Cylinder Asset Monitor (CAM) Pressure Remote Gen 2 (Model # CAM-PR2) User Manual

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DISCLAIMER

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Contents

1. Safety Information

Please read and understand the User Manual completely before installing and operating a Cylinder Asset Monitor (CAM) Pressure Remote, including all local safety procedures and policies. See Regulatory Statements at the end of this document for more information.

1.1. General Warnings

The warnings in this manual supplement the safety policies of the user's company and local authorities. All users should be thoroughly trained in:

- The safety policies of their company.
- Relevant safety equipment within the area.

This manual should be kept with the CAM Pressure Remote and be available for use.

1.2. Hazardous Location Use Warnings

This User Manual applies to CAM Pressure Remote Gen 2 only. Please check the label on the back of your unit to confirm that the model number is "CAM-PR2".

⚠ Only CAM-PR2, CAM Pressure Remote (Gen 2) is certified to be used in the Hazardous Locations. Do not use CAM-PR, CAM Pressure Remote (Gen 1) in Hazardous Locations. Please check the label on the back of your unit to confirm that the model number is "CAM-PR2".

⚠ **WARNING** – POTENTIAL ELECTROSTATIC CHARGING HAZARD – SEE INSTRUCTIONS
AVERTISSEMENT – DANGER POTENTIEL DE CHARGES ÉLECTROSTATIQUES - VOIR INSTRUCTIONS

⚠ **WARNING** – DO NOT OPEN WHEN AN EXPLOSIVE ATMOSPHERE IS PRESENT
AVERTISSEMENT – NE PAS OUVRIR EN CAS DE PRESENCE D'ATMOSPHERE EXPLOSIVE

⚠ **WARNING** – DO NOT REPLACE BATTERY WHEN AN EXPLOSIVE ATMOSPHERE IS PRESENT
AVERTISSEMENT – NE PAS REMPLACER LES ACCUMULATEURS SI UNE ATMOSPHÈRE EXPLOSIVE PEUT ÊTRE PRÉSENTE.

⚠ Do not use store bought AA batteries. Use only those provided by Airgas for use with CAM Pressure Remote (Gen 2).

1.3. Hazardous Location Use Instructions

The CAM Pressure Remote Gen 2 should be fixed and secured in installation.

The CAM Pressure Remote Gen 2 utilizes external non-metallic materials which pose a potential electrostatic charging hazard. Care should be taken when handling electrical devices to minimize ESD exposure. Avoid carpets in cool, dry areas as well as other static generating materials such as plastic, paper, or cardboard. Dissipate static electricity before handling the digital gauge by touching a well-grounded metal object, such as the system unit unpainted metal chassis. If possible, use antistatic devices, such as wrist straps and floor mats.

The CAM Pressure Remote Gen 2 has a capacitance 2031.1pF in excess of 3pF for metal pressure sensor head and may pose electrostatic charging hazard. All metal parts of the instrument must be connected to ground through < 1GΩ impedance or the user must determine the suitability for the specific application.

1.4. Product Users

The CAM Pressure Remote is not to be used by untrained operators. Users must be trained in the following, as a minimum:

- Operation of the unit.
- Handling of hazardous gases and liquids.
- Handling of gases and liquids under pressure.
- Electrical safety precautions.
- Relevant safety equipment including, Personal Protective Equipment (PPE), cylinder hand carts & cylinder restraints, fire alarm & extinguishing systems or other relevant alarm systems.
- Emergency shutdown procedures, switches, valves or other devices to safely isolate the system
- Hazardous Location policies, if used in Hazardous Locations..

1.5. Personal Protective Equipment (PPE)

All personal protective equipment should be of safe design and construction, and should be maintained in a clean and reliable fashion. It should fit well and be comfortable to wear. If the personal protective equipment does not fit properly, it can make the difference between being safely covered or dangerously exposed. It is recommended that

wearing hand and eye protection be used when handling or servicing CAM devices.

1.6. Cylinder / Vessel Handling

When used with cylinders, the user should observe cylinder / vessel handling precautions. Cylinders or other vessels may contain hazardous liquids or gases under high pressure. Improper handling could release hazardous material to the environment and cause dangerous projectiles. Only properly trained personnel should handle cylinders and other vessels.

Whenever a cylinder is being moved, cylinder caps should be installed to protect the valve stem. If the valve stem is broken or damaged serious personal injury or death may result. All cylinders, full or empty, should be moved only when secured to a hand cart. Once placed in position a cylinder should be chained to a secure object or wall to prevent accidental knock over or other cylinder damage. All facility, local and state codes and standards that apply to cylinder handling, storage or use should also be followed when working with cylinders or other vessels.

⚠ **Ensure that the cylinder(s) are securely attached to a wall bracket or cylinder stand.** Always keep the cylinder cap on when moving cylinders. Take extra care to ensure the cylinder does not tip over. Do not remove the cylinder cap until the cylinder is completely secure.

1.7. Safety Precautions

It is important to read and follow all note, precautions and warnings before setting up, installing and operating a CAM instrument:

- Some gas mixtures are dangerous. This includes mixtures that occur because of contamination.
- To prevent a dangerous release of pressure, isolate and bleed the system before you disconnect a pressure connection.
- This device has not been designed, tested or approved for use in any medical or nuclear application.
- Never operate CAM devices outside of the recommended use outlined in this manual.

1.8. Electrical Hazards

Guidelines vary on when work on energized systems may be authorized. All users should read and understand all, facility, local and state relevant guidelines and mandates.

⚡ Care should be taken when handling electrical devices to minimize ESD exposure:

- Avoid carpets in cool, dry areas as well as other static generating materials such as plastic, paper, or cardboard.
- Dissipate static electricity before handling the digital gauge by touching a well-grounded metal object, such as unpainted metal chassis. If possible, use antistatic devices, such as wrist straps and floor mats.

⚠ Do not use store bought AA batteries. Use only those provided by Airgas for use with CAM Pressure Remote (Gen 2).

⚡ Lithium primary batteries may get hot, explode or ignite and cause serious injury if exposed to abusive conditions. Be sure to follow the safety warnings listed below.

- When installing lithium primary batteries, avoid touching the contacts and components.
- Immediately discontinue use of the battery if the battery emits an unusual smell, feels hot, changes color or shape, leaks or appears abnormal in any other way.
- Do not discharge the battery using any device except your CAM Pressure Remote.
- Do not place the battery in fire or heat the battery.
- Do not store batteries with other hazardous or combustible materials.
- Do not install the battery backwards.
- Do not connect the positive terminal and negative terminal of the battery to each other with any metal object (such as wire).
- Do not carry or store the battery together with metal objects.
- Do not pierce the battery with nails, strike the battery with a hammer, step on the battery or otherwise subject it to strong impacts or shocks.
- Do not solder directly onto the battery.
- Do not expose the battery to water or salt water, or allow the battery to get wet.
- Do not disassemble or modify the battery.
- Do not place the battery in microwave ovens or high-pressure containers.

⚠ To provide maximum battery life, replace both lithium primary batteries at the same time.

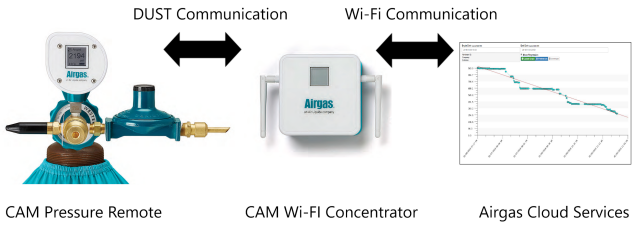
⚡ When disposing of lithium primary batteries, ensure proper disposal in accordance with Local and State Laws and Regulations.

2. Overview

Thank you for selecting the Airgas CAM system. The CAM system will help to streamline the process of measuring, reporting metrics, local temperature and manage no-runout delivery of high-pressure cylinders.

This CAM Pressure Remote is intended to be used on a pressurized system. This device helps to provide a management tool by providing 24 / 7 remote monitoring. Settings, usage, alarms and forecasting trends are implemented in the existing Airgas Web Dashboard.

For example, the Pressure Remote may be connected to a regulator of a compressed gas cylinder and acquires cylinder pressure, battery voltage, and temperature data. It then sends this data to the CAM Wi-Fi Concentrator (show below) or Max gateway (not shown). The CAM Wi-Fi Concentrator or Max Gateway then collects and forwards the data acquired to the Airgas Cloud Services (ACS) Database, where it is accessible through the Airgas Web Dashboard.



The CAM Pressure Remote is available in 2 versions listed below:

- CAM-PR, CAM Pressure Remote (Gen 1)
- CAM-PR2, CAM Pressure Remote (Gen 2)

This User Manual applies to CAM Pressure Remote Gen 2 only.

⚠ Only CAM-PR2, CAM Pressure Remote (Gen 2) is certified to be used in the Hazardous Locations. Do not use CAM-PR, CAM Pressure Remote (Gen 1) in Hazardous Locations. Please check the label on the back of your unit to confirm that the model number is "CAM-PR2".

The CAM Pressure Remote will be available in 3 pressure transducer sizes listed below:

- 1/8" NPT
- 1/4" NPT
- 1/4" VCR

3. General Specifications

Description		Specification
Compatible Gases	Inert	Yes
	Corrosive	Yes
	Flammable	Yes
Performance	Pressure Accuracy	5% @ 25°C (77°F)
	Pressure Range	0 to 3000 PSI
	LCD Update Rate	5 Seconds (Configurable)
	Reporting Rate	5 Minutes (Configurable)
Environmental	Operating Temperature	-20°C to 60°C / -4°F to 140°F
	Shock & Vibration	Standard UT
Mechanical	Dimensions	75.74mm, 3" Orbital
	Fitting Sizes	1/4" & 1/8" NPT, 1/4" VCR
	Wetted Material	316L Stainless Steel
	Housing Material	Colorfast FRPCT2200
Electrical	Battery Supply	2 x AA 3.6v Li. Primary
	Battery Life	5 Years @ 5 Minute Reporting
	Display	LCD 128 x 128 Pixel
Communication	Protocol	IEEE 802.15.4e
	Connection Range	100ft Indoor / 300ft Outdoor
	Encryption	AES
Compliance	Hazardous Locations	Class I Division 1
	FCC	Part 15, Class C
	IC	TUV IC Compliant
	Safety	TUV EN 61010 Compliant

4. Getting Started

This section outlines how to setup and configure a CAM Pressure Remote with a CAM Wi-Fi Concentrator or Max Gateway. Please see the user manual for your specific device for details before installation and use.

Once your CAM instrument package is received, remove the packing list and verify that you have received all components. If you have any questions about the shipment, please call Airgas Retail Services.

Sales/Services: Airgas Retail Solutions: 1-800-329-0010

4.1. CAM Wi-Fi Concentrator Installation

This section is an overview of the Wi-Fi Concentrator installation. Please see the user manual for details before installation and use.

⚠ Only CAM-PR2, CAM Pressure Remote (Gen 2) is certified to be used in the Hazardous Locations. Do not use CAM Wi-Fi Concentrator in Hazardous Locations.

⚡ The CAM Wi-Fi Concentrator utilizes a USB Wall Adapter to power the device. Be sure to follow the safety warnings listed below:

- Do not use a different / non-approved USB Wall Adapter or Micro USB Cable other than what is provided.
- Avoid tampering with USB Wall Adapter, Micro USB Cable or CAM Wi-Fi Concentrator.

The first step to installing your CAM Wi-Fi Concentrator is to supply power to it. This involves the following steps:

- Connect the Micro USB Cable (USB end) to the USB Wall Adapter.
- Connect USB Wall Adapter to the power outlet.
- Connect the Micro USB Cable (Micro USB end) to the CAM Wi-Fi Concentrator.


Connect the USB Mini Cable to the AC Adapter.


Plug the AC Adapter into a nearby electrical outlet.


Connect the Mini USB Cable to the Wi-Fi Concentrator.

At power up, the company logo will appear on the CAM Wi-Fi Concentrator screen for 15 seconds. The following illustrate sequence screens of CAM Wi-Fi Concentrator during power up:

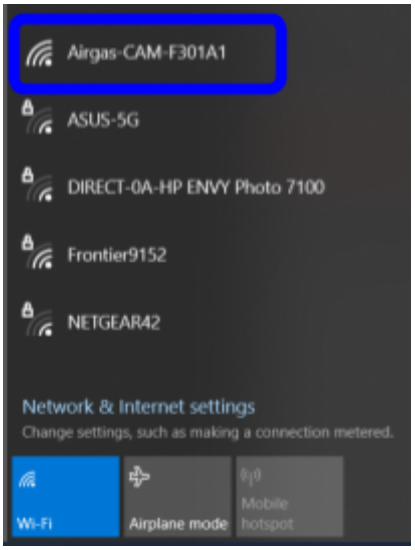
If the unit has already been assigned to an Wi-Fi network Access Point (AP) and it is available, it will automatically connect. If an AP has not been assigned, see section on connecting to Wi-Fi.

- If/When connected to an AP, the Wi-Fi network SSID will be displayed in the middle of the LCD screen.
- Signal bars will indicate the signal strength of CAM Wi-Fi Concentrator associated with Wi-Fi router. The closer the device is to the Wi-Fi router, the higher the signal strength.
- 00:00 PM AM Shows time of day in hours and minutes. Shortly after the unit connects to the network, the time will be updated. The time will be updated to an offset from Greenwich Mean Time (GMT) after Provisioning.
- L Will be displayed as soon the device is connected to the Wi-Fi network selected by the customer.
- D Will indicate the data flow between the device and Airgas infrastructure.

4.2. Connecting CAM Wi-Fi Concentrator to Wi-Fi

If your CAM Wi-Fi Concentrator has not been assigned a Wifi AP, the display will show “Pick WiFi AP”.

Begin by connecting to your CAM Wi-Fi Concentrator using a Wi-Fi enabled smartdevice, such as a computer, smartphone or tablet. In your smart device’s Wi-Fi settings, connect to the Wi-Fi network name that starts with “Airgas-CAM”. If multiple exist, connect to the one that ends with the same MAC as displayed on the CAM Wi-Fi Concentrator’s LCD.

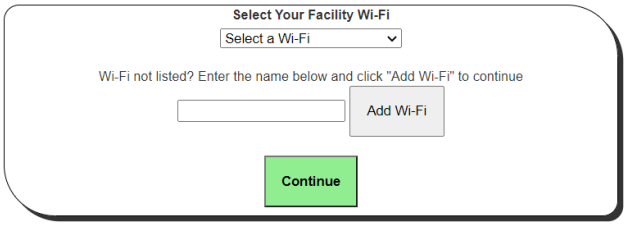


Once you have connected to the CAM Wi-Fi Concentrator , open a web browser and go the Wi-Fi connectivity profile setting web page by entering the following address:

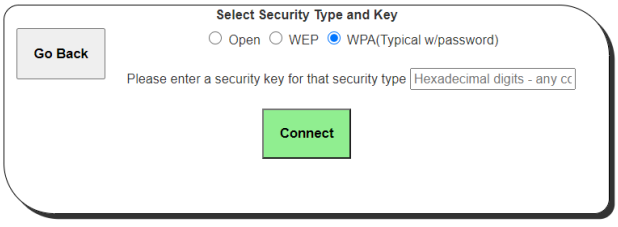
http://airgas.cam.net

When web page is loaded, you will select your language:

Then select an AP from the "Select a Wi-Fi" drop down menu for the CAM Wi-Fi Concentrator to connect to, then click "Continue". You may also type into the Add Wi-Fi Box and select Add Wi-Fi.



You will then be prompted to enter security information, and then click "Connect"



When the Wi-Fi concentrator attempts to connect using the information you provide, you will be disconnected from the CAM Wi-Fi Concentrator. Upon successful connection, you will see the SSID of the AP you selected displayed on the LCD. Otherwise, repeat the from the beginning to retry. Also, please see the WiFi Concentrator's user manual for details.

4.3. Max Gateway Installation

The Max Gateway is a pre-configured cellular plug and play device. Once the Max gateway is plugged into the AC power outlet, there is no further set up steps required. Please see the user manual for details before installation and use.

⚠ Only CAM-PR2, CAM Pressure Remote (Gen 2) is certified to be used in the Hazardous Locations. Do not use Max Gateway in Hazardous Locations.

4.4. CAM Pressure Remote Power up

In this section, the operator / user of the device will gain access to the internal compartment of the CAM Pressure Remote. A screwdriver is supplied in the maintenance kit, it must be used to gain access to the internal compartment of the CAM Pressure Remote.

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Powering up the Pressure Remote involves the following steps:

1. Open the CAM Pressure Remote by removing the 4 screws on the front cover of the CAM Pressure Remote using the provided screwdriver.
2. Insert two Lithium primary batteries into the battery compartment.

⚠ The lithium primary batteries should be in the same direction as shown in the picture.

3. Replace front cover of CAM Pressure Remote.
4. Insert the 4 screws back on the front cover of the CAM Pressure Remote using the provided screwdriver.

⚠ The same four screws removed in this procedure must be re-installed into the CAM Pressure Remote housing to ensure a proper seal, and maintain Hazardous Location rating.

You should see the LCD screen display the initial data shown here:

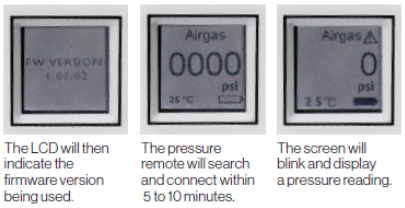


Figure 10: CAM Pressure Remote LCD

Figure 11: CAM Pressure Remote Connection to CAM Wi-Fi Concentrator or Max Gateway

- Network icon blinks while in network negotiation and it will stop blinking and remain on after it successfully connects to the CAM Wi-Fi Concentrator or Max Gateway.
- ⚠ This icon is only displayed if the pressure is outside of the configurable alarm range settings.
- 0 Displays the pressure measurement.
- Indicating battery level.
- 25 °C This icon indicates the environment temperature in degrees Celsius.

4.5. Provisioning

Once the CAM Pressure Remote has been set up. Please contact Airgas Retail Solutions to provision the CAM System with your
CAM Pressure Remote Media Access Control ID (MAC ID) (*See Figure 12*).

Figure 12: CAM Pressure Remote MAC ID location.

Sales/Services: Airgas Retail Solutions: 1-800-329-0010

4.6. CAM Pressure Remote Installation & Mounting

Please apply precautionary safety procedures during installation. Users must be trained in their companies' safety procedures and local authorities' policies. When installing in Hazardous Locations, users must be trained and follow all procedures and requirements of such location.

The CAM Pressure Remote may be installed on various different kinds of pressurized system. This user manual will provide simple instructions on installing with some regulators. Please refer to your system's manual for more detailed instructions. You may also reach out to us for questions specific to your setup.

Sales/Services: Airgas Retail Solutions: 1-800-329-0010

When installing the CAM Pressure Remote Gen 2 in Hazardous Location, grounding requirements must be observed and met. If/When needed, add a washer with proper grounding.

4.6.1. CAM Pressure Remote Installation with an Regulator

The CAM Pressure Remote may come in various connection sizes. Good piping practices are required. Always use Teflon tape or pipe sealant on the threads. It is recommended to use a wrench on the wrench flat of the unit to tighten.

⚠ **Never tighten gauge threads by holding the plastic body of the CAM Pressure Remote**. Doing so will damage the device. Always tighten the unit by the metal portion instead of the plastic enclosure.

4.6.2. CAM Pressure Remote Installation with a Helium Regulator

Please apply precautionary safety procedures during installation. This involves the following steps:

1. If not already installed, attach CAM Pressure Remote to the regulator per instructions above
2. Attach helium regulator to cylinder.

⚠ Do not carry the regulator by the CAM Pressure Remote. This could cause undue stress to the unit.

3. Only use the hand tight wheel on the helium regulator to tighten to the cylinder.
4. Once the hand tight wheel is tight, apply pressure from the cylinder.

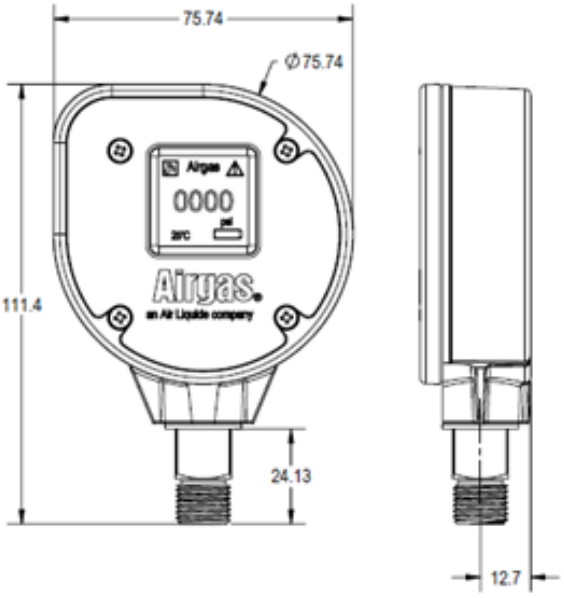
Note: Visually check O ring on stem of regulator for wear with each cylinder change to reduce helium loss (O ring is potentially one of the common failed parts of a regulator. Replace as necessary).

5. Operating Procedure

There is no operation and interaction required for the CAM Pressure remote.

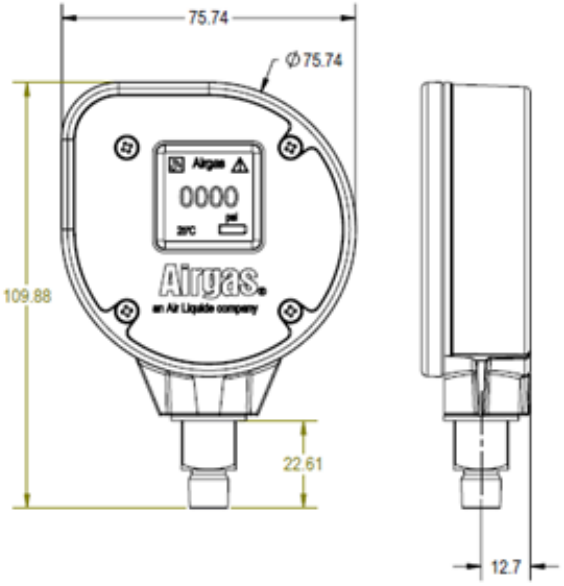
6. Product Dimensions

6.1. CAM Pressure Remote with 1/4NPT Transducer (CAM-PRx-x1 & CAM-PRx-x2)



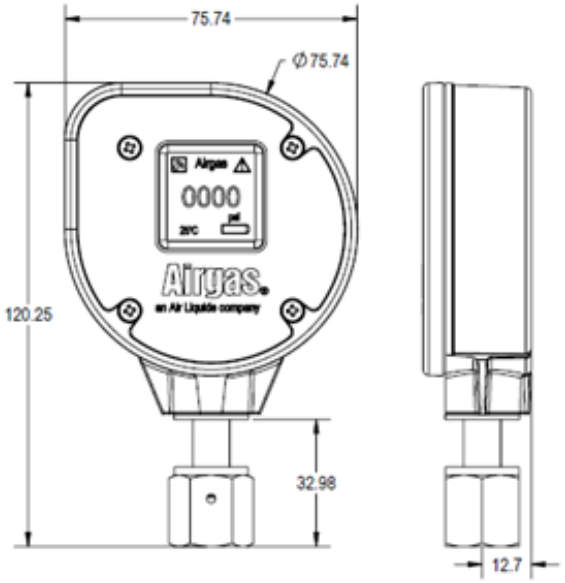
(Measurements in mm)

6.2. CAM Pressure Remote with 1/8NPT Transducer (CAM-PRx-x3)



(Measurements in mm)

6.3. CAM Pressure Remot with 1/4VCR Transducer (CAM-PRx-x5)



(Measurements in mm)

7. General Maintenance & Contacting Airgas

Preventative maintenance, when properly performed, will help to ensure that the system continues to operate properly. The system should be inspected periodically so that defects can be corrected before they result in failure.

The scheduling of preventative maintenance checks and services should be based on the operating environment and the frequency of operation of the system. All safety procedures and warnings should be observed to prevent injury to yourself and others while servicing or maintaining the system.

In order to achieve the maximum communication range, the CAM Pressure Remote and CAM Wi-Fi Concentrator or Max gateway should be free of all obstacles in line-of-sight. It is important to understand that the environment might change over time. If communication becomes limited move CAM Wi-Fi Concentrator or Max Gateway to find an ideal location. Please see the user manual for details.

7.1. Component Maintenance

The CAM Pressure Remote has been built, tested and factory calibrated to meet the specifications. If the CAM Pressure Remote requires service, please contact Airgas Retail Solutions.

Sales/Services: Airgas Retail Solutions: 1-800-329-0010

⚠ **WARNING** – DO NOT OPEN WHEN AN EXPLOSIVE ATMOSPHERE IS PRESENT
AVERTISSEMENT – NE PAS OUVRIR EN CAS DE PRESENCE D'ATMOSPHERE EXPLOSIVE

7.2. Return Material Authorization

If the CAM Pressure Remote is no longer functioning as intended, please contact an Airgas Retail Solution Representative to assist in creating a Return Material Authorization (RMA).

Sales/Services: Airgas Retail Solutions: 1-800-329-0010

The steps involved will be to:

1. Troubleshoot device to see if it can be resolved at the location.
2. If not, a new device will be shipped to the location. At this point the user will need to revert to manual inventory monitoring.
3. Once a new device has been delivered, it will need to be configured following the procedures outlined in the document.

7.3. Contacting Airgas

Engineered Solutions Group
21610 Alexander Rd.
Oakwood Village, OH 44146
Phone: 440.232.7242 / 800.282.1524
Fax: 440.232.7799

Airgas Research & Development
180 Sandbank Rd.
Cheshire, CT 06410
Phone: 203.272.5800

Airgas Retail Solutions
7401 114th Ave.
Largo, FL 33773
Phone: 727.341.8207 / 800.329.0010

8. Regulatory Statements & Labels

8.1. Product Labels

CAM Pressure Mote Gen 2 Model # CAM-PR2
Airgas USA, LLC
184 Sandbank Rd, Cheshire, CT 06410, USA
Conforms to UL STD 60079-0, 60079-11 & 61010-1.
Certified to CSA STD C22.2#60079-0, 60079-11 & 61010-1
CSA Cert. No. ETL21CA104530669X
Class I Division 1 Groups A-D T4 IP55
Class I Zone 0 AEx ia IIC T4 Ga IP55
Ex ia IIC T4 Ga
-20°C ≤ Ta ≤ 60°C
Intertek

FCC ID: 2ALBX-CAMPRMR02
IC: 22533-CAMPRMR02
This device complies with Part 15 of the FCC rules.
1. This device may not cause harmful interference.
2. This device must accept any interference received, including interference that may cause undesired operations.
Battery Supply: ⎓ 2 x AA 3.6VDC Primary
CAUTION: Note polarity of batteries ++
ATTENTION: Verfiez la polaritè devs pilzes ++
See instruction manual
Voir le manuel d'instructions

8.2. Regulatory Statements

8.2.1. FCC Statement

CAM Pressure Remote Gen 2

- FCC ID: 2ALBX-CAMPRMR02

47 CFR 15.19 –This device complies with Part 15 of the FCC rules. Operation is subject to the following two conditions:

1) This device may not cause harmful interference.
2) This device must accept any interference received, including interference that may cause undesired operations.

47 CFR 15.105 – This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio / TV technician for help.

47 CFR 15.21 – Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

47 CFR 15.18.213 – The CAM Pressure Remote may cause interference to radio equipment and should not be installed near maritime safety communications equipment or other critical navigation or communication equipment operating between 0.45-30 MHz.

8.2.2. Innovations, Science and Economics Development Canada ISEDC Statement

CAM Pressure Remote Gen 2

- IC ID: 22533-CAMPRMR02

Under Industry Canada regulations, this radio transmitter may only operate using an antenna of a type and maximum (or lesser) gain approved for the transmitter by Industry Canada.

To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the equivalent isotopically radiated power (e.i.r.p.) is not more than that necessary for successful communication.

Conformément à la réglementation d'Industrie Canada, le présent émetteur radio peut fonctionner avec une antenne d'un type et d'un gain maximal (ou inférieur) approuvé pour l'émetteur par Industrie Canada.

Dans le but de réduire les risques de brouillage radioélectrique à l'intention des autres utilisateurs, il faut choisir le type d'antenne et son gain de sorte que la puissance isotrope rayonnée équivalente (p.i.r.e.) ne dépasse pas l'intensité nécessaire à l'établissement d'une communication satisfaisante.

RSS-210 Warning Statement – The installer of this radio equipment must ensure that the antenna is located or pointed such that it does not emit RF field in excess of Health Canada limits for the general population; consult Safety Code 6, obtainable from Health Canada's website www.hc-sc.gc.ca/rpb.

RSS-GEN. ISSUE 4, SECTION 8.4 – This device complies with Industry Canada's license-exempt RSSs. Operation is subject to the following two conditions:

1) This device may not cause interference; and
2) This device must accept any interference, including interference that may cause undesired operation of the device.

8.2.3. TUV Statement

The Cylinder Asset Monitor CAM Pressure Remote has been tested to the (EN) 61010 standard by TUV Rheinland®.

9. Troubleshooting Guide

All users must read and understand this manual before attempting any operation or service of the CAM system. All users must be instructed in the proper use of all required personal protective equipment (PPE).

Identification / Problem	Description / Cause	Resolution
CAM Pressure Remote appears to stop working	Batteries in CAM Pressure Remote below working voltage causing the incorrect functionality	Batteries will need to be replaced in the CAM-PR
	Batteries exhibit corrosion in the CAM-PR2	Batteries will need to be replaced in the device, potential RMA
	Batteries polarity is incorrectly inserted	Batteries will need to have polarities rearranged
	Screw Threads become cross threaded when screwed in	Manual recommends not to over tighten screws
CAM-PR2 wires pulled out and no longer connected and may not function	Battery Wires are pulled out when CAM-PR2 is opened	Potential RMA if device is damaged
	Battery Wire Connector pulled out when CAM-PR2 is opened	Potential RMA or by connecting the connector back to the PCB
	Transducer Wires are pulled out when CAM-PR2 is opened	Potential RMA if device is damaged.
	Transducer Wire Connector pulled out when CAM-PR2 is opened	Potential RMA or by connecting the connector back to the PCB.
CAM-PR2 Digital gauge is decreasing pressure when not in use	Leaking gas out of Regulator	Use ACS to confirm, tighten or re-tape regulator, potential RMA of Regulator
	Leaking gas out of Regulator	Replace O-ring seal on regulator, Replace components or consult ARS. Potential RMA of Regulator