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# Gas Alarm Monitor

## Model B14 Series



**ATi's Model B14 Series** receivers are compact electronic modules that provide local alarm, display, and signal retransmission functions for gas detection systems. The modules are designed to accept input from either two, three, or four wire 4-20 mA transmitters located up to 10,000 feet from the receiver. They're ideally suited for use with any of ATi's toxic or combustible gas transmitters.

Accurate, Reliable Alarm,

Display, & Signal Retransmission...

*...for Gas Detection Systems*





## FUNCTIONS.

**ATI's Model B14 Alarm Receivers** are DIN rail mounted modules that can be supplied in single or multiple unit enclosures. Each alarm module offers a variety of functions:

**LED Display:** Gas concentrations are indicated directly in PPM, PPB, percent, or percent LEL with the display range selectable by the user.

**Three Alarm Setpoints:** Each module provides separate caution, warning, and alarm setpoints with LED bar indicators of each alarm point. LED indicators flash on initial alarm condition and change to steady on when the alarm is indicated.

**Three Relay Outputs:** Modules contain individual alarm relays for each alarm setpoint. However, each relay can be assigned to any setpoint to allow multiple alarm functions at a single alarm point. Relays are configurable for either standard or fail-safe operation and for either latching or non-latching operation.

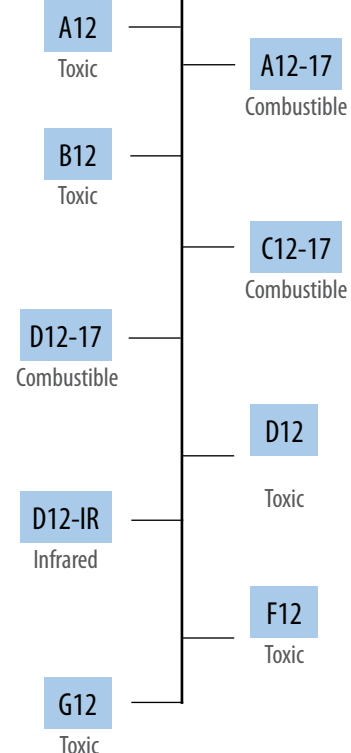
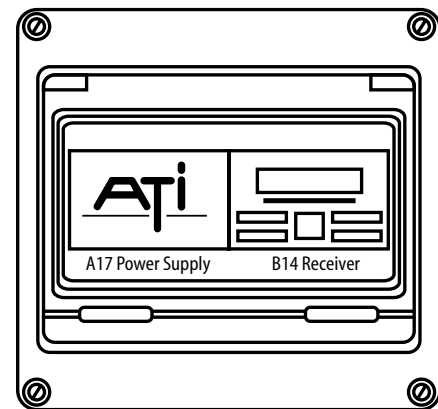
**Separate Trouble Alarm:** A fourth LED alarm bar and relay are provided to indicate trouble conditions. The trouble alarm and relay will activate on loss of input signal or if the 4-20 mA input drops below a specific value.

**Remote reset Input:** Isolated input contacts are provided to allow an unpowered switch input for acknowledgment of alarm conditions from a remote location or via telemetry equipment.

**Internal Transmitter Power:** Modules provide a 24 VDC power supply to operate either 2 or 3 wire transmitters.

**Signal Retransmission:** A 4-20 mA output is provided from each module, optically isolated from the input signal to avoid ground fault problems.

**DC Powered:** B14 modules are powered from a 12 VDC power supply available as an option. Up to 3 modules can be powered from one power supply (or 2 if battery backup is used). Customers provided 12-28 VDC supplies may also be used.



ATI Transmitter Input Options

# The *Alarm Module* with the *Flexibility* You Need!

## SYSTEM ENCLOSURES.

A variety of NEMA 4X enclosures are available to assemble detection systems from receivers and power supplies. ATI offers standard enclosures to house up to 12 modules, and can supply larger enclosures for systems requiring more points of detection. System integrators can use standard 35 mm DIN rail for mounting modules in their own enclosures.



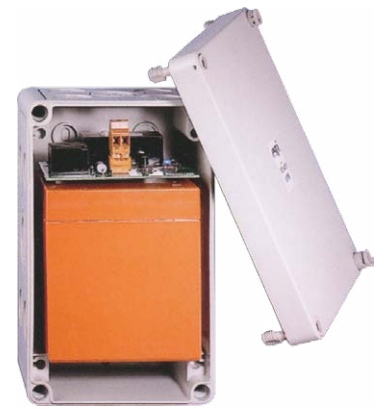
### Single Module Enclosure

Houses a single receiver module for use in DC powered applications where the user supplies the DC power to the system.



### Two Module Enclosure

Houses two receivers or one receiver and one power supply. Normally used for single point AC powered detectors.



### Battery Back-Up



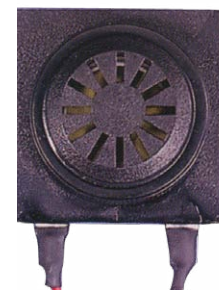
### Three Module Enclosure

Accommodates two receivers and power supply or three receivers. Used mainly for two point detection systems.



### Six Module Enclosure

Suitable for two power supplies and four receivers or six receivers. This enclosure is used primarily for four point gas detection systems.



### Audible Horn



### Red Strobe

### Nine Module Enclosure

Shown on Cover.

### Twelve Module Enclosure

Not Shown.

# B14 Series SPECIFICATIONS

|                                |   |
|--------------------------------|---|
| <b>Concentration Display</b>   | 4 Digit LED, Programmable Range   |
| <b>Input</b>                   | 2, 3 or 4-wire 4-20 mA Transmitter  |
| <b>Output</b>                  | Isolated 4-20mA, 1000 ohms max load   |
| <b>Power</b>                   | 12-28 VDC, 400 mA max   |
| <b>Concentration Alarms</b>    | Three adjustable concentration alarms. Setpoints adjustable from 5-100% of span.                                      |
| <b>Alarm Indicators</b>        | LED bars for Caution, Warning, & Alarm  |
| <b>Indicator Function</b>      | Caution and Warning indicator non-latching. Alarm indicator latching.   |
| <b>Alarm Relays</b>            | 3 assignable relays, 7 A, 120 VAC (4 A, 220 VAC) resistive. Alarms assignable to any one of 3 programmable setpoints. |
| <b>Relay Function</b>          | Configurable for Normal/Fail-safe, Latching/Non-latching, 2/second/10 second delay, or external horn function.        |
| <b>Trouble Function</b>        | Front panel LED bar indicator and SPDT, 7 A relay. Factory set for fail-safe operation.                               |
| <b>Alarm &amp; Relay Reset</b> | Activated from front panel switch or through remote reset switch.   |
| <b>External Reset</b>          | Input terminals provided for unpowered contact input.   |
| <b>Gas Indicator</b>           | LED bar on front panel with gas symbol overlay.   |
| <b>Electrical Connections</b>  | Quick disconnect pluggable terminal blocks.   |
| <b>Module Enclosure</b>        | Noryl   |
| <b>Module Mounting</b>         | Mounts to 35 x 7.5 mm DIN rail.   |
| <b>Size</b>                    | 2.8" W x 3.6" L 2.3" D (70 mm x 90 mm x 58 mm)  |
| <b>Operating Temp.</b>         | -40°C to +55°C  |
| <b>Humidity</b>                | 0-99% RH, non-condensing.   |

## OPTIONS & SYSTEM ENCLOSURES

80-0005 Single Module Enclosure  
 80-0006 Two Module Enclosure  
 80-0007 Three Module Enclosure  
 80-0033 Large Three Module Enclosure  
 80-0008 Six Module Enclosure  
 80-0027 Large Six Module Enclosure  
 80-0024 Nine Module Enclosure  
 80-0026 Twelve Module Enclosure  
 00-0055 Power Supply (For 2 Alarm Modules and Batter Backup or 3 Alarm Modules)  
 28-0004 65 Watt Power Supply (For up to 12 Alarm Modules)  
 00-0057 Battery Backup Unit  
 00-0058 Audible Horn, Internal, 12 VDC  
 35-0008 Horn, Industrial External 120 VAC  
 35-0010 Horn, Industrial External 220 VAC  
 35-0002 Strobe with red lens, 12 VDC  
 35-0005 Strobe with red lens, 120 VAC  
 35-0018 Strobe with red lens, 230 VAC

## ORDERING INFORMATION

### Model B14-CC-DDDD-E Alarm Module

Specify each alarm module separately using the code number below. Then add the enclosure, power supply, and other options as needed for a complete system. Specify A12 or B12 transmitters separately.

#### Suffix DDDD - Measurement Range

|  |  |
|--|--|
| 10 - Bromine <b>Br<sub>2</sub></b>           | 29 - Diborane <b>B<sub>2</sub>H<sub>6</sub></b>              |
| 11 - Chlorine <b>Cl<sub>2</sub></b>          | 30 - Germane <b>GeH<sub>4</sub></b>                          |
| 12 - Chlorine Dioxide <b>ClO<sub>2</sub></b> | 31 - Hydrogen Selenide <b>H<sub>2</sub>Se</b>                |
| 13 - Fluorine <b>F<sub>2</sub></b>           | 32 - Phosphine <b>PH<sub>3</sub></b>                         |
| 14 - Ozone <b>O<sub>3</sub></b>              | 33 - Silane <b>SiH<sub>4</sub></b>                           |
| 15 - Ammonia <b>NH<sub>3</sub></b>           | 34 - Hydrogen Peroxide <b>H<sub>2</sub>O<sub>2</sub></b>     |
| 16 - Carbon Monoxide <b>CO</b>               | 35 - Iodine <b>I<sub>2</sub></b>                             |
| 17 - Combustible Gas <b>CH<sub>4</sub></b>   | 36 - Acid Gases <b>HX</b>                                    |
| 18 - Hydrogen <b>H<sub>2</sub></b>           | 37 - Ethylene Oxide (ETO) <b>C<sub>2</sub>H<sub>4</sub>O</b> |
| 19 - Oxygen <b>O<sub>2</sub></b>             | 38 - Formaldehyde <b>HCOH</b>                                |
| 20 - Phosgene <b>COCl<sub>2</sub></b>        | 39 - Alcohol <b>CXOH</b>                                     |
| 21 - Hydrogen Chloride <b>HCl</b>            | 40 - Acetylene <b>C<sub>2</sub>H<sub>2</sub></b>             |
| 22 - Hydrogen Cyanide <b>HCN</b>             | 41 - Carbon Dioxide <b>CO<sub>2</sub></b>                    |
| 23 - Hydrogen Fluoride <b>HF</b>             | 42 - Oxides of Nitrogen <b>NO<sub>x</sub></b>                |
| 24 - Hydrogen Sulfide <b>H<sub>2</sub>S</b>  | 43 - Chlorine (Low I2) <b>Cl<sub>2</sub></b>                 |
| 25 - Nitric Oxide <b>NO</b>                  | 44 - Chlorine Dioxide (Low C12) <b>ClO<sub>2</sub></b>       |
| 26 - Nitrogen Dioxide <b>NO<sub>2</sub></b>  | 45 - Hydrocarbon (Specials) <b>HC</b>                        |
| 27 - Sulfur Dioxide <b>SO<sub>2</sub></b>    | 46 - Nitrous Oxide <b>N<sub>2</sub>O</b>                     |
| 28 - Arsine <b>AsH<sub>3</sub></b>           | 47 - Dimethylamine <b>(CH<sub>3</sub>)<sub>2</sub>NH</b>     |

#### Suffix DDDD - Measurement Range

Code the measurement range using a four digit number. The alarm module range is determined by the range of the transmitter connected to the module. For a 0-10 PPM chlorine transmitter input, the code would be 0010.

#### Suffix E - Units of Measurement

1 - PPM  
 2 - PPB  
 3 - %  
 4 - %LEL



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