blacklinesafety

PLUG-AND-PLAY CARTRIDGES

Customize your G7 wearables and G7 EXO area monitors with an exclusive modular sensor cartridge design that accommodates your diverse gas detection and safety needs.

Standard Cartridge (lone worker)
A G7 wearable device equipped with a standard (no-gas) cartridge functions as personal safety and lone worker device, monitoring the wellbeing of workers and alerting live monitoring personnel in the event of an emergency, fall or health event.
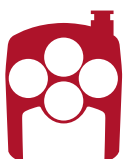
Single-gas diffusion cartridge
A single-gas cartridge provides targeted gas detection for environments with specific or known hazard. G7 wearables are compatible with the single-gas cartridge.

Multi-gas diffusion cartridge
Compatible with G7 and G7 EXO, our multi-gas diffusion cartridge accommodates two to four sensors and monitors for up to five gases when fitted with a dual-toxic COSH sensor. This cartridge supports all sensors in our comprehensive porfolio.

Multi-gas pump cartridge*
A G7 wearable fitted with multi-gas pump cartridge can monitor for up to five gases (when fitted with a COSH sensor) and features an internal pump. Ideal for confined space entry and leak check applications, users can turn the pump on and off on-the-go using configuration modes to temporarily change their G7's functionality to suit the scenario — every mode is customizable online through your Blackline Live portal.

Features

- If a G7 or G7 EXO sensor fails or reaches the end of its serviceable life, swap out the cartridge for a new one in minutes

- Quickly convert a G7 wearable device from a single-gas to a multi-gas monitor by changing the cartridge

- Sensors and pumps feature a lifetime warranty with an active service plan

- All cartridges are installed into a G7 wearable are compatible with G7 Dock for straightforward bump tests and calibrations

- Comprehensive confined space entry and leak check work flows for devices fitted with a pump cartridge*

- Automated mapping of the confined space entries, gas exposures, usage and alerts

*Pump cartridge supported by G7 wearables only. G7 EXO instead supports an optional pump module.

DETAILED SPECIFICATION

Gas cartridge features
Under limit
Over limit
Time-weighted average (TWA)
Short-term exposure limit (STEL)
High gas alert
Low gas alert
Bump test and calibration notification
Bump test and calibration failure

User notification
Green SureSafe® light: Blinking (powered), continuous (connected)
Yellow top and front lights: Yellow pending alarm and yellow warning alarm
Red top and front lights: Red alert communicated
Blue LiveResponse™ top and front lights: Confirmation that a monitoring team has acknowledged the alert

Environmental
Storage temperature: -30°C to 60°C (-22°F to 140°F)
Operating temperature: -20°C to 55°C (-4°F to 131°F)
Charging temperature: 0°C to 45°C (32°F to 113°F)
Ingress Protection: Designed to meet IP67

Size & weight – G7 wearables
G7 with Standard Cartridge
Size: 64 mm x 124 mm x 29 mm (2.52" x 4.88" x 1.06")
Weight: 162 g (5.7 oz)

G7 with Single-gas Cartridge
Size: 64 mm x 128 mm x 29 mm (2.52" x 5.04" x 1.06")
Weight: 167 g (5.9 oz)

G7 with Multi-gas diffusion Cartridge
Size: 66 mm x 150 mm x 29 mm (2.52" x 5.91" x 1.06")
Weight: 192 g (6.8 oz)

G7 with Multi-gas pump Cartridge
Size: 66 mm x 151 mm x 38.5 mm (2.6" x 5.95" x 1.52")
Weight: 238 g (8.4 oz)
Target flow rate: 300ml/min
Maximum hose length: 99ft (30.2 m)

Warranty
Gas sensors and pumps: lifetime warranty with active service plan

Approvals
G7c: SAR, RoHS, CE, RCM
Unit ID 3570xxxxxx
FCC ID: W77G7C2 **IC:** 8255A-G7C2
Contains FCC ID: XPY1EIQ24NN **IC:** 8595A-1EIQ24NN
G7 TECHNICAL USER MANUAL || 57
or
Unit ID 3567xxxxxx
FCC ID: W77G7C **IC:** 8255A-G7C
Contains FCC ID: XPY1CGM5NNN, **IC:** 8595A-1CGM5NNN
or
Unit ID 3566xxxxxx
Contains FCC ID: XPY1CGM5NNN, **IC:** 8595A-1CGM5NNN
Canada & USA: Class I Division 1 Group A,B,C,D T4; Class I Zone 0 AEx da ia IIC T4; Ex da ia IIC T4 Ga
IECEx: Ex da ia IIC T4 Ga
ATEX: Ex da ia IIC T4 Ga
LEL: CSA C22.2 No.152; ISA 12.13.01
LEL Pump Cartridge: CSA C22.2 No.152; 0°C ≤ Ta ≤ 40°C; ANSI/ISA-12.13.01; -10°C ≤ Ta ≤ 40°C
G7x: SAR, RoHS, RCM
FCC ID: W77G7X **IC ID:** 8255A-G7X
Canada & USA: Class I Division 1 Group A,B,C,D T4; Class I Zone 0 AEx da ia IIC T4; Ex da ia IIC T4 Ga
IECEx: Ex ib IIC T4 Gb
LEL: CSA C22.2 No.152; ISA 12.13.01
LEL Pump Cartridge: CSA C22.2 No.152; 0°C ≤ Ta ≤ 40°C; ANSI/ISA-12.13.01; -10°C ≤ Ta ≤ 40°C

Gas sensors

Gas	Sensor type	Sensor model	Range	Resolution
Ammonia (NH₃)	Electrochemical	Citytech, Sensoric NH3 3E 100 SE	0–100 ppm	0.1 ppm
High-range ammonia (NH₃)	Electrochemical	Sensoric NH3 E3 500 SE	0–500 ppm	1 ppm
Carbon monoxide (CO)	Electrochemical	Citytech, 4CF+ CiTiceL	0–500 ppm	1 ppm
High-range carbon monoxide (CO)	Electrochemical	Citytech 4CM	0–2000 ppm	5 ppm
Hydrogen resistant carbon monoxide (CO-H)	Electrochemical	Citytech 2CF3	0–500 ppm	1 ppm
Carbon dioxide (CO₂)	NDIR	Gas Sensing Solutions, MinIR	0–50,000 ppm	50 ppm
Chlorine (Cl₂)**	Electrochemical	Citytech, Sensoric Cl2 3E 50	0–20 ppm	0.1 ppm
Chlorine dioxide (ClO₂)**	Electrochemical	Sensoric ClO2 3E 1 O	0–2 ppm	0.01 ppm
COSH	Electrochemical	Citytech, 4COSH Dual Gas CO/H2S Sensor	0–500 ppm CO, 0–100 ppm H2S	1 ppm CO, 0.1 ppm H2S
Hydrogen cyanide (HCN)	Electrochemical	Sensoric HCN 3E 30 F	0–30 ppm	0.1 ppm
Hydrogen sulfide (H₂S)	Electrochemical	City Technology, 4HS+ Hydrogen Sulfide CiTiceL	0–100 ppm	0.1 ppm
High-range hydrogen sulfide (H₂S)	Electrochemical	City Technology, 4HS+ Hydrogen Sulfide CiTiceL	0-500 ppm	0.5 ppm
LEL-MPS™ See Blackline's LEL-MPS datasheet for more information	Molecular property spectrometer™	Nevada Nano, LEL MPS™	0–100% LEL	0.1% LEL
LEL-infrared (LEL-IR)	NDIR	MIPEX, 02-X-X-X.1	0–100% LEL	1% LEL
Nitrogen dioxide (NO₂)	Electrochemical	City Technology, 4ND	0–50 ppm	0.1 ppm
Oxygen (O₂)	Pumped electrochemical	City Technology, 4OxLL Longlife Oxygen CiTiceL	0–25% vol	0.1% vol
Ozone (O₃)**	Electrochemical	Sensoric O3 3E 1	0–1 ppm	0.01 ppm
Photoionization (PID) ppm	PID	Ion Science, MiniPID 2	0–4,000 ppm	Dynamic resolution*, 0.1 ppm
Sulfur dioxide (SO₂)	Electrochemical	City Technology, 4S Rev. 2 Sulfur Dioxide CiTiceL	0–100 ppm	0.1 ppm

All specifications subject to change without notice
*Not compatible with the pump cartridge
**Dependant on correction factor