

GAS DETECTION SYSTEMS

Fixed Installation Type –

Beacon 110, Beacon 200, Beacon 410A, and Beacon 800



DESCRIPTION

Gas detection should not be complicated. The Beacon™ Series is gas detection simplified. The Beacon™ Series are powerful, low cost fixed system controllers for one, two, or up to eight points of gas detection. They are microprocessor controlled, versatile, simple to install and operate, and priced to be the industry's best value single and multiple gas detection controllers.

The wide variety of sensor heads available for the Beacon Series can provide protection for many of the gases commonly used in industry or laboratories today. A comprehensive list of available detectors is provided below.

Sensors can be mounted directly at the Beacon™ housing, or can be wired remote from the controller. The digital displays have backlighting and simultaneous readout of the gas type(s) and concentration(s). The bottom mounted wiring hubs make wiring easy. An external reset switch allows alarms to be silenced from outside the controller housing.

With 10 or 12 amp rated relays, the Beacon Series can be wired directly to a variety of devices like horns, buzzers, or lights eliminating the need for costly external relays from the controller to devices.

The Beacon™ Series is housed in a NEMA 4X rated case for a weather tight seal. This case design complies with the new lock out / tag out standard and can be fully secured. An external reset switch allows the alarm to be silenced from outside of the controller housing. The Beacon™ units ship complete with a wall mounting kit for easy installation.

FEATURES

- Low cost versatile solution!!
- Compact, weatherproof, NEMA 4X enclosure.
- 115 VAC or 12 VDC operation.
- Long life sensors (2+ years typical).
- Accepts LEL/O₂/H₂/S/CO direct wire sensors (Beacon 110, 200, and 410A).
- Accepts any 4-20 mA transmitter.
- Audible alarm with reset button.
- Three programmable alarm levels.
- Built-in trouble alarm with relay.
- Relay rating 10 or 12 amps, form C.
- Provides 4-20 mA output.

INDUSTRY APPLICATIONS

- Laboratories
- Semiconductor manufacturing facilities
- Petrochemical plants & refineries
- Water & wastewater treatment plants
- Pulp & paper mills
- Gas, telephone, & electric utilities
- Parking garages
- Manufacturing facilities

ABOUT SENSORS

The sensor is the actual device that is sensing the gas. Three sensor types are available for use with the Beacon Series Controller: direct wire, gas diffusion, and sample draw. Sensors typically last 2 to 4 years, but can last for a longer or shorter time depending on the nature of the application.

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DIRECT WIRE DETECTORS

Direct wire detectors are hard wired diffusion sensors to the controller and do not require a transmitter. They are, therefore, more economical than detectors requiring a transmitter. Direct wire detectors can only be used with the Beacon 110, 200, and 410A controllers. While the choice of gases is limited for hard wire detectors they can be an economical choice when available. In general, the use of a transmitter is preferred for distances over 300' to 500' to simplify calibration.

SAMPLE DRAW DETECTORS

Sample draw detectors have an integral pump, which draws the surrounding air to the detector. They are the preferred choice when used in larger areas where there is no specific point at which one can expect a gas leak. All sample draw detectors used with the Beacon Series have transmitters.

HOW TO ORDER

When ordering a Beacon system please specify the following components:

1. Controller part number (see list below)
2. Detector assemblies required. Provide gas, detection range from the list below so that we can provide the best combination for your application.

DIFFUSION DETECTORS

Diffusion detectors rely on the natural flow of air to bring the sample to the detection head. These are an excellent choice for gas cabinets or other forced flow environments where the detector is situated in a constant air flow from the potential gas release to the detector. All diffusion type detectors used with the Beacon Series have transmitters.

TRANSMITTERS

Most sensors require a transmitter to amplify the sensor signal, and to convert the gas sensor signals into a standardized output, such as 4-20 mA, for transmitting the signal to a controller. The transmitter is usually in close proximity to the sensor, and zero and span adjustments must be done at the transmitter. Note that some sensors and controllers do not require the use of a transmitter for LEL or Oxygen detection (Beacon 110, 200, and Beacon 410A), and also one is not needed for short distance wiring of H₂S or CO sensors for the Beacon 110, 200, and Beacon 410A. All transmitters used with the Beacon Series are operated from 24 VDC, and utilize either 2 or 3 wires. In general, even if a sensor can be used with out a transmitter, the use of a transmitter is often preferred for distances over 300' to 500' to simplify calibration.

Model	Description
72-2110RK	Beacon 110 single point controller
72-2102RK	Beacon 200 two point controller
72-2104A	Beacon 410A four point controller
72-2108RK	Beacon 800 eight point controller

Measurable Gases	Standard Range	Diffusion Detector Assembly	Sample Draw Detector Assembly	Sensors For			
				110	200	410A	800
Ammonia NH ₃	0 - 75 ppm	GD-K88AI-NH3	GD-70D-NH3	X	X	X	X
Carbon Dioxide CO ₂	0-5000 ppm	61-1007RK-02	-	X	X	X	-
Carbon Dioxide CO ₂	0-5000 ppm	65-2397RK-02	-	X	X	X	X
Carbon Monoxide (XP) CO	0 - 300 ppm	65-2336RK	-	X	X	X	X
Chlorine CL ₂	0 - 3 ppm	GD-K88AI-CL2	GD-70D-CL2	X	X	X	X
Combustibles (XP) LEL	0 - 100 %	61-1000RK	-	X	X	X	-
Combustibles (4-20mA) (XP) LEL	0 - 100 %	65-2405RK	-	X	X	X	X
Hydrogen (Direct) H ₂	0 - 2000 ppm	65-2442RK-2000	-	X	X	X	-
Hydrogen (Specific) H ₂ LEL	0 - 100%	61-1001RK	-	X	X	X	-
Hydrogen Chlorine HCL	0 - 15 ppm	GD-K88AI-HCL	GD-70D-HCL-15	X	X	X	X
Hydrogen Sulfide H ₂ S	0 - 1 ppm	-	GD-70D-H ₂ S-01	X	X	X	X
Hydrogen Sulfide H ₂ S	0 - 100 ppm	65-2331RK	-	X	X	X	X
Nitrogen Dioxide NO ₂	0 - 15 ppm	GD-K88AI-NO2	GD-70D-NO2-15	X	X	X	X
Oxygen (4-20mA) O ₂	0 - 25 %	65-2322RK	-	X	X	X	X
Oxygen (Direct) O ₂	0 - 25 %	65-2497RK	-	X	X	X	-
Sulfur Dioxide SO ₂	0 - 6 ppm	GD-K88AI-SO2	GD-70D-SO2	X	X	X	X

Detectors for many other gases are available. Tell us your requirements.