

blacklinesafety

PRODUCT DATASHEETS



Every second counts.

When an incident occurs, the clock starts — and it doesn't stop until help arrives. What happens in between is in your hands, and decisions must be made in real-time. Who's involved, what happened, where is everyone and how are you going to manage the situation?

Blackline's connected safety monitoring technology gives you the chance to control time. Our technologies automatically watch over each employee and call for help, even when they can't. Every alert is reported to monitoring personnel in real-time, arming them with the situational awareness to manage optimized emergency responses.

Our solutions are all about trust and ease of use — connecting your team to real people and ensuring industry-leading monitoring accompanies them, wherever they operate.





DATASHEET

G7 GAS SENSOR PORTFOLIO

Gas	Sensor type	Sensor model	Range	Resolution
Ammonia (NH ₃)	Electrochemical	Citytech, Sensoric NH3 3E 100 SE	0–100 ppm	0.1 ppm
High-range ammonia (NH ₃)	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 ₂)	NDIR	Gas Sensing Solutions, MiniIR	0–50,000 ppm	50 ppm
Chlorine (Cl ₂)	Electrochemical	Citytech, Sensoric Cl2 3E 50	0–20 ppm	0.1 ppm
Chlorine dioxide (ClO ₂)	Electrochemical	Sensoric ClO2 3E 1 O	0–2 ppm	0.01 ppm
COSH	Electrochemical	Citytech, 4COSH Dual Gas CO/ H ₂ S Sensor	0–500 ppm CO, 0–100 ppm H ₂ S	1 ppm CO, 0.1 ppm H ₂ S
Hydrogen cyanide (HCN)	Electrochemical	Sensoric HCN 3E 30 F	0–30 ppm	0.1 ppm
Hydrogen sulfide (H ₂ S)	Electrochemical	City Technology, 4HS+ Hydrogen Sulfide CiTiceL	0–100 ppm	0.1 ppm
High-range hydrogen sulfide (H ₂ S)	Electrochemical	City Technology, 4HS+ Hydrogen Sulfide CiTiceL	0–500 ppm	0.5 ppm
LEL-infrared (LEL-IR)	NDIR	MIPEX, O2-X-X-X.1	0–100% LEL	1% LEL
Nitrogen dioxide (NO ₂)	Electrochemical	City Technology, 4ND	0–50 ppm	0.1 ppm
Oxygen (O ₂)	Pumped electrochemical	City Technology, 4OxLL Longlife Oxygen CiTiceL	0–25% vol	0.1% vol
Ozone (O ₃)	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*
Photoionization (PID) ppb	PID	Ion Science, MiniPID 2	0–10,000 ppb*	Dynamic resolution*
Sulfur dioxide (SO ₂)	Electrochemical	City Technology, 4S Rev. 2 Sulfur Dioxide CiTiceL	0–100 ppm	0.1 ppm

All specifications subject to change without notice

* Dependant on correction factor



G7^c

THE WORLD'S HARDEST-WORKING CONNECTED MONITOR.

Blackline Safety's G7c leverages integrated 3G-cellular connectivity to wirelessly link your team to real people, while automating data analytics and compliance reporting. Should a gas leak, injury or health event occur, G7c confidently accounts for everyone's well-being and whereabouts in real-time, so no call for help ever goes unanswered.

G7c automatically watches over employees and lone workers. 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. With a two-way speakerphone, monitoring personnel can communicate directly with the worker, providing critical insights and situational awareness for optimized emergency responses.

G7c delivers an exclusive customizable modular design, delivering the ability to expand functionality with a range of plug-and-play cartridges and a range of gas sensors. Choose from a Standard, Single-gas, Multi-gas diffusion or Multi-gas pump cartridge to address the needs of your work environment — everything is completely configurable to meet the needs of every industry, application and scenario.

G7c devices collect more data than ever before, automatically streaming it to the Blackline Safety Network when in areas of cellular coverage. 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 anything. G7c does it all, so you don't have to.

Features



Fall detection



No-motion detection



Two-way voice and text messaging



Push-to-talk



SOS alert



Check-in



Assisted-GPS



Indoor location technology



Gas alarms



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")
Voice calling: Speakerphone and phone modes (G7c model only)

G7c wireless radio

Wireless coverage: 100 countries, 200 wireless carriers
North America: 2G/3G radio, GSM 850 MHz, PCS 1900 MHz, 3G UMTS bands 2, 5 and 6
International: 2G/3G radio, E-GSM 900 MHz, DSC 1800 MHz, 3G UMTS bands 1 and 8
Antenna: Internal regionally optimized

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

Gas sensors

Gas	Sensor type	Sensor model	Range	Resolution
Ammonia (NH ₃)	Electrochemical	Citytech, Sensoric NH3 3E 100 SE	0–100 ppm	0.1 ppm
High-range ammonia (NH ₃)	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 ₂)	NDIR	Gas Sensing Solutions, MinIR	0–50,000 ppm	50 ppm
Chlorine (Cl ₂)	Electrochemical	Citytech, Sensoric Cl2 3E 50	0–20 ppm	0.1 ppm
Chlorine dioxide (ClO ₂)	Electrochemical	Sensoric ClO2 3E 1 O	0–2 ppm	0.01 ppm
COSH	Electrochemical	Citytech, 4COSH Dual Gas CO/ H ₂ S Sensor	0–500 ppm CO, 0–100 ppm H ₂ S	1 ppm CO, 0.1 ppm H ₂ S
Hydrogen cyanide (HCN)	Electrochemical	Sensoric HCN 3E 30 F	0–30 ppm	0.1 ppm
Hydrogen sulfide (H ₂ S)	Electrochemical	City Technology, 4HS+ Hydrogen Sulfide CiTiceL	0–100 ppm	0.1 ppm
High-range hydrogen sulfide (H ₂ 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 ₂)	Electrochemical	City Technology, 4ND	0–50 ppm	0.1 ppm
Oxygen (O ₂)	Pumped electrochemical	City Technology, 4OxLL Longlife Oxygen CiTiceL	0–25% vol	0.1% vol
Ozone (O ₃)	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*
Photoionization (PID) ppb	PID	Ion Science, MiniPID 2	0–10,000 ppb*	Dynamic resolution*
Sulfur dioxide (SO ₂)	Electrochemical	City Technology, 4S Rev. 2 Sulfur Dioxide CiTiceL	0–100 ppm	0.1 ppm

Approvals

G7c: SAR, RoHS, CE, RCM

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   II 1 G

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

Warranty

G7: two years limited warranty
Cartridges: lifetime with service plan
Blackline Complete: three year operating lease with three year warranty

Blackline Live web application

Cloud-hosted safety monitoring web application is customizable for every customer requirement. Includes live map, user roles, alert management, device configurations, alert setups and reporting.



G7^x + 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
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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

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 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
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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
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

Warranty

G7: two years limited warranty
Cartridges: lifetime with service plan
Blackline Complete: three year operating lease with three year warranty

Blackline Live web application

Cloud-hosted safety monitoring web application is highly customizable for every customer requirement. Includes live map, employee address book, user roles, alert management, device configurations, alert setups and reporting.

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Gas sensors

Gas	Sensor type	Sensor model	Range	Resolution
Ammonia (NH ₃)	Electrochemical	Citytech, Sensoric NH3 3E 100 SE	0–100 ppm	0.1 ppm
High-range ammonia (NH ₃)	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 ₂)	NDIR	Gas Sensing Solutions, MinIR	0–50,000 ppm	50 ppm
Chlorine (Cl ₂)	Electrochemical	Citytech, Sensoric Cl2 3E 50	0–20 ppm	0.1 ppm
Chlorine dioxide (ClO ₂)	Electrochemical	Sensoric ClO2 3E 1 O	0–2 ppm	0.01 ppm
COSH	Electrochemical	Citytech, 4COSH Dual Gas CO/H ₂ S Sensor	0–500 ppm CO, 0–100 ppm H ₂ S	1 ppm CO, 0.1 ppm H ₂ S
Hydrogen cyanide (HCN)	Electrochemical	Sensoric HCN 3E 30 F	0–30 ppm	0.1 ppm
Hydrogen sulfide (H ₂ S)	Electrochemical	City Technology, 4HS+ Hydrogen Sulfide CiTiceL	0–100 ppm	0.1 ppm
High-range hydrogen sulfide (H ₂ 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 ₂)	Electrochemical	City Technology, 4ND	0–50 ppm	0.1 ppm
Oxygen (O ₂)	Pumped electrochemical	City Technology, 4OxLL Longlife Oxygen CiTiceL	0–25% vol	0.1% vol
Ozone (O ₃)	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*
Photoionization (PID) ppb	PID	Ion Science, MiniPID 2	0-10,000 ppb*	Dynamic resolution*
Sulfur dioxide (SO ₂)	Electrochemical	City Technology, 4S Rev. 2 Sulfur Dioxide CiTiceL	0–100 ppm	0.1 ppm



PLUG-AND-PLAY G7 CARTRIDGES

G7 is completely customizable with an exclusive modular design to accommodate diverse gas detection and safety monitoring needs.



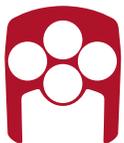
Standard Cartridge (lone worker)

G7 devices equipped with a standard (no-gas) cartridge function as personal safety and lone worker monitoring devices. G7's with a standard cartridge monitor the safety of workers and alert live monitoring personnel in the event of an emergency, fall or health event.



Single-gas diffusion Cartridge

Single-gas cartridges provide targeted gas detection for environments with specific gas hazards. Most G7 gas sensors are compatible with the single-gas cartridge.



Multi-gas diffusion Cartridge

Multi-gas diffusion cartridges support two to four gas sensors and up to five gases when fitted with a dual-toxic COSH sensor. Our multi-gas diffusion cartridge supports all sensors in the G7 portfolio.



Multi-gas pump Cartridge

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

Features

- If a sensor fails or reaches the end of its serviceable life, swap out the cartridge for a new one in seconds
- Quickly convert a G7 device from a single-gas to a multi-gas monitor by changing the cartridge
- G7 sensors and pumps feature a lifetime warranty
- All cartridges are compatible with G7 Dock for straightforward bump tests and calibrations
- G7 devices communicate all test data to the Blackline Safety Network, eliminating the need to manually collect data from the field
- 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



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

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")
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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 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")
Voice calling: Speakerphone and phone modes (G7c model only)

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

G7c: SAR, RoHS, CE, RCM
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  II 1 G
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

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

Warranty

Gas sensors and pumps: lifetime warranty with active service plan

Gas sensors

Gas	Sensor type	Sensor model	Range	Resolution
Ammonia (NH ₃)	Electrochemical	Citytech, Sensoric NH3 3E 100 SE	0-100 ppm	0.1 ppm
High-range ammonia (NH ₃)	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 ₂)	NDIR	Gas Sensing Solutions, MiniR	0-50,000 ppm	50 ppm
Chlorine (Cl ₂)	Electrochemical	Citytech, Sensoric Cl2 3E 50	0-20 ppm	0.1 ppm
Chlorine dioxide (ClO ₂)	Electrochemical	Sensoric ClO2 3E 1 O	0-2 ppm	0.01 ppm
COSH	Electrochemical	Citytech, 4COSH Dual Gas CO/ H ₂ S Sensor	0-500 ppm CO, 0-100 ppm H ₂ S	1 ppm CO, 0.1 ppm H ₂ S
Hydrogen cyanide (HCN)	Electrochemical	Sensoric HCN 3E 30 F	0-30 ppm	0.1 ppm
Hydrogen sulfide (H ₂ S)	Electrochemical	City Technology, 4HS+ Hydrogen Sulfide CiTiCeL	0-100 ppm	0.1 ppm
High-range hydrogen sulfide (H ₂ 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 ₂)	Electrochemical	City Technology, 4ND	0-50 ppm	0.1 ppm
Oxygen (O ₂)	Pumped electrochemical	City Technology, 4OxLL Longlife Oxygen CiTiCeL	0-25% vol	0.1% vol
Ozone (O ₃)	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*
Photoionization (PID) ppb	PID	Ion Science, MiniPID 2	0-10,000 ppb*	Dynamic resolution*
Sulfur dioxide (SO ₂)	Electrochemical	City Technology, 4S Rev. 2 Sulfur Dioxide CiTiCeL	0-100 ppm	0.1 ppm



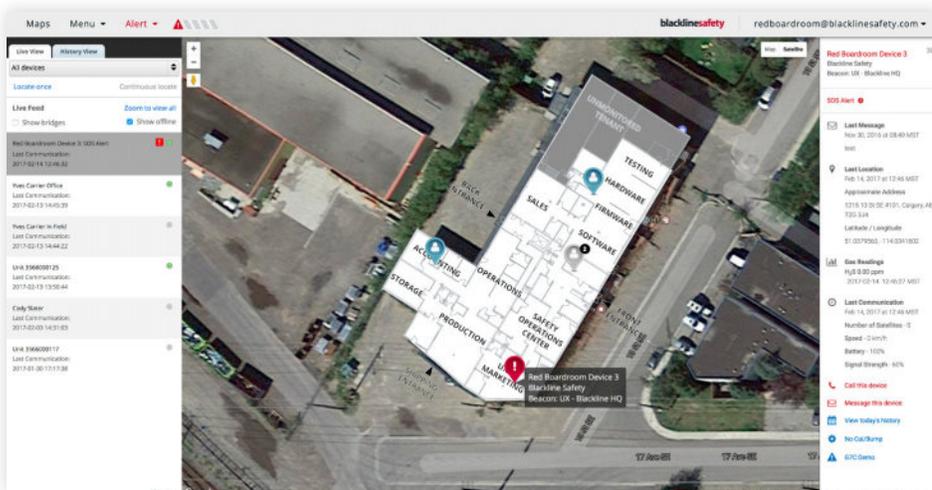
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All specifications subject to change without notice.

* Dependant on correction factor



BLACKLINE LIVE PORTAL

LEADING SAFETY MONITORING TOOLS

The Blackline Live portal is at the core of all Blackline Safety monitoring solutions, equipping businesses with leading alert management tools, dashboard and comprehensive configuration management of fielded devices. Blackline Live can be accessed from anywhere on an internet-connected device.

The safety status of every team member is visible at a glance using Blackline Live's real-time maps, showing the location and alert status of all fielded devices. Custom floor and site plans work together with Location Beacons, delivering more comprehensive situational awareness where GPS may be unavailable or in and around complex facilities.

Employee-worn monitoring devices are easily configured for specific work environments. Each device is managed in Blackline Live using configuration profiles that make it easy to tailor device functionality to accommodate any need. Devices are configured wirelessly, over-the-air, ensuring they are always up-to-date and working as they should. Alert profiles are also configured through Blackline Live, with documented custom emergency protocols tailored to the device that instruct monitoring personnel how to manage optimized emergency responses. Using address book contacts stored in Blackline Live, personnel know who to call and how to escalate responses, up to and including EMS, fire or police.

Whether you decide to monitor in-house or take advantage of Blackline's 24/7 Safety Operations Center, monitoring personnel use Blackline Live to provide them with critical insights and workflows to manage emergency alerts in real-time. As a cloud-hosted web portal, Blackline Live doesn't require IT approved downloads or costly installation — accessing your account is as simple as logging in. Delivering situational awareness communicated from employee-worn devices in the field, Blackline Live provides all the tools necessary for monitoring personnel to manage a world-class emergency response.

Supporting gas detection programs, G7 devices equipped with gas sensors wirelessly communicate compliance and usage data to Blackline Live for automatic reporting, alleviating the need for manual data collection. From incident through to resolution all activities are time-stamped for future reporting, including notes that are used to document the response.

FEATURES



Alert management tools



Custom maps & floor plans



Custom alert profiles



Wireless device configuration



Evacuation management



Employee address book



Compliance dashboard



Reporting



DETAILED SPECIFICATION

Alert Management

Visual and audible indication of every alert
Location and identity of the employee plus nearby co-workers (map)
Document alert activities with notes
Resolve alerts as a system test, false alert or incident (with or without dispatch)

Real-time Location Map

Real-time safety status of every team member visible on the map page

Device Configuration Profiles

Devices configured wirelessly, over-the-air
Adjust alert functions and sensitivities from any internet connected device

Alert Profiles

Documented emergency response protocols easily customized for different environments or operating needs
Identify how monitoring personnel will escalate responses during an emergency
Notify supervisors by text and email when an alert occurs

Evacuation Management

Notify and direct a single worker or whole teams to designated muster points
Trigger a large scale evacuation using mass-notifications
Monitor the progress of evacuations on a map in real-time from start to finish

Reporting

Every event is time-stamped and recorded for reporting
Transparent emergency response-time reporting ensures superior performance standards

Employee Address Book

Store employee contact information for escalation
Employees are associated with devices and as notified contacts or emergency contacts within alert profiles

Alert History

View documented history of every alert
Review notes, messages to employees and voice recordings of calls to users

Requirements

Internet connection
Web browser: Safari, Chrome, Firefox, Internet Explorer, Blackberry Wi-Fi browser

Dashboard

View real-time equipment utilization
Address gas detection compliance gaps proactively

Gas Detection Compliance

Monitor fleet health, see which devices are healthy, have service pending or required
Schedule and monitor calibration and bump tests
Map gas events to identify potential hazards



SAFETY OPERATIONS CENTER

24/7 WORRY-FREE SAFETY MONITORING SERVICE

Blackline's safety monitoring and gas detection solutions deliver complete customization and 24/7 real-time safety monitoring for any application. Our Safety Operations Center provides organizations with expert safety monitoring and support, ensuring superior employee safety monitoring without sacrificing business productivity.

While some businesses are capable of self-monitoring, with designated control rooms or highly available supervisors, many are better supported by our in-house monitoring team. Blackline's Safety Operations Center (SOC) focuses exclusively on monitoring the well-being of employees' safety. Unlike traditional call centers that often split focus between telemarketing and IT support, our SOC is staffed with professionally-trained monitoring agents 365 days a year.

Our SOC utilizes the Blackline Live web portal, providing them with critical insights into emergency alerts in real-time. Delivering situational awareness communicated from employee-worn devices in the field, Blackline Live provides all the tools necessary for the SOC to manage a world-class emergency response.

Located at our headquarters in Calgary, Canada, the Safety Operations Center incorporates state-of-the-art infrastructure, including redundancy of power supply, communications and computing. We monitor over 7,500 devices world-wide, around-the-clock.

Monitoring personnel manage safety and gas detection alerts in real-time from receipt through to resolution by following the customer's tailored and documented emergency response protocol. Should an emergency take place, our Safety Operations Center is empowered to dispatch local emergency services across North America. Emergency responders are directed to the precise location of the employee in distress.

With 99.5% of alerts responded to in under a minute, Blackline's Safety Monitoring Center facilitates worry-free monitoring services and support, so employees can take comfort knowing their safety is always covered.

Overview

- Turn-key, around-the-clock emergency response management service
- Ideal for businesses without a control room or supervisors that are always available
- Supports all Blackline Safety monitoring device types
- Every alert managed according to your custom, documented response protocol
- Eases the burden on your team
- Our agents are always available and highly trained
- 99.5% of alerts responded to in less than a minute
- Ideal for both lone working and gas detection applications
- Agents can provide on-the-spot training for your employees
- Direct 9-1-1 call escalation to police and EMS in Canada and the United States



EMERGENCY RESPONSE MANAGEMENT

- Response management for injuries, health events, security breaches, gas leaks and evacuations
- Alerts efficiently managed from receipt through to resolution
- Monitoring over 7,500 client devices

CUSTOM EMERGENCY RESPONSE PROTOCOL

- Emergency responses are managed based on custom emergency response protocols
- Supervisors are notified by text and email while SOC manages the alert
- Alert escalation path to supervisors or local emergency services is clearly defined and managed
- Mapping of employee locations using GPS or Location Beacons ensures an efficient response

ALERT LIFE-CYCLE MANAGEMENT

- Transparent response-time reporting ensures superior performance standards
- Every event is time-stamped and recorded for reporting
- Highly qualified monitoring agents handle every alert

BLACKLINE LIVE WEB MONITORING PORTAL

- Provides personnel with leading safety monitoring tools
- Real-time safety status of every team member is visible on the map page
- Simple configuration of emergency protocols
- Type of alert is clearly displayed on a map with details like gas type and concentration

COMMUNICATING WITH EMPLOYEES

- Blackline Live address book provides employee contact information for escalation
- Agents can speak with the employee via optional two-way voice communication (Loner M6 and G7c monitoring devices)
- Monitoring team communicates with employees via messaging (G7c and G7x)
- Real-time translation of over 200 languages

EVACUATION MANAGEMENT

- Can notify and direct a single worker or whole teams to designated muster points
- Trigger a large scale evacuation using mass-notifications

- Monitor the progress of evacuations in real-time from start to finish

ENVIRONMENTAL GAS MONITORING

- The type and concentration of a gas exposure is relayed in real-time
- Empowered with situational awareness of an event, personnel can manage optimized emergency responses
- All gas readings are stored in Blackline Live
- High gas, TWA and STEL events trigger real-time alert management

HIGHLY-QUALIFIED MONITORING AGENTS

- Specialize in Blackline Safety employee-worn monitoring devices
- Can provide on-the-spot training to support your employees
- Agent training includes:
 - WHMIS
 - Standard first aid with CPR-C and AED
 - H2S Alive

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