

# Ammonia (NH<sub>3</sub>) Gas Monitor



ITS-M5220-R



## DESCRIPTION

Gas monitor with built-in ammonia (NH<sub>3</sub>) sensor, wall-mounted, for binary/relay output control.

## APPLICATION

To detect and control levels of ammonia (NH<sub>3</sub>) in a wide variety of commercial and industrial applications such as chiller equipment rooms, food storages, arenas, breweries, and ventilation systems, etc. The monitor's binary/relay outputs can control fans, remote alarms and other devices.

## FEATURES

- Continuous monitoring
- One (1) built-in NH<sub>3</sub> electrochemical sensor, gas specific
- Two-stage relay outputs, w/status LEDs
- Built-in alarm horn (buzzer)
- Liquid Crystal Display (LCD)
- Push button programming
- Easy maintenance

## SPECIFICATIONS

### Electric

Power supply 24 VAC (12-28 VAC), floating, 50/60 Hz, 24 VDC (15-40 VDC)  
 Protection Two (2) 2.0 A, socketed pico fuses  
 Power consumption < 2 VA (100 mA) 250 mA turn-on surge

### Sensor Performance

Gas detected Ammonia (NH<sub>3</sub>)  
 Sensor element Electrochemical, diffusion  
 Range Span field adjustable from 0-100 ppm via calibration, 0-50 ppm factory set  
 Accuracy ± 2.5% of reading  
 Repeatability ± 1% of reading  
 Output drift Max. 5% of full scale/year  
 Response time < 60 seconds to 90% of step change

Sensor life expectancy 2 years, normal operating environment  
 Sensor coverage Up to 5,000 sq.ft. (465 m<sup>2</sup>), "under ideal conditions"

### Installation Location

Mounting height 1.0 ft. (0.3 m) below ceiling

### Type of Control

General Single-stage or two-stage, two-position control, alarm levels/setpoints assignable over full NH<sub>3</sub> ppm range

### Relay outputs (TB5 & TB6)

- type (2) SPDT, dry contacts  
 - contact rating 115 VAC / 30 VDC, 1.0 A, contact resistance 50 mΩ, max.

- switching differential

- differential between relays  
 - time delays

Audible alarm (buzzer)

### Digital Display

### Programming

### Environmental

Permissible ambient  
 - working temperature  
 - storage temperature  
 - humidity, continuous  
 - humidity, intermitted  
 - working pressure

### Physical

Enclosure  
 - material  
 - color  
 - cover  
 - protection  
 - installation

Adjustable, individual for cut-in and cut-out per relay

Adjustable  
 0-60 minute(s) in 5-minute increments on or off, selectable switching for each cut-in and cut-out; 0 minute factory set  
 Built-in, 85 db within 1 ft., enabled or disabled selectable; assignable to low or high alarm setpoint  
 LCD, two lines x 8 characters, 1 digit resolution, displays CO ppm values  
 Alarm level/setpoint set-up, differential, time delay and audible alarm via (3) push buttons and LCD display

-4°F to 104°F (-20°C to 40°C)  
 32°F to 68°F (0°C to 20°C)  
 15 to 90% RH, non-condensing  
 0 to 99% RH, non-condensing  
 Atmospheric ± 10%

Polycarbonate, ABS blend, fire-retardant, UL-V0  
 Cool gray, 2U pantone  
 Snap-on, secured by (2) screws  
 NEMA 1, general purpose  
 Wall (surface) mounted, or single gang electrical box

## SPECIFICATIONS

### Physical (cont...)

Dimensions (H x W x D)	6.0 x 3.5 x 1.09 in. (152 x 89 x 28 mm)
Cable entry	1 hole on back side of base plate for single gang electrical box mounting
Wire connection	Terminal blocks, screw type for lead wire
Wire size	Min. 26 AWG (0.4 mm <sup>2</sup> ) Max. 16 AWG (1.3 mm <sup>2</sup> )
Weight	0.5 lbs. (0.3 kg)

### Warranty

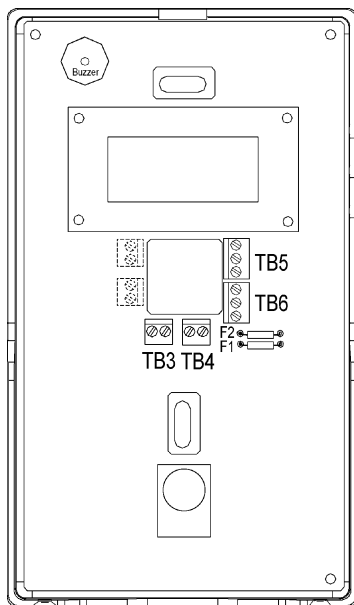
12 months material and  
workmanship

## ORDERING INFORMATION

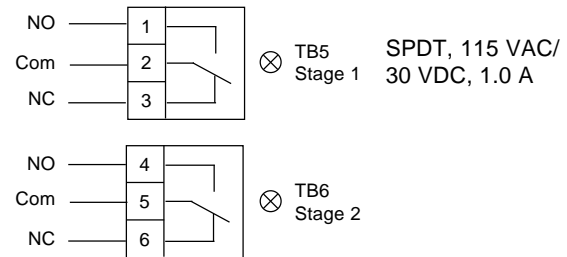
<b>ITS-M5220-R</b>	NH <sub>3</sub> Monitor, 0-50 ppm, (2) SPDT 1 A relays, buzzer, LCD, wall-mount
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## FIELD WIRING CONFIGURATION

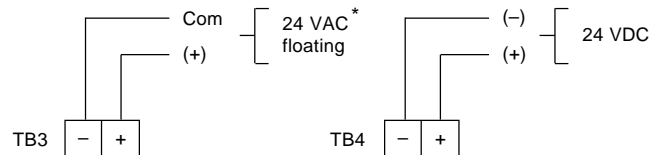
### ITS-M5220-R



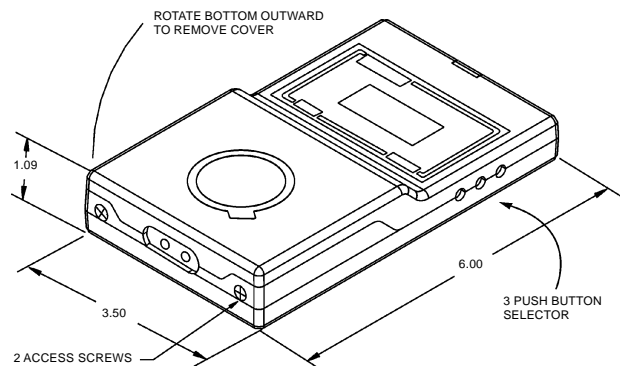
### TB5 and TB6 Staged Relay Output Control w/Status LEDs



### TB3 and TB4 Power Supply 24 VAC or 24 VDC



\* Do not connect 24 VAC to earth ground



### F1 and F2 Fuses

