

It is important that these transmitters be installed, operated and maintained in accordance with all NEC and applicable codes. Also, these products may not be modified in any way. Failure to adhere to this requirement will void the IS approval rating.

627 Series comes standard with a polyurethane jacketed cable containing a strength member which allows it to support the transmitter without additional supports. Also, this cable has a vent tube which provides an ambient pressure reference. The end of the vent tube should be protected from moisture. If moisture finds its way into the transmitter electronics it could adversely affect the performance of the product.

For some applications the use of a gortex filter inserted into the end of the vent tube will be adequate. In more humid conditions a desiccant cartridge plugged into the end of the vent tube is recommended. A teflon jacketed cable is available for applications that are not compatible with the standard polyurethane material.

Wiring of all the transmitters is based upon a 4 mA to 20 mA, 2-wire current loop. The DC power supply, transmitter and receiving instrumentation are wired in series. The transmitter controls the current in the loop which is directly proportionate to the measured pressure.

### Maintenance

NOSHOK 625, 626 and 627 Series transmitters require no maintenance. They are calibrated at the factory using pressure standards traceable to NIST. However, 625 and 626 Series have user accessible zero and span potentiometers located under the top cap. These are trimming adjustments with about  $\pm 10\%$  adjustment capability. 627 Series is sealed and does not have any user accessible adjustments.

# NOSHOK

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NUMIS 03-5

## User Manual

# PRESSURE & LEVEL TRANSMITTERS

625, 626 and 627 Series  
Intrinsically Safe



# NOSHOK

## General

NOSHOK 625, 626 and 627 Series transmitters are approved for use in hazardous location applications as follows:

Intrinsically Safe, entity approval for Class I, II and III, Division 1, Groups A, B, C, D, E, F and G, and Class I Zone 0 Aex ia IIC

Dust Ignition-proof for Class II and III, Division 1, Groups E, F and G

Non incandive for Class I, Division 2, Groups A, B, C and D

FMRC 3600, 3610, 3611, 3810 (including supplement #1), ISA-S12.0. 01, IEC 60529 (including amendment #1)

## Installation and Commissioning

625 Series pressure transmitter is connected to the pressure source using the the threaded stainless steel pressure port. Several pressure port sizes are available.

626 Series pressure transmitter incorporates a stainless steel (or optional material) diaphragm at the end of the pressure connection, providing a flush diaphragm configuration. It is connected to the pressure

source using the G1/2 B or G1 B threads directly or through the use of the available weld on adapters. 627 Series is a submersible level transmitter and is suspended by the attached cable in a tank. The hydrostatic pressure produced by the liquid rising above the location of the level transmitter is directly related to the actual liquid level. Unless the metal body of the 627 Series is grounded directly in the mounting of the transmitter, the drain wire in the cable needs to be grounded to a suitable system ground. It is essential to do this for the built in noise protection to be effective.

## HAZARDOUS (CLASSIFIED) LOCATION

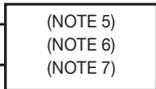
CLASS I, ZONE 0, GROUP IIC  
CLASS I, DIVISION 1, GROUPS A, B, C AND D  
CLASS I, DIVISION 1, GROUPS E, F AND G  
CLASS III  
(NOTE 2)

## NON-HAZARDOUS LOCATION

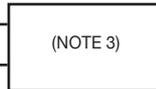
625, 626 and 627 Series



ASSOCIATED APPARATUS



CONTROL EQUIPMENT



## 4 mA to 20 mA 2-Wire System

	Hirschmann	Cable	M12	Bendix	Internal Junction Box
+Supply	1	Red/Brown	1	A	1
+Output	2	Black/Green	3	B	2

## ENTITY PARAMETERS:

$V_{max} = 30\text{ V}$ ,  $I_{max} = 100\text{ mA}$  at  $T_{amb} \leq 85\text{ }^{\circ}\text{C}$ ,  $I_{max} = 87\text{ mA}$  at  $T_{amb} > 85\text{ }^{\circ}\text{C}$ ,  $P_i = 1\text{ W}$   
FOR 625, 626, AND 627 SERIES:  $C_i = 22\text{ nF}$  (FLYING LEADS:  $+ 0.2\text{ nF/m}$ ),  $L_i = 0.1\text{ mH}$  (FLYING LEADS:  $+ 2\text{ }\mu\text{H/m}$ )

## NOTES:

- THE INTRINSIC SAFETY ENTITY CONCEPT ALLOWS THE INTERCONNECTION OF TWO INTRINSICALLY SAFE DEVICES WITH ENTITY PARAMETERS NOT SPECIFICALLY EXAMINED IN COMBINATION AS A SYSTEM WHEN:  $U_o$  OR  $V_{oc} \leq V_{max}$ ,  $I_o$  OR  $I_{sc} \leq I_{max}$ ,  $C_a$  OR  $C_o \geq C_i + C_{cable}$ ,  $L_a$  OR  $L_o \geq L_i + L_{cable}$ ,  $P_o \leq P_i$
- DUST-TIGHT CONDUIT SEAL MUST BE USED WHEN INSTALLED IN CLASS II AND CLASS III ENVIRONMENTS
- CONTROL EQUIPMENT CONNECTED TO THE ASSOCIATED APPARATUS MUST NOT USE OR GENERATE MORE THAN 250 Vrms OR Vdc
- INSTALLATION SHOULD BE IN ACCORDANCE WITH THE CANADIAN ELECTRICAL CODE (CEC) PART I FOR CANADA OR WITH ANSI/ISA RP12.6 "INSTALLATION OF INTRINSICALLY SAFE SYSTEMS FOR HAZARDOUS (CLASSIFIED) LOCATIONS" AND THE NATIONAL ELECTRICAL CODE® (ANSI/NFPA70) SECTIONS 504 AND 505 FOR USA
- THE CONFIGURATION OF ASSOCIATED APPARATUS MUST BE UNDER ENTITY CONCEPT AND - FOR THE USA - FM APPROVED
- ASSOCIATED APPARATUS MANUFACTURER'S INSTALLATION DRAWING MUST BE FOLLOWED WHEN INSTALLING THIS EQUIPMENT
- THE 625 AND 626 SERIES ARE CERTIFIED BY CSA AND FM FOR CLASS I ZONE 0 APPLICATIONS. (627 SERIES CSA CERTIFIED ONLY.) IF CONNECTING EX [ib] / AEX [ib] ASSOCIATED APPARATUS OR EX [ib] I.S. APPARATUS TO THE 625, 626 AND 627 SERIES THE I.S. CIRCUIT IS ONLY SUITABLE FOR CLASS I, ZONE 1 OR CLASS I, ZONE 2 AND IS NOT SUITABLE FOR CLASS I, ZONE 0 OR CLASS I, DIVISION 2 HAZARDOUS (CLASSIFIED) LOCATIONS
- NO REVISION TO DRAWING WITHOUT PRIOR APPROVAL BY CSA AND/OR FM  
SPECIAL CONDITION OF USE: POTENTIAL ELECTROSTATIC CHARGING HAZARD - PARTS OF THE ENCLOSURE MAY BE CONSTRUCTED FROM PLASTIC. TO PREVENT THE RISK OF ELECTROSTATIC SPARKING THE PLASTIC SURFACE SHOULD BE CLEANED ONLY WITH A DAMP CLOTH.