

# Intraground® N1 Series Control Stations

## Nonmetallic

10 Amp, 600 Vac Max. for Heavy Duty Use.

N1 Series (Non-Factory Sealed) Ⓞ  
Class I, Division 1 and 2, Groups C, D  
NEMA 3R, 4X, 7CD, 12

Controls

CONTROLS: HAZARDOUS LOCATION CONTROL STATIONS AND SWITCHES

### Applications

- Listed for use in Class I, Division 1 and 2, Group C and D atmospheres such as:
  - Diethyl ether
  - Methyl ethyl ketone
  - Acetone
  - Toluene
  - No. 3 fuel oil
  - Ammonium hydroxide (20%)
  - Benzene
  - Regular unleaded gas
  - Ethyl acetate
  - Hexane
  - Methanol
- Not suitable for:
  - Ethylene dichloride
  - Partially halogenated hydrocarbons
- Sealing fittings must be field installed adjacent to enclosure on all conduit runs.
- Explosionproof, with sealing fittings installed at each conduit entrance, the N1 Series enclosures withstood a hydrostatic test of four times the maximum internal explosion pressure that could be developed from a gas or vapor explosion.
- Push buttons and selector switches are used in conjunction with contactors or magnetic starters for remote control of motors in hazardous locations. They provide circuit control and/or selection.
- Pilot lights provide visual assurance that an electrical function is being performed at a remote or local hazardous location.

### Features

- Nonmetallic construction with metal imbedded grounding grid. No need to install special wires and parts for grounding. Feed-thru or dead-end grounded 1/2" or 3/4" conduit openings for threaded conduit.
- Special grounding wire furnished with each box provides safe grounding when cover is removed.
- Ideal for use in corrosive environments. Nonmetallic enclosures with corrosion resistant parts coated with epoxy, Teflon® or Mylar®, these control stations offer unsurpassed resistance to chemicals.
- Unique labyrinth-path construction assures flame-tight joint between body and cover.
- Silicone gasket, specially designed for the labyrinth-path joint, prevents entrance of moisture without interfering with the venting of cooled hazardous gases and vapors.
- Typical mechanical properties of 24,500 psi tensile strength, 3% elongation at break, 33,000 psi flexural strength, and 1,200,000 psi flexural modulus.
- Electrical properties of sample specimens: dielectric strength (in air) of 769 at 1/16".
- High strength thermoplastic polyetherimide, together with thick walls (5/16") and sound structural design (rounded corners) provides superior resistance to impact and crushing.
- Excellent resistance to ultraviolet light and water.
- Excellent conduit connection strength.
- Excellent resistance to attack by fungi and mold.



Push Button



Pilot Light



Selector Switch



Combination Push Button and Pilot Light



Combination Selector Switch and Pilot Light

- Superior flammability resistance.

### Related Products

- Sealing fitting must be installed at each conduit entrance of the N1 enclosure to be explosionproof. See *Fittings Section*.

Ⓞ For Class I, Division 1 applications, sealing fittings must be field installed adjacent to enclosure on all conduit runs.

# Intraground® N2 Series Control Stations

## Nonmetallic

10 Ampere, 600 Vac Max. for Heavy Duty Use.

**N2 Series (Factory Sealed)**  
*Class I, Division 2, Groups B, C, D*  
*Class II, Division 1 and 2, Groups E, F, G*  
*Class III*  
*NEMA 3R, 4X, 9EFG, 12*

### Applications

- Listed for use in Class I, Division 2, Group B, C and D atmospheres such as:
  - Diethyl ether
  - Methyl ethyl ketone
  - Acetone
  - Toluene
  - No. 3 fuel oil
  - Ammonium hydroxide (20%)
  - Benzene
  - Regular unleaded gas
  - Ethyl acetate
  - Hexane
  - Methanol.
- Listed for use in Class II, Division 1 and 2, Groups E, F and G.
- Dust-tight construction. After 32 hour UL test, no magnesium dust entered the enclosure.
- Push buttons and selector switches are used in conjunction with contactors or magnetic starters for remote control of motors in hazardous locations. They provide circuit control and/or selection.
- Pilot lights provide visual assurance that an electrical function is being performed at a remote or local hazardous location.

### Features

- Factory sealed — no external seals required.
- Nonmetallic construction with metal imbedded grounding grid. No need to install special wires and parts for grounding. Feed-thru or dead-end grounded 1/2" or 3/4" conduit openings for threaded conduit.
- Special grounding wire furnished with each box provides safe grounding when cover is removed.
- Ideal for use in corrosive environments. Nonmetallic enclosures with corrosion resistant parts coated with epoxy, Teflon® or Mylar®, these control stations offer unsurpassed resistance to chemicals.
- Silicone gasket, specially designed for the labyrinth-path point between cover and body, prevents entrance of moisture and dust.
- Molded of high-tensile 30% glass reinforced thermoplastic polyetherimide. Enclosure walls are 5/16" thick.
- Typical mechanical properties of 17,000 psi tensile strength, 3% elongation at break, 27,000 psi flexural strength, and 1,100,000 psi flexural modulus (UL tests showed 18,918 psi tensile strength and 30,675 psi flexural strength).
- Electrical properties of sample specimens: dielectric strength of 490 at 1/8" and a comparative track index of 185V/0.058".
- Superior impact resistance.
- Extremely low water absorption. This important quality assures dimensional stability.
- Excellent resistance to ultraviolet light and water.
- UL Temperature Index (continuous use temperature): 266°F/130 °C electrical properties, 266°F/130 °C mechanical properties with impact, and 284 °F/140 °C mechanical properties without impact.
- Superior flammability resistance.
- Excellent pull-out resistance.



Push Button



Pilot Light



Selector Switch



Combination Push Button and Pilot Light



Combination Selector Switch and Pilot Light

# Intraground® N1 and N2 Series Control Stations

## Nonmetallic

10 Ampere, 600 Vac Max. for Heavy Duty Use.

**N1 Series (Non-Factory Sealed) ©**  
Class I, Division 1 and 2, Groups C, D  
NEMA 3R, 4X, 7CD, 12

**N2 Series (Factory Sealed)**  
Class I, Division 2, Groups B, C, D  
Class II, Division 1 and 2, Groups E, F, G  
Class III  
NEMA 3R, 4X, 9EFG, 12

### Features

- Heavy duty push button, 10 Amp 600 Vac rated.
- Dozens of possible combinations of push buttons, pilot lights and selector switches.
- Smooth, rounded integral bushing in each conduit opening protects conduct or insulation.
- Accurately tapped, tapered conduit openings for tight, rigid joints and ground continuity.
- Push Buttons, Selector Switches, and Pilot Lights
  - Stainless steel push button shaft operates within stainless steel bushing, assuring long, maintenance-free operation.
  - Push button and selector switch contacts are silver cadmium oxide which are “sealed” in lower phenolic chamber isolated from corrosive elements. Assures positive contact and long, trouble-free operation.
  - Enclosed stainless steel helper spring prevents accidental operation of push button in severe vibration installations.
  - Corrosion resistant stainless steel Teflon® coated hex head cap screws hold covers to body.
  - Push buttons are supplied with lockout type guards as standard. Hole in guard will accept locks with up to 1/4” hasp. Permits locking of push button to prevent unauthorized operation.
  - Clearly marked terminals with brass screws assure quick, easy wiring.
  - Pilot light supplied with jewel/guard assembly and 120 Vac, 6 Watt type 6S6 lamp, 120 Vac/Vdc, 50/60 Hz, 6 Watt.

### Standard Materials

- Body and cover: 30% glass-reinforced thermoplastic polyetherimide
- SPBB push button: aluminum upper barrel and phenolic lower barrel with nylon plastic button. Glass reinforced polypropylene guard. Silicone weather boot. Aluminum nameplate
- SPLS pilot light: aluminum guard and body assembly; steel clamping ring; and tempered glass jewel
- SSBA selector switch: aluminum housing, nylon knobs and cams, and sealed phenolic contact block
- NBN rectangular button with weather boot: Nylon plastic button with neoprene weather boot. Aluminum nameplate
- NMRB mushroom button with weather boot: anodized aluminum buttons with neoprene weather boot
- Selector switch locking devices and push button securing rods: stainless steel
- Cover bolts: stainless steel
- Nameplates: copperfree (4/10 of 1% max.) aluminum
- Receptacles: copperfree (4/10 of 1% max.) aluminum

### Standard Finishes

- Cover bolts: Teflon®
- Nameplates: Mylar®
- Pilot light guard and clamping ring: epoxy

### Options

- Three position selector switches with modified operation. For description and switch diagram, refer to switch operators.
  - Momentary contact right position, spring return to center, maintained contact left position. Add suffix **–SRC**.
  - Momentary contact left position, spring return to center, maintained contact right position. Add suffix **–SLC**.
- Alternate contacts add suffix **–ALT**.
- Selector switch Lockout: locks 2- or 3-position handle in any position. Suffix **–LD**.
- Push button front operated mushroom head (momentary contact):
  - Red **–NMRBRE**
  - Green **–NMRBGR**
  - Black, add suffix **–NMRBBL**.
- Pilot light jewel/guard assembly. Order by suffixes if color desired is other than red, as follows:
  - Amber **–JGBA**
  - Blue **–JGBB**
  - Clear **–JGBC**
  - Green **–JGBG**
  - Opal **–JGBO**
- For colored LED jewel/guard assembly, order by suffixes:
  - Red **–LEDR**
  - Green **–LEDG**
  - Amber **–LEDA**
- Pilot light transformers for single pilot light per gang. Order by suffix:

Primary Voltage	Lamp Voltage	Suffix
220	120	<b>TR-2</b>
277	120	<b>TR-3</b>
440	120	<b>TR-4</b>
550	120	<b>TR-5</b>

- Securing rod for push button lockout guard. Add suffix **–SR**.
- **NPBRKT** nameplate mounting bracket to make circuit description/ identification easy.
  - Pre-drilled holes in bottom of bracket allow direct mounting to control stations with existing cover bolts.
  - Pre-drilled holes in middle of bracket allow mounting of customer’s circuit identification nameplate; epoxy glue may also be used for mounting (phenolic nameplate not included).
  - Bracket eliminates costly field installation of drilling and tapping to accommodate circuit identification nameplate.
  - Brackets fit side-by-side on 2-, 3- and 4-gang boxes and 3-devices.

### Certifications and Compliances

- UL Standards: UL 508, UL 698, UL 1203
- UL Listed: E10449, E81751

© For Class I, Division 1 applications, sealing fittings must be field installed adjacent to enclosure on all conduit runs.

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# Intraground® N1 and N2 Series Control Stations

## Nonmetallic

10 Ampere, 600 Vac Max. for Heavy Duty Use.

**N1 Series (Non-Factory Sealed) ©**  
Class I, Division 1 and 2, Groups C, D  
NEMA 3R, 4X, 7CD, 12

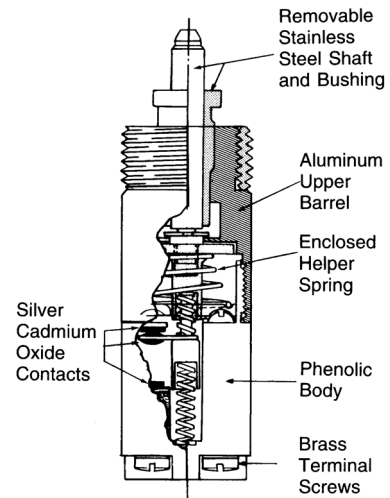
**N2 Series (Factory Sealed)**  
Class I, Division 2, Groups B, C, D  
Class II, Division 1 and 2, Groups E, F, G  
Class III  
NEMA 3R, 4X, 9EFG, 12

### Illustrated Features



Aluminium grounding grid, imbedded into the nonmetallic enclosure during molding, provides complete grounding system. No field work. No extra grounding wires or parts required.

### SPBB Design Features



Controls

CONTROLS: HAZARDOUS LOCATION CONTROL STATIONS AND SWITCHES

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# Intraground® N1 and N2 Series Control Stations

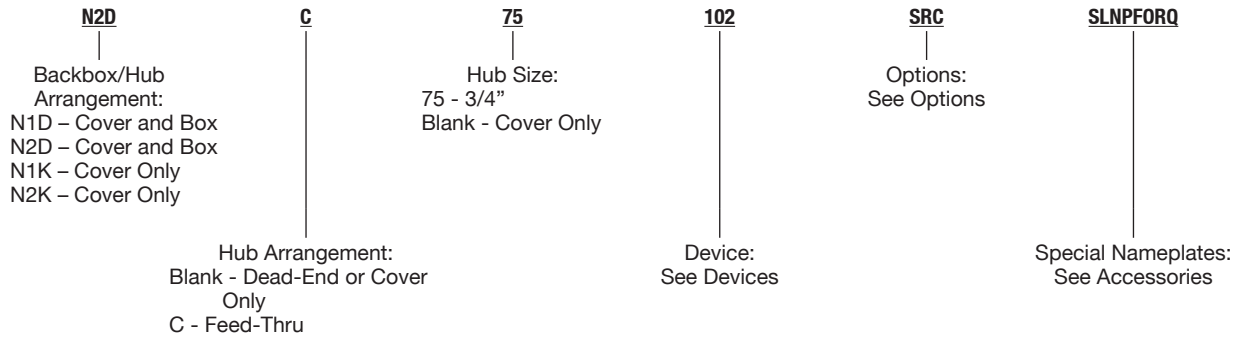
## Nonmetallic

10 Ampere, 600 Vac Max. for Heavy Duty Use.

**N1 Series (Non-Factory Sealed) ©**  
 Class I, Division 1 and 2, Groups C, D  
 NEMA 3R, 4X, 7CD, 12

**N2 Series (Factory Sealed)**  
 Class I, Division 2, Groups B, C, D  
 Class II, Division 1 and 2, Groups E, F, G  
 Class III  
 NEMA 3R, 4X, 9EFG, 12

### Catalog Numbering Guide



### Full Catalog # N2DC75-102-SRC-SLNPFORQ

Feed-Thru N2D Box with 3/4" Hubs:  
 With A 2-Circuit, 3 Position  
 Spring Return from the Right  
 Selector Switch and "Forward-Off-Reverse" Nameplate

### Options

Options Description	Suffix
Momentary Push Button Securing Rod	SR
Selector Switch Lockout	LD
Spring Return From Right Selector Switch (3 Positions Only)	SRC
Spring Return From Left Selector Switch (3 Positions Only)	SLC
Alternate Contacts Selector Switch	ALT
Change One Red Lens to Green Lens	JGBG
Change One Red Lens to Opal Lens	JGBO
Change One Red Lens to Amber Lens	JGBA
Change One Red Lens to Blue Lens	JGBB
Change One Red Lens to Clear Lens	JGBC
Add 220/120 Vac Transformer (J1 Device Only)	TR2
Add 277/120 Vac Transformer (J1 Device Only)	TR3
Add 440/120 Vac Transformer (J1 Device Only)	TR4
Add 550/120 Vac Transformer (J1 Device Only)	TR5
Change One Red Pilot to Red LED	LEDR
Change One Red Lens to Green LED	LEDG
Change One Red Lens to Amber LED	LEDA
Add Red Mushroom Head to Momentary Push Button	NMRBRE
Add Black Mushroom Head to Momentary Push Button	NMRBBL
Add Green Mushroom Head to Momentary Push Button	NMRBGR
Locking Guard for Maintained Push Button	SMPBLG

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# Intraground® N1 and N2 Series Control Stations Devices

## Nonmetallic

\* **SELECTOR SWITCHES:**  
 12 - 2 Position, 2 Circuit  
 35 - 2 Position, 4 Circuit  
 102 - 3 Position, 2 Circuit  
 345 - 3 Position, 4 Circuit

Device Description	Suffix
One Pilot Light (Red Standard)	J1
Two Pilot Lights	J2
One Pilot Light and One Momentary Push Button	J1U1
One Pilot Light and Two Momentary Push Buttons	J1U2
One Pilot Light and One Maintained Push Button	J1UM1
One Pilot Light and One Dust-Cap Push Button	J1DU1
One Pilot Light and One 12 Selector Switch *	J112
One Pilot Light and One 35 Selector Switch *	J135
One Pilot Light and One 102 Selector Switch *	J1102
One Pilot Light and One 345 Selector Switch *	J1345
One Monetary Push Button	U1
Two Monetary Push Buttons	U2
Two Side-By-Side Momentary Push Buttons	U2DBL
Three Monetary Push Buttons	U3
One Momentary Push Button and One Maintained Push Button	U1UM1
One Momentary Push Button and One Dust-Cap Push Button	U1DU1
One Momentary Push Button and One 12 Selector Switch *	U112
One Momentary Push Button and One 35 Selector Switch *	U135
One Momentary Push Button and One 102 Selector Switch *	U1102
One Momentary Push Button and One 345 Selector Switch *	U1345
One Maintained Push Button (Mushroom Head - Red)	UM1
Two Maintained Push Button	UM2
One Maintained and One Dust-Cap Push Button	UM1DU1
One Maintained Push Button and One 12 Selector Switch *	UM112
One Maintained Push Button and One 35 Selector Switch *	UM135
One Maintained Push Button and One 102 Selector Switch *	UM1102
One Maintained Push Button and One 345 Selector Switch *	UM1345
One Dust Cap Push Button	DU1
Two Dust Cap Push Buttons	DU2
One Dust Cap and One 12 Selector Switch *	DU112
One Dust Cap and One 35 Selector Switch *	DU135
One Dust Cap and One 102 Selector Switch *	DU1102
One Dust Cap and One 345 Selector Switch *	DU1345
One 12 Selector Switch *	12
One 35 Selector Switch *	35
One 102 Selector Switch *	102
One 345 Selector Switch *	345

Controls

CONTROLS: HAZARDOUS LOCATION CONTROL STATIONS AND SWITCHES


# Intraground® N1 and N2 Series Control Stations

## Push Button and Push Button/Pilot Light. Nonmetallic

10 Ampere, 600 Vac Max. for Heavy Duty Use. N1 Series – Neutral Color; N2 Series – Blue Color.

**N1 Series (Non-Factory Sealed) ©**  
Class I, Division 1 and 2, Groups C, D  
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**N2 Series (Factory Sealed)**  
Class I, Division 2, Groups B, C, D  
Class II, Division 1 and 2, Groups E, F, G  
Class III  
NEMA 3R, 4X, 9EFG, 12

		Hub Size (Inches)*	Description	Nameplate Marking	Catalog Number		
					N1 Series ©	N2 Series	
<b>1-Gang Push Buttons – Momentary Contact</b>							
 1 Circuit	 2 Circuit	<b>Dead-End</b>					
		1/2 or 3/4	1 Circuit Universal		Start/Stop	<b>N1D75-U1</b>	<b>N2D75-U1</b>
		1/2 or 3/4	2 Circuits Universal		Start/Stop	<b>N1D75-U2</b>	<b>N2D75-U2</b>
		<b>Feed-Thru</b>					
		1/2 or 3/4	1 Circuit Universal		Start/Stop	<b>N1DC75-U1</b>	<b>N2DC75-U1</b>
		1/2 or 3/4	2 Circuits Universal		Start/Stop	<b>N1DC75-U2</b>	<b>N2DC75-U2</b>
<b>1-Gang Push Buttons – Maintained Contact Red Mushroom Head – Emergency Stop Nameplate</b>							
		<b>Dead-End</b>					
	1/2 or 3/4	1 Circuit Universal		Emergency Stop	<b>N1D75-UM1</b>	<b>N2D75-UM1</b>	
		<b>Feed-Thru</b>					
1/2 or 3/4	1 Circuit Universal		Emergency Stop	<b>N1DC75-UM1</b>	<b>N2DC75-UM1</b>		
<b>3-Device Push Buttons – Momentary Contact</b>							
		<b>Dead-End</b>					
	1/2 or 3/4	3 Circuits Universal		Start/Stop	<b>N1D75-U3</b>	<b>N2D75-U3</b>	
		<b>Feed-Thru</b>					
1/2 or 3/4	3 Circuit Universal		Start/Stop	<b>N1DC75-U3</b>	<b>N2DC75-U3</b>		
<b>1-Gang Push Button/Pilot Light – Momentary Contact</b>							
 1 Circuit 1 Pilot Light	 2 Circuit 1 Pilot Lights	<b>Dead-End</b>					
		1/2 or 3/4	1 Circuit Universal and 1 Pilot Light		Specify	<b>N1D75-J1U1</b>	<b>N2D75-J1U1</b>
		1/2 or 3/4	2 Circuits Universal and 1 Pilot Light		Specify	<b>N1D75-J1U2</b>	<b>N2D75-J1U2</b>
		<b>Feed-Thru</b>					
		1/2 or 3/4	1 Circuit Universal and 1 Pilot Light		Specify	<b>N1DC75-J1U1</b>	<b>N2DC75-J1U1</b>
		1/2 or 3/4	2 Circuits Universal and 1 Pilot Light		Specify	<b>N1DC75-J1U2</b>	<b>N2DC75-J1U2</b>
<b>1-Gang Pilot Lights</b>							
 1 Pilot Light	 2 Pilot Lights	<b>Dead-End</b>					
		1/2 or 3/4	1 Pilot Light		Specify	<b>N1D75-J1</b>	<b>N2D75-J1</b>
		1/2 or 3/4	2 Pilot Lights		Specify	<b>N1D75-J2</b>	<b>N2D75-J2</b>
		<b>Feed-Thru</b>					
1/2 or 3/4	1 Pilot Light		Specify	<b>N1DC75-J1</b>	<b>N2DC75-J1</b>		
1/2 or 3/4	2 Pilot Lights		Specify	<b>N1DC75-J2</b>	<b>N2DC75-J2</b>		

\* Furnished with 3/4" to 1/2" NPT reducer.

© For Class I, Division 1 applications, sealing fittings must be field installed adjacent to enclosure on all conduit runs.