



For use under U.S. Patents
8,720,591, 9,144,700 and 9,186,533

ECS Protector Nitrogen Interface Controller NIC-1/(NIC-1E)

Specifications

Dimensions:	14" (W) X 16" (H) X 6" (D) (356mm (W) X 406mm (H) X 152mm (D))
Weight:	36 lbs (16kg)
Power Supply:	120v/1 phase/60Hz - Dedicated Circuit (230v/1 phase/50Hz - Dedicated Circuit)
Nitrogen/Air Connection:	
Inlet:	½" NPT Female
Outlet:	½" NPT Female

Ordering Information

Stock Number: NIC-1/(1E)



General Description

The ECS Protector Nitrogen Interface Controller NIC-1/(1E) is designed for use in implementing the **Dry Pipe Nitrogen Inerting (DPNI)** process for controlling oxygen corrosion in dry and pre-action fire sprinkler systems. The NIC-1 is designed for "plug and play" performance in dry or pre-action fire sprinkler system. The NIC-1/(1E) interfaces with a house/plant nitrogen supply as the source of nitrogen for dry and pre-action fire sprinkler systems. The NIC-1/(1E) used in conjunction with any ECS nitrogen generator provides corrosion control to both dry and pre-action fire sprinkler systems operating at two (2) different pressures while connected to one (1) nitrogen source.

Thereby eliminating the need for two (2) separate nitrogen sources.

The NIC-1 is designed to nitrogen inert all of the zones being served within fourteen (14) days. Thereafter, the NIC-1 continues to automatically provide supervisory nitrogen gas sufficient for pressure maintenance of the fire sprinkler system(s).

The ECS Protector Nitrogen Interface Controller facilitates the patented "fill and purge" breathing process in the fire sprinkler system when paired with a venting device installed on the sprinkler riser such as the ECS Protector Manual Vent (PAV-D) or the ECS Protector Dry SMART Vent (PSV-D/DE).



The NIC-1 is a self-contained wall mounted unit that includes the following components:

- Single point nitrogen/air entry - ½" NPT Female
- Single point nitrogen/air discharge - ½" NPT Female
- Nitrogen interface cabinet power supply - 120v/1 phase/60Hz (230v/1 phase/50Hz)
- Manual bypass for the discharge point
- No nitrogen gas storage

The NIC-1/(1E) is designed to be used in conjunction with the following components as part of the complete ECS Dry Pipe Nitrogen Inerting (DPNI) system:

- House/plant nitrogen source when fire sprinkler systems are operating at one (1) system pressure, or with ECS Protector nitrogen generator when two different operating pressures are required
- Air maintenance device with on board adjustable regulator (recommend Victaulic Series 757, Tyco Model AMD– 1 and Reliable Model A-2)
- Riser-mounted ECS Protector Manual Vent (PAV-D) or ECS Protector Dry SMART Vent (PSV-D/DE)
- ECS Protector SMART Gas Analyzer (SGA-1/1E) – one per nitrogen generator is recommended
- ECS In-Line Corrosion Detector (ILD-X) – monitoring multiple zones is recommended

Installation Instructions

Installation of the ECS Nitrogen Interface Controller requires four (4) steps:

1. Mount the cabinet assembly in the appropriate installation location
2. Connect the dedicated power supply to the cabinet assembly
3. Plumb the nitrogen/air supply line from the nitrogen source to the NIC-1/(1E) with minimum ½" line
4. Plumb the nitrogen/air supply line from the NIC-1/(1E) to the dry/preaction sprinkler risers being served with minimum ½" line

Step 1: Mounting the nitrogen interface controller

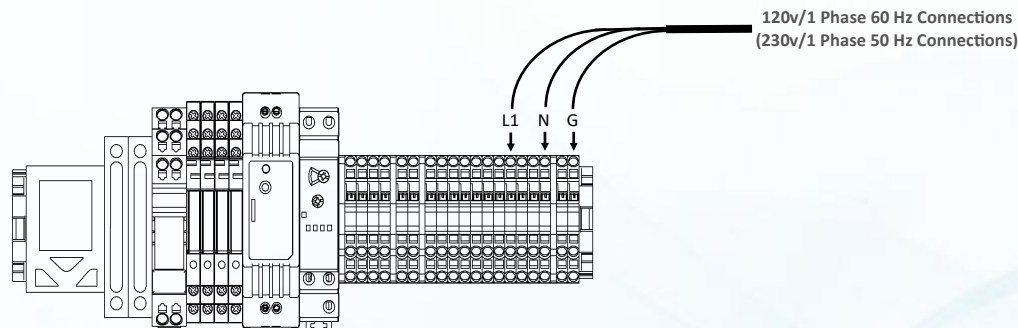
The ECS Nitrogen Interface Controller is designed to be mounted directly to the wall at the installation location. Several factors should be considered in choosing the proper mounting location for the nitrogen interface controller:

- Access to the power supply (dedicated circuits as per above)
- Access to the nitrogen source (nitrogen generator or house/plant nitrogen)
- Access to the sprinkler risers being supplied from the nitrogen interface controller
- Clearance at the front of the unit to open the cabinet door

The cabinet dimensions are 14"x 16"x 6" (356mm x 406mm x 152mm) and includes pre-punched holes for wall mounting using standard anchors. The cabinet frame assembly weighs 36 lbs (16 kg). Ensure the wall is structurally sound to support the weight of cabinet assembly.

Step 2: Power Supply

The ECS Nitrogen Interface Controller requires a dedicated power supply to prevent interaction with other equipment. The incoming power supply line is connected to the bottom of the terminal blocks inside the cabinet assembly. The terminal connections are labeled L1, N, and G.



Step 3: Plumb the Inlet Nitrogen/Air Supply Line

The nitrogen/air inlet plumbing from the nitrogen generator or house/plant nitrogen supply is connected directly to the inlet connection of the NIC-1/(1E).

Step 4: Plumb the Outlet Nitrogen/Air Supply Lines

Configuration 1 - Nitrogen Generator with two (2) System Operating Pressures

The nitrogen/air outlet plumbing from the NIC-1/(1E) is connected directly to the dry or pre-action valve trim work as per standard fire sprinkler compressed air supply lines using ½" black steel, galvanized steel or copper lines.

- The system(s) with a lower operating pressure are connected to the NIC-1/(1E) nitrogen/air outlet.
- The system(s) with a higher operating pressure are connected to the nitrogen/air supply line prior to the nitrogen/air inlet connection of the NIC-1/(1E).
- The NIC-1/(1E) requires an in-line Air Maintenance Device (AMD) that is equipped with an on board field adjustable pressure regulator for each zone being served. Acceptable AMD models are the Victaulic Series 757, Tyco Model AMD-1, and Reliable Model A-2.

Configuration 2 - House/Plant Nitrogen Source with one (1) System Operating Pressure

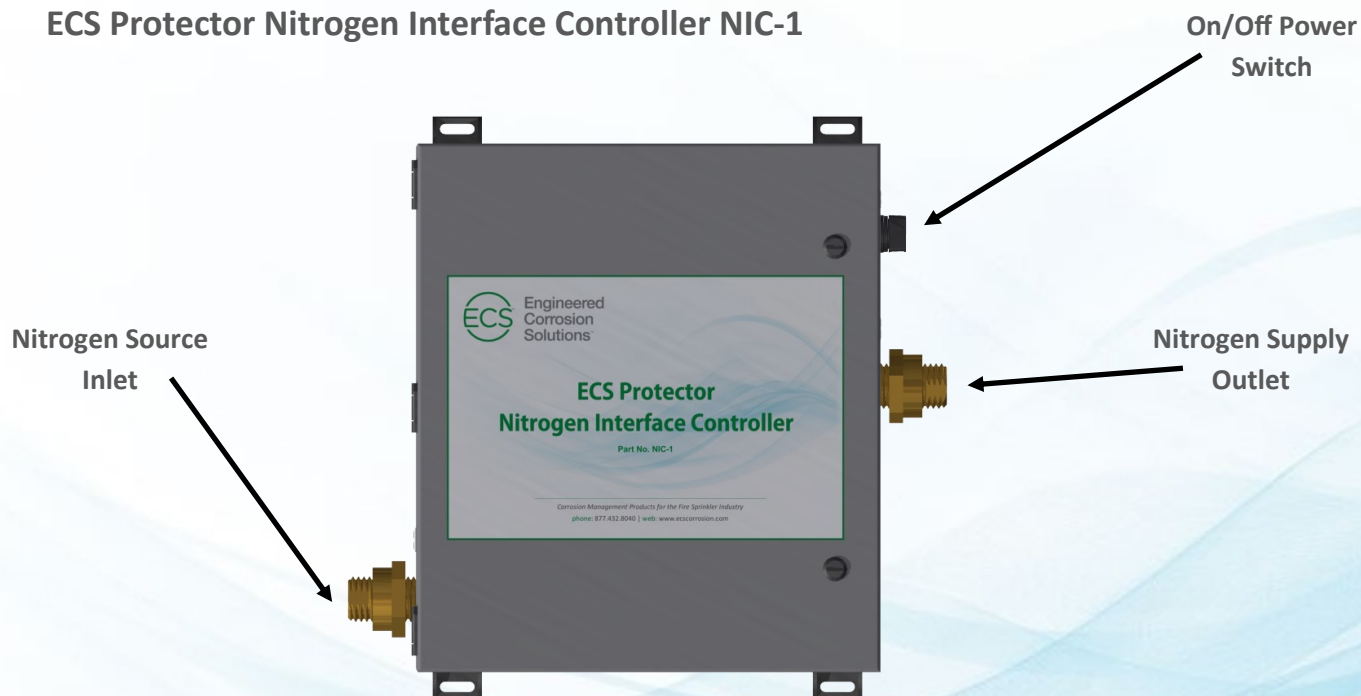
The nitrogen/air outlet plumbing from the NIC-1/(1E) is connected directly to the dry or pre-action valve trim work as per standard fire sprinkler compressed air supply lines using ½" black steel, galvanized steel or copper lines. The NIC-1 requires an in-line Air Maintenance Device (AMD) that is equipped with an on board field adjustable pressure regulator for each zone being served. Acceptable AMD models are the Victaulic Series 757, Tyco Model AMD-1, and Reliable Model A-2.

Configuration 3 - House/Plant Nitrogen Source with two (2) System Operating Pressures (NIC-2)

For configurations where house/plant nitrogen is used and the fire sprinkler systems are operating on two different operating pressures, contact Engineered Corrosion Solutions



ECS Protector Nitrogen Interface Controller NIC-1



Plumbing and Instrumentation Drawing

Operating Notes:

Ball Valve (BV02) For Complying with NFPA 13 30-Minute Fill Requirement

