



## G7<sup>x</sup> + G7 BRIDGE

### THE WORLD'S HARDEST-WORKING PERSONAL MONITOR WITH LAST-MILE CONNECTIVITY

Blackline Safety's G7x system uses integrated satellite and cellular connectivity to wirelessly link employees and lone workers to real people, while automating data analytics and compliance reporting. Should a gas leak, injury or health event occur, G7x confidently accounts for everyone's well-being and whereabouts in real-time, so no call for help ever goes unanswered — even in the most remote locations. All safety incidents are communicated to live monitoring personnel who can mobilize responders to an employee's exact location or trigger an evacuation in real-time. Featuring two-way messaging, personnel can communicate directly with the worker.

With a modular design, our G7x system delivers exclusive customizability. Gas detection is tailored to work environments with a selection of plug-and-play cartridges and sensors — with all features being completely configurable.

Blackline devices collect more data than ever before available, automatically streaming it to the Blackline Safety Network. All event and alert data is time and location-stamped, powering our Blackline Analytics reporting platform. Bump test and calibration data is also communicated seamlessly, for live compliance visibility and reporting. Teams can easily analyze their data without ever having to manually collect and compile it themselves.

#### G7 Bridge

The G7x system includes the G7x user-worn device and G7 Bridge portable satellite and cellular base station. Leveraging 3G and Iridium satellite networks, connectivity seamlessly transitions to satellite when cellular becomes unavailable, providing true last-mile monitoring. Up to five G7x devices connect with G7 Bridge through an industrial-quality 900 MHz radio link from up to 2 km away. G7 Bridge can mass-notify employees of the need to evacuate and connect workers to monitoring personnel via two-way messaging. G7 Bridge is self-powered and portable, allowing users to quickly move it from one vehicle to another. It has your teams' back — at all times, no matter their location.

### Features



Fall detection



No-motion detection



Two-way text messaging



Gas alarms



SOS alert



Check-in



Assisted-GPS



Indoor location technology



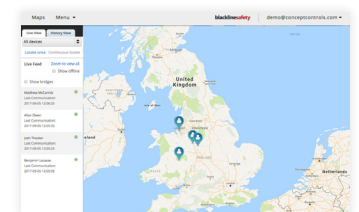
Dual mode communications



Configuration modes



Blackline Analytics reporting platform



Blackline Live safety monitoring portal

# DETAILED SPECIFICATION

## Standard G7 safety features

**Fall detection and No-motion detection:** Tri-axis accelerometer, tri-axis gyro, software processing, configurable sensitivity, configurable time for no-motion  
**SOS latch:** Pull latch to trigger SOS alert  
**Silent SOS:** Press and hold latch to trigger SOS alert  
**Low-battery:** Configurable threshold  
**Worker check-in:** Configurable timer (30 – 180 min, or off), automatic check-in when driving

## Additional 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

## Size & weight

### G7 with Standard Cartridge

**Size:** 64 mm x 124 mm x 27 mm (2.5" x 4.9" x 1.1")

**Weight:** 162 g (5.7 oz)

### G7 with Single-gas Cartridge

**Size:** 64 mm x 128 mm x 27 mm (2.5" x 5.0" x 1.1")

**Weight:** 167 g (5.9 oz)

### G7 with Multi-gas diffusion Cartridge

**Size:** 66 mm x 150 mm x 27 mm (2.5" x 5.9" x 1.1")

**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)

## User interface

168 by 144 pixel graphical, high contrast, liquid crystal display with front lighting, menu system driven by three-button keypad, power button (on/off), check-in button (check-in/silent SOS), SOS latch (send emergency alert)

**Multi-language support:** Yes, EN, FR, ES, DE, IT, NL, PT

## 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

**Alarm Indicators:** Speaker, LED lights and vibration motor

**Speaker sound pressure level:** ~95 dB @ 30 cm (~95 dB @ 11.8")

## G7x Wireless Radio

Works with G7 Bridge satellite base station

**Radio:** 902.0 – 928.0 MHz, 1 Watt

**AS/NZ Radio:** 915.0-928.0 MHz

**Antenna:** Internal

**Radio link range:** 2 km (1.25 mi)

## Location technology

**GPS Radio:** 48-channel high sensitivity

**Assisted-GPS:** Yes (G7c model only)

**GPS Accuracy:** ~5 m (16 ft) Outdoors

**Indoor location technology:** Blackline Safety location beacons

**Location update frequency:** G7c 5 min, G7x 15 min defaults

## Power & battery

**Rechargeable Li-ion battery:** 1100 mAh Li-ion

**Battery Life:** 18 hours at 20°C (68°F) under normal usage

**Charge time:** 4 hours

## 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

## Approvals

**G7x:** SAR, RoHS, RCM

**FCC ID:** W77G7X **IC:** 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 (NH <sub>3</sub> )	Electrochemical	Citytech, Sensoric NH3 3E 100 SE	0–100 ppm	0.1 ppm
High-range ammonia (NH <sub>3</sub> )	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 (CO <sub>2</sub> )	NDIR	Gas Sensing Solutions, MiniR	0–50,000 ppm	50 ppm
Chlorine (Cl <sub>2</sub> )	Electrochemical	Citytech, Sensoric Cl2 3E 50	0–20 ppm	0.1 ppm
Chlorine dioxide (ClO <sub>2</sub> )	Electrochemical	Sensoric ClO2 3E 1 O	0–2 ppm	0.01 ppm
COSH	Electrochemical	Citytech, 4COSH Dual Gas CO/H <sub>2</sub> S Sensor	0–500 ppm CO, 0–100 ppm H <sub>2</sub> S	1 ppm CO, 0.1 ppm H <sub>2</sub> S
Hydrogen cyanide (HCN)	Electrochemical	Sensoric HCN 3E 30 F	0–30 ppm	0.1 ppm
Hydrogen sulfide (H <sub>2</sub> S)	Electrochemical	City Technology, 4HS+ Hydrogen Sulfide CiTiceL	0–100 ppm	0.1 ppm
High-range hydrogen sulfide (H <sub>2</sub> S)	Electrochemical	City Technology, 4HS+ Hydrogen Sulfide CiTiceL	0–500 ppm	0.5 ppm
LEL-infrared (LEL-IR)	NDIR	MIPEX, 02-X-X-X.1	0–100% LEL	1% LEL
Nitrogen dioxide (NO <sub>2</sub> )	Electrochemical	City Technology, 4ND	0–50 ppm	0.1 ppm
Oxygen (O <sub>2</sub> )	Pumped electrochemical	City Technology, 4OxLL Longlife Oxygen CiTiceL	0–25% vol	0.1% vol
Ozone (O <sub>3</sub> )	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 (SO <sub>2</sub> )	Electrochemical	City Technology, 4S Rev. 2 Sulfur Dioxide CiTiceL	0–100 ppm	0.1 ppm

## Warranty

**G7:** two years limited warranty

**Cartridges:** lifetime with service plan

**Blackline Complete:** three year operating lease with three year warranty

## G7 BRIDGE

### Size & Weight

**Size:** 73 mm x 107 mm x 141 mm (2.87" x 4.21" x 5.55")

Measurements do not include mount

**Weight:** 540 g (19.04 oz)

## Wireless Communication

**Radio:** UMTS 800/850/900/1900/2100; Quad-band

GSM/GPRS 850, 900, 1800, 1900; Iridium Satellite

(1621 MHz); ISM band radio (915 MHz)

**900 MHz Radio:** Americas: 902 – 928 MHz Australian/

New Zealand: 916 – 927 MHz, 1 Watt

## 900 MHz Radio Link Range

**General use:** up to 2 km

**Hilltop to hilltop:** 10+ km Terrain, foliage, and buildings will affect overall 900 MHz radio link range

## Power & Battery

**Rechargeable Li-ion battery:** 6800 mAh capacity

**Battery Life:** 50 hours @ 20°C (68°F); 44 hours @ -20°C

(-4°F); 14 hours @ -40°C (-40°F); It is recommended

that the hard wire kit is used anytime below -20°C

**Charging connector:** Micro USB

**Antenna:** Internal