

Product Specifications – NES Series 100-CO-Sensor

Overview

The NES Series 100 carbon monoxide detector uses an electrochemical sensor to monitor the carbon monoxide (CO) level and outputs a 4 to 20 mA signal. The NES Series 100 sensor employs a Modbus communications protocol, with a bus topology / daisy chain-wiring configuration recommended. Analog communications also is available.

**Carbon Monoxide Sensor
NES Series 100**

Specification:

Measurement:.....Electrochemical
 Sample Method:.....Diffusion
 Measurement Range:.....**Modbus:** 0-500 ppm
 Analog: 0-300 ppm
 Accuracy:.....± 5 ppm or ± 5% of reading
 (whichever is greater)
 @ 0-50°C (32-122°F), 15-95% RH
 Agency Approvals:.....Sensor is UL Recognized for ANSI/UL-2034
 and UL-2075, E240671
 Operating Conditions:.....20-50°C (-4-122°F), 15-95% RH,
 Stability:.....< 5% signal loss/year
 Response Time:.....< 35 seconds for 90% step change
 Life Expectancy:.....5-7 years in air
 Typical Coverage Area:.....700 m² (7500 ft²) or 15 m (50 ft) radius
 Wiring Connections:.....Screw terminal block (14 to 22 AWG)
 Dimensions:.....71 w x 104 h x 46 d mm
 (2.8" x 4.1" x 1.8")
 Enclosure:.....ABS - UL94-V, IP65 (NEMA 4X)

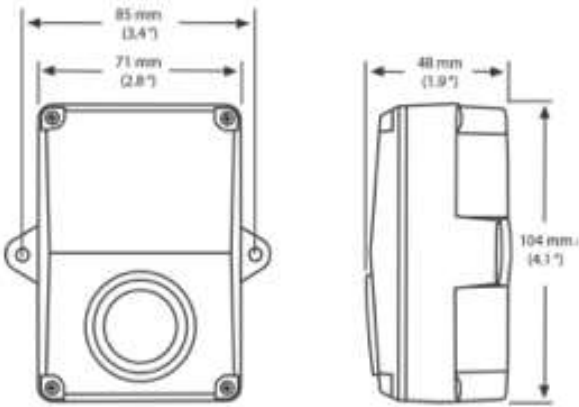


Non-relay Model:

Power Supply:.....**Modbus:** 24 Vdc ±20%
 Analog: 24 Vdc ±20% or 24 Vac ±10% (non-isolated half-wave rectified)
 Consumption:.....**Modbus:** 35 mA max
 Analog: 20 mA max
 Output Signal:.....4-20 mA (loop-powered w/ 24 Vdc)
 Output Drive Capability:.....550 ohms max @ 24 Vac/dc
 Dimensions:.....85 mm (3.4") X 48 mm (1.9") X 104 mm (4.1")

Relay Model: (Not available with Modbus Communications)

Power Supply:.....24 Vdc ±20% or 24 Vac ±10%
 (non-isolated half-wave rectified)
 Consumption:.....50 mA max
 Output Signal:.....4-20 mA sourcing
 Output Drive Capability.....550 ohms max @ 24 Vac/dc
 Relay Contacts:.....Form C contacts (N.O. and N.C.)
 5 Amps @ 250 Vac, 5 Amps @ 30 Vdc
 Relay Trip Point:.....25, 60 or 150 ppm, jumper selectable
 Relay Hysteresis:.....3% or 9 ppm
 Options:
 Optional Output:.....Modbus Communications
 (Refer to Installation Instructions for detailed specifications on Modbus)



Installation:

For complete installation and wiring details, please refer to the product installation instructions.

The enclosure should be mounted on a flat surface 1.524 m (5') from the floor of the area to be controlled. Do not mount the sensor near doors, opening windows, supply air diffusers or other known air disturbances. Avoid area with vibrations or rapid temperature changes.

Maintenance:

NES Modbus CO sensors feature a simple, snap-mount sensor printed circuit board (pcb) that eliminates the need to recalibrate each sensor every 2 to 2.5 years – a standard requirement for most CO sensors.

- ✓ Simply disconnect the device wiring, remove the old sensor pcb, snap in a new, pre-calibrated sensor pcb and then reconnect the device power.
- ✓ There's no need to make any adjustments or apply gas.

Calibration with gas of the NES Analog CO sensors requires a field calibration kit consisting of an LCD, a bottle of gas (250 ppm CO in air purchased locally), a tank pressure regulator with flow restrictor a sponge and the necessary tubing with a cap to cover to the sensor.