



VIBRATION ANALYSIS HARDWARE



**Class I Division 2 Sensors
AC93X/94X, LP82X/83X, LP92X/93X
Product Manual**

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INTRODUCTION

This document contains information on the installation, operation, and maintenance of Class I Division 2 (Zone 2) Vibration Sensors with an **Ex nA** (North America and Europe) rating.

Type of Protection: Ex nA is based on the principle that any equipment in a hazardous area prohibits any arcs, sparks or hot surfaces that could cause ignition. It may be integral with the safe-area equipment or separate for greater flexibility.

Compliance with the Essential Health & Safety Requirements

Assured by compliance with EN60079-0: 2004, EN60079-15: 2005, EN61241-0: 2006, EN61241-1: 2005.

Nameplate Markings

The following is a complete recapitulation of markings so the customer has complete ATEX information for specific conditions of use:



Figure 1. Nameplate Marking

**Class I Div 2 (Zone 2) Labeling
(AC94X/LP82X/LP92X)**

Ex nA IIC T3 / T4
Ex tD A22 IP6X T150°C (T-Code=T3) / T105°C (T-Code=T4)
DIP A22 IP6X T150°C (T-Code=T3) / T105°C (T-Code=T4)
AEx nA IIC T3 / T4, CLI, Zone 2
AEx tD 22 IP6X T150°C (T-Code=T3) / T105°C (T-Code=T4)
CLI Div 2, GPS A,B,C,D
CLII Div 2, GPS F,G, CLIII
OPERATING TEMP CODE: T3
AMBIENT TEMP RANGE = -54°C TO +125°C
OPERATING TEMP CODE: T4
AMBIENT TEMP RANGE = -40°C TO +80°C
CONTROL DRAWING INS10035
V_{max}=28VDC I_{max}=100mA
CSA 221421
(yr of mfr)

AC94X Series – Temperature code: T3
Ambient temperature range = -40°C to +121°C

AC94X, LP82X and LP92X Series – Temperature code: T4
Ambient temperature range = -40°C to +80°C

Figure 2. Specific Nameplate Markings for ATEX/CSA Intrinsic Safe Parameters



**Class I Div 2 (Zone 2) Labeling Low Capacitance
(AC93X/LP83X/LP93X)**

Ex nA IIC T3 / T4
Ex tD A22 IP6X T150°C (T-Code=T3) or T105°C (T-Code=T4)
DIP A22 IP6X T150°C (T-Code=T3) or T105°C (T-Code=T4)
AEx nA IIC T3 / T4, CLI, Zone 2
AEx tD 22 IP6X T150°C (T-Code=T3) / T105°C=T4)
CLI Div 2, GPS A,B,C,D
CLII Div 2, GPS F,G, CLIII
OPERATING TEMP CODE: T3
AMBIENT TEMP RANGE = -40°C TO +125°C
OPERATING TEMP CODE: T4
AMBIENT TEMP RANGE = -40°C TO +80°C
CONTROL DRAWING INS10035
V_{max}=28VDC I_{max}=100mA
CSA 221421
(yr of mfr)

AC93X Series – Temperature code: T3
Ambient temperature range = -40°C to +125°C

AC93X, LP83X and LP93X Series – Temperature code: T4
Ambient temperature range = -40°C to +80°C

Figure 2a. Specific Nameplate Markings for ATEX/CSA Intrinsic Safe Parameters



INSTALLATION

Installation Procedure

The Class I Division 2 (Zone 2) Control Drawing INS10035 (located in the Overview tab for the product listing at ctconline.com) shows the installation requirements for CTC Class I Division 2 (Zone 2) Sensors.

Notes:

- a. Approved Class I Div 2 (Zone 2) Cable required.
- b. Mechanical locking connector or integral connection
 - CTC's Q2A/Q2R connectors has the cable shield drain connected to the connector backshell.

OPERATION

Standards

Each sensor that is approved for Class I Division 2 (Zone 2) must meet or exceed the requirements for standards recognized by the countries that would use the sensors.

Specific Conditions of Use

Specific ambient conditions of use include:

1. -40 °C to 80 °C for all LP series, AC93X and AC94X series sensors (T4).
2. -40 °C to 125 °C for all AC93X series sensors (T3).
3. -40 °C to 121 °C for all AC94X series sensors (T4).

Class I Division 2/Ex nA IIC when installed using an approved Division 2 (Zone 2) rated cable and connectors in accordance with the CEC or the NEC. European installation shall conform to IEC60079-14 or the applicable local installation code. Suitability of final installation is to be determined by the authority having local jurisdiction.

Special Conditions for Safe Use

None



MAINTENANCE

General

There are no customer replaceable parts. This product should provide trouble-free continuous service under normal operating conditions.

WARRANTY & REFUND

Warranty

All CTC products are backed by our unconditional lifetime warranty. If any CTC product should ever fail, we will repair or replace it at no charge.

Refund

All stock products can be returned for a 25% restocking fee if returned in new condition within 90 days of shipment. Stock products qualify for free cancellation if your order is cancelled within 24 hours of purchase. Built-to-order products qualify for a 50% refund if returned in new condition within 90 days of shipment. Custom products are quoted and built specifically to the requirements of the customer, which may include completely custom product designs or private labeled versions of standard products for OEM customers. Custom products ordered are non-cancellable, non-returnable and non-refundable.

