



ULTIMA X **SERIES**
GAS MONITORS

ULTIMA[®] XI

Infrared Combustible Gas Monitor

- MSA-designed infrared gas monitor
- 316 SS explosion-proof enclosure
- Detects most hydrocarbon based gases
- UL approved
- CSA and ATEX approval (pending)
- 4-20mA output
- 3-wire



ULTIMA XI

Infrared Combustible Gas Monitor

- Immune to poisoning
- Automatic compensates for humidity and temperature changes
- Operates in high-gas and low-oxygen environments
- No flashback arrestor/frit
- Failsafe operation
- Meets offshore requirements



ULTIMA XI

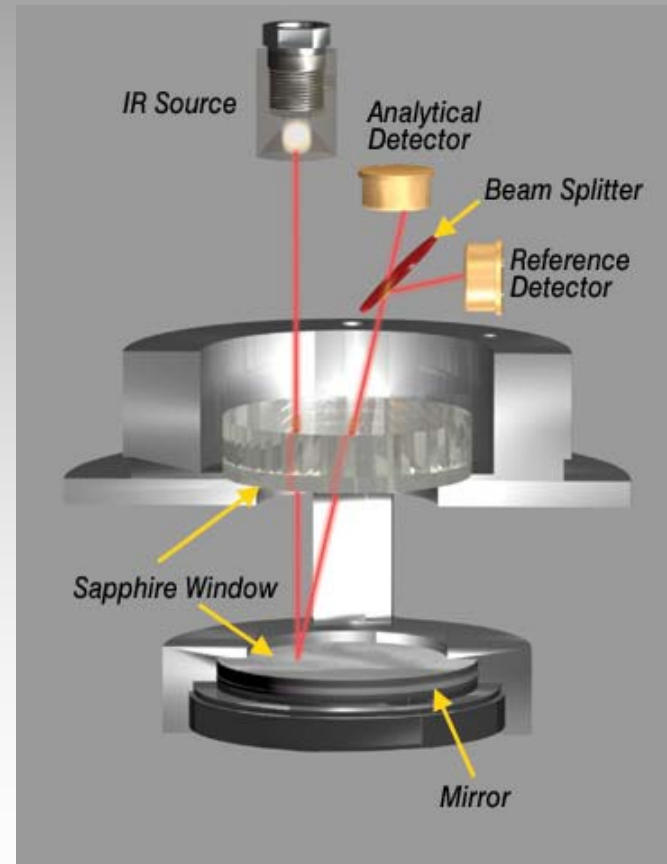
Specifications

- Combustible gases
0-100%LEL
- Extreme speed of response
T90 < 2secs
- Temperature range
-40°C - 60°C
- Linearity
< 2%LEL (<50%LEL)
< 5%LEL (>50%LEL)
- Weight
6.0 lbs



ULTIMA XI Technology

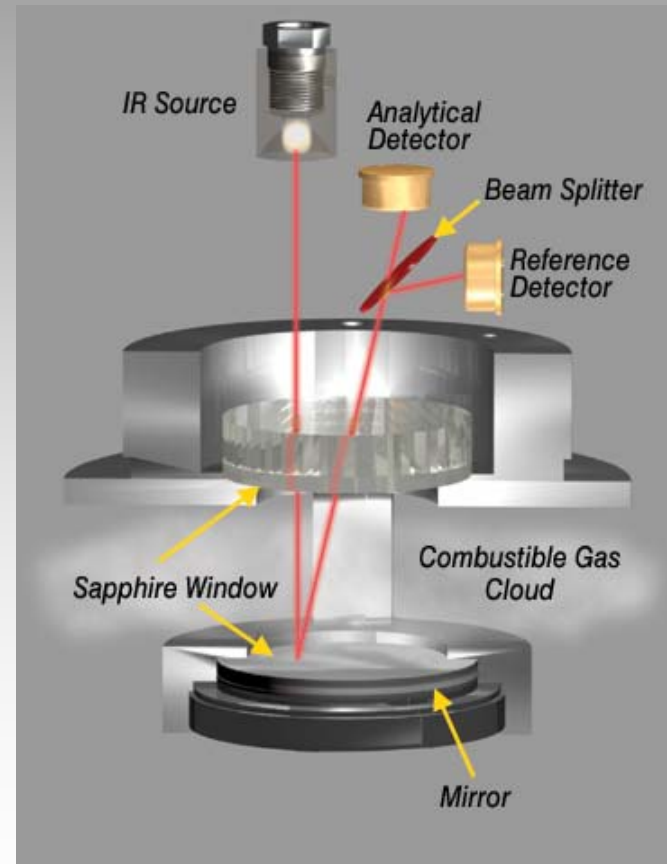
- The Ultima XI uses
 - an electronically modulated source of infrared energy
 - two detectors that convert the energy into electrical signals
- Each detector is sensitive a to different range of wavelengths in the infrared portion of the spectrum



ULTIMA XI

Technology

- As combustible gas enters the open volume, the intensity of the source emission:
 - reaching the analytical detector is reduced
 - reaching the reference detector remains the same
- The microprocessor measures the ratio difference and correlates to a %LEL reading



ULTIMA XI Calibration

- Patent-pending design
- Intrinsically-safe calibration cap
- True one-man calibration
- No-gas calibration provides zero and span adjustments
- No routine calibration required
- Calibration cap operates for over 100 calibrations



ULTIMA XI Calibration

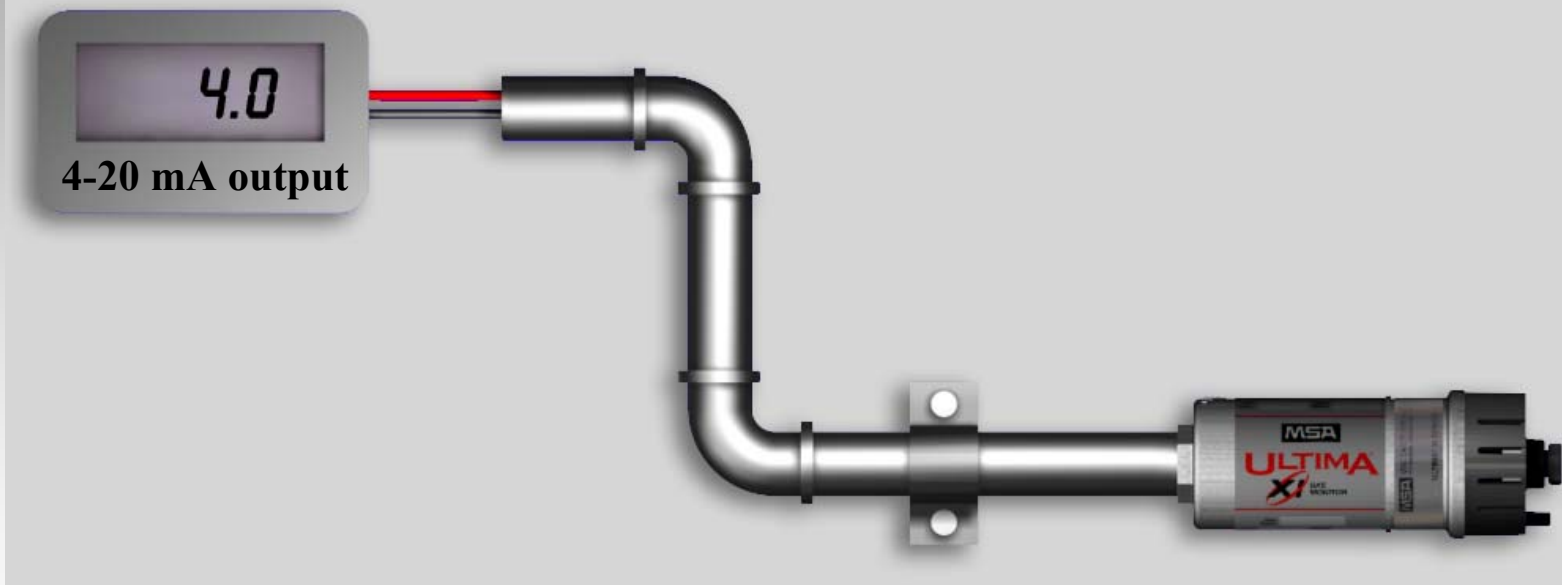


- A zero adjustment is all that is required for a full calibration
- Degradation of the sensor's performance is associated with slight drifts in the zero response which in turn adversely affect the span response
- Restoring the sensor's zero response also restores its span response
- A span check should be performed after completion of the zero adjustment
- A full calibration (zero & span) can always be performed

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Calibration Simulation

Measure Mode

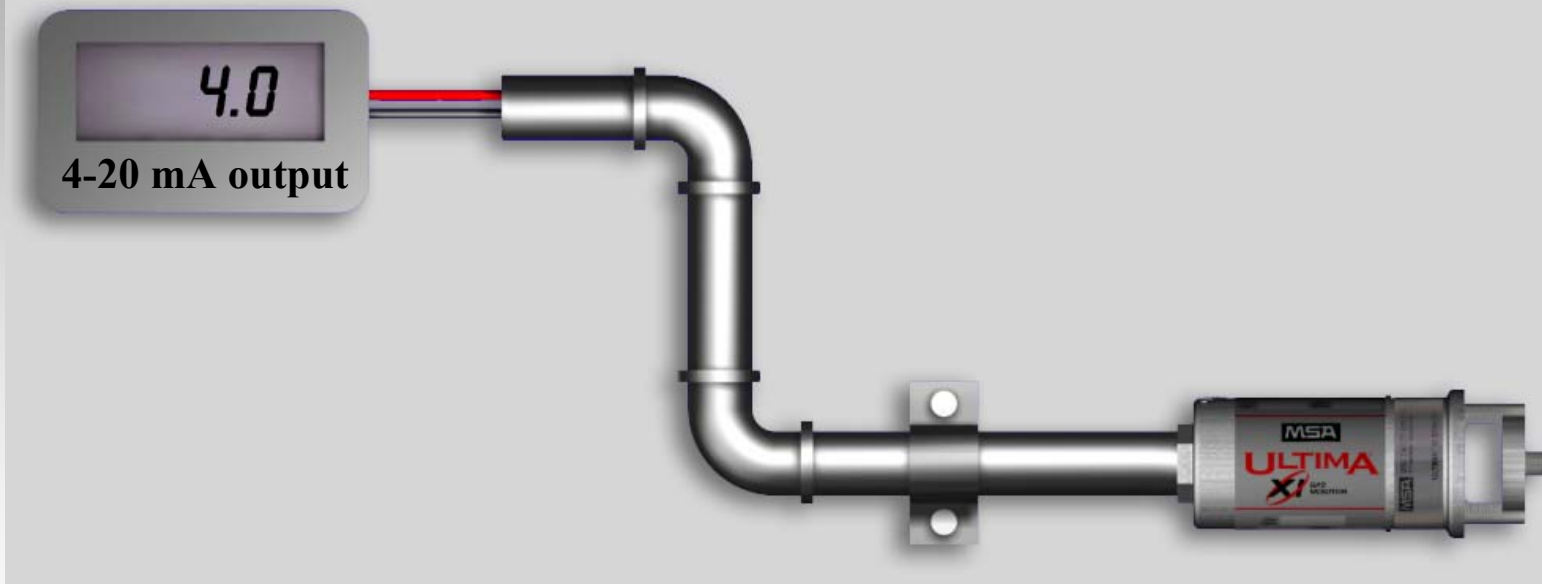


Standard measure mode consists of the Ultima XI Gas Monitor with the environmental guard in place and a 4-20mA output.

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Calibration Simulation

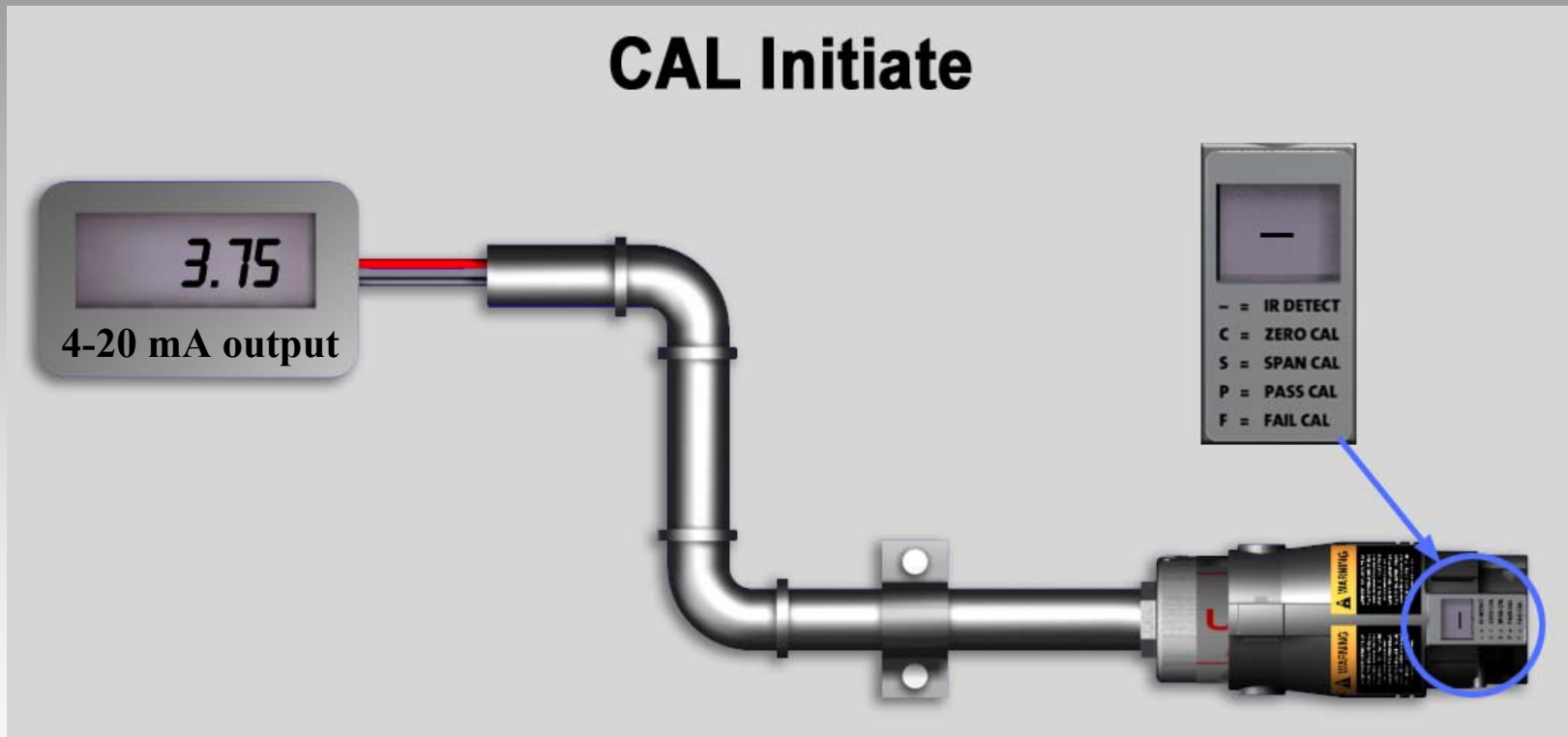
Remove Guard



Calibration is started by removing the environmental guard from the Ultima XI.

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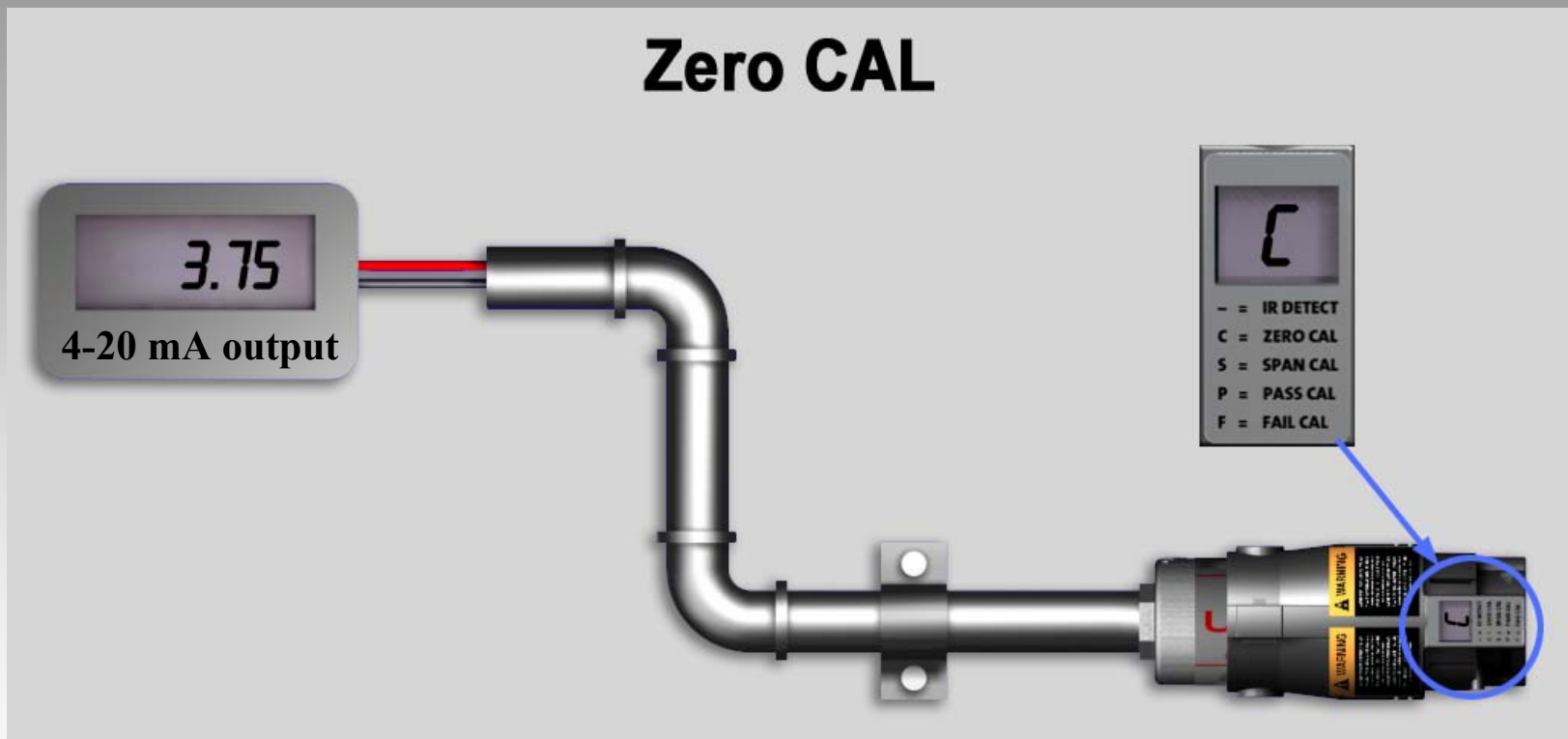
Calibration Simulation



Place the calibration cap onto the Ultima XI. The display will flash “—”, indicating calibration is starting, and the 4-20mA output will drop to 3.75mA.

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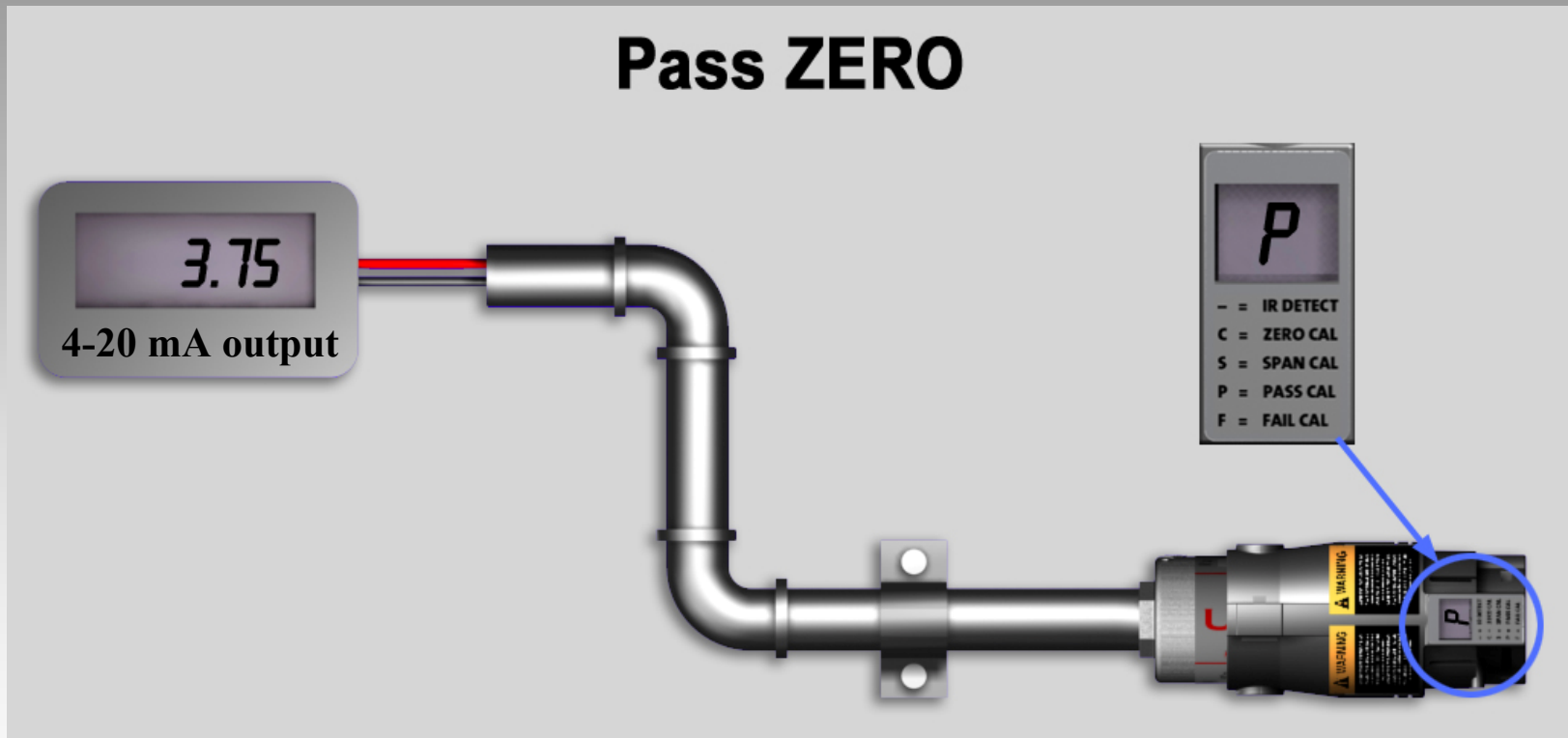
Calibration Simulation



A zero calibration is automatically initiated, with the display indicating a “C”. A zero calibration takes approximately 60 seconds to complete.

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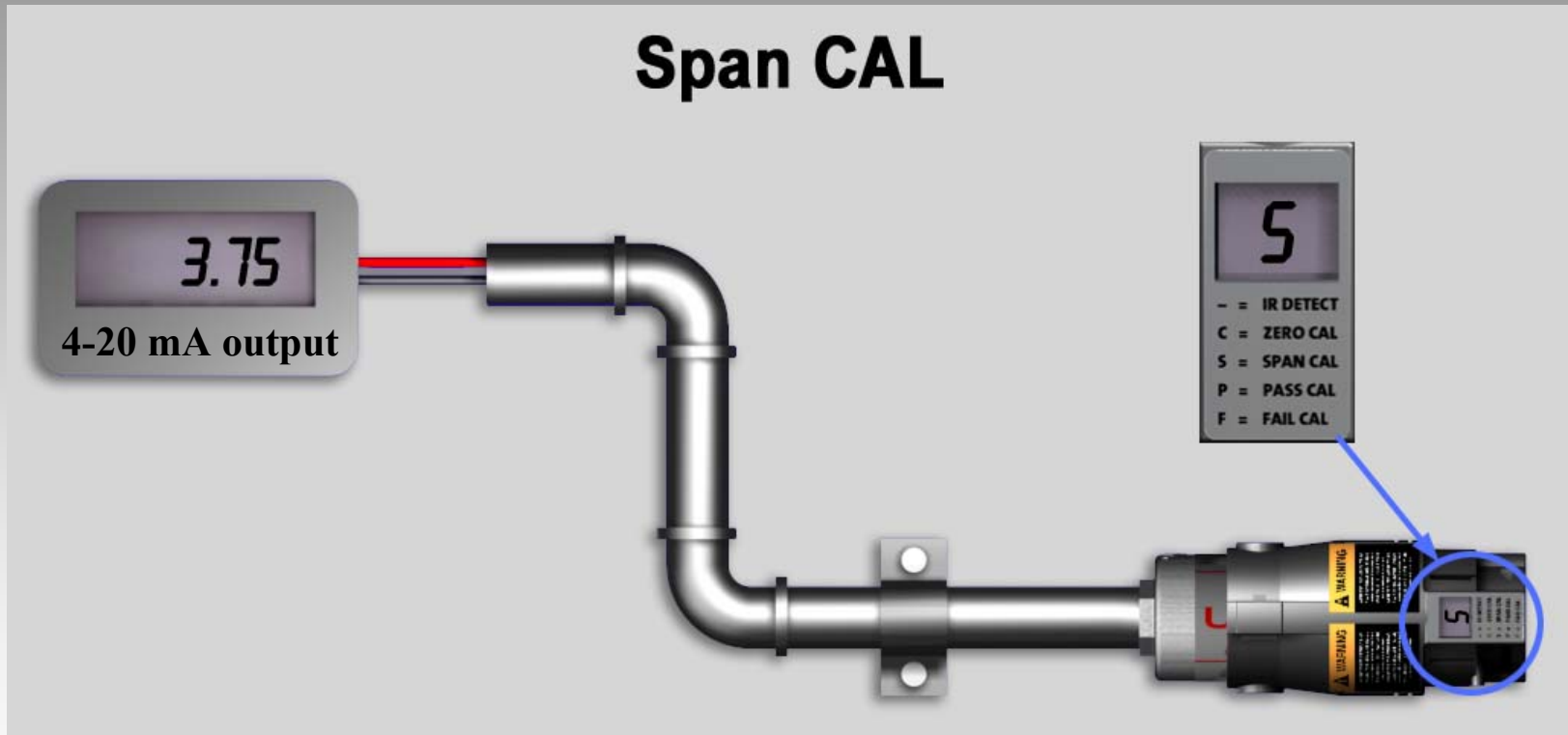
Calibration Simulation



If the zero calibration was successful, the display will indicate “P”. If it is unsuccessful the display will indicate “F” and the unit will revert to it’s last successful zero calibration.

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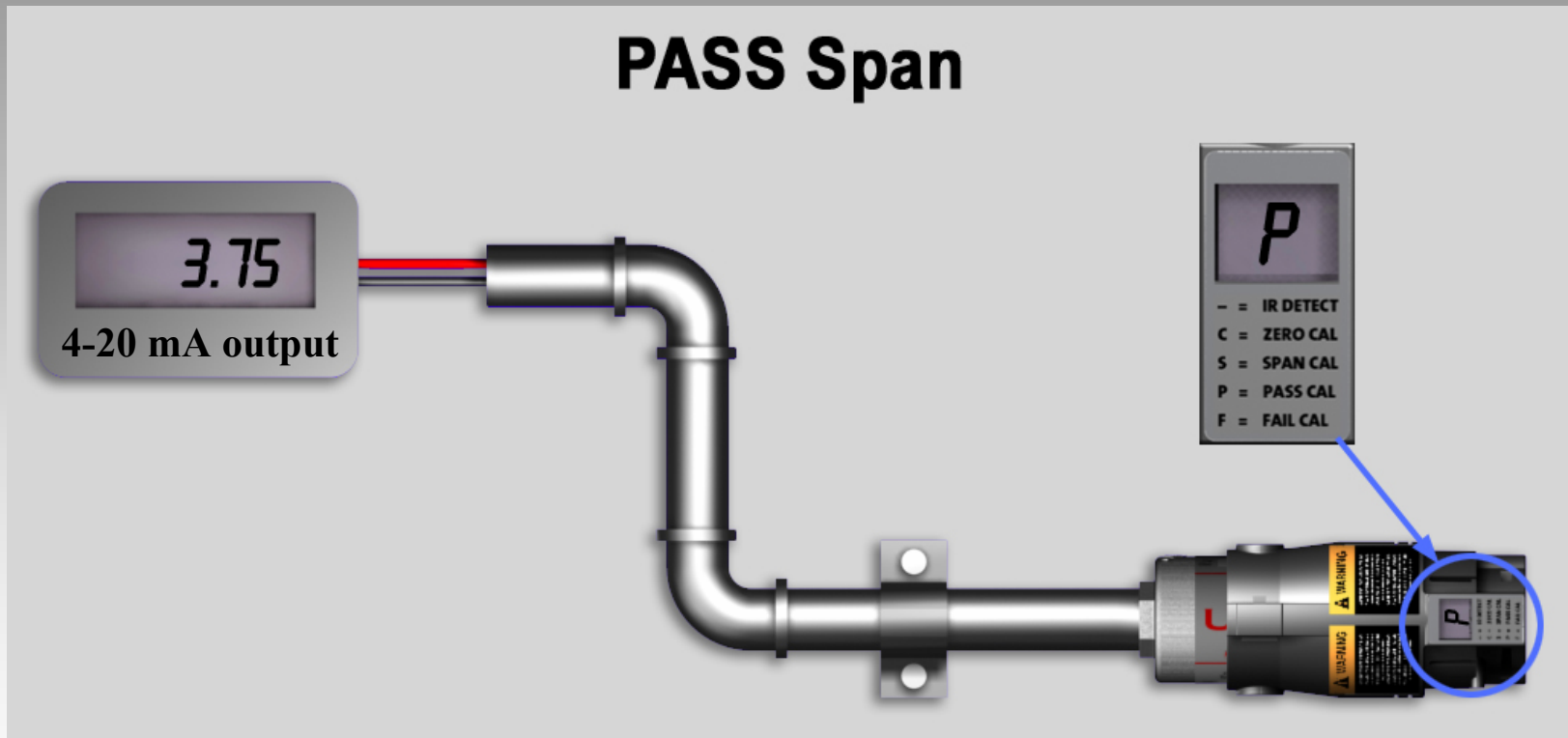
Calibration Simulation



After a successful zero calibration it is possible to perform a span calibration. Simple apply span gas within 30 seconds of the successful zero calibration and the cap will indicate “S” for initiation of a span cal.

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Calibration Simulation

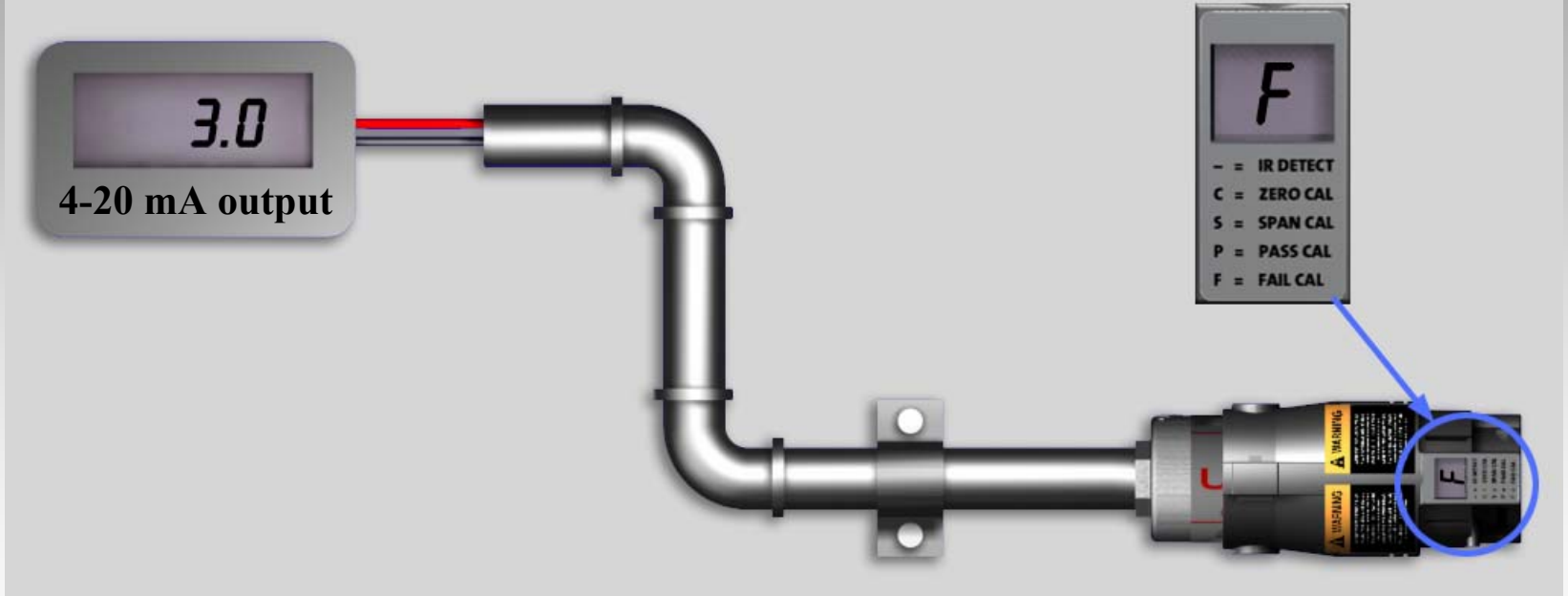


If the 60 second span calibration was successful, the display will indicate “P”. If it is unsuccessful the display will indicate “F” and the unit will revert to it’s last successful calibration.

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Calibration Simulation

CAL Cap on >15 Minutes After CAL



If the calibration cap is left on for longer than 15 minutes after a calibration, the 4-20mA output will drop to 3.0mA, indicating a fault status and the display will indicate a “F”.

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Options

- Sensor guard protects the sensor from dirt, water, etc., while allowing gas to penetrate into the unit
- Flow cap is used when there is a requirement to pump or pull a sample through the sensing module

