

# E12-15 IR

## High Level Ammonia Gas Detector



The Model E12-15 IR Infrared Gas Detector is a rugged reliable microprocessor based intelligent gas detector. The E12-15 IR can be used to monitor from PPM levels to explosive levels of ammonia gas.

The E12-15 IR is ideally suited for use in harsh environments where electrochemical sensor life can be short. Areas such as engine rooms, emergency vents, or other high level  $\text{NH}_3$  areas are excellent applications. The E12-15 IR Infrared Gas Detector will perform reliably in the presence of silicone and other catalytic poisoning agents and can also operate in oxygen free environments or where high background gas levels are present. There are no known poisons that affect this technology.

The E12-15 IR is a stand-alone device providing a linear continuous 4 to 20 mA output representing 0 to full scale.

### FEATURES

- Requires no routine calibration to ensure proper operation
- Continuous self-test automatically indicates a fault, with fail to safe operation
- A multi-layered filtering system protects optics from dirt and water ingress
- Straight optical path eliminates the need for reflective surfaces, such as mirrors or beam splitters
- Highly resistant to poisoning and etching
- Standard 4 to 20 mA output (current source)
- Explosion proof housing designed for harsh environments



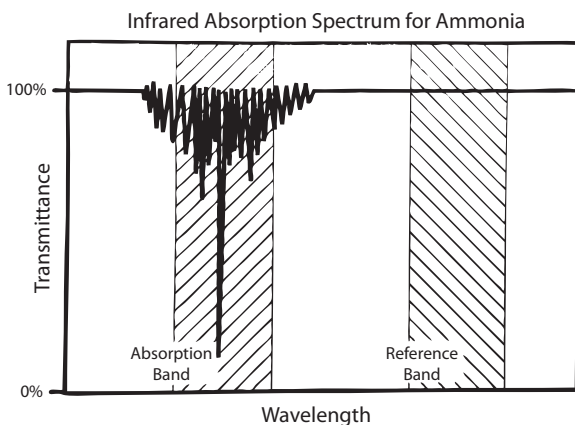
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ANALYTICAL TECHNOLOGY, INC.

# E12-15 IR HIGH LEVEL AMMONIA GAS DETECTOR

## INFRARED DETECTION TECHNOLOGY

The Model E12-15 IR Infrared Gas Detector uses infrared absorption technology for detecting ammonia gas. Gases absorb infrared light only at certain wavelengths. The concentration of a gas can be quantified by measuring and comparing intensities in light bands where there is significant absorption by the target gas in bands where there is little absorption by the target gas. The Model E12-15 IR uses an infrared light source that passes collimated light through a waveguide containing the gas sample. At the other end of the waveguide is a multiple channel receiver. The measuring channel intensities and the reference channel intensities are then analyzed to quantify the gas concentration. The gas concentration is then represented at the output as a gas density measurement of % Vol measurement or PPM.



If alarming and display is required, the B14 receiver can be used with either a single channel or multi-channel receiver system.



Single Channel B14 Receiver



Multi-Channel B14 Receiver

## SPECIFICATIONS

<b>Detection Method</b>	Infrared absorption
<b>Output</b>	4-20 mA (Source type), max. 1000 Ohm load at 24 VDC supply voltage
<b>Response Time</b>	T50 < 15 seconds T90 < 30 seconds
<b>Construction</b>	316 stainless steel (SEC 5000)
<b>Dimensions</b>	5.5" L x 2.5" Dia.
<b>Unit Weight</b>	3.7 lb
<b>Accuracy</b>	+/-3% of Full Scale for applied gas concentrations up to 50% of full scale +/-5% of Full Scale for applied gas concentrations above 50% of full scale
<b>Operating Temp Rating</b>	-40° to 70°C at 0 to 99% RH (non-condensing)
<b>Operating Voltage</b>	18 - 32 VDC
<b>Power Consumption</b>	5.1 Watts Max.
<b>Max. Current Draw (at 24VDC)</b>	Average: 210 mA (Peak: 400 mA)
<b>Approvals</b>	CSA, For -40C to +50C operation, Performance Tested CAS: CI I, Div 1, Groups B, C, D, T5 (Pending) IECEX: CI L, Zn 1, Group IIC, T5 (Pending)

## ORDERING INFORMATION

### Model E12-15-DD-FF

#### Suffix DD - Range

- 01 - 1%
- 02 - 2%
- 05 - 5%
- 10 - 10%
- 15 - 15%

#### Suffix F - Junction Box

- 1 - No junction box
- 2 - With junction box

## 2 YEAR WARRANTY

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