NOSHOK

628 Series Intrinsically Safe Hammer Union Transmitters

C US

Technical Manual

NOSHOK 628 Series
Intrinsically Safe Hammer Union Transmitters

- Before installation, please read the entire manual.
- If you do not observe the appropriate regulations, serious injuries and/or damage can occur.
- Do not use the transmitter in any other way than described in these operating instructions, or protection provided by the equipment may be impaired.
- Repairs done by the customer will void the warranty and approvals, and may create an explosion hazard.
- DO NOT use these products as stop devices or in any other application where failure of the product could result in personal injury.
- Ensure that the transmitter is only operated in accordance with the provisions as described in the following instructions.

Table Of Contents

Chapter 1

Product Specifications

Excitation Voltage:	10-28 VDC
Output:	4mA -20mA*
Span:	16 mA *

Connections:

+PWR/SIG: +EXCITATION VOLTAGE
-PWR/SIG: - EXCITATION VOLTAGE

(This terminal must also be grounded**. This is normally accomplished in a non-hazardous area by grounding the supply return terminal per control drawings 21076, 21077, 21078, & 21079)

Safe overload:	≥150% rated capacity
Max. overload:	≥300% rated capacity

Shunt Calibration Circuit (optional):

Units with "-cal" connection but no "+cal":
CONNECT TO NEGATIVE SIDE OF POWER SUPPLY TO ENGAGE the shunt calibration circuit. Do not engage the calibration circuit longer than one minute in a hazardous location.

Units with "+cal" & "-cal" connection:
To engage shunt, connect negative side of power supply to "-cal" and positive side of power supply to "+cal". For units with a "+cal" connection, the shunt calibration circuit cannot be used or hooked up in hazardous locations.

IP rating:
Units are hermetically sealed and have an IP rating of at least IP54.

* Review calibration sheet for any customer specified variations.
** For ordinary, non-hazardous locations, the requirement for grounding the "-PWR/SIG" connection can be waived if powered by a class 2 circuit.

Installation, General

- See Chapter 2 for additional requirements when installing in hazardous locations.
- Ensure that the transmitter is only used within the safe overload limit at all times.
- Do not use the transmitter in any other way than described in these operating instructions, or protection provided by the equipment may be impaired.

Unpacking:

- Inspect the transmitter for possible damage during transportation; should there be any damage, inform the transport company and NOSHOK right away.
- Protection caps removed for inspection should be reinstalled until just before installation.
- Never insert objects into the pressure port or press against the sensor to deflect in an attempt to simulate a load; this can cause permanent damage to the diaphragm.

Installation:

- The Safety of any system incorporating this transmitter is the responsibility of the installer.
- Do not install the pressure transmitter if it has any damage. (Mark damaged units to prevent them from accidently being installed).
- Some installations require special and/or expert knowledge for safe installation. For example, applications such high pressures, dangerous media, and mounting of heavy loads are beyond the scope of this manual. Trained and knowledgeable persons should be consulted during installation.
- A shielded cable is preferred for signal quality. It should be grounded at one end. Grounded at both ends may introduce ground loop problems.

Installation, continued

- Verify that process connections are compatible.
- Verify that wetted parts are compatible with the media.
- Do not use with abrasive media.
- When using o-rings, thread tape or sealants, verify that they are compatible with the media, temperature range, and pressure range of the transmitter.
- Only tighten on the wrench flats closest to the pressure port.
- Do not allow media to freeze in pressure port.

Removal, Maintenance and Repair

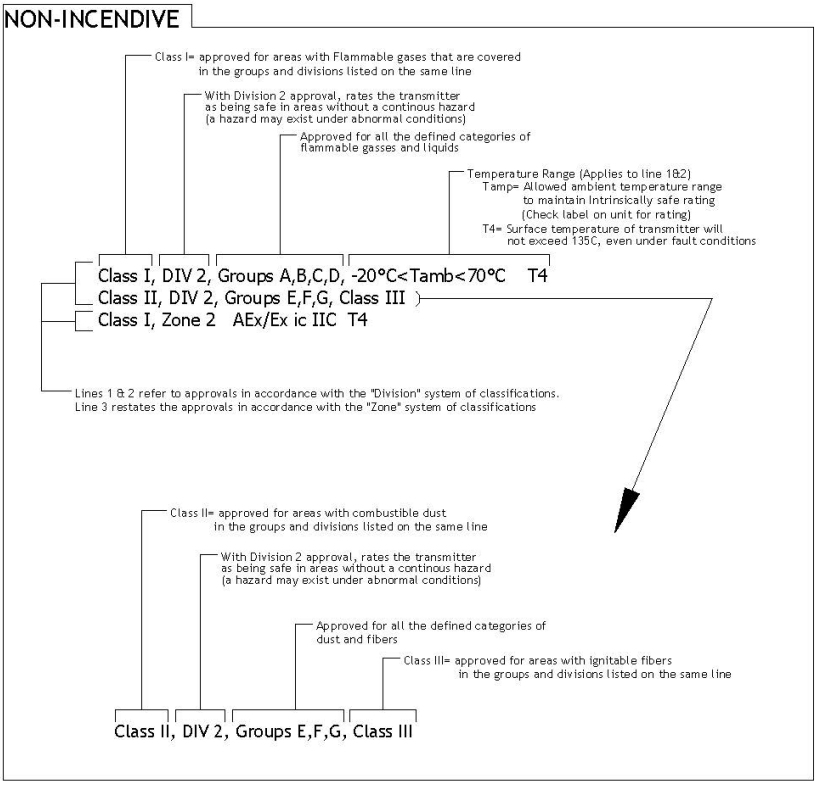
- Transmitters require no maintenance during use.
- All adjustments and repairs should be performed by NOSHOK. No disassembly or adjustments are permitted in hazardous locations.
- Recommended recalibration cycle is one year, under normal conditions.
- Never attempt to remove the transmitter when it is under load or pressure.
- Take precaution with regard to remaining media in transmitter. It may be hazardous, toxic, or flammable.
- Repairs done by the customer will void warranty, approvals, and may create an explosion hazard.
- Never insert objects into the pressure port or press against the sensor to deflect in an attempt to simulate a load; this can cause permanent damage to the diaphragm.

Hazardous Location Installations

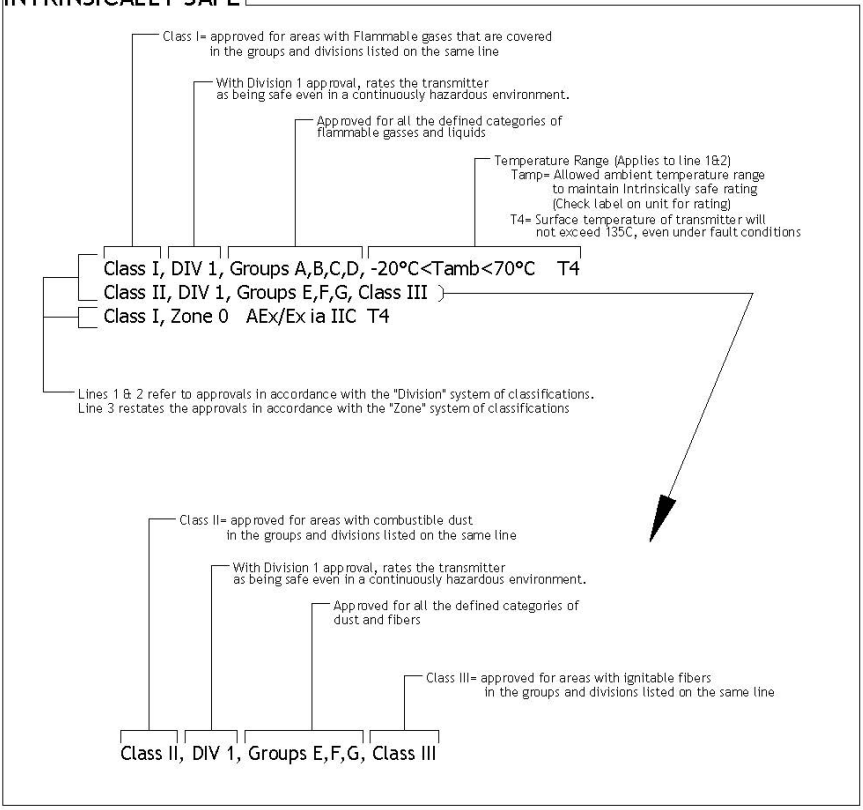
- Observe the relevant national regulations (e.g.: IEC 60079-14, NEC, CEC) and observe the applicable standards and directives for special applications (e.g. with dangerous media such as acetylene, flammable gases or liquids and toxic gases or liquids and with refrigeration plants or compressors).
- If you do not observe the appropriate regulations, serious injuries and/or damage can occur.
- Observe the ambient ratings on unit label.
- All adjustments and repairs should be performed by NOSHOK. No disassembly or adjustments are permitted in hazardous locations.
- Repairs done by the customer will void warranty, approvals, and may create an explosion hazard.
- Protect the diaphragm against any contact with abrasive substances, pressure spikes, and do not touch with tools. If you damage the diaphragm, no intrinsic safety can be guaranteed.
- Units meet dielectric strength requirements of 60079-11 paragraph 6.3.12.
- Negative terminal, marked “-PWR/SIG”, must be grounded.
- Barriers must comply with the entity parameters noted on the control drawings.
- Installation not per the appropriate control drawing will invalidate the safety rating. See product label for applicable control drawing. For example, “install per 21076”.
- Installation per the control drawing is required but it is not necessarily sufficient to ensure safety. The system in which it is installed must still conform to all applicable national and industrial standards.

Understanding Approval Ratings

- The relevant codes and standards should be consulted for precise interpretation of the classifications and marking. The definitions below are only for reference.
- Units are not rated for mines.



INTRINSICALLY SAFE



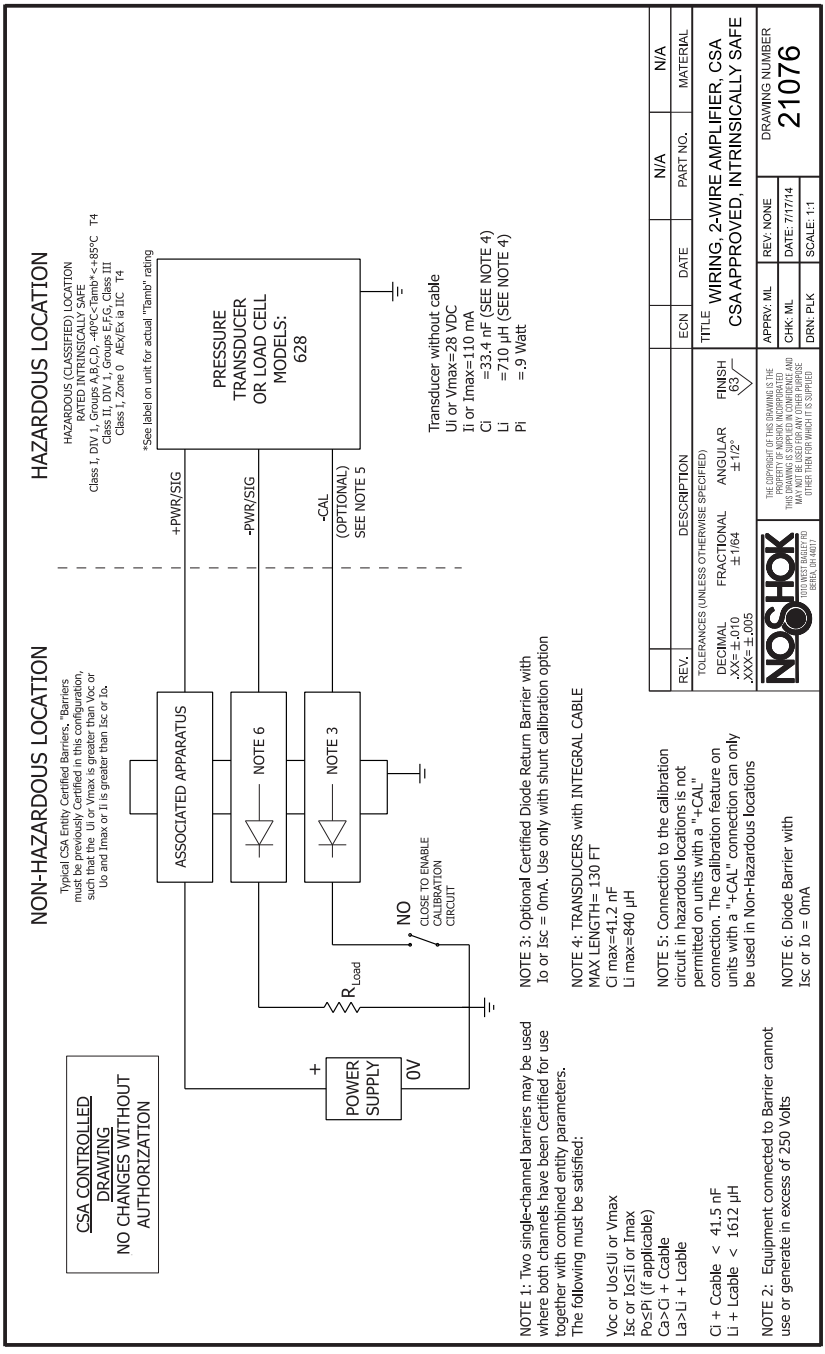
Chapter 2

Intrinsically Safe Installation

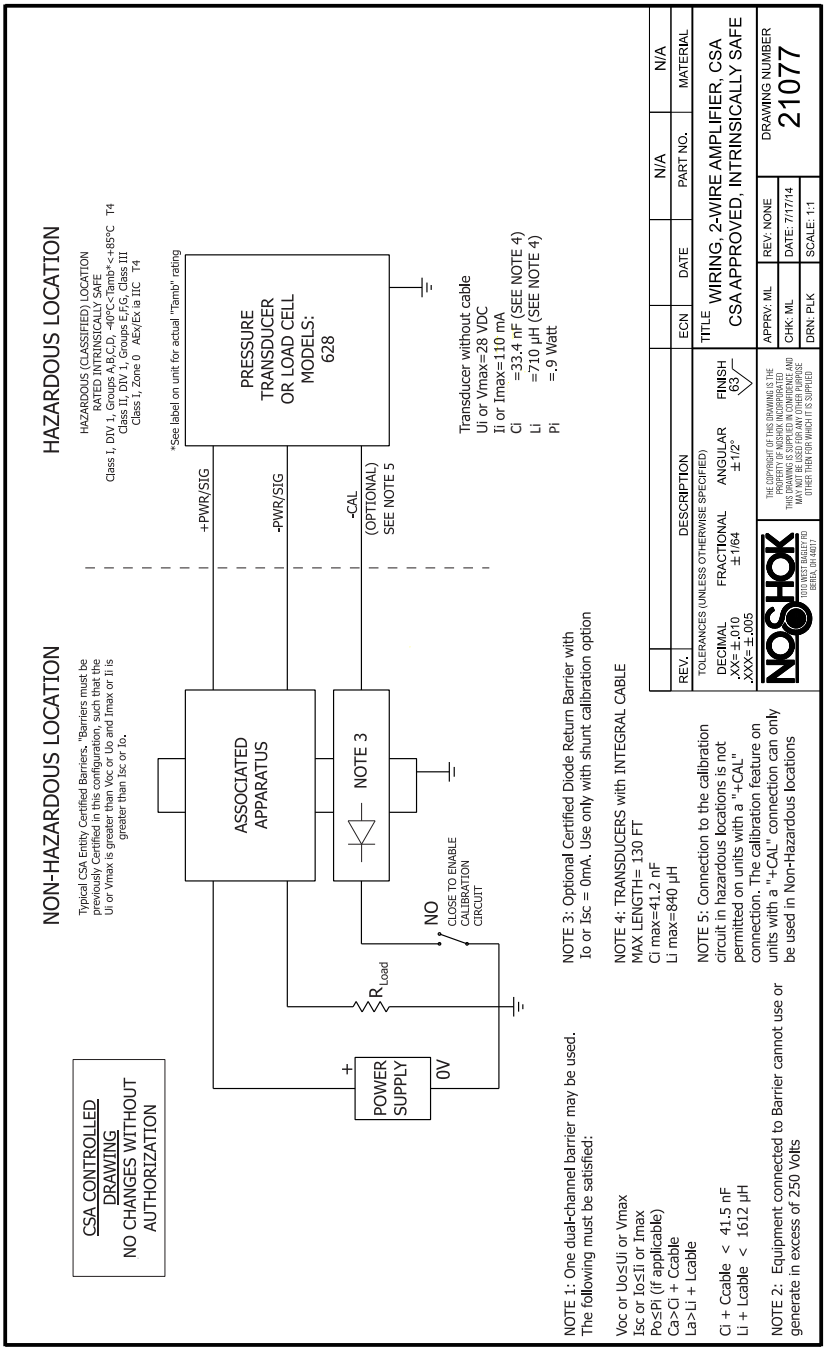
Introduction
“Intrinsic safety” insures that a circuit operated under normal and specified fault conditions is not capable of causing ignition of the prescribed explosive atmosphere.

Installation
The certification of each testing laboratory is valid when the transmitter has been installed according the installation drawings or certificates of conformity included in this section.

CSA Installation Drawings for Intrinsically Safe Applications



CSA Installation Drawings for Intrinsically Safe Applications



Chapter 3

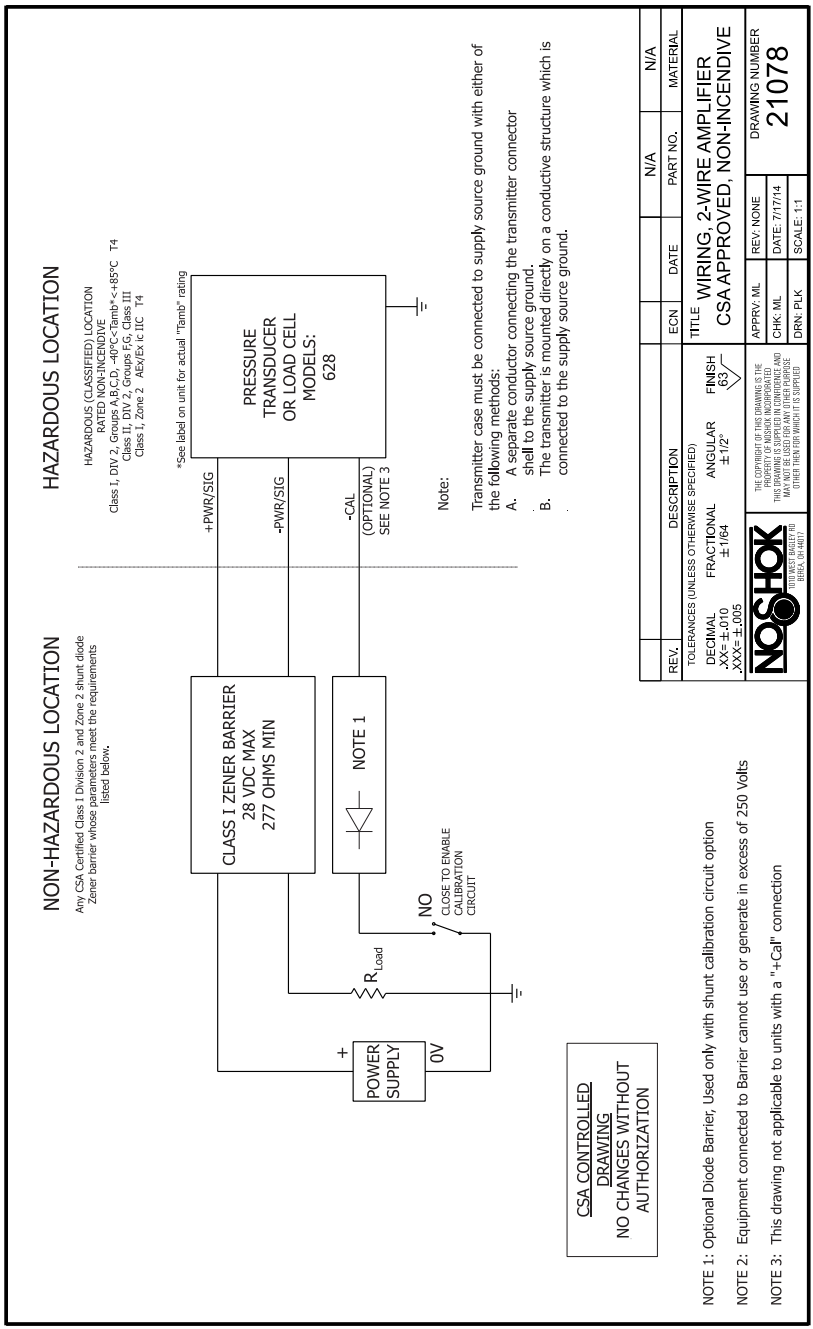
Non-Incendive Installation

Introduction

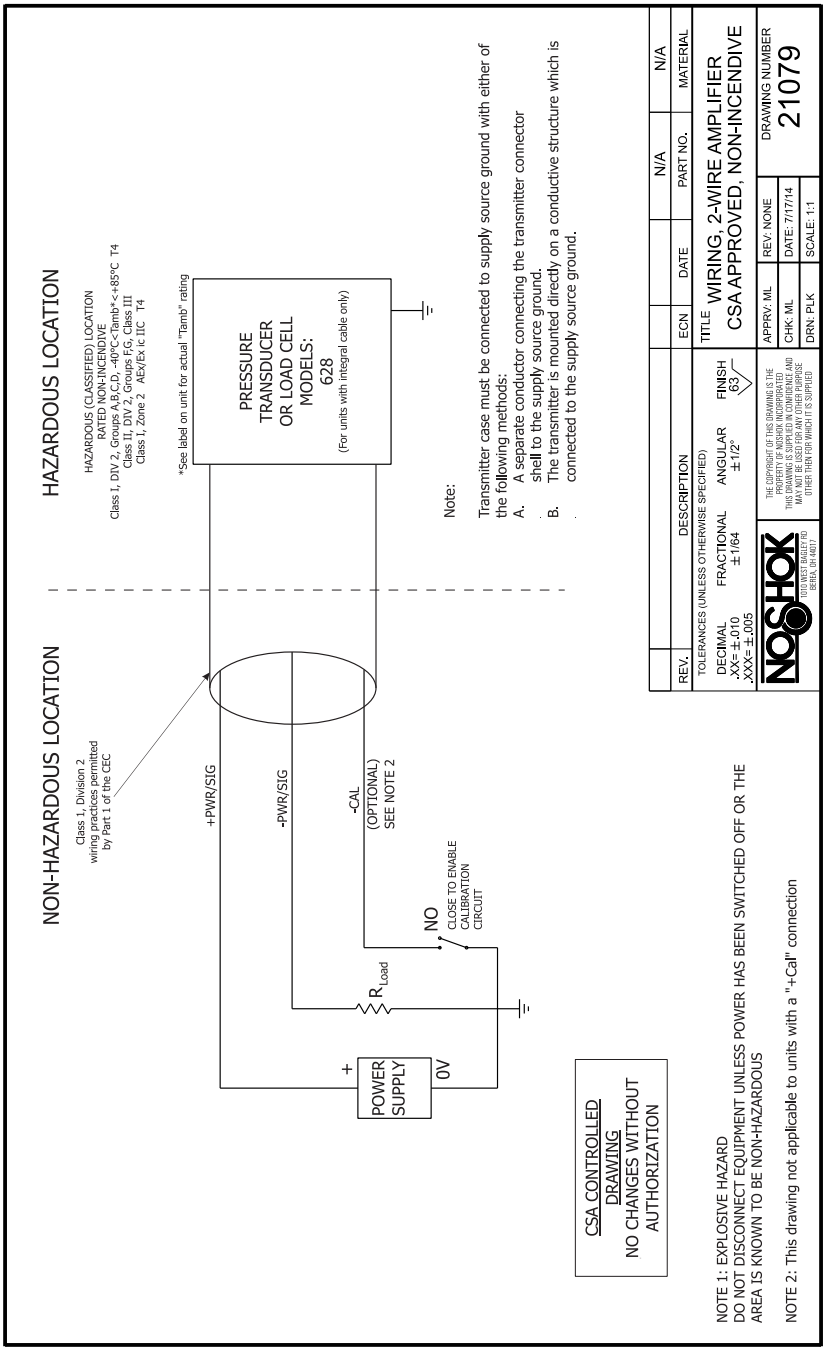
“Non-incendive” circuits are designed and constructed so that they are not capable under normal operating conditions or due to opening, shorting, or grounding of field wiring, of causing an ignition of the prescribed flammable gas or vapor.

Installation

The certification of each testing laboratory is valid when the transmitter has been installed according the installation drawings or certificates of conformity included in this section.



CSA Installation Drawings for Non-Incendive Applications



WARRANTY INFORMATION

NOSHOK's **Three Year Warranty** applies to 628 Series Intrinsically Safe Hammer Union Transmitters.

NOSHOK guarantees all products to be free from defects in material and workmanship, to remain within catalogued accuracy specifications, and to operate within the catalogued performance specifications.

These products must be operated within the catalogued environmental and application parameters. Determination of failure will be made by NOSHOK, Inc.'s equipment and personnel or a certified test facility specializing in this type of evaluation. Instrument failures determined to be caused by over-range, incompatibility with environment or product media and abuse will not be considered under this warranty. NOSHOK, Inc. will, at its discretion, repair or replace the working parts of the damaged gauge without cost to the customer.

NOSHOK

Corporate Headquarters
1010 West Bagley Road
Berea, Ohio 44017
Ph: 440.243.0888
Fax: 440.243.3472
E-mail: noshok@noshok.com
Web: www.noshok.com

ISO 9001:2008
REGISTERED