Installation Manual

Senseair Go

Alcohol interlock for Vehicles

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1. Items

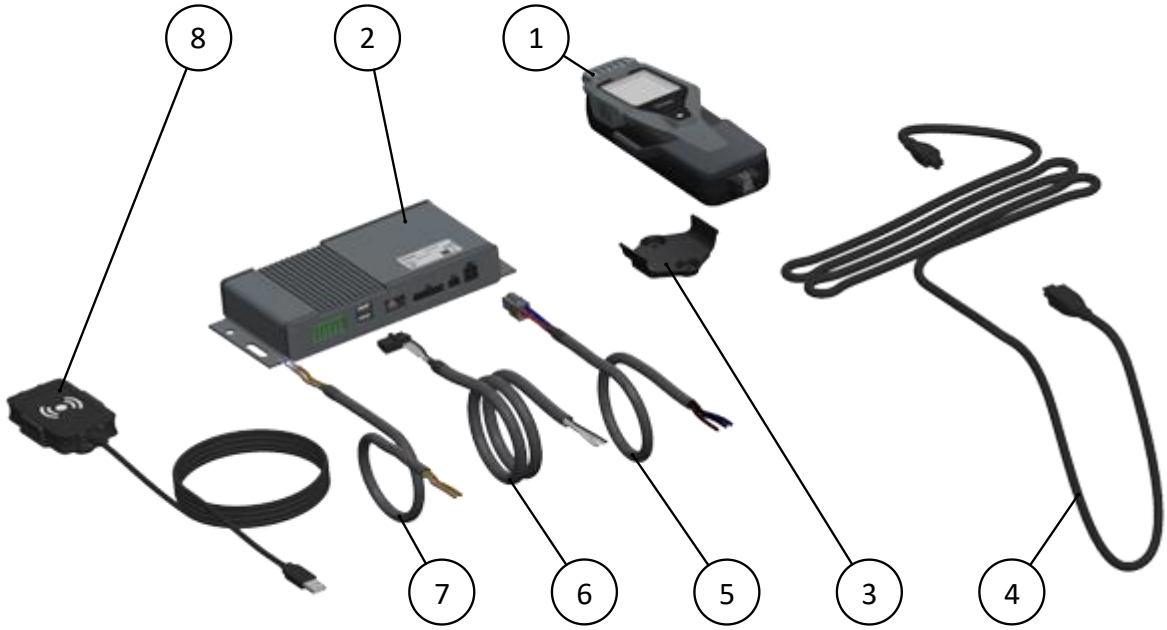


Figure 1: Senseair Go items overview

Table 1: Senseair Go items

Pos.	Item name	Item number	QTY
1	Handset	008-15-0012	1
2	Accessbox Senseair Go	900-00571	1
3	Holder	426-00176	1
4	Handset Cable	840-00020	1
5	Power Cable	840-00035	Optional
6	Input Communication Cable	840-00036	Optional
7	Relay Cable	840-00037	Optional
8	RFID Reader	820-00045	Optional (Holder included)

2. Safety instructions and warning notices

2.1. General

Installation shall only be performed by an authorised service centre or qualified personnel in accordance with these installation instructions. Installation requires basic knowledge of 12/24 V vehicle electrical systems. It is recommended that technicians hold an ASE electrical certification or possess an equivalent level of experience. Vehicle-specific service manuals shall be consulted as required.

Do not disassemble or modify the product, and do not install non-approved parts. Unauthorised modifications may void the warranty of the device and/or the vehicle.

2.2. Warning notices

⚠ The warning symbol indicates a potentially hazardous situation which, if not avoided, may result in death, serious injury, or unsafe operation.

3. HW Installation

3.1. General Precautions

⚠ Failure to use correct tools, methods, or procedures when modifying the vehicle electrical system may result in serious damage to the vehicle and/or serious injury or death.

⚠ Do not exceed the specified electrical ratings.

⚠ The Senseair Go shall only be permanently installed after agreement with the vehicle owner on the installation location. Ensure that the mounting location does not interfere with normal vehicle operation or compromise the safety of the driver or passengers.

⚠ Installation shall only be performed with the vehicle switched off. The battery shall be disconnected to prevent damage to the vehicle or the Senseair Go during installation.

⚠ Do not probe, solder, cut, or otherwise interfere with safety-critical vehicle systems, including but not limited to ABS, airbags, steering, or driver assistance systems.

⚠ For hybrid (HEV) or battery electric vehicles (BEV), do not probe, solder, cut, or otherwise interact with any components of the high-voltage traction battery system. High-voltage components are typically identified by orange cables, conduits, or markings.

⚠ Solderless connectors may be used for all connections; however, soldered connections provide improved mechanical reliability and reduce the risk of accidental disconnection. Soldering is recommended in humid environments or for permanent installations.

3.2. Accessbox wiring and connections to the vehicle

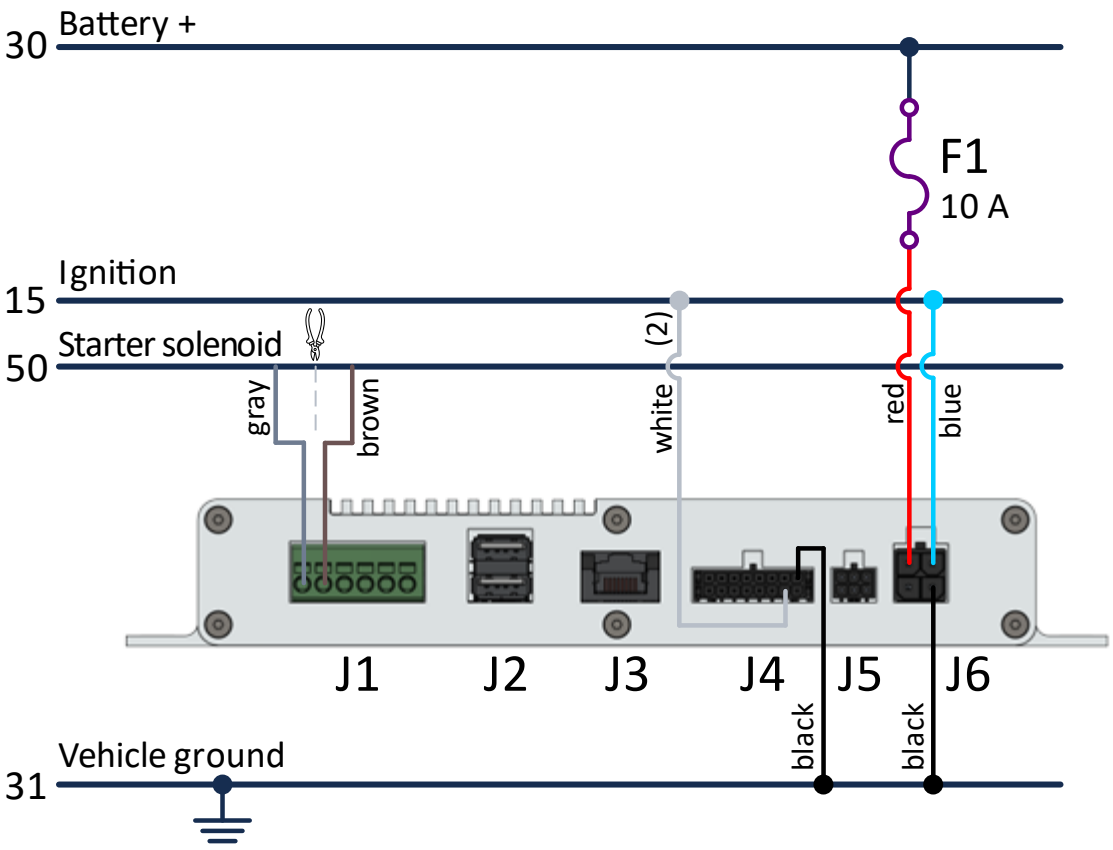


Figure 2: Wiring diagram (basic installation)

Connections to Senseair Go items are not shown in the figure. They are specified in Table 2. Colours of the wires, shown in the diagram, correspond to optional cables (see Figure 2).

Table 2: Accessbox connection details

<table>
<tr><th>Connector</th><th>Description</th><th>Comment</th></tr>
<tr><td>J1</td><td>Relay terminal block, 6-position

(SPT 2,5/ 6-H-5,0 Phoenix Contact)

<table>
<tr><th>Pin #</th><th>Pin name</th><th>Feature</th></tr>
<tr><td>1</td><td>Relay1_COM</td><td rowspan="2">Relay with normally open (NO) contact.
The contact closes upon user log-in.
The contact opens upon user log-out or loss of power.</td></tr>
<tr><td>2</td><td>Relay1_NO</td></tr>
<tr><td>3</td><td>Relay2_COM</td><td rowspan="2">Relay with normally open (NO) contact.

The contact closes for a configurable time interval (from 1.5 to 300 sec) when a negative test result is detected.</td></tr>
<tr><td>4</td><td>Relay2_NO</td></tr>
<tr><td>5</td><td>Relay3_COM</td><td rowspan="2">Relay with normally open (NO) contact.

The contact closes for a configurable time interval (from 1.5 to 300 sec) when a positive test result is detected.</td></tr>
<tr><td>6</td><td>Relay3_NO</td></tr>
</table></td><td>Recommended operating limits per relay channel:

Resistive loads (make/break allowed):

• 12 V systems: ≤ 12 A switching / 15 A continuous carry
• 24 V systems: ≤ 6 A switching / 10 A continuous carry

Inductive/motor/solenoid loads (suppression required):

• 12 V systems: ≤ 6 A switching / 10 A carry
• 24 V systems: ≤ 3 A switching / 7 A carry

⚠ Unsuppressed inductive loads not permitted. Fuse upstream.

Suggested cable: 840-00037

Nominal cross section of the connected wire: 2.5 mm²</td></tr>
</table>

Connector	Description	Comment
J2	USB I/O Receptacle, Type A, Dual Port Stacked  Used for: • Configuration of SafeStart with identified usage via an external RFID reader. • Modification of settings using the Senseair Alcohol Screener Configurator.	RFID reader: 820-00045
J3	RJ45 Connector, Single Port, 1 x 1, Jack  Used for internet connection	Used exclusively for SafeStart communication

<table>
<tr><th>Connector</th><th>Description</th><th>Comment</th></tr>
<tr><td>J4</td><td>Digital Inputs Connector (16-pin)

(Micro-Fit 3.0 series number: 43045 Molex)

<table>
<tr><th>Pin #</th><th>Pin name</th><th>Feature</th></tr>
<tr><td>1</td><td>In1</td><td>Digital input “Start test” (1):
• Logic HIGH (1): 9 … 32 V
• Logic LOW (0): 0 … 3 V</td></tr>
<tr><td>2</td><td>In2</td><td>Digital input “Motor on” (1):
• Logic HIGH (1): 9 … 32 V
• Logic LOW (0): 0 … 3 V</td></tr>
<tr><td>3</td><td>In3</td><td>Digital input “Log out” (1):
• Logic HIGH (1): 9 … 32 V
• Logic LOW (0): 0 … 3 V</td></tr>
<tr><td>4...8</td><td>-</td><td>Not used</td></tr>
<tr><td>9...15</td><td>GND</td><td>Ground</td></tr>
<tr><td>16</td><td>-</td><td>Not used</td></tr>
</table>
(1) Configurable

Digital inputs In1…In3 characteristics:
• Logic HIGH (1): 9 … 32 V
• Logic LOW (0): 0 … 3 V
• Input current: 60…160 µA (12–32 В)</td><td>Suggested cable: 840-00036

Suggested mating part: 430251600 Molex

Nominal cross section of the connected wire: 0.5 mm²</td></tr>
</table>

<table>
<tr><th>Connector</th><th>Description</th><th>Comment</th></tr>
<tr><td>J5</td><td>Handset connector (6-pin)

(Micro-Fit+ series number: 212528 Molex)

 
</td><td>Only cable 840-00020 is permitted for connection to this connector</td></tr>
<tr><td>J6</td><td>Power connector (4-pin)

(Mega-Fit series number: 172064 Molex)

<table>
<tr><th>Pin #</th><th>Pin name</th><th>Feature</th></tr>
<tr><td>1</td><td>GND</td><td>Ground</td></tr>
<tr><td>2</td><td>GND</td><td>Ground</td></tr>
<tr><td>3</td><td>Wake-up</td><td>Digital input “Wake-up”:

• Logic HIGH (1): 8 … 32 V
• Logic LOW (0): 0 … 3 V
• Input current:

Iin = (Vin − 1.2 V) / 10 kΩ

Typical values:

• 0.7 mA @ 8 V
• 1.1 mA @ 12 V
• 2.3 mA @ 24 V
• 3.1 mA @ 32 V</td></tr>
<tr><td>4</td><td>12/24 VDC</td><td>Senseair Go power supply input</td></tr>
</table></td><td>Suggested cable: 840-00035

Suggested mating part: 1700010104 Molex

Nominal cross section of the connected wire: 2.5 mm²</td></tr>
</table>

3.3. Mounting

Step 1: Select a suitable mounting location in the vehicle based on the dimensions of the Accessbox Senseair Go (hereinafter referred to as the Accessbox). Ensure a minimum clearance of 20 mm around the enclosure for heat dissipation and 30 … 50 mm in front of the connectors to allow for proper cable installation.

⚠ Do not install the Accessbox with the connectors facing upward in wet environments. Although the Accessbox is rated IP54 and protected against light water spray, this orientation may allow water to accumulate at the connectors and enter the enclosure. Failure to comply with this instruction may result in damage to the Accessbox and/or an increased risk of electric shock.

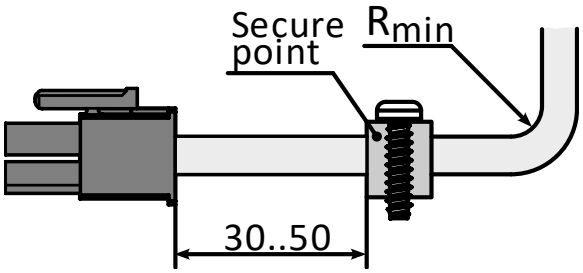
Step 2: Secure the Accessbox using four (4) bolts or self-tapping screws, M5. Two (2) fasteners shall be installed on each side mounting flange, evenly spaced.

3.4. Securing cables and wiring

All connectors specified in Table 2 must be fully inserted with the latches engaged.

Each cable in the installed configuration shall exit the Accessbox perpendicular to the connector along all axes to prevent lateral stress on the connectors. The cables shall be secured within 30 … 50 mm from the connector interface, as shown in Figure 3.

A minimum bending radius shall be maintained in accordance with AEIC and ICEA standards. Max. single cable outer diameter within the assembly



Cable Construction	Formula
Single Cable	$R_{MIN} = F \times OD$
4 or More Cable Assembly	$R_{MIN} = F \times (2.414 \times OD)$

R_{MIN} – Minimum allowable bend radius
Factor (F) – Multiplication factor for the assembly design
OD – Max. single cable outer diameter within the assembly

Figure 3: Cable Routing and Securing Recommendations

⚠ Before applying power, verify that all safety precautions are taken. Make all connections to the unit before applying power.

⚠ To minimise the risk of electric shock, the instrument shall be properly grounded. The Accessbox must be powered via a DC supply using a grounded cable, with the ground conductor connected to chassis ground.

Step 3: Find the positive (+) terminal or source of constant 12–24 VDC power. Disconnect the negative (-) battery terminal, to prevent damage to the vehicle during installation.

Step 4: Protect the power connection point with a 10 A fuse. Never connect a cable directly to the battery. Connect J6 pin 4 to Fuse F1, J6 pin 1 to vehicle ground (see details in Table 2 and Figure 2).

Step 5: Connect pin 2 of connector J6 to vehicle ignition (terminal 15) (see details in Table 2 and Figure 2).

Step 6: Plug in the connector side of the power cable into the Accessbox (see Figure 2, connector J6 and details in

Table 2).

Step 7: Connect the contacts of Relay0 in series with the vehicle starter solenoid circuit (terminal 50) (see connector J1 details in Table 2).

Step 8: Connect pin 2 of connector J4 to vehicle ignition (terminal 15) and pin 9 of connector J4 to vehicle ground (see details in Table 2 and Figure 2).

Connect the cable-side connector of the Input Communication Cable to the Accessbox (connector J4, refer to Figure 2 and Table 2).

⚠ If both the power pin and the wake-up pin are powered, the Senseair Go remains active, which may result in battery discharge.

3.5. Installation of Handset

Figure 4: Holder installation

Note: Diameter of the screws is 5.0 mm, pan head style. The specific screw type shall be selected based on the mounting wall material, wall thickness, and applicable installation conditions.

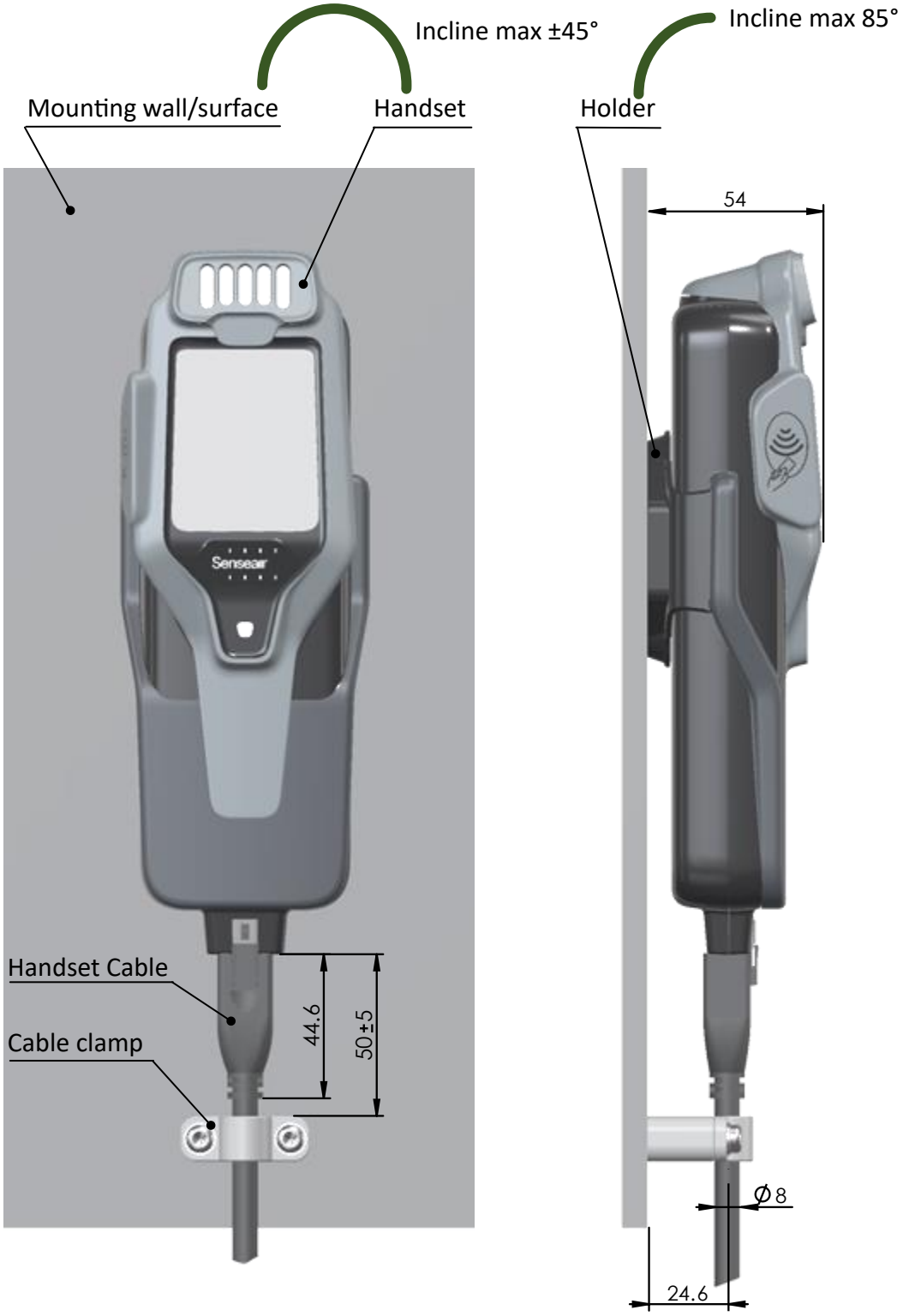


Figure 5: Handset installation

Note: Cable clamp is recommended and not included in the delivery.

It is recommended to install the handset in such a way that the user can perform a breath test without removing the handset from the holder.

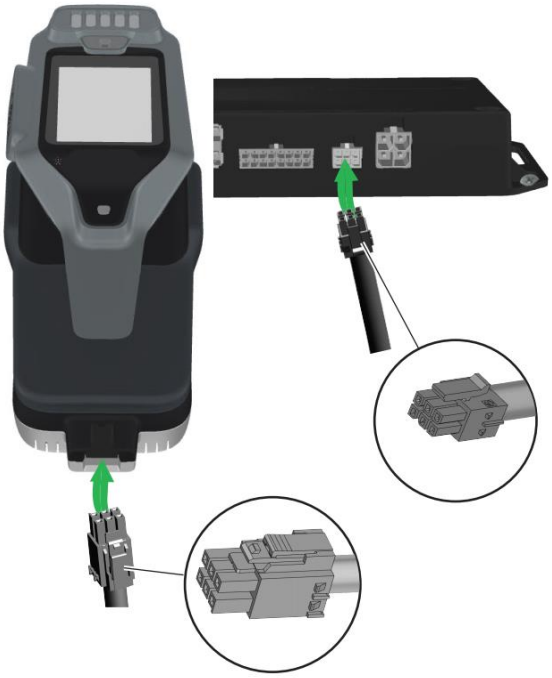


Figure 6: Handset Cable Connection

3.6. Optional installation of RFID reader

Connect the USB cable to either of the USB ports (J2) on the Accessbox.

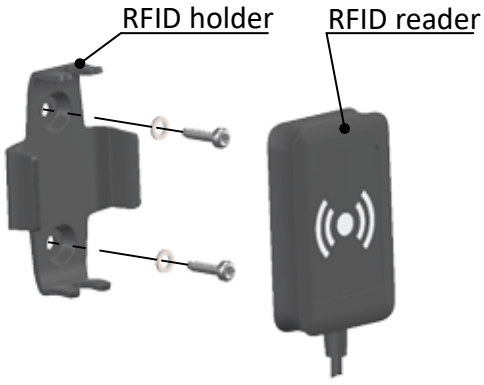


Figure 7: RFID Holder installation

Note: Diameter of the screws is 5.0 mm, pan head style. The specific screw type shall be selected based on the mounting wall material, wall thickness, and applicable installation conditions.

3.7. Optional Ethernet cable connection

Connect the Ethernet cable to connector J3 on the Accessbox.

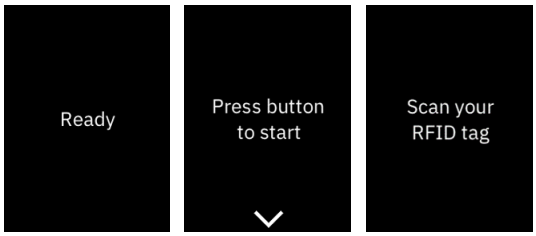
4. Functional test

Verify the functionality of the device in accordance with the Senseair Go user manual. Example display messages are shown in English; Swedish and Japanese versions are also available. For SafeStart functional testing, a customer identification RFID tag or card is required.

1. The Senseair Go powers up when the vehicle ignition (terminal 15) is switched on or via a digital input (e.g. interior lighting activated or vehicle unlocked).

2. The handset display shows one of the following messages, depending on the configuration:

"Ready", "Press button to start", or "Scan your RFID tag".



3. The engine must not be started until the test procedure has been completed.

4. ⚠ No error messages shall be present on the vehicle instrument cluster.

5. Perform a breath test.

6. For a negative test result, the handset display indicates:

"Passed", followed by "Logged in", and the remaining Free Start Time shown at the bottom of the display, depending on configuration and installation.

7. The engine can now be started.

8. ⚠ If the vehicle is equipped with a start-stop system, restarting the engine after automatic shutdown shall not require an additional breath test by the Senseair Go.

9. Switch off the ignition, exit the vehicle, and lock it.

10. The Senseair Go shall either switch off immediately or continue counting down the remaining Free Start Time, depending on configuration and installation.

11. The engine can be restarted without providing another breath sample within the Free Start Time or, in SafeStart configuration, with identification and a valid green time.

12. If the engine is not restarted, the Senseair Go switches off automatically once the Free Start Time has expired.

13. After expiration of the Free Start Time, the engine can only be started again after a successful breath test.

14. In SafeStart configuration, the active user session shall be terminated (log-out).

5. Related documents

Product documentation, including the user manual and product specification, is available at www.senseair.com (search: Senseair Go).

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