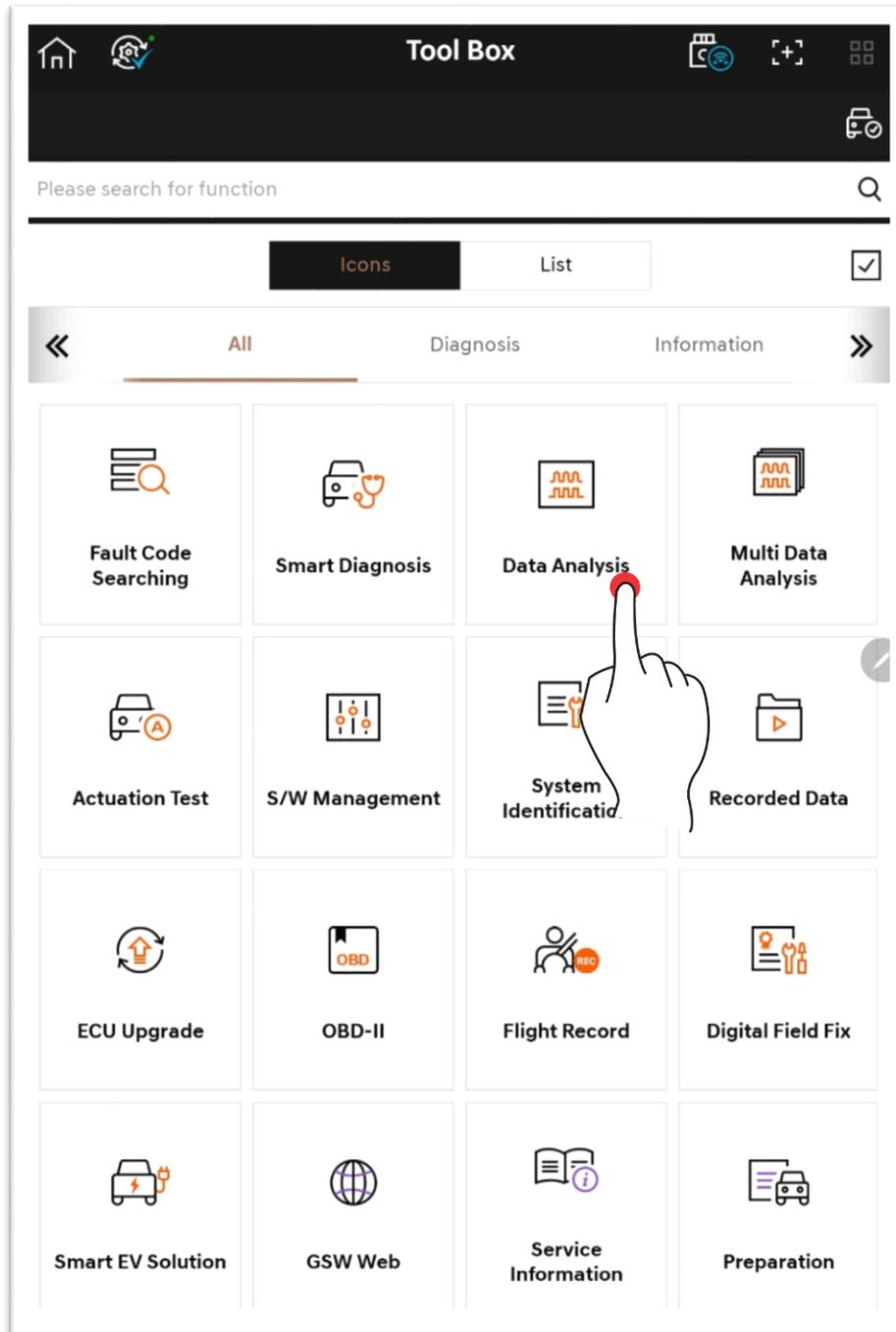


Tool Box – Data Analysis

This function allows various types of control modules mounted on the vehicle to confirm the parameter values, which control the sensor’s signal input and movement of actuators, through vehicle communication.

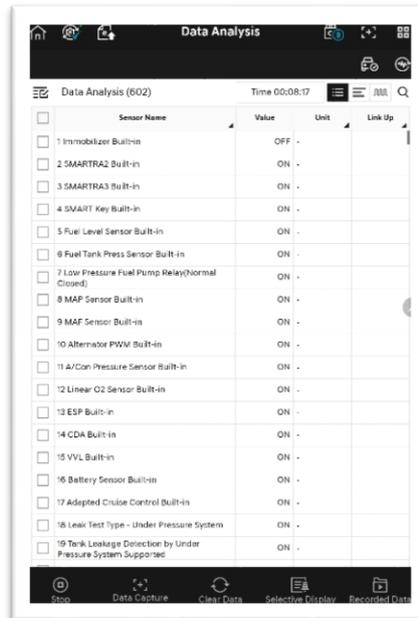


Mode

This is a description of sensor data indicating mode.

Text Mode

This indicates the sensor data in text format.

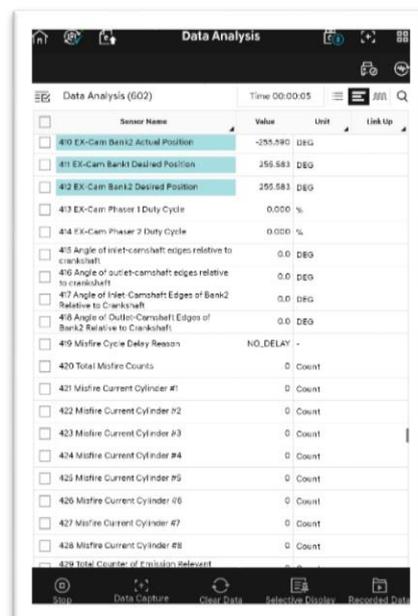


The screenshot shows the 'Data Analysis' app interface in Text Mode. The title bar reads 'Data Analysis' and 'Data Analysis (602)'. The time is 00:08:17. Below the title bar is a table with columns: Sensor Name, Value, Unit, and Link Up. The table lists 19 sensors, all with a value of 'ON' and a unit of '-'. The sensors include Immobilizer, SMARTRA2, SMARTRA3, SMART Key, Fuel Level, Fuel Tank Press, Low Pressure Fuel Pump Relay, MAP, MAF, Alternator PWM, A/Con Pressure, Linear O2, ESP, CDA, VVL, Battery, Adapted Cruise Control, Leak Test, and Tank Leakage Detection.

Sensor Name	Value	Unit	Link Up
1 Immobilizer Built-in	OFF	-	
2 SMARTRA2 Built-in	ON	-	
3 SMARTRA3 Built-in	ON	-	
4 SMART Key Built-in	ON	-	
5 Fuel Level Sensor Built-in	ON	-	
6 Fuel Tank Press Sensor Built-in	ON	-	
7 Low Pressure Fuel Pump Relay(Normal Closed)	ON	-	
8 MAP Sensor Built-in	ON	-	
9 MAF Sensor Built-in	ON	-	
10 Alternator PWM Built-in	ON	-	
11 A/Con Pressure Sensor Built-in	ON	-	
12 Linear O2 Sensor Built-in	ON	-	
13 ESP Built-in	ON	-	
14 CDA Built-in	ON	-	
15 VVL Built-in	ON	-	
16 Battery Sensor Built-in	ON	-	
17 Adapted Cruise Control Built-in	ON	-	
18 Leak Test Type - Under Pressure System	ON	-	
19 Tank Leakage Detection by Under Pressure System Supported	ON	-	

Bar Graph Mode

This indicates the sensor data in bar graph format.

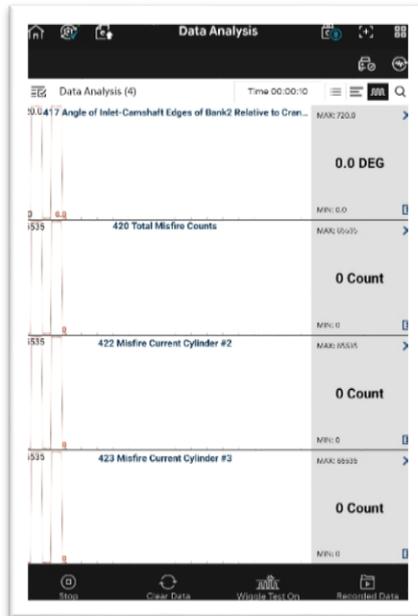


The screenshot shows the 'Data Analysis' app interface in Bar Graph Mode. The title bar reads 'Data Analysis' and 'Data Analysis (602)'. The time is 00:00:05. Below the title bar is a table with columns: Sensor Name, Value, Unit, and Link Up. The table lists 20 sensors, including EX-Cam Bank2 Actual/Desired Position, EX-Cam Bank1 Desired Position, EX-Cam Bank2 Desired Position, EX-Cam Phase 1/2 Duty Cycle, Angle of Inlet/Outlet-Camshaft Edges, Misfire Cycle Delay Reason, and Misfire Current Cylinder #1-#8. The values are numerical, and the units are DEG or Count.

Sensor Name	Value	Unit	Link Up
410 EX-Cam Bank2 Actual Position	-355.590	DEG	
411 EX-Cam Bank1 Desired Position	255.583	DEG	
412 EX-Cam Bank2 Desired Position	255.583	DEG	
413 EX-Cam Phase 1 Duty Cycle	0.050	%	
414 EX-Cam Phase 2 Duty Cycle	0.050	%	
415 Angle of Inlet-Camshaft Edges relative to Crankshaft	0.0	DEG	
416 Angle of Outlet-Camshaft Edges relative to Crankshaft	0.0	DEG	
417 Angle of Inlet-Camshaft Edges of Bank2 Relative to Crankshaft	0.0	DEG	
418 Angle of Outlet-Camshaft Edges of Bank2 Relative to Crankshaft	0.0	DEG	
419 Misfire Cycle Delay Reason	NO_DELAY	-	
420 Total Misfire Counts	0	Count	
421 Misfire Current Cylinder #1	0	Count	
422 Misfire Current Cylinder #2	0	Count	
423 Misfire Current Cylinder #3	0	Count	
424 Misfire Current Cylinder #4	0	Count	
425 Misfire Current Cylinder #5	0	Count	
426 Misfire Current Cylinder #6	0	Count	
427 Misfire Current Cylinder #7	0	Count	
428 Misfire Current Cylinder #8	0	Count	
429 Total Counter of Misfire Relevant			

Graph Mode

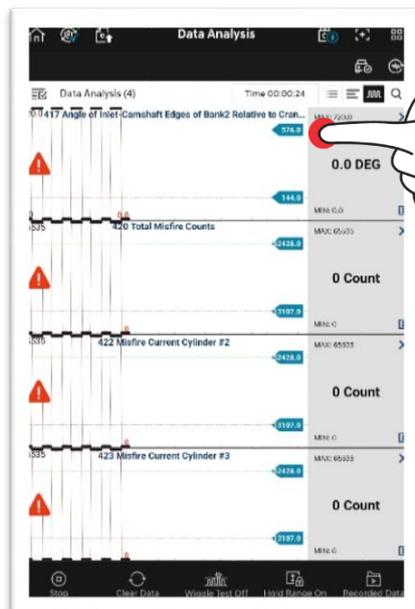
This indicates selected sensor data in graph format.



Graph Mode – Function Buttons

Wiggle Test On / Off

When Wiggle Test function is switched ON, the user can configure a desired data maximum/minimum value, and receive a notification if the sensor value exceeds or falls below the standard value.

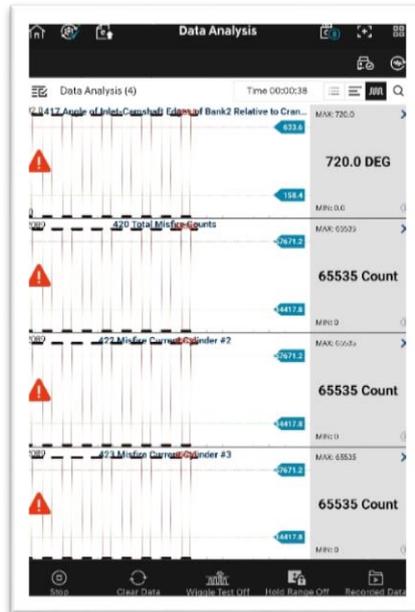


Configure the value by dragging the cursor.

 If it is set as muted or low volume, the alarm sound may not be heard.

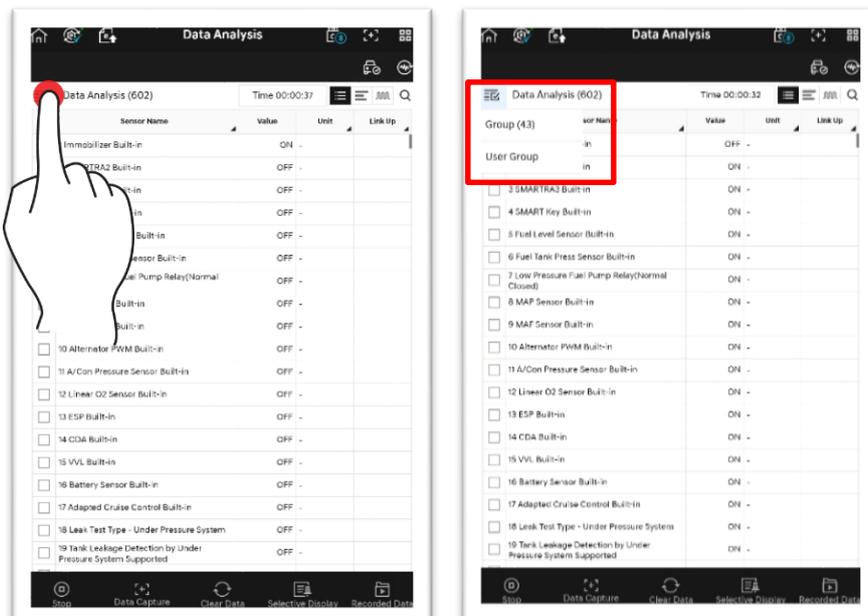
Wiggle Test On – Hole Range On

If Hold Range is switched ON, it only shows the sensor values that exceed or fall below the standard value.



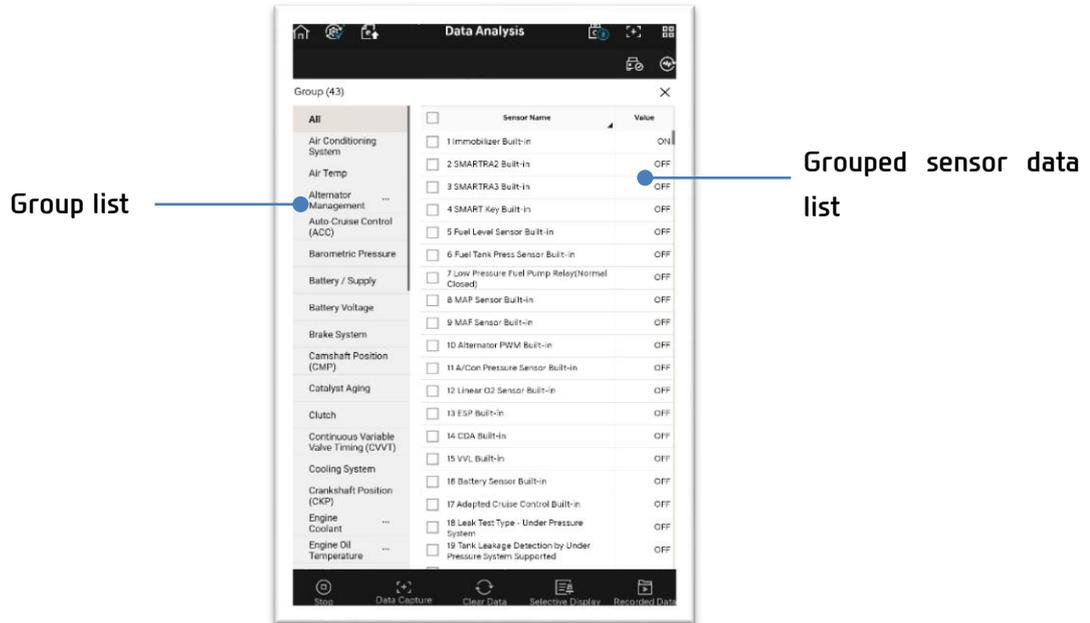
Group/User Group

Through  button on the top-left corner, the user can use Group/User Group function.



Group

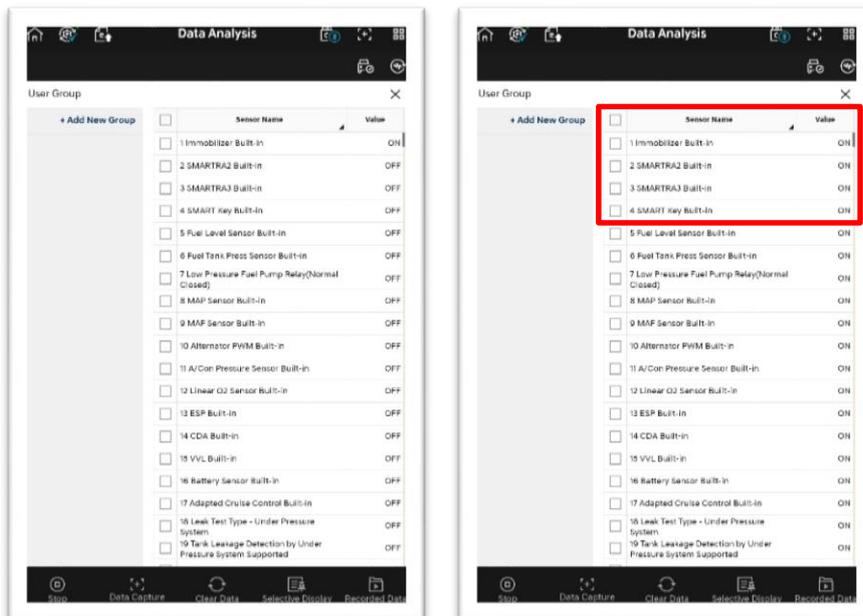
It forms a group of sensor data items to express only relevant data.



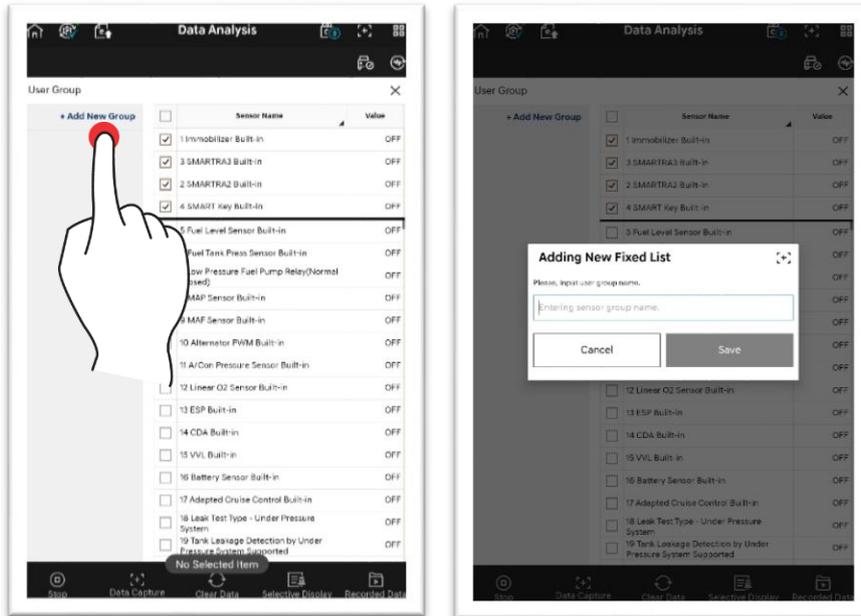
User Group

The user can form or edit groups of desired sensor data items.

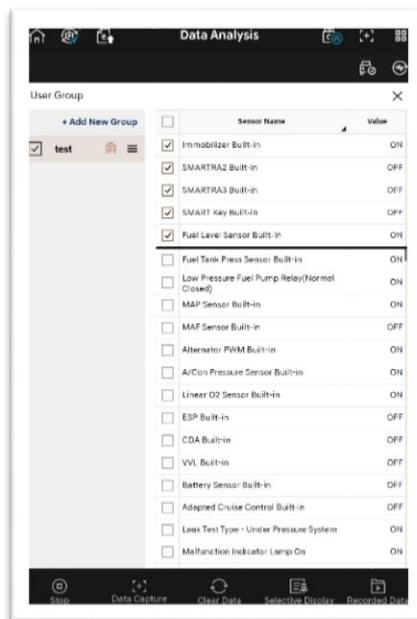
1. In User Group screen, select the sensor data items to be grouped.



2. Once selection of items is made, form a group through 'Add a New Group'.



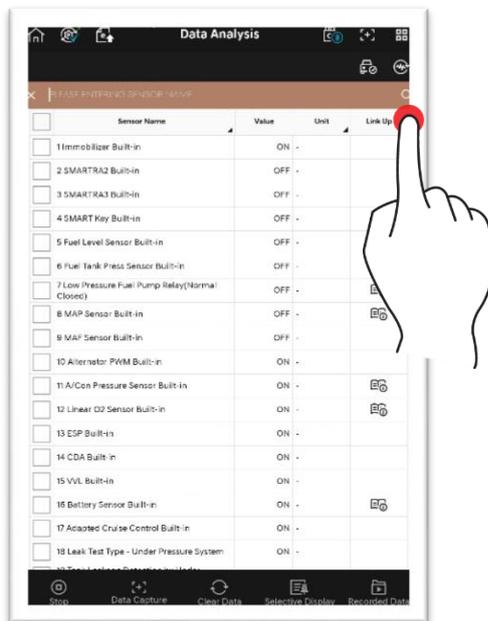
3. The group formation is completed.



		You can delete the formed group.
		You can change the group order.

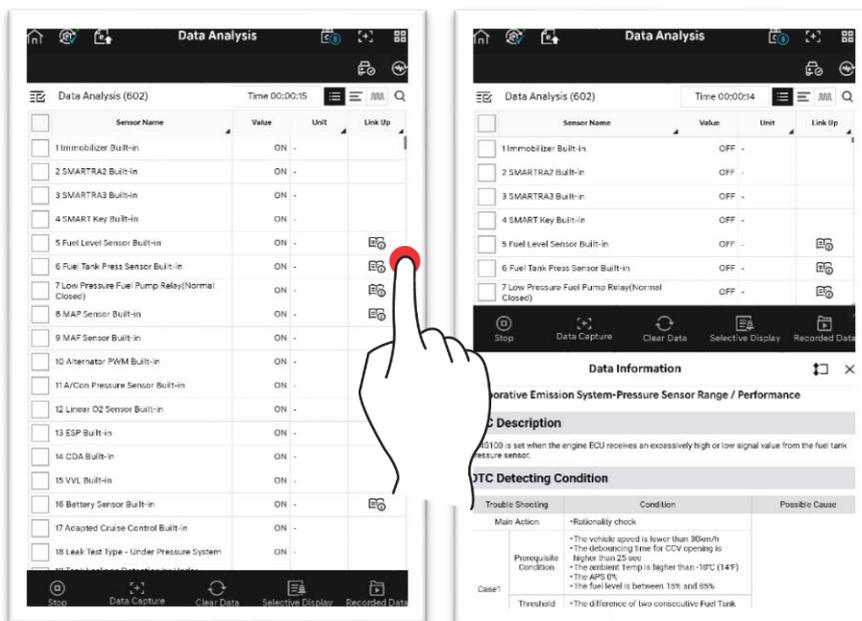
Search

You can search the sensor data by entering a search word and touching .



Link-up

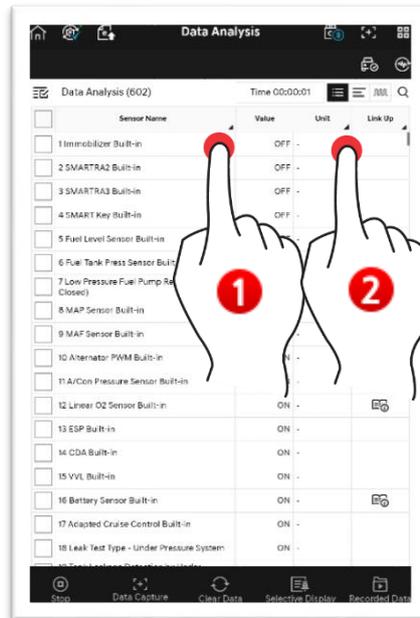
You can check the sensor information of the selected items by touching .



Arrangement and Unit Change

You can arrange the items by touching the sensor name, and change the unit by touching unit.

Touch  located at the bottom right corner of each title.

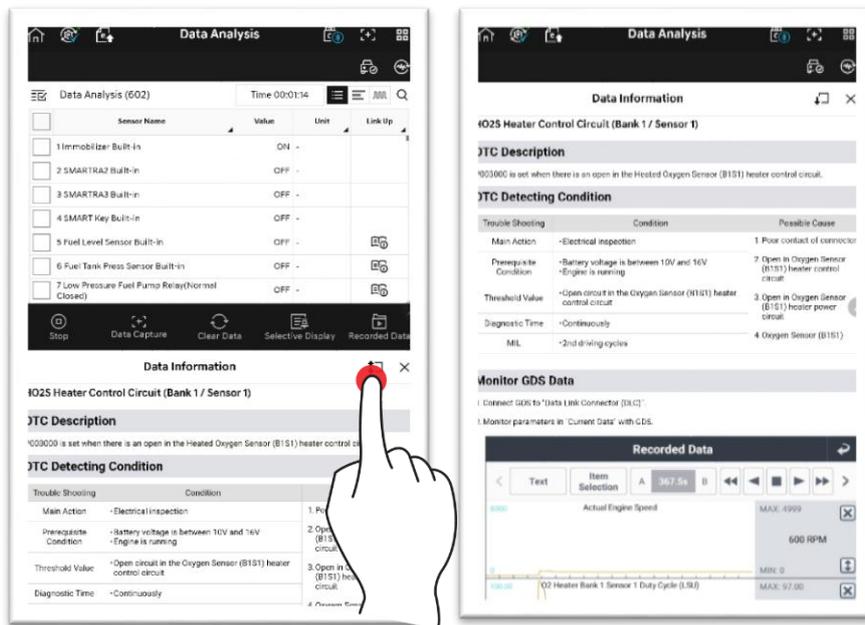


Bottom Function Buttons

 Stop	This function collects sensor data values over a certain period of time, and stops the sensor data values. 'Start' and 'Stop' buttons operate in turn.
 Data Capture	This captures the sensor data screen.
 Clear Data	This initializes the collected sensor data values, and recollects them.
 Selective Display	This only shows the sensor values of the sensor data items, which were selected based on needs. The entire sensor data values are shown when Fixed Output function is turned off.
 Recorded Data	This function analyzes the saved sensor data file. This is linked to Saved Data Analysis function.

Screen Control

1. You can spread or fold the screen by dragging  button upwards or downwards.



2. You can maximize/minimize the items in Graph Mode.

