

Application

AC-25R-CO₂ low leakage control dampers employ a sturdy round frame, a single round blade for automatic air control, and a modulating Belimo actuator controlled by a duct-mounted CO₂ sensor.

General

The following guidelines provide basic setup and installation instructions for the AC-25R-CO₂ modulating damper with the duct sensor option.

Warnings

1. Read the installation instructions thoroughly before installing or servicing this equipment. Improper installation, adjustment, service, or maintenance may lead to property damage, injury, or death.
2. Disconnect the power supply to the damper before making any wiring connections to prevent the danger of electrical shock or equipment damage.
3. All wiring must comply with all applicable local and national, electrical and safety codes. Consult local codes for further guidance.
4. When picking where the fresh air intake is placed, be cautious of possible contaminants or blockages.

Receiving and Handling

Check for obvious and hidden package damage after receiving. Check to be sure that all parts of the shipment, including accessories, are in the package. Dampers must be kept clean and dry. Indoor storage and protection from dirt are highly recommended.

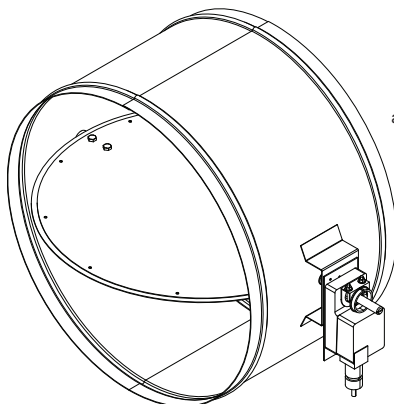
If there is a question about the condition of the damper or the installation process, please call customer service at 817-509-2300.

Storage of Dampers Before Installation

After visually inspecting the damper, store it indoors, and protect it from sunlight, moisture, and flooding. Protect dampers from debris and dirt accumulation. Keep all conduit plugs and actuator access covers in place.

Proper storage of the damper intends to prevent physical damage, material corrosion, and deterioration of organic material.

Note: It is the responsibility of the installer to verify the structural integrity of the existing structure to support the loads imparted by the damper.



Model AC-25R-CO₂
(standard)
*Damper dimensions furnished
approximately 1/8" (3) undersize.

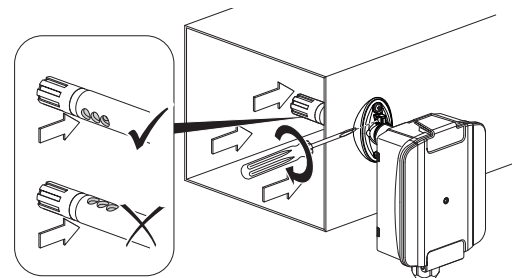
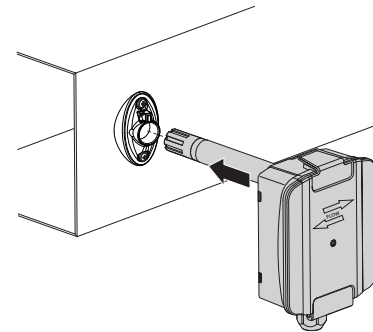
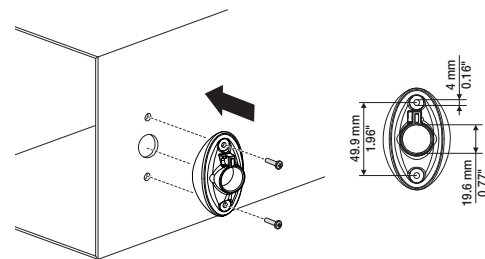
Don't's

1. Do not use the actuator or axle as a lifting point.

Installation Details

1. Align the damper with the existing duct work.
2. Verify the airflow direction.
3. Install and support the damper per all applicable SMACNA guidelines.
4. Mount the sensor in the duct within the manufacturer's guidelines.
5. Wire the actuator into the transformer.
6. Wire the sensor into both the actuator and transformer.
7. Wire transformer into the 120V building power.
8. Restore power to the system.
9. Verify the movement of the blade after installation.
10. Follow the sensor commissioning process below.

Sensor Mounting



Sensor Commissioning

Note: The following will only be needed during the initial setup of the damper.

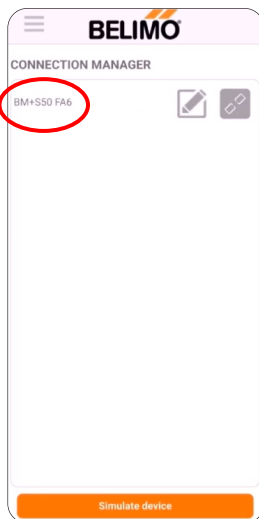
1. Download the Belimo Duct Sensor Assistant App from Google Play or the Apple App Store.



2. Connect the Bluetooth dongle to the duct sensor PCB.



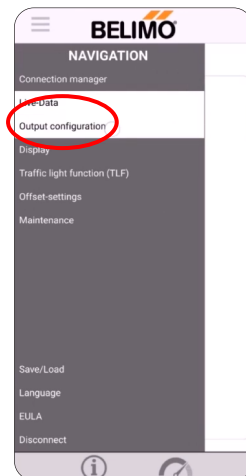
3. Open the Belimo Duct Sensor App.
4. Select the sensor from the Connection Manager.
 - a. Loads automatically when the app is launched.



5. Using the side menu, navigate to the LIVE-DATA information for the current sensor readings.



6. Back to the side menu, select the Output Configuration page.

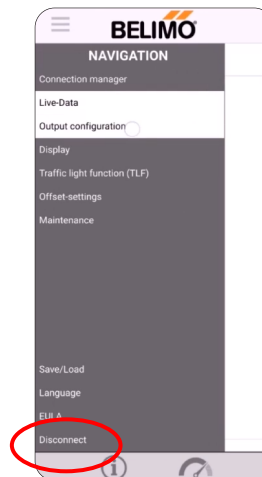


7. Adjust the CO₂ Range:
 - a. CO₂ Min: 800 ppm
 - b. CO₂ Max: 1,200 ppm

Note: The range can be set to anywhere between 0 ppm and 2,000 ppm, the above is recommended for proper functionality.



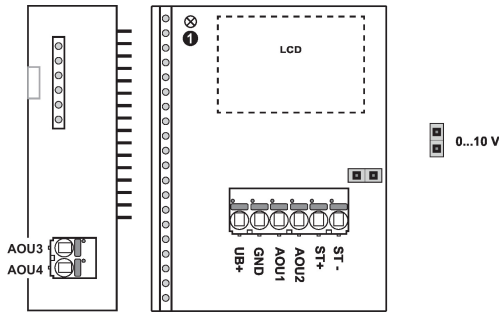
8. Disconnect the dongle and close the app.



9. For video instructions, visit the following link or the Belimo website:
<https://e.video-cdn.net/share?video-id=2hqyd1jxTLwaQ6BV-i1zjg&player-id=7M1TCJV-E7NekEUkhW4osh>

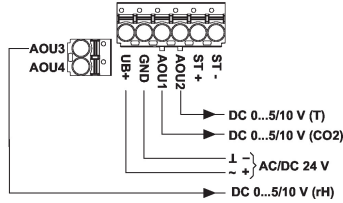


Wiring Diagrams

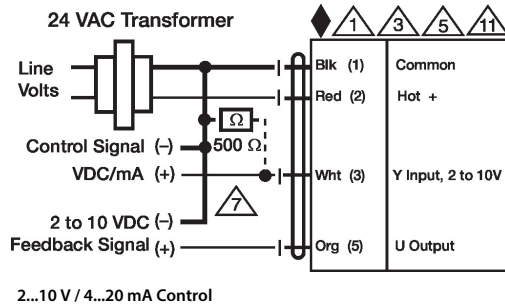


22DTM-11... / 22DTM-51..

3 x DC 0...5/10 V



CO₂ Duct Sensor Wiring Diagram



Actuator Wiring Diagram

Damper Maintenance

Foreign Matter

If needed, clean the damper with soap and warm water to remove dirt that may collect and cause hindrance to airflow.

Moving Parts

Make sure there is no obstruction to parts that are intended to move freely such as axles, blades, etc. Lubricate components to prevent possible friction increase. Use only a molybdenum spray oil or similar graphite-based oil on sleeve bearings as regular lubricating oil will attract dirt.

Closure

There should not be any foreign materials interfering with the bladed closure. Any interference may keep the damper from functioning properly.

Blade Seal

Replacement is recommended if the seal is damaged or worn to reduce the potential for leakage. Consult the factory for a replacement seal.

Actuator

Cycle test actuator per manufacturer's recommendations.

Sensor Calibration

Drifting will occur due to the aging process of components; however, the sensor is equipped with dual channel technology which allows for self-calibration. Manual calibration is not needed.