DSA BreathPass™ - Data Sheet

INTENDED USE

The DSA BreathPass™ is a handheld analyzing device intended for diagnosis of COVID-19 by healthcare professionals and for rapid screenings for large crowds. Inside the device there is an array of nano-sensors to detect molecules of biological origin, known as volatile organic compounds (VOC), as signs of infection stemming from the biomarkers known to be produced by the metabolic processes caused by the SARS-CoV-2 virus.

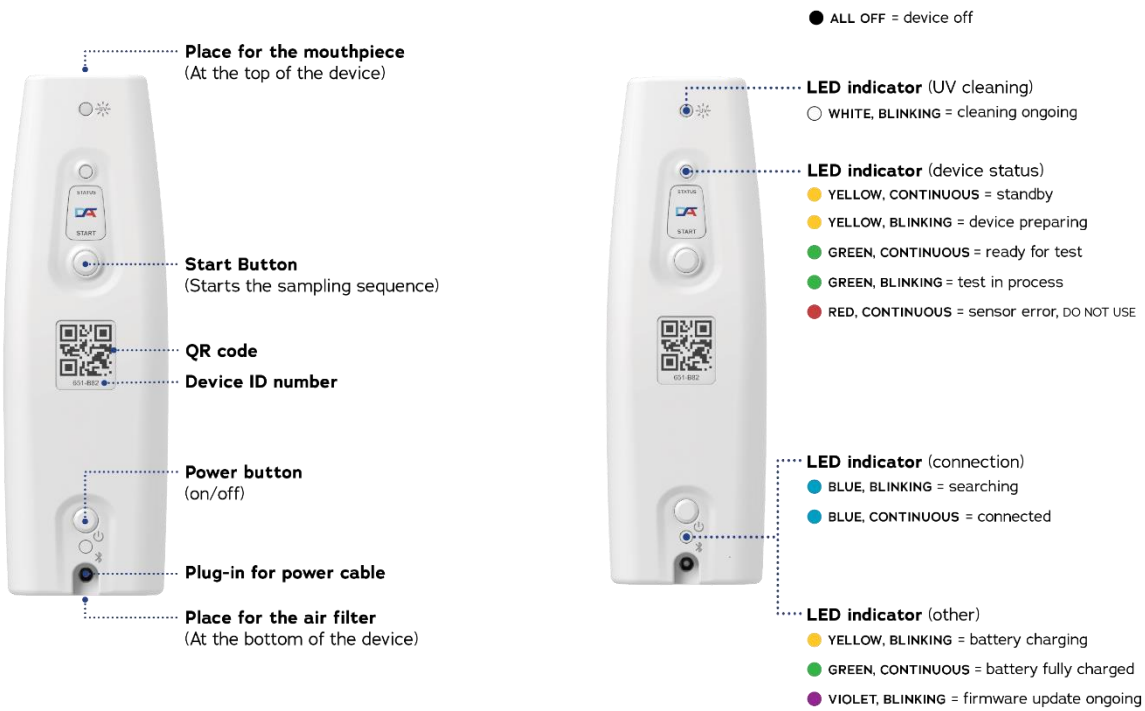|		
Testing and providing results in 2 minutes	Capacity per Analyzer – 30 patients per hour	Extremely affordable cost per test

Testing principle

The DSA BreathPass™ uses a non-invasive method for detection of COVID-19 caused by the SARS-CoV-2 coronavirus. The device measures the exhaled breath for 30 seconds, characterizes the VOCs within breath samples, produces predictions for different health conditions based on Deep Computing algorithms and generates results in few seconds. The DSA BreathPass™ can be used through the Mobile Application and Web-UI.

The DSA BreathPass™ is a fast, easy, and affordable testing method for detecting COVID-19 infection that can be done anywhere with a reliable connection to the internet.

Device Overview and LED indicators

Place for the mouthpiece
(At the top of the device)

Start Button
(Starts the sampling sequence)

QR code

Device ID number

Power button
(on/off)

Plug-in for power cable

Place for the air filter
(At the bottom of the device)

● **ALL OFF** = device off

LED indicator (UV cleaning)
○ **WHITE, BLINKING** = cleaning ongoing

LED indicator (device status)
● **YELLOW, CONTINUOUS** = standby
● **YELLOW, BLINKING** = device preparing
● **GREEN, CONTINUOUS** = ready for test
● **GREEN, BLINKING** = test in process
● **RED, CONTINUOUS** = sensor error, DO NOT USE

LED indicator (connection)
● **BLUE, BLINKING** = searching
● **BLUE, CONTINUOUS** = connected

LED indicator (other)
● **YELLOW, BLINKING** = battery charging
● **GREEN, CONTINUOUS** = battery fully charged
● **VIOLET, BLINKING** = firmware update ongoing

DSA BreathPass™ internal cleaning technique

DSA BreathPass™
Internal cleaning technique

DEEP SENSING Algorithms

CIRCUIT BOARD WITH THE UVC LEDS

REFLECTOR

UV radiation from the LED
(275nm wavelength)

UV radiation is reflected from the reflector

UVC cleaning going on

The mobile application and LED indicate when cleaning is in progress.

The test cycle is approximately 2 minutes.

2 min.

DSA BreathPass™ technical information

DSA BreathPass™	
ANALYSIS MEDIUM	Exhaled Breath Gas
TEST CYCLE TIME	≤ 2 minutes
SAMPLING TIME	< 30 sec
DIMENSIONS	215 x 68 x 65 mm
WEIGHT	350g
OPERATING TEMPERATURE	10 – 50 Celsius
AMBIENT HUMIDITY	10 – 80% non-condensing
INPUT VOLTAGE	Nominal 12V
INPUT CURRENT	1.5A
BATTERY	Li-Ion 2S 18650 with protection circuit and NTC
VOLTAGE	7.2 V
IP-CLASS	IP20
IOT	WLAN 2.4 GHz / 4G
VOC SENSORS	9 analog / digital nanosensors
ENVIRONMENTAL SENSORS	T [C], RH [%], P[mbar]
SOFTWARE	Over-the-air (OTA) updates, sensor regulation and calibration