



KULITE SEMICONDUCTOR PRODUCTS, INC.

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Kulite Intrinsically Safe Pressure Transducers

Hazardous Area Installation Instructions

The equipment for use in potentially explosive atmospheres complies with EU directive 2014/34/EU (ATEX) and/or the IEC Certification scheme for Explosive Atmospheres (IECE_x).

The applied standards are:

EN IEC 60079-0:2018 EN 60079-11:2012 EN 60079-7:2015+A1:2018

IEC 60079-0:2017 Ed 7 IEC 60079-11:2011 Ed 6 IEC 60079-7:2017 Ed 5.1

Copies of the ATEX EX ia, and IECE_x ia and EX ec examination certificates are available from the manufacturer.

Read and understand all the related data before installing and using equipment. This includes all local safety procedures and installation standards, this document, and the product data sheet, or, if applicable, the specification drawing.

Use only approved engineers or technicians who have the necessary skills and qualifications to install and use the equipment in potentially explosive atmospheres (“hazardous areas”).

- **Warning: Do not use tools on the transducer that might cause incendive sparks-this can cause an explosion.**
- **Warning: Do not connect or separate an energized electrical circuit in a hazardous area while explosive atmospheres are present-this can cause an explosion. Isolate the power supply to the equipment first.**
- **Warning-Do not connect or disconnect when energized**

Marking Details

<p>KULITE 34345 1 WILLOW TREE RD LEONIA NJ USA (SEE NOTE 2) KPN: KULITE PART NUMBER SER: DMF: MM/YYYY (SEE NOTE 3) Ex ia IIC T4 Ga (-60°C ≤ Tamb ≤ +80°C) Ex ia IIC T3 Ga (-60°C ≤ Tamb ≤ +125°C) Ex ia IIC T2 Ga (-60°C ≤ Tamb ≤ +230°C) Sira 99ATEX2203 IECE_x CSAE 22.0008X</p>	<p>KULITE 34345 1 WILLOW TREE RD LEONIA NJ USA PRESSURE TRANSDUCER KPN: KULITE PART NUMBER SER: DMF: MM/YYYY (SEE NOTE 2) RANGE: Ex ec IIC T4 Gc (Ta = -60°C to +80°C) Ex ec IIC T3 Gc (Ta = -60°C to +125°C) Ex ec IIC T2 Gc (Ta = -60°C to +230°C) Sira 16ATEX4351X IECE_x CSAE 22.0008X (SEE NOTE 5) Warning – Do not connect or disconnect when energized</p>
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Transducer Materials

The materials used for the primary enclosure are stainless steel, inconel or Hastelloy. If connector version, connector is hermetic design and certified to MIL-DTL-38999 or equivalent standard with pins insulated from shell by glass to metal seals with stainless steel shell. If captive cable version, in place of a connector, a welded hermetic feed-through bulkhead with glass to metal sealed pins. External cable material consists of Teflon coated wire or other cable outlet based on customer specification. Other external materials can include rubber connector grommets and o-rings for EX ia only. Ensure the materials are applicable for installation. Ensure the materials are applicable for installation.

Installation

Before using the equipment, remove any plastic/rubber protection caps from the pressure and electrical connectors.

External temperature limits

The permitted ambient temperature range for the equipment is marked on the part. Make sure the pressure media stays within these limits.

Position

Install the equipment in a safe configuration that prevents unwanted vibration, physical impact, shock, mechanical and thermal stresses. Do not install the equipment where it can be damaged by a material that causes corrosion. Provide additional protection for equipment that may be damaged in service.

- Make sure there is no damage to the threads or interfaces. Verify parts are free from obstructions and grit.
- For gage transducers, make sure that the vent holes are not blocked or covered.
- Use the correct mating electrical connector, if applicable
- **Refer to Specific Conditions of Use for IECE_x and ATEX parts listed below**

Identification of marking when in use

Use the equipment only for its intended purpose and for the method of protection marked on the part. Marking must not dent, pierce or damage the product. The wall of the enclosure may be only .020” thick. The use of impact stamps and engraving is prohibited.

Electrical connections

The equipment is either an unamplified 4-20mV or a 3-wire or 4-wire voltage output device. The power supply shall not be set to greater than 33.0 Volts with maximum total power dissipated to be <1.0 watts for Type I and Type IV transducers and not greater than 55.0 Volts with maximum total power dissipated to be <1.0 watts for Type II, III and Type V transducers. The power supply must be from an intrinsically safe (IS) power supply or from a Zener diode barrier. For ec type equipment, connect earth/ground connections that are applicable to the installation.

The equipment is resistant to an AC voltage test of 500V RMS as specified in EN 60079-11.

Specific Conditions of Use for ATEX and IECE_x

- For Type ec, provisions shall be made to provide for the transient protection device to be set at a level not exceeding 119V at the power supply terminals of the equipment. The transient protection shall limit transients up to a maximum input voltage of the equipment in normal operation.
- For type ec, the connector used to make an electrical connection to the transducer shall have a minimum rating of IP53 (when used indoors) or IP66 rating (when used outdoors) and shall be manufactured from stainless steel with the pins insulated from the shell by glass to metal seals
- For type ec, the connectors shall not be connected or disconnected while the equipment is energized. Before connection, they shall be inspected to be free from contaminants (e.g. moisture and dust) that might impair the segregation between the pins.
- For type ec, the equipment shall be adequately grounded (earthed).

IS entity parameters

Type I and Type IV Transducer	Type II, II,V Transducer
Ui=33 V	Ui=55 V
Ii= 250 mA	Ii= 250 mA
Pi = 1.0 W	Pi = 1.0 W
Ci =51.5nF (value includes capacitance of integral cable)	Ci =16.5 nF
Li = 150 μH	Li = 150 μH

Maintenance

Clean the outside of the transducer with a moist, lint free cloth with isopropanol. **DO NOT, UNDER ANY CIRCUMSTANCE, put any object down the port interface as the unit will be severely damaged.**

Repair

Do not attempt any repair to the equipment. Contact the manufacturer for return.