to return to the S1 Collector application where a Direct Communications message is displayed.

7. Swap to the System 1 software by selecting **Portable > Send/Receive > Instrument Mode** to Sync data. For details, see the SCOUT200 Series User Guide (document 109M1269).
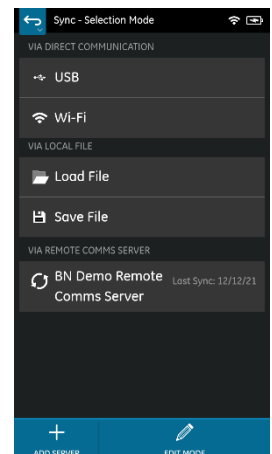
Sync Data Using Wi-Fi

1. Select SYNC ⟳ from the S1 Collector app's main menu.
2. Select Wi-Fi.
3. In System 1, use **Portable > Send/Receive > Instrument Mode** to Sync data.
4. If the handheld and computer hosting System 1 are not on the same network subnet, the handheld may not be visible to System 1. In that case, use the **Enter IP Address Manually** option to make the connection.

Sync Data with Remote Comms

See the Remote Comms User Guide 121M6156 for installation instructions, and the SCOUT200 Series User Guide 109M1269 for usage instructions.

Record Route

1. Select **ROUTES** 🔗 to display the **Routes** window. The list of available routes is displayed and information about each route:

   🔲 Total number of points in the selected route

   🔲 Number of points with completed recordings

   🔲 Percentage of points with completed recordings

2. Select a database, folder, and route. The **Route Configuration** window is displayed.

3. Select a **Display** and **Recording Mode**.

Display

- ▪ GAUGE – Displays a color-coded gauge showing the vibration level compared to the alarm threshold.
- ▪ PLOTS – Displays spectra &/or waveform plots allow data-quality review and analysis.

Recording Mode

- ▪ QUICK MODE – Takes all measurements at this location as quickly as possible, without delays or user intervention.
- ▪ AUTO MODE – The S1 Collector App automatically moves on to subsequent recordings at this measurement location with a short, user-configured delay.
- ▪ MANUAL MODE – The S1 Collector app allows you to visually analyse the data and/or remeasure before manually proceeding to the next measurement.

4. Select **Sensors** to enable the channel(s) you have sensors connected to and select or create the appropriate sensor for each channel. Press **Done** to return to the **Route Configuration** screen.

5. Select **START** 🔗 or **RESUME** 🔗 .
   The **Route Details** window is displayed.

6. The blue circle indicates the Machine – Bearing – Point where the sensor should be placed. Then select

   MEASURE 🔵 to start recording.

   The type of data displayed, and the progress to the next measurement, is controlled by the Display and Mode selections you made earlier. You may be presented with these options:
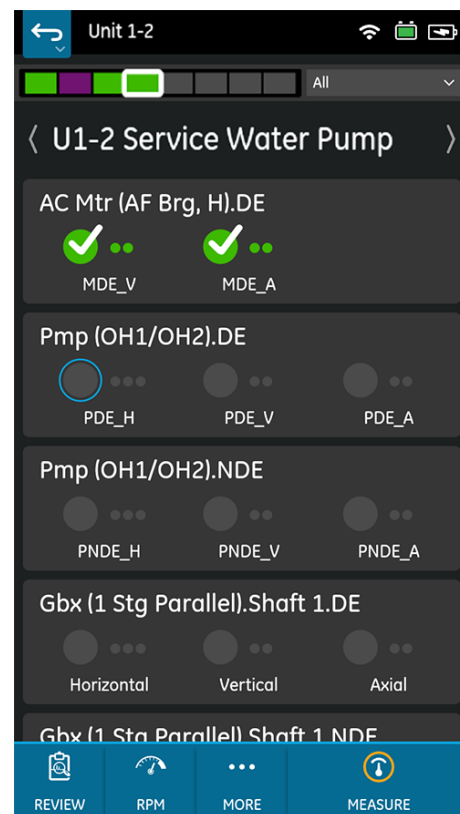
To view a graph of the recording, select **ANALYZE.**

To retake the recording, select **REMEASURE**.
The new recording overwrites the previous one.

7. You can use **MORE** [···] to access these options:

Skip recording a machine on a route.

Toggle the status of a machine from **running** to **not running** and vice versa.

**Delete** opens a flexible interface to remove unwanted recordings.

8. **Sync** the data between the S1 Collector app and System 1.

Off-Route Recording

1. Select **MEASURE** 🔘 from the app's main menu.

The **Measure** window displays these options:

- **Spectrum / Waveform** takes an off-route spectrum or waveform recording or both.
- **Demodulation** takes an off-route demodulation recording.
- **6Pack Recordings** simultaneously records three waveforms and three spectrums per channel.
- **Time Synchronous Averaging** takes many averages that are synchronized by the tachometer. This highlights spectral peaks that are multiples of running speed while cancelling non-synchronous peaks.
- **Bump Test** finds resonance frequencies in a machine's structure by using peak-hold averaging while the machine is impacted.
- **Keypad** enters additional information such as temperature, pressure, or motor current of a machine.
- **Tach** measures a machine's running speed using a tachometer.
- **Tach Diagnostics** troubleshoots tachometer input signals or triggering problems and adjusts threshold and hysteresis settings.
- **Cable Test** checks sensor bias voltages and cable connections.
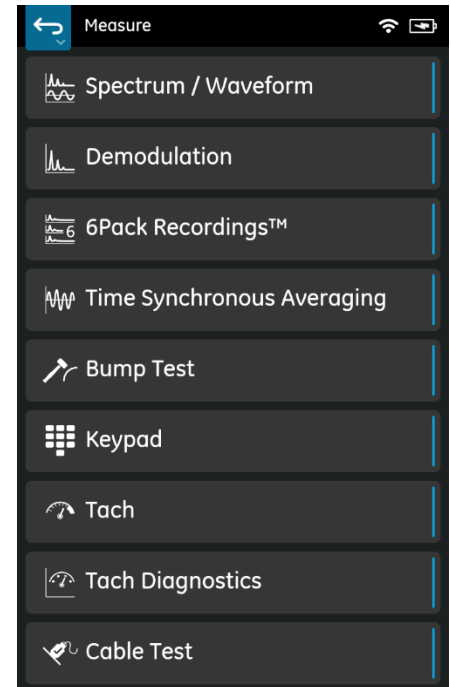
2. Select a measurement type such as **6Pack**.
The **Measure Configuration** window is displayed.

3. You can change the default parameter set and the default sensor.

In the S1 Collector app, a **thin blue line** next to an option represents a **drill-down menu**. The drill-down menu bar displays related operations.

To change sensor settings, use the blue **Drill-Down Menu Bar** next to the parameter set and the sensor.
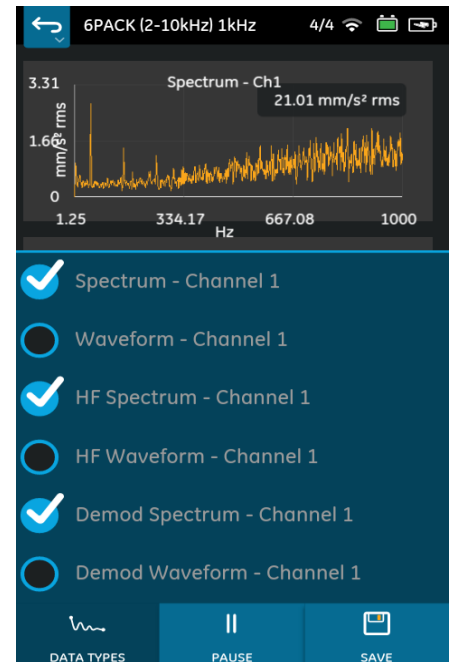
4. To begin an off-route recording, select **MEASURE** 🔘 .
During the recording, up to four measurement charts are displayed.
Choose from these operations:

DATA TYPES: Select which measurements to view.

PAUSE: Halt display of new measurement data.

SAVE: Save the recording. Then select or create a location for an enterprise, machine, point and axis.

Machine Balancing

- Read the Safety Information on the first page of this guide
- The balance method employed is typically suited for rigid rotors operating below their first critical speed.
- Good results can only be obtained if the vibration is caused by uneven mass distribution in the rotor. If you attempt to balance a rotor that has other problems, the vibration level may not reduce.

Navigation

Press the Balance button on the app main menu and follow through the steps of Setup, Initial Reading, Trial Reading, and Balance. Additional Trim balance runs can be performed if necessary. The Balance Report can be saved as a pdf file.
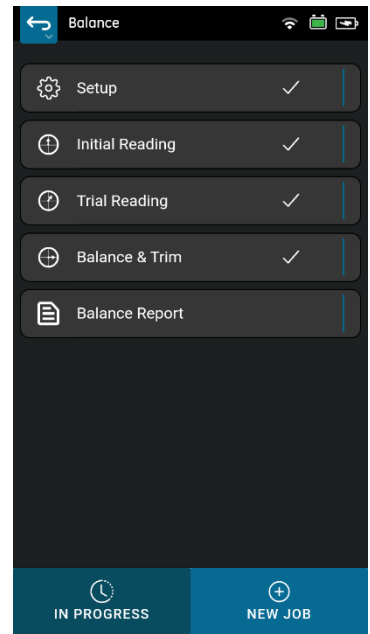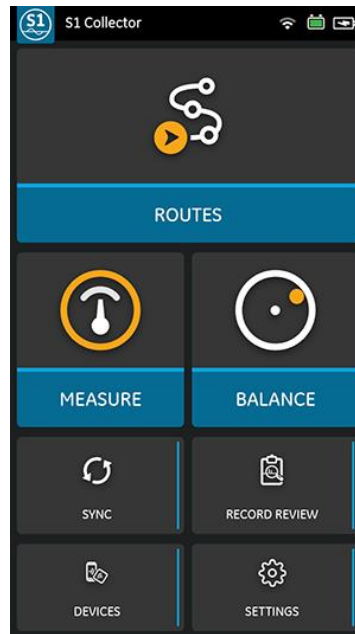
Key Buttons

The app guides you through the steps required for Balancing, with these key buttons on each screen:

1. **Current Screen** displays the name of the step you are currently on.
2. **Back button** returns to the previous screen. A long press shows a list of all previous screens which can be used to get quickly back to the Balance Menu or Home screen.
3. **Previous Step** button moves back to the previous step. Subsequent values or readings may be invalidated.
4. **Info** buttons explain the meaning of terms used in rotor balancing.
5. **Next** button saves all data and moves to the next step. Only active if the current step is complete.
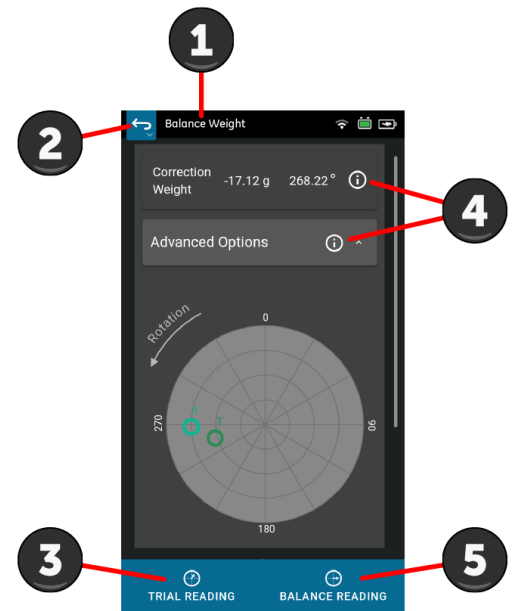
For further details, including sensor and tachometer placement and details for all steps, see the SCOUT200 Series User Guide (document 109M1269).

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