

Chemical Ammonia (3-Wired Type) Transmitter NH3-CD300(LG)



NH3-CD300 (G)-HC



**NH3-CD300(LG)
(with LCD display)**

General

NH3-CD300(LG) is a 3wired Electro-Chemical type transmitter which can detect high concentration 0~100 ppm NH3 gas.

Features

- 15years knowhow based multiplied compensation algorithms keep accuracy and long-term stabilization throughout full operating Temperature and Concentration range.
- 4~20mA (default) 0~20mA,0~10V,2~10V is selctable with switch (0~5V/1~5V is orderable).
- All units verification in factory before delivery.
- Easier mgmt with auto-Zero calibration mode
- Size : 124 x 70 x 43 (mm), 110g, 120g : LCD(o)

※ Design or Specification of NH3-CD300(LG) Series might be changed without prior notice.

NH3-CD300(LG)

Application

Manhole, safety inspection, leak detection, industrial sites, livestock houses, pig houses, poultry farms, portable ammonia meter, etc.

General Performance

Operating Temperature range

-10 ~ 50°C

Operating Humidity range

15 ~ 90% RH (Non-condensing)

('G' option: operatable upto 10~95% RH with Non-Condensing and protect from rustness)

Storage Temperature

5°C ~20°C (Higher temp. shorten sensor life.)

Measurement

Sensing Method

Eletro-Chemical type to sense NH3 gas

Measurement Range : 0~100ppm

Maximum Overload : 200ppm

Accuracy : ±3% of F.S

Response Time : T90 : < 45sec, T60 : < 30sec

Sampling Interval : second

life Cycle : 2 years.

Electrical Data

Input Power

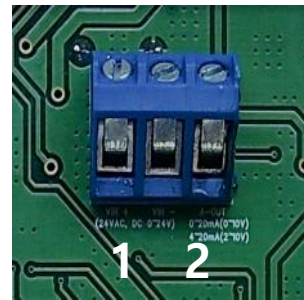
24VDC± 20%, (3-Wired)

Power consumption

0.7 Watt

Wiring Method

1. VIN+: 24VDC+
2. VIN-: Common-GND
3. A-OUT: Output Signal (Voltage or Current)



Wire connector.

※Warning : Please careful not to wire power cable into signal output position of terminal block, which leads to damage sensors .

Dimensions (unit : mm)



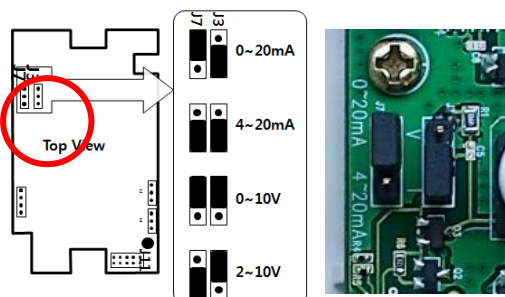
Output Signals



4 ~ 20mA is default (2 ~ 10VDC or 0 ~ 20mA or 0 ~ 10VDC is selectable with jumper setting change)

■ Jumper A (J7, J3) : Set Voltage/Current

- [J7,J3] Output Mode

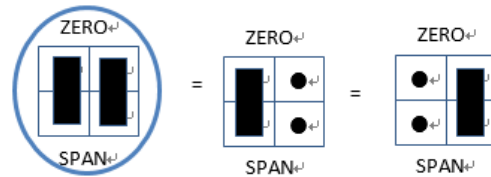


Ex) 0 ~ 20mA setting.

Operation Mode selection

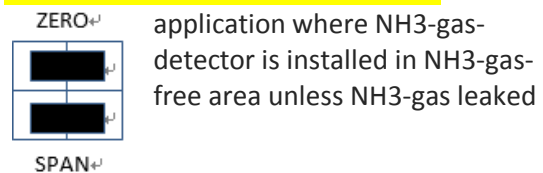


Normal mode-#1 is for mobile-NH3-meter or



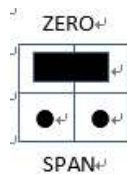
and fixed type NH3-meter installed where always 5ppm or more of NH3 gas existing environment.

Automatic Zero Calibration mode-#2 is for



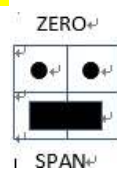
application where NH3-gas-detector is installed in NH3-gas-free area unless NH3-gas leaked

Manual Zero Calibration mode-#3 is used to calibrate NH3-gas sensors.



Please do calibration NH3-gas-free area and return to previous set #1 or #2. After calibration (Caution: Please don't use N2 100% gas, nor do other gases which not include O2 gas.)

Manual SPAN(50ppm F.S.) Calibration mode-#4 is used to calibrate NH3-gas sensors after



#3 calibration. Please install NH3-sensors on EK-100SL or TRB-100ST and locate in chamber like CMB-10 and calibrate with standard 50ppm,

after zero calibration which calibrate every minute. After calibration, return to previous set #1 or #2.

■ Analog output calculation

* Output signal calculation examples

Ex) should the measurement range of 0~10V set

and measured voltage is 8.10V,

$$(8.10V-0V) \times (100ppm/10V) = 81ppm$$

Cautions on Installation

- I. Chemical sensors should be kept 5~20°C and better to use in 3 months from purchase not to shorten their lifecycle.
- II. The sensors should locate at the highest position due to NH₃ gas's much lighter specific gravity 0.589, i.e. the ratio 17ℓ/g of NH₃ and 29ℓ/g of air. (c.f. Density 0.769kg/m³ of NH₃).
- III. The sensors are designed to keep lifecycle when installed normal living condition unless effected physically, mechanically or chemically. Sensor-detection part or PCB part should be kept from dirties, water or oil spraying which cause damage and keep Sensors away from the solvent or high concentration organic gas existence or continuous vibration, or impulse from.
- IV. Power should be selected within tolerance and wired into right position, Sensor get damaged when 24V power is inserted into output.
- V. Chemical sensor modules' installation or uninstallation should be done carefully not to pluck away sensor modules; Please grip the upside and downside of PCB. arrow-direction of picture, between 4-pins and 10pins connectors on unplugging sensor-module from main-board little by little, left and right in turn. Vice versa on plugging the sensor-module into main-board.
- VI. Please install or keep sensors away from the places where electro-static or induced electro-magnetic field exists.
- VII. Please make sure to use air-based standard gas on Test Sensor performance.
- VIII. The sensors components should be departed or replaced, or manipulated unless requested or agree by vendor, Please don't touch electrolyte leaked from sensor when it is damaged or broken. Wash out skins with running water when wet by leaked electrolyte.
- IX. Do Calibrations (Zero, #3) or (Zero, #3 and Span #4) if sensor keep giving 5ppm or higher values even when located NH₃-gas-free-zone.

