

INTRAGROUND N1 SERIES NON-METALLIC CONTROL STATIONS, RECEPTACLES, TUMBLER SWITCHES, CIRCUIT BREAKERS & MANUAL MOTOR STARTERS

EXPLOSION-PROOF CLASS 1, DIVISION 1 & 2 GROUPS C & D

The intraground "N1D" Series enclosures are suitable for use in Class 1, division 1, Groups C & D hazardous (classified) locations as defined by the National Electrical Code. The N1D Series enclosures are suitable for installation in the various common hazardous environments listed below.

GROUP C ATMOSPHERES

acetaldehyde
allyl alcohol
n-butyl formal
butyl mercaptan
n-butylaldehyde
carbon monoxide
crotonaldehyde
n-decaldehyde
dicyclopentadiene
diethyl ether
diethylamine
diethylaminoethanol

ethyl mercaptan
n-ethyl morpholine
2-ethyl-3-propyl acrolein
furfural
furfuryl alcohol
hydrazine
hydrogen cyanide
hydrogen selenide
isobutylaldehyde
isodecaldehyde
iso-octyl aldehyde
isopropyl glycidyl ether
methylacetylene

ethyl butanol
ethyl butyl ketone
ethylenediamine
ethylene glycol
monomethyl ether
ethyl formate
2-ethyl hexanol
2-ethyl hexyl acrylate
ethyl silicate
formic acid (90%)
fuel oils
gasoline
n-heptane
n-heptene
n-hexane
hexanol
2-hexanone
hexenes
sec-hexyl acetate
isoamyl alcohol
isobutyl alcohol
isobutyl acrylate
isophorone
isoprene
isopropyl acetate
isopropylamine
kerosene
liquefied petroleum gas
mesityl oxide
methane
methanol
methyl acetate
methyl acrylate
methylamine
methyl amyl alcohol
methyl n-amy ketone
methylcyclohexane
methylcyclohexanol
methyl ethyl ketone
2-methyl-5-ethyl pyridine
methyl formate
methyl isobutyl ketone
methyl isocyanate

acetone
acrylonitrile
adiponitrile
ammonia
n-amy acetate
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aniline
benzene
butane
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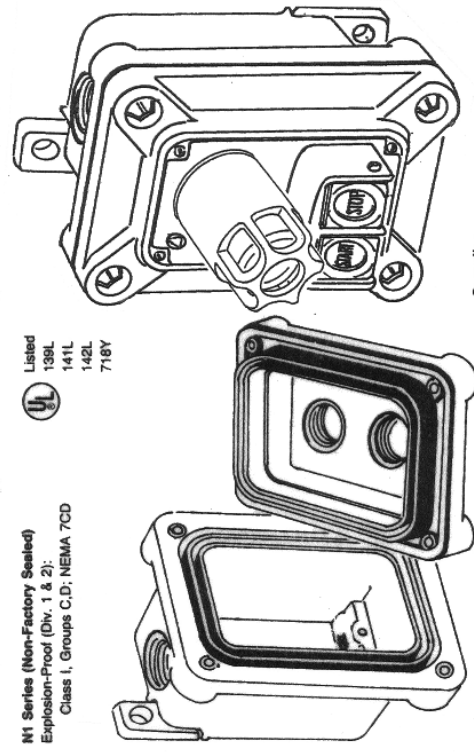
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WARNING: NOT SUITABLE FOR USE IN PARTIALLY HALOGENATED HYDROCARBON ATMOSPHERES SUCH AS ETHYLENE DICHLORIDE, EPICHLOROHYDRIN METHYLENE CHLORIDE & TRICHLOROETHANE.

Instructions for installation of N1D and N1DC Series Control Station, Tumbler Switch, Manual Motor Starter, Circuit Breaker and U-Line Receptacle Enclosures

N1 Series (Non-Factory Sealed)
Explosion-Proof (Div. 1 & 2);
Class I, Groups C, D; NEMA 7CD



Compliance
-UL Standard 698.

Applications

N1D and N1DC Series Push Button and Selector Switches are used in conjunction with contactors or magnetic starters for remote control of motors. They provide circuit control and/or selection. Pilot lights provide visual assurance that an electrical function is performed at remote or local locations. Circuit Breakers are used for short circuit protection and safe disconnect means for branch circuit for lighting, appliance and motor circuit. Tumbler Switches are used to connect or disconnect lighting and light power loads. Manual Motor Starters provide remote starting and stopping of motors and equipment. Manual Starters with heaters provide overcurrent protection of motors. U-Line Receptacles are used with stationary of portable electrically operated devices, such as lighting systems, conveyors, heaters, motor generator sets, air conditioners, compressors and pumps. They are suitable for use in Class I Division 1 & 2, Groups C and D; hazardous (classified) areas as defined by the National Electrical Code, as well as in damp or corrosive locations indoors or outdoors.

Instruction for Installation N1D Pushbutton and Selector Switch Units

Installation

- **WARNING:** Make sure that electrical power is off before starting installation or maintenance.
- 1 Loosen cover screws then carefully lift off the cover and set it aside to prevent damage to gasket and control devices. Do not remove control devices from cover.
- **NOTE:** For field installation of control devices, refer to Instruction Sheet 501475.

2 Select a suitable mounting location that will provide strength and rigidity for supporting all contained wiring and controls. Install conduit in the entrance hub(s) of the enclosure securely with a 600 in-lb torque. When using 3/4" conduit, remove and discard the 3/4" to 1/2" reducer. Use a sealing material around conduit and on outer part of hub to provide complete corrosion protection.

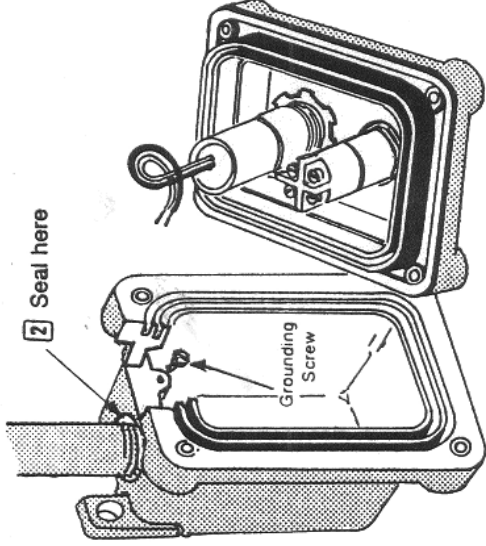
■ **NOTE:** Sealing fittings must be field installed adjacent to enclosure in each of the conduit runs.

3 **Bonding and grounding requirements:** The National Electrical Code requires that when more than one conduit enters the enclosure ground continuity between conduits must be maintained through proper grounding. Appleton Type N1DC (feed thru hub) is supplied with factory installed bonding wire connected to each metallic conduit entry. Type N1D (dead end) is supplied with a green colored grounding screw. If a separate grounding conductor is used, it must be connected to the conduit bonding system using the proper wire size and types as required by the NEC and any other applicable codes.

4 Pull the necessary control wires and make the proper electrical connections that will provide the desired control function of the control device. Switch units used for the pushbutton stations of a selector switch are marked "N.O." and "N.C." to indicate "normally open" or "normally closed" contacts of the switch. Pilot lights are furnished with pigtail leads for field wiring by use of wire nuts. Place cover on body and securely tighten cover screws. Power can be turned ON, as the assembly is now completed.

SINGLE - GANG ENCLOSURES

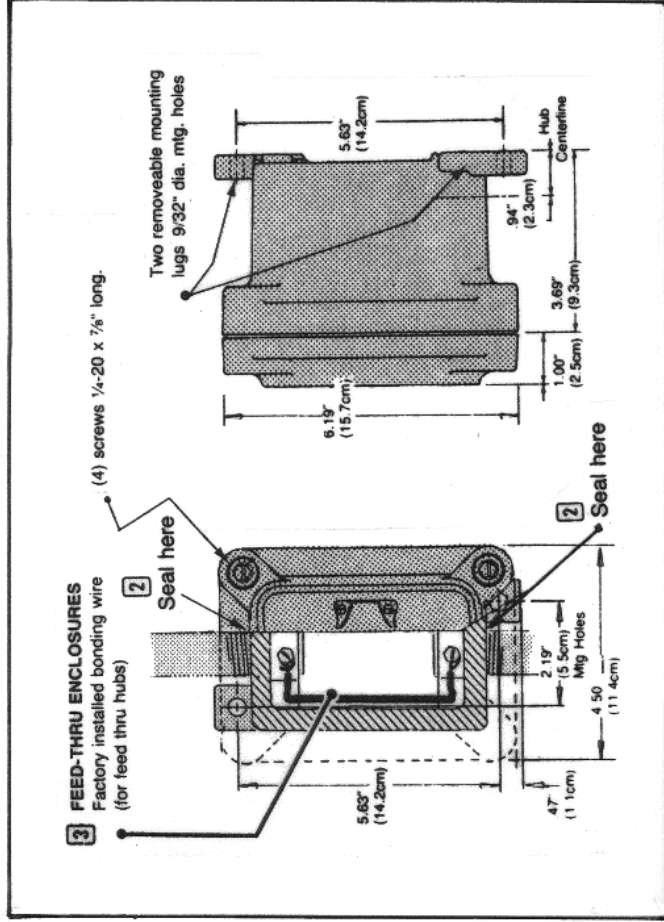
Furnished with a 3/4" to 1/2" reducer.



Dead-End

DEAD-END ENCLOSURES

To provide complete corrosion protection after conduit is installed apply corrosion resistant material in hub recess and around exposed conduit threads.



CAUTION; Make sure cover gasket and body surface are free of any foreign substance before assembling cover to body.

U.S. Pat. 4,260,863 U.S. Pat. 3,696,276
Patented Canada 1980 Patented Canada 1974

Maintenance

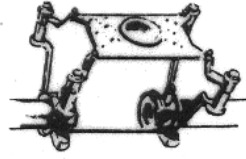
- A A schedule for maintenance check must be made at least once a year. It may be necessary to inspect frequently as necessary depending upon frequency of use and environment.
- B If it is necessary to open enclosure for inspection, always disconnect from the supply power source before opening cover.
- C Perform visual, electrical and mechanical checks on all components on a regular bases.

■ Visually check for undue heating which is evident by discoloration of wires and other components, damaged or worn parts, or leakage evidenced by water or corrosion inside enclosure.

■ Electrically check to make sure connections are tight and clean, contacts are properly making or breaking as required.

■ Mechanically check that all parts are properly assembled and all operating mechanisms are all moving freely.

NOTE: N1D and N1DC Series Receptacles are for use with Catalog Numbers ECP-1523, ECP-2023, and ECP-20232 Plugs.



Aluminum grounding grid, imbedded into the non-metallic enclosure during molding, provides complete grounding system. No field work. No extra grounding wires or parts required.

N1D and N1DC Series control stations: body and cover of 30% glass-reinforced thermoplastic polyetherimide.