HANDHELD CAMERAS
sensia-solutions.com/caroline-y/

Caroline Y

OGI for Methane and SO2 gas leaks

Caroline Y is SENSIA's latest model of Optical Gas Imaging (OGI) for the detection of fugitive emissions of methane (CH4), SO2 and VOC's leaks. It integrates a spectrally optimized high-resolution uncooled detector that detects the 90% of diffused gas emissions caused by leaks.

Quantification Analytics

Joystick & Touchscreen

ATEX Certification

Lightweight Design

Gases detected

Acetic Acid	R125
Acrolein	R13
Acrylic Acid	R134A
Ethyl Hexyl Acrylate	R13B1
Methane	R417A
Nitrous Oxide	R422A
Phenol	R508A
R12	Sulfur Dioxide
R123	

Specifications

FPA	Uncooled 640 x 480 px
Pixel Pitch	17 µm
NETD	<22mK @ +30°C
Spectral Region	7 to 9,5
Lenses	31°x23° (20 mm) |18°x13° (35 mm)
Accuracy	± 1°C (from 0°C to 60°C Scene Temp.)
Data Protocol	GigE 9 Hz / 25 Hz
Memory Storage	SD card up to 256 GB
Autonomy	3 x 3 hr
Display	TFT LCD panel 5" HD
Weight	2,1 kg
Size	187 x 165 x 68 mm
Operating Temp. Range	-10°C to +50°C
Storage Temp. Range	-40°C to +71°C
Certifications	EMC (EN 61326:2013) IP65 (EN 60529:2018) ATEX Zone II (EN 60079:2013) II 3G Ex ec IIC T4 Gc

Features Under Demand

Gas Sniffer 4.0

Gas Quantification

HANDHELD CAMERAS
sensia-solutions.com/caroline-x/

Caroline X

OGI's for SF6 and
Refrigerants gas leaks

Caroline X is SENSIA's latest model of Optical Gas Imaging (OGI) for the detection of fugitive emissions of SF6, Refrigerant gases, Ammonia and others gases leaks. It integrates a spectrally optimized high-resolution uncooled detector that detects the 90% of diffused gas emissions caused by leaks.

Quantification Analytics

Joystick & Touchscreen

ATEX Certification

Lightweight Design

Gases detected

1,3 Butadiene	Propylene
Acrolein	R11
Acrylic Acid	R12
Ammonia	R123
Ethanol	R125
Ethyl Hexyl acrylate	R13
Ethylene	R134A
Ethylene Glycol	R13B1
Ethylene Oxide	R417A
Isoprene	R422A
Methanol	R508A
Nitrogen Trifluoride	Sulfur Hexafluoride
Phenol	Vinyl Chloride

Specifications

FPA	Uncooled 640 x 480 px
Pixel Pitch	17 µm
NETD	<22mK @ +30°C
Spectral Region	8 to 14
Lenses	31°x23° (20 mm) |18°x13° (35 mm)
Accuracy	± 1°C (from 0°C to 60°C Scene Temp.)
Data Protocol	GigE 9 Hz / 25 Hz
Memory Storage	SD card up to 256 GB
Autonomy	3 x 3 hr
Display	TFT LCD panel 5" HD
Weight	2,1 kg
Size	187 x 165 x 68 mm
Operating Temp. Range	-10°C to +50°C
Storage Temp. Range	-40°C to +71°C
Certifications	EMC (EN 61326:2013) IP65 (EN 60529:2018) ATEX Zone II (EN 60079:2013) II 3G Ex ec IIC T4 Gc

Features Under Demand

Gas Sniffer 4.0

Gas Quantification

HANDHELD CAMERAS
sensia-solutions.com/caroline-xy/

Caroline XY

OGI' for broadband gases detection

Caroline XY is SENSIA's latest model of Optical Gas Imaging (OGI) for the detection of fugitive emissions of Methane, SF6, Methanol, Refrigerant gases, Ammonia and others gases leaks. It integrates a spectrally optimized high-resolution uncooled detector that detects the 90% of diffused gas emissions caused by leaks.

- Quantification Analytics
- Joystick & Touchscreen
- ATEX Certification
- Lightweight Design

Gases detected	
1,3-Butadiene	Phenol
Acetic Acid	Propylene
Acrolein	R11
Acrylic Acid	R12
Ammonia	R123
Ethanol	R125
Ethyl Hexyl Acrylate	R13
Ethylene	R134A
Ethylene Glycol	R13B1
Ethylene Oxide	R417A
Isoprene	R422A
Methane	R508A
Methanol	Sulfur Dioxide
Nitrogen trifluoride	Sulfur Hexafluoride
Nitrous Oxide	Vinyl Chloride

Specifications	
FPA	Uncooled 640 x 480 px
Pixel Pitch	17 µm
NETD	<22mK @ +30°C
Spectral Region	7 to 14
Lenses	31°x23° (20 mm) |18°x13° (35 mm)
Accuracy	± 1°C (from 0°C to 60°C Scene Temp.)
Data Protocol	GigE 9 Hz / 25 Hz
Memory Storage	SD card up to 256 GB
Autonomy	3 x 3 hr
Display	TFT LCD panel 5" HD
Weight	2,1 kg
Size	187 x 165 x 68 mm
Operating Temp. Range	-10°C to +50°C
Storage Temp. Range	-40°C to +71°C
Certifications	EMC (EN 61326:2013) IP65 (EN 60529:2018) ATEX Zone II (EN 60079:2013) II 3G Ex ec IIC T4 Gc

Features Under Demand

Gas Sniffer 4.0

Gas Quantification

HANDHELD CAMERAS
sensia-solutions.com/mileva-33/

Mileva 33

OGI for hydrocarbons gas leaks

Mileva 33 is SENSIA's latest model of Optical Gas Imaging (OGI) for the detection of fugitive emissions of hydrocarbon gases (HxCx). It integrates a spectrally optimized high-resolution cooled detector that increases the detection sensitivity for leaks down to 0.4 g/h of CH4.

- Quantification Analytics
- Joystick & Touchscreen
- ATEX Certification
- EPA OOOOa Compliance

Gases detected

1,3-Butadiene	Hexane
Acetic Acid	MEK
Benzene	Methanal
Butane	Methane
Ethane	Methanol
Ethanol	Octane
Ethyl Hexyl Acrylate	Pentane
Ethylbenzene	Phenol
Ethylene	Propane
Ethylene Glycol	Propylene
Ethylene oxide	Toluene
Heptane	Turpentine

Specifications

FPA	Cooled 640 x 512 px
Pixel Pitch	15 µm
NETD	<15 mK @ +50°C
Spectral Region	2,9 to 3,7
Lenses	12°x9° (50 mm) | 18°x13° (35 mm)
Accuracy	± 1°C (from 0°C to 120°C Scene Temp.)
Memory Storage	SD card up to 256 GB
Autonomy	3 x 3 hr
Display	TFT LCD panel 5" HD
Weight	2,4 kg
Size	220 x 150 x 80 mm
Operating Temp. Range	-10°C to +50°C
Storage Temp. Range	-40°C to +71°C
Minimum Detectable Leak Rate (CH4)	0,4 g/h*
Certifications	IP65 (EN 60529:2018) EMC (EN 61326:2013) ATEX Zone II (EN 60079:2013) EPA OOOOa COMPLIANCE

* ΔT gas-background >5 °C and orifice diameter 1/4"

Gas Quantification

HANDHELD CAMERAS
sensia-solutions.com/mileva-33-320/

Mileva 33-320

OGI for hydrocarbons gas leaks

Mileva 33-320 is SENSIA's latest model of Optical Gas Imaging (OGI) for the detection of fugitive emissions of hydrocarbon gases (HxCx). It integrates a spectrally optimized high-resolution cooled detector that increases the detection sensitivity for leaks to the next level.

Quantification Analytics

Joystick & Touchscreen

ATEX Certification

EPA OOOOa Compliance

Gases detected

1,3-Butadiene	Hexane
Acetic Acid	MEK
Benzene	Methanal
Butane	Methane
Ethane	Methanol
Ethanol	Octane
Ethyl Hexyl Acrylate	Pentane
Ethylbenzene	Phenol
Ethylene	Propane
Ethylene Glycol	Propylene
Ethylene oxide	Toluene
Heptane	Turpentine

Specifications

FPA	Cooled 320 x 256 px
Pixel Pitch	30 µm
NETD	<10mK @ +50°C
Spectral Region	3,2 to 3,4
Lenses	12°x9° (50 mm) | 18°x13° (35 mm)
Accuracy	± 1°C (from 0°C to 120°C Scene Temp.)
Memory Storage	SD card up to 256 GB
Autonomy	3 x 3 hr
Display	TFT LCD panel 5" HD
Weight	3,4 kg
Size	220 x 150 x 80 mm
Operating Temp. Range	-10°C to +50°C
Storage Temp. Range	-40°C to +71°C
Minimum Detectable Leak Rate (CH4)	0,35 g/h*
Certifications	IP65 (EN 60529:2018) EMC (EN 61326:2013) ATEX Zone II (EN 60079:2013) EPA OOOOa COMPLIANCE

* ΔT gas-background >5 °C and orifice diameter 1/4"

Gas Quantification

HANDHELD CAMERAS
sensia-solutions.com/mileva-45/

Mileva 45

OGI for carbon dioxide gas leaks

MILEVA 45 is the latest model of Optical Gas Imaging for micro-leaks detection of carbon dioxide (CO2).

Spectrally optimized cooled detector of 640 x 512 pixels improves the minimum detectable leak rate.

Quantification Analytics

Joystick & Touchscreen

ATEX Certification

Gases detected	
Carbon Dioxide	CO2
Phosphine	H3P

Specifications	
FPA	Cooled 640 x 512 px
Pixel Pitch	30 µm
NETD	<15mK @ +50°C
Spectral Region	4,2 to 4,4
Lenses	12°x9° (50 mm) | 18°x13° (35 mm)
Accuracy	± 1°C (from 0°C to 120°C Scene Temp.)
Memory Storage	SD card up to 256 GB
Autonomy	3 x 3 hr
Display	TFT LCD panel 5" HD
Weight	3,4 kg
Size	220 x 150 x 80 mm
Operating Temp. Range	-10°C to +50°C
Storage Temp. Range	-40°C to +71°C
Minimum Detectable Leak Rate (CO2)	3,24 g/h*
Certifications	IP65 (EN 60529:2018) EMC (EN 61326:2013) ATEX Zone II (EN 60079:2013)

* ΔT gas-background >5 °C and orifice diameter 1/4"

Gas Quantification

HANDHELD CAMERAS
sensia-solutions.com/mileva-47/

Mileva 47

OGI for carbon monoxide gas leaks

Mileva 47 is the latest model of Optical Gas Imaging for micro-leaks detection of carbon monoxide (CO).

Spectrally optimized cooled detector of 320 x 265 pixels improves the minimum detectable leak rate.

Quantification Analytics

Joystick & Touchscreen

ATEX Certification

Gases detected	
Carbon Monoxide	CO
Nitrous Oxide	N2O

Specifications	
FPA	Cooled 320 x 256 px
Pixel Pitch	30 µm
NETD	<15mK @ +50°C
Spectral Region	4,5 to 4,7
Lenses	12°x9° (50 mm) | 18°x13° (35 mm)
Accuracy	± 1°C (from 0°C to 120°C Scene Temp.)
Memory Storage	SD card up to 256 GB
Autonomy	3 x 3 hr
Display	TFT LCD panel 5" HD
Weight	3,4 kg
Size	220 x 150 x 80 mm
Operating Temp. Range	-10°C to +50°C
Storage Temp. Range	-40°C to +71°C
Certifications	IP65 (EN 60529:2018) EMC (EN 61326:2013) ATEX Zone II (EN 60079:2013)

* ΔT gas-background >5 °C and orifice diameter 1/4"

Gas Quantification

HANDHELD CAMERAS
sensia-solutions.com/calcifir-rx/

Calcifir RX

High-Temp IR Inspection

Calcifir RX Ex technology is based on an hand held infrared camera prepared to accurately measure temperatures through flames. This cameras is ideal for monitoring all kinds of heaters, furnaces, boilers, and many other utility industries.

With Redlook Handheld integrated, Calcifir RX becomes key a tool for performance optimisation and efficiency in the industry.

- Quantification Analytics
- Joystick & Touchscreen
- ATEX Certification
- Lightweight Design

Specifications	
FPA	320 x 256 px
Pixel Pitch	30 µm
NETD	<15mK @ +50°C
Lenses	Under demand. From 5 mm to 150 mm
Accuracy	± 1°C or 1% WIG (from 50°C to 500°C) ± 2°C or 2% WIG (from 500°C to 1500°C)
Storage	SD card up to 256 GB
Autonomy	3 x 3 hr
Display	TFT LCD panel 5" HD
Weight	3,4 kg
Size	251 x 262 x 151 mm
Operating Temp. Range	-10°C to +50°C
Storage Temp. Range	-40°C to +71°C
Certifications	EMC (EN 61326:2013) IP65 (EN 60529:2018) ATEX Zone II (EN 60079:2013)

Furnace Inspection

Intelligent Thermography

03

On Board Cameras

The most advanced Smart Monitoring Technology

SENSIA's Optical Gas Imaging (OGI) cameras can detect fugitive emissions of industrial gases using the high-sensitivity gas detection functionality. This feature, based on advanced image processing techniques, allows to show these invisible gases as clouds of smoke highlighted against the background scenario.

RedLook analytics is delivered for post-processing of the radiometric or compressed video acquired during the measurement campaign. RedLook is the software application that runs in the control computer. It is an application developed for Smart Optical Gas Imaging processing and data management for SENSIA instruments oriented to LDAR campaigns.

RedLook provides advanced functionalities devoted to enhancing the detection of fugitive emissions such as different gas processing algorithms and automatic image contrast control, among a wide range of features.

HANDHELD CAMERAS
sensia-solutions.com/caroline-y-on-board/

Caroline Y On Board

OGI for unmanned aircraft surveys

Caroline Y On Board is SENSIA's latest model of Optical Gas Imaging (OGI) for unmanned aircrafts surveys. This thermal camera based on an Uncooled detector is able to detect fugitive emissions of methane (CH4), SO2 and VOC's leaks down to 1,4 g/h of CH4

The system is provided with the RedLook On Board and ground SW.

Specifications	
FPA	Uncooled 640 x 480 px
Pixel Pitch	17 µm
NETD	<22mK @ +30°C
Spectral Region	LWIR
Lenses	18°x13° (35 mm)
Raw Video Data	14 bits
Data Protocol	USB (optional: GigE)
Camera Control	Serial (optional: Ethernet)
Power	<3W
Voltage	5 V (USB)
Material	6068 Aluminium
Weight	640 g
Size	66 x 77 x 110 mm
Mechanical Interface	1/4 '' UNC
Operating Temp. Range	-10°C to +50°C
Storage Temp. Range	-40°C to +71°C
Minimum Detectable Leak Rate (CH4)	1,4 g/h*
Max. relative humidity	95%
Certifications	IP65 (EN 60529:2018) EMC (EN 61326:2013)

* ΔT gas-background >5 °C and orifice diameter 1/4"

Gas Quantification

Intelligent Thermography

HANDHELD CAMERAS
sensia-solutions.com/mileva-33-on-board/

Mileva 33 On Board

OGI for unmanned aircraft surveys

Mileva 33 On Board is SENSIA's latest model of Optical Gas Imaging (OGI) for unmanned aircrafts surveys. This high-sensitivity OGI is the perfect tool for aerial detection of fugitive emissions of VOCs.

The system is provided with the RedLook On Board and ground SW.

Specifications	
FPA	Low SWaP Cooled MWIR 640x512 with cold filter
Pixel Pitch	15 µm
NETD	<15mK @ +50°C
Spectral Region	3.2 to 3.4 µm
Lenses	18°x13° (35 mm)
Raw Video Data	15 bits
Data Protocol	USB (optional: GigE)
Camera Control	Serial (optional: Ethernet)
Power	Cooler: <12 W (Cooldown) / <5 W (nominal) / Electronics: 1W
Voltage	Cooler 8-16 VDC / Electronics: 5 VDC (USB)
Material	6068 Aluminium
Weight	890 g
Size	75 x 80 x 250 mm
Mechanical Interface	1/4 '' UNC
Operating Temp. Range	-10°C to +50°C
Storage Temp. Range	-40°C to +71°C
Minimum Detectable Leak Rate (CH4)	0,35 g/h*
Max. relative humidity	95%
Certifications	IP65 (EN 60529:2018) EMC (EN 61326:2013) EPA 0000a COMPLIANCE

* ΔT gas-background >5 °C and orifice diameter 1/4"

Gas Quantification

Intelligent Thermography

HANDHELD CAMERAS
sensia-solutions.com/mileva-33-320-on-board/

Mileva 33-320 On Board

OGI for unmanned aircraft surveys

Mileva 33-320 On Board is SENSIA's latest model of Optical Gas Imaging (OGI) for unmanned aircrafts surveys. This high-sensitivity OGI is the perfect tool for aerial detection of fugitive emissions of VOCs

The system is provided with the RedLook On Board and ground SW.

Specifications	
FPA	Cooled 320 x 256 px
Pixel Pitch	30 µm
NETD	<10mK @ +50°C
Spectral Region	3.2 to 3.4 µm
Lenses	22°x17° (25 mm)
Raw Video Data	15 bits
Data Protocol	USB (optional: GigE)
Camera Control	Serial (optional: Ethernet)
Power	Cooler: <12 W (Cooldown) / <5 W (nominal) / Electronics: 1W
Voltage	Cooler 8-16 VDC / Electronics: 5VDC (USB)
Material	6068 Aluminium
Weight	1,4 kg
Size	55 x 80 x 250 mm
Mechanical Interface	1/4 '' UNC
Operating Temp. Range	-10°C to +50°C
Storage Temp. Range	-40°C to +71°C
Minimum Detectable Leak Rate (CH4)	0,35 g/h*
Max. relative humidity	95%
Certifications	IP65 (EN 60529:2018) EMC (EN 61326:2013) EPA 0000a COMPLIANCE

* ΔT gas-background >5 °C and orifice diameter 1/4"

Gas Quantification

Intelligent Thermography

02

Handheld Cameras

The most advanced Smart Monitoring Technology

SENSIA's handheld Optical Gas Imaging (OGI) cameras have been specifically designed to detect fugitive emissions in LDAR campaigns. These OGI cameras are spectrally tuned to aim for different target gases, and as with the fixed cameras, they are divided in cooled and uncooled solutions. Methane fugitive emissions generated by the Oil & Gas industry during normal operation contribute in a relevant amount to the total greenhouse emissions released in the world. As a part of the mitigation process to reduce this fugitive emissions, the SENSIA's Optical Gas Imaging (OGI) technology has gained high relevance in the industry. SENSIA's handheld cameras can be used to inspect components, storage tanks and natural gas-driven pneumatic controllers at well production facilities, natural gas compressor stations, and natural gas processing plants (storage tanks only) under the Leak Detection and Repair (LDAR) requirements.