Manuals+

☰

Contents [hide]

OWidgets

OWidgets OW06A Scent Delivery Device
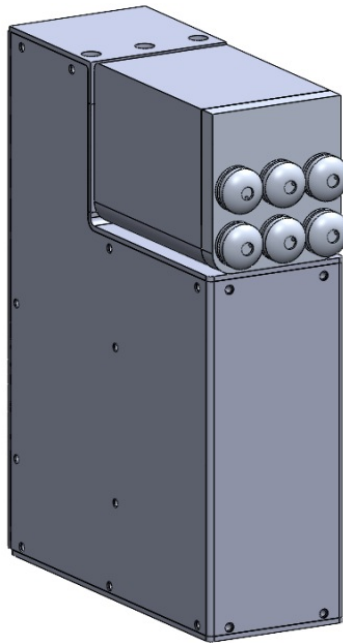
SYSTEM COMPONENTS

- OW06A Scent Delivery Device
- Scent Cartridge(s)
- USB-C cable
- USB-C power supply
- PC / tablet / mobile device (user provided)
- App / Software (consult OW for software support)

DEVICE DESCRIPTION

- The OW06A Scent Delivery Device is a desktop multi-channel digitally controlled olfactometer from OW Smell Made Digital® suitable for use in a wide range of applications, including research, medical and augmented reality.
- The OW Scent-Delivery Device can deliver six individual odour channels, which can be electronically switched to provide short-duration odour stimuli.
- In operation, a miniature air pump draws in air from the environment, which is channelled by a set of digitally controlled solenoid valves to compartments in a scent cartridge where it picks up the odour.
- Individual outlet channels prevent cross-contamination between odour sources. Scented air flow delivery rates of greater than 6 L/min are possible.
- Liquid chemical odorants can be used with the system and placed on a carrier material in the scent cartridge which can be cleaned and replaced.

- The unit can be interfaced to a computer, tablet or mobile using Bluetooth Low Energy or USB. Consult OW regarding software support.
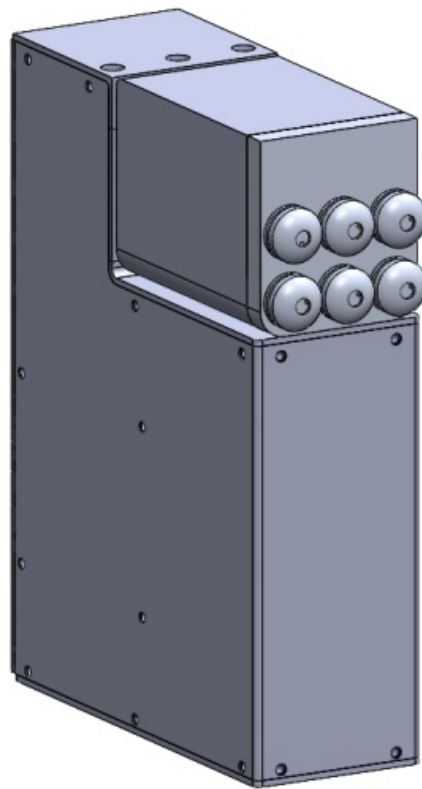

Figure 1: OW06A Scent Delivery Device image and block diagram.

SPECIFICATIONS

Parameter	Value	Notes
Number of odour channels	6	
Simultaneous number of active channels	3	
Minimum airflow rate	5 L/min	1 active channel
Time to maximum airflow	< 1 s	
Channel-to-channel airflow consistency	± 10 %	

Outlet pipe type	4 mm	
Outlet pipe fitting	Push-in pipe fitting	
Size of odorant compartments	71 x 18 x 12 mm	
Recommended odorant carrier material	Sponge	
Noise level	~ 60 dB	@ 20 cm distance
Digital interface	USB-C (virtual COM port) & Bluetooth Low Energy	
Supply voltage	5 V DC	
Battery capacity	5.2Ah Lithium-Ion	5 hrs continuous operation
Power consumption	15 W	With pump running
Dimensions (L×W×H)	175 × 58 × 205 mm	Without outlet pipes
Weight	2.2 kg	Without outlet pipes
Recommended temperature range	15 – 35 °C	

CHARGING

- The device should be charged using a USB-C power supply by plugging it into the USB-C Port (3). The charging time from the discharged state is around 3 hours using a 3 A charger.
- If the device is charging, the green Status LED (2) on the back of the unit will flash and stop flashing once the unit is fully charged.

- Low battery power is indicated by a flashing red Status LED (2) on the back of the unit. If the battery is out of power and no power is provided externally, the pump and valves will fail to operate.
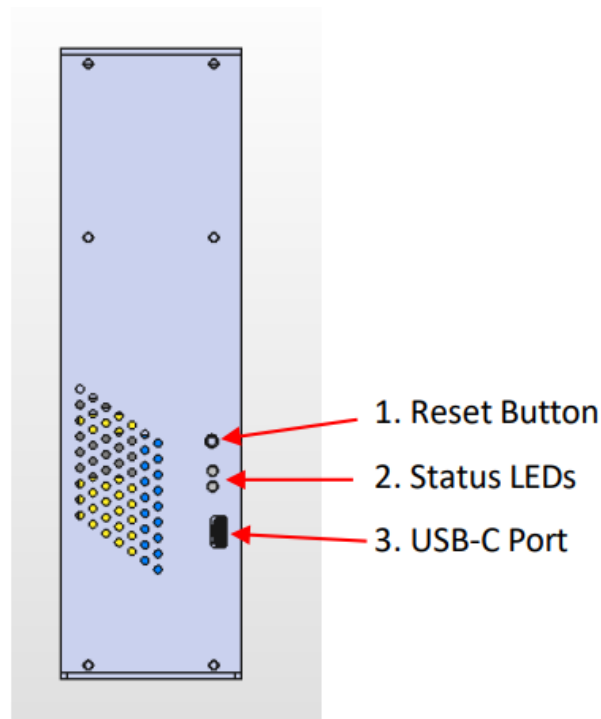

Figure 2: Back Panel Features

1. Reset Button
2. Status LEDs
3. USB-C Port

SCENT CARTRIDGE REMOVAL / INSERTION

- Pull and remove the Outlet (1) to change or replenish the scent-infused sponges.
- The Scent Cartridge (2) can be slid out along the two Guide Rails (3) to enable cleaning or to assist with sponge removal.
- To insert the Scent Cartridge (2), it should be slid back along the Guide Rails (3) and should snap into place. There are recesses for the Guide Rails (3) at the bottom of the Scent Cartridge. If the Scent Cartridge (2) is not mounted correctly airflow will be compromised.
- The Outlet (1) should be aligned and pushed onto the Scent Cartridge (2) as shown.
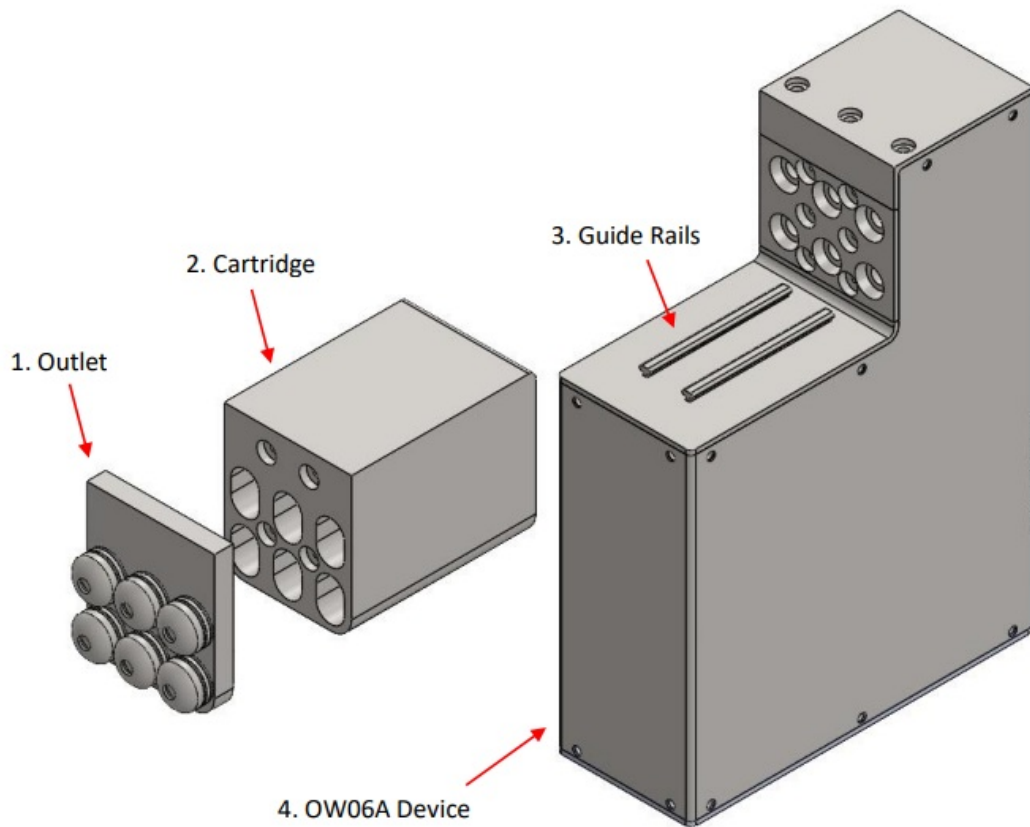
Figure 3: Scent cartridge mounting

SCENT CARTRIDGE LOADING

- The Scent Cartridge can be refilled with odorant by removing the Outlet (see Figure 3) and replacing the scent-infused sponge or other medium.
- The Scent Cartridge can be cleaned between uses using detergent and rinsed thoroughly.
- Each Scent Cartridge has 6 channels, which are numbered sequentially, as shown in Figure 4.
- The compartments in the Scent Cartridge can be loaded with a sponge inlay infused with the odorant.
- The liquid odorant can be deposited onto the sponge using a micropipette, as shown in Figure 5. The liquid should be deposited along the sponge for consistent distribution. Around 0.5 – 1 mL of liquid has been found to be generally sufficient.
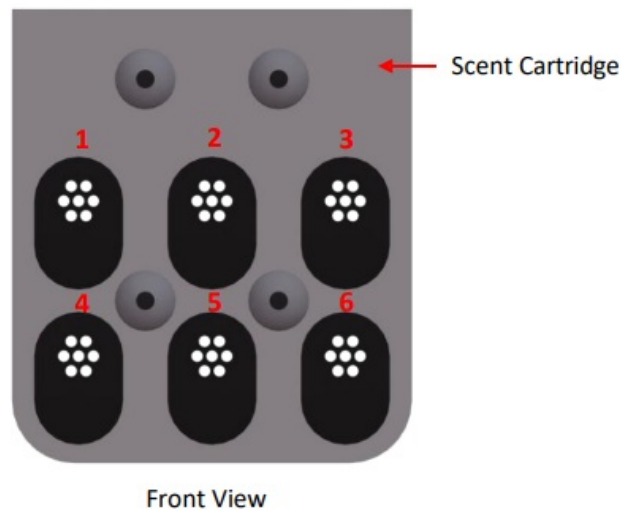
Front View

Figure 4: Scent cartridge features (front view)

Figure 5: Liquid odorant dispensed onto the sponge material.

COMMUNICATION

- Communication is possible using Bluetooth Low Energy or USB (virtual COM port) with commands sent as ASCII text. Refer to the programming guide for more information and consult OW about software.
- For Bluetooth operation, the device acts as a server. A blue flashing Status LED on the back of the device indicates that the device is Advertising and waiting to be paired. The BLE Device Name is: "OWidgets".

FAULT FINDING

Low airflow

- ● Check that the Scent Cartridge is properly mounted and sealed.
- ● Check that the Outlet is properly mounted and sealed.
- ● Check that the O-ring seals are in place.

No airflow

- Check that the battery has been charged or the USB power source is connected.

Contamination of scent cartridges and pipes

- Remove and wash the scent cartridge and outlet with detergent solution prior to rinsing.

The scent cartridge cannot be mounted

- Check if the scent cartridge is correctly oriented and aligned with the guide rails.

No communication with the device:

- USB: Check that the USB-C cable is inserted (if used) and the correct COM port is selected.
- Bluetooth: Check that the correct device is paired. The Bluetooth ID is 'OWidgets'.

Background odour contamination

- Contact OW for support.

Drop-off in odour intensity with repeated exposures

- Reduce the duration of the odour pulse, or use a longer recovery period between repeated exposures. The suggested recovery period is > 60× the active period.

Lower than expected odour level

- Replace the odorant in the scent cartridge.

FCC STATEMENT

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed

and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment to an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Caution: Any changes or modifications to this device not explicitly approved by the manufacturer could void your authority to operate this equipment.
This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference, and (
2. This device must accept any interference received, including interference that may cause undesired operation.

RF Exposure Information

The device has been evaluated to meet general RF exposure requirements. The device can be used in portable exposure conditions, in compliance with exposure requirements.

DISCLAIMER

- This User Manual is provided "as is" and without any warranty of any kind, and its use – and that of the Scent-Delivery Device – is at your own risk.
- OW makes no warranties regarding this User Manual and the Scent-Delivery Device, express or implied, including as to non-infringement, merchantability, or fitness for any particular purpose.
- To the maximum extent permitted by law OW disclaims liability for any loss or damage

resulting from use of this User Manual and/or the Scent-Delivery Device, whether arising under contract, tort (including negligence), strict liability, or otherwise, and whether direct, consequential, indirect, or otherwise, even if OW has been advised of the possibility of such damages, or for any claim from any third party.

- Use of the Scent-Delivery Device, including all software and firmware provided with it, is subject to OW standard terms and conditions of sale.

REVISION HISTORY

Issue	Date	Details
1	9 Dec 2022	First issue
2	13 Feb 2024	Adding battery capacity. Moved the Disclaimer section.
3	5 Sept 2024	Updated part design
4	21 Nov 2024	Added FCC statement and renumbered sections.

CONTACT

- For additional technical support, please contact OW at info@owidgets.co.uk
- Support: info@owidgets.co.uk
- ow-smelldigital.com

FAQ

- **Q**: Can I use liquid chemical odorants with the device?
- **A**: Yes, liquid chemical odorants can be used with the system. They should be placed on a carrier material in the scent cartridge, which can be cleaned and replaced.
- **Q**: How can I interface the unit with a computer or mobile device?
- **A:** The unit can be interfaced to a computer, tablet, or mobile device using Bluetooth

Low Energy or USB. For software support, consult OW.

Documents / Resources

	[OWidgets OW06A Scent Delivery Device](#) [[pdf](#)] User Manual OW06A, 2BLW2-OW06A, 2BLW2OW06A, OW06A Scent Delivery Device , OW06A, Scent Delivery Device, Delivery Device, Device

References

- [User Manual](#)

📁 OWidgets

🏷 2BLW2-OW06A, 2BLW2OW06A, Delivery Device, device, OW06A, OW06A Scent Delivery Device, OWidgets, Scent Delivery Device

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