



ITT

NEO-DYN[®]

ELECTRICAL ASSEMBLIES,
057-0760, 057-0761, 057-0762, 057-0763
057-0770, 057-0771, 057-0772, 057-0773,

EXPLOSIVE ATMOSPHERES
INSTALLATION AND
OPERATION MANUAL

PN 610-0022
Rev. -

Hazardous Location Electrical Assemblies *Page i*



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Important Information

The product warranty applicable to this ITT Neo-Dyn® instrument is as stated on page 13 of this manual.

Should any after-delivery problems arise, please contact ITT Neo-Dyn's Customer Service using the information above. Our normal business hours are weekdays, 7:00 am to 3:30 pm, Pacific Time.

Before installing this Vacuum Switch, become familiar with the installation and adjustment instructions in Chapters 2 and 3.

WARNING Indicates a hazard which can cause severe personal injury, death, or substantial property damage if the warning is ignored.

CAUTION Indicates a hazard which will or can cause minor personal injury or property damage if the caution is ignored.

SPECIAL CONDITIONS FOR SAFE USE Each 057-07** Electrical Snap Switch Assembly shall be installed such that the equipment wiring is protected from mechanical damage by the use of metal conduit or a method providing equivalent protection. The equipment wiring must not be subjected to tension or torque. If it is to be terminated within a potentially explosive atmosphere, a suitably certified termination facility must be used.

NOTE Indicates additional information about a particular item necessary to the operation of the unit.

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CHAPTER

1

INTRODUCTION

The Neo-Dyn® Switches described in this manual are weather-proof, electromechanical devices designed for use inside a protective metal enclosure, primarily ITT Neo-Dyn® Pressure and Temperature Switches. These electrical assemblies are for use in Zone 1 Potentially Explosive Atmospheres (Division 1 hazardous locations).

These products are not intended to be exposed to external pressures other than atmospheric.

The 057-0760, 057-0761, 057-0770, and 057-0771 will switch up to 11 amps at 125 or 250 VAC, 5 amps resistive at 28 VDC, or 0.5 amp resistive at 125 VDC. The 057-0762, 057-0763, 057-0772, and 057-0773 are rated for currents to 1 amp, but their bifurcated gold contacts will reliably switch currents in the milliamper and microampere ranges.

These switches have CE Marked, weatherproof enclosure, and IP 66 ingress protection that meet the requirements of NEMA 3, 3R, 3S, 4, 4X and 13. They are approved by Underwriters Laboratories, CSA International, Factory Mutual, as well as having SIRA approval for ATEX, IECEx certification, and INMETRO approval from NCC.

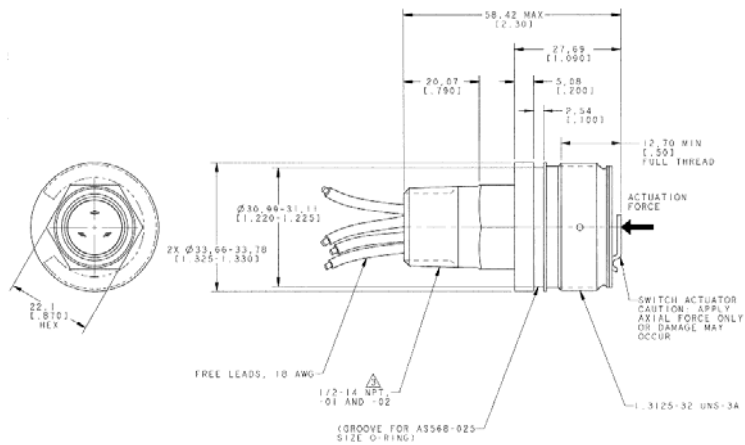


Figure 1
Electrical Switch Assembly

CUSTOMER SERVICE

If you have any questions about these Electrical Assemblies that are not covered in this manual, you can contact Neo-Dyn or our representatives in several ways.

The Neo-Dyn customer service phone number is (661) 295-4000. Our customer service department is open from 7:00 am to 3:30 pm Pacific Time.

Our Internet site is www.neodyn.com; it includes lists of sales representatives and distributors.

CHAPTER

2

INSTALLATION

Installation of these Neo-Dyn® Electrical Assemblies is straightforward. However, they must be installed by a qualified electrician, in compliance with all local and national electrical codes.

WARNING **Electrical Hazard**

WARNING **Do not make electrical connections while power is on.**

WARNING **Always check for multiple circuits.**

WARNING **Always make sure grounding is adequate.**

INSTALLATION

These electrical assemblies have a 1.3125-32 UN male thread and are to be installed into a protective enclosure. The 32 threads per inch provide the fine level synchronization required for proper positioning.

This product is designed to be mechanically actuated by pressing the external switch actuator arm in the axial center of the assembly as shown in Figure 1. If this actuator is moved more than .005 of an inch beyond actuation, you may experience decreased life.

An o-ring can be inserted into the groove shown in Figure 1.

- Extend your device's actuator to its fully extended position.
If this position varies more than .003 of an inch, this electrical assembly may not be appropriate for your application.
- Thread the electrical assembly toward your device's fully extended actuator. Approach slowly when near the actuator and stop insertion immediately upon actuation of the electrical assembly.
- Continue to insert (rotate clockwise) the electrical assembly for 35° (.003 inch).
- Secure electrical assembly into position.

When installing, always:

- Make sure the power is turned off.
- Use the wrench flats provided.
- Seal all joints with pipe joint sealing compound.

CAUTION Avoid excessive torque on all threaded connections.

WARNING **Do not pressurize this unit. Do not install in wet applications. Do not expose actuator to side loading. Must be installed in approved enclosure.**

POTENTIALLY EXPLOSIVE ATMOSPHERES (HAZARDOUS LOCATIONS)

Suitable for Zone 1, Ex d IIC explosive atmospheres, in accordance with Potentially Explosive Atmospheres Directive 94/9/EC.

Suitable for Division 1; Class 1, Groups A, B, C and D; Class II, Groups E, F and G hazardous locations, in accordance with the National Electric Code (NEC), and applicable UL, FM, INMETRO, and CSA specifications.

ELECTRICAL CONNECTIONS

18 AWG, 18 in (46 cm) long free leads are standard, with a green wire grounded to the case. Longer leads are available and may be ordered as special configurations. The leads are intended for installation in conduit capable of withstanding possible explosion pressures, and the leads are factory sealed. See Figure 2 below for color codes.

WARNING All field wiring must comply with requirements of the NEC or applicable local or national electrical codes, including wire gauges and insulation temperature ratings. Conduit seals may be required.

RED – NORMALLY CLOSED	RED – NORMALLY CLOSED 1
BROWN – COMMON	BROWN – COMMON 1
BLUE – NORMALLY OPEN	BLUE – NORMALLY OPEN 1
GREEN – GROUND	BLACK – NORMALLY CLOSED 2
	YELLOW – COMMON 2
	VIOLET – NORMALLY OPEN 2
	GREEN – GROUND

SPDT

DPDT

Figure 2

Pressure Switch Schematics

CHAPTER

3

TROUBLESHOOTING

TROUBLESHOOTING

In-service problems are unlikely, but the following paragraphs suggest ways to verify any problems that might arise:

1. Failure to Switch

Check connections. Verify actuator is still properly synchronized (See Installation Chapter 2).

2. High Contact Resistance

You may be using an 11 amps rated electrical assembly but only running milliamps. A buildup of contaminants has likely coated the contacts. To clear this away, apply a higher current through the electrical assembly and actuate the device a few times. This will clear away the buildup. In the future, use the 1 amp rated assembly.

CHAPTER

4

SPECIFICATIONS

This section shows standard specifications and available options.

STANDARD

Interfaces

See Figure 1.

Shipping weight is approximately 13 ounces (0.34 kg) each.

Conduit Connection: ½” - 14 NPT male

Housing thread: 1.3125 - 32 UN male

Part Number, See Electric Ratings for complete rating

057-0760	SPDT, 11 amp max, Cable lead
057-0761	DPDT, 11 amp max, Cable lead
057-0762	SPDT, 1 amp max, Cable lead
057-0763	DPDT, 1 amp max, Cable lead
057-0770	SPDT, 11 amp max, 18 awg free leads
057-0771	DPDT, 11 amp max, 18 awg free leads
057-0772	SPDT, 1 amp max, 18 awg free leads
057-0773	DPDT, 1 amp max, 18 awg free leads

Listing Agency Approvals

CE Mark;
Conforms with IEC 60947-1 Low Voltage Directive
Conforms with Council Directives 94/9/EC and 97/23/EC.
UL, CSA, FM, IECEX, ATEX, and INMETRO certified.

Weather Proof Ratings:

Ingress protection IP66
Enclosure type 3, 3R, 3S, 4, 4X, 13 (NEMA)

Electrical and Ambient Temperature Ratings

Minimum ambient temperature is -40 °C (-40 °F)

057-0760, 057-0770:

11 amp at 125 or 250 VAC to +75 °C (+167 °F) max, T5;
11 amp at 125 or 250 VAC to +60 °C (+140 °F) max, T6;
5 amp at 125 or 250 VAC, 5 amp resistive, 3 amp inductive
at 28 VDC; 0.5 amp resistive at 125 VDC to
+70 °C (+158 °F) max, T6.

057-0761, 057-0771:

11 amp at 125 or 250 VAC to +65 °C (+149 °F) max, T4;
11 amp at 125 or 250 VAC to +45 °C (+113 °F) max, T6;
5 amp at 125 or 250 VAC; 5 amp resistive, 3 amp inductive
at 28 VDC; 0.5 amp resistive, at 125 VDC to
+70 °C (+158 °F) max, T6.

057-0762, 057-0763, 057-0772, 057-0773:

1 amp at 125 VAC to +70 °C (+158 °F) max. T6

WARRANTY INFORMATION

A. Warranty:

ITT (ITT) warrants that at the time of shipment, the products manufactured by ITT Neo-Dyn and sold hereunder, will be free from defects in material and workmanship and will conform to the specifications furnished or approved by ITT.

B. Warranty Adjustment:

If any defect within this warranty appears, the Buyer shall notify ITT immediately.

ITT agrees to repair or furnish a replacement for, but not install, any product which, within one (1) year from the date of shipment by ITT shall, upon test and examination by ITT, prove defective within the above warranty.

No product will be accepted for return or replacement without the written authorization of ITT. Upon such authorization, and in accordance with instructions by ITT, the product will be returned with shipping charges prepaid by the Buyer. Replacements made under this warranty will be shipped prepaid.

C. Exclusion from Warranty:

THE FOREGOING WARRANTY IS IN LIEU OF AND EXCLUDES ALL OTHER EXPRESSED OR IMPLIED WARRANTIES OF MERCHANTABILITY, OR FITNESS, OR OTHERWISE.

Components manufactured by any supplier other than ITT shall bear only the warranty made by the manufacturer of that product, and ITT assumes no responsibility for the performance or reliability of the unit as a whole.

In no event shall ITT be liable for indirect, incidental or consequential damages nor shall the liability of ITT arising in connection with any products sold hereunder (whether such liability arises from a claim based on contract, warranty, tort or otherwise) exceed the actual amount paid by Buyer to ITT for the products delivered hereunder.

The warranty does not extend to any product manufactured by ITT, which has been subject to misuse, neglect, accident, improper installation, or to use in violation of instructions furnished by ITT.

The warranty does not extend to or apply to any unit, which has been repaired or altered at any place other than at ITT's factory or service locations, by persons not expressly approved by ITT.

