



Certificate of Compliance

Certificate: 2413954 **Master Contract:** 247499 (247499)

Project: 70088606 **Date Issued:** 2016-10-07

Issued to: Kaiser Optical Systems Inc.
371 Parkland Plaza
Ann Arbor, Michigan 48103
USA
Attention: Raymond "Buddy" Guy

The products listed below are eligible to bear the CSA Mark shown with adjacent indicators 'C' and 'US' for Canada and US or with adjacent indicator 'US' for US only or without either indicator for Canada only.



Issued by: *Salvatore Grasso*
Salvatore Grasso

PRODUCTS

CLASS - C225804 - PROCESS CONTROL EQUIPMENT-Intrinsically Safe, Entity - For Hazardous Locations-
CLASS - C225884 - PROCESS CONTROL EQUIPMENT - Intrinsically Safe, Entity-- For Hazardous Locations
- Certified to US Standards

Ex ia IIC T4

Class I Zone 0 AEx ia IIC T4
Class I Division 1 Groups A, B, C and D T4

Pilot probe and WetHead probe, Rated: 20.7 MPa (3000 PSI), HART 4-20mA loop, 2V, 160mA. Intrinsically safe when connected per Drawing No. 4002396 Entity: $U_o = 9.6V$, $I_o = 10mA$, $P_o = 24mW$, $C_o = 3.599 \mu F$, $L_o = 379 mH$, $L_o/R_o = 1530 \mu H/ohms$. IP65

Ex ia IIB+H2 T4
Class I Zone 0 AEx ia IIB+H2 T4
Class I Division 1 Groups B, C and D T4

AirHead probe, Rated 6.9 MPa (1000 PSI), HART 4-20mA loop, 2V, 160mA. Intrinsically safe when connected per Drawing No. 4002396 Entity: $U_o = 9.6V$, $I_o = 10mA$, $P_o = 24mW$, $C_o = 3.599 \mu F$, $L_o = 379 mH$, $L_o/R_o = 1530 \mu H/ohms$. IP65



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APPLICABLE REQUIREMENTS

CSA Standard C22.2 No. 0-10
CAN/CSA-C22.2 No 157-92
(Reaffirmed 2006)
CSA Standard C22.2 No. 142-M1987
(Reaffirmed 2004)
CAN/CSA-E60079-0:02

CAN/CSA-E60079-11:02
(Reaffirmed 2006)
CAN/CSA-C22.2 No. 60529:05
ANSI/UL Standard 508, 17th Ed.
ANSI/UL Standard 913, 7th Ed.

ANSI/UL 60079-0:2005, 4th Ed.

ANSI/UL 60079-11:2009, 5th Ed.

The following standards were used in whole or in part as a guideline:

CSA Standard C22.2 No. 30-M1986
(Reaffirmed 2007)

General Requirements - Canadian Electrical Code, Part II
Intrinsically Safe and Non-Incendive Equipment for Use in
Hazardous Locations

Process Control Equipment

Electrical apparatus for explosive gas atmospheres – Part 0:
General requirements

Electrical apparatus for explosive gas atmospheres – Part
11: Intrinsic safety “i”

Degrees of protection provided by enclosures (IP Code)

Industrial Control Equipment

Intrinsically Safe Apparatus and Associated Apparatus for
Use in Class I, II, and III, Division 1, Hazardous
(Classified) Locations

Electrical Apparatus for Explosive Gas Atmospheres – Part
0: General Requirements

Explosive Atmospheres – Part 11: Equipment Protection by
Intrinsic Safety “i”

Explosion-Proof Enclosures for Use in Class I Hazardous
Locations



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MARKINGS

The manufacturer is required to apply the following markings:

- Products shall be marked with the markings specified by the particular product standard.
- Products certified for Canada shall have all Caution and Warning markings in both English and French.

Additional bilingual markings not covered by the product standard(s) may be required by the Authorities Having Jurisdiction. It is the responsibility of the manufacturer to provide and apply these additional markings, where applicable, in accordance with the requirements of those authorities.

The products listed are eligible to bear the CSA Mark shown with adjacent indicators 'C' and 'US' for Canada and US (indicating that products have been manufactured to the requirements of both Canadian and U.S. Standards) or with adjacent indicator 'US' for US only or without either indicator for Canada only.

- Manufacturer's name: "Kaiser Optical Systems, Inc.", or CSA Master Contract Number "247499", adjacent to the CSA Mark in lieu of manufacturer's name.
- Model number: As specified in the PRODUCTS section, above.
- Electrical ratings: As specified in the PRODUCTS section, above.
- Ambient temperature rating: As specified in the PRODUCTS section, above.
- Manufacturing date in MMY format, or serial number, traceable to year and month of manufacture.
- The CSA Mark, as shown on the Certificate of Conformity.
- Hazardous Location designation: As specified in the PRODUCTS section, above (may be abbreviated).
- Method of Protection markings (Ex -- markings): *<it may be best to spell these out, but reference to the PRODUCTS section, above is acceptable>*
- Temperature code: As specified in the PRODUCTS section, above.
- The following words:
 - "Exia".
 - "Intrinsically Safe"
 - "WARNING: Substitution of components may impair intrinsic safety."
- Maximum working pressure (MWP) in pascals

Method of Marking

Markings are to be permanent, such as engraved, etched, etc., to the surface of the equipment, or printed, etched, etc., onto a metal nameplate which is secured to the equipment with drive-pins, rivets, or similar engaging bottomed holes in the enclosure. If an adhesive label is used, it must be CSA approved (US certification also requires UL Recognition) for the specific surface material and/or coating, having a rated temperature appropriate for the equipment, and be suitable for indoor/outdoor applications (as required).



Supplement to Certificate of Compliance

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The products listed, including the latest revision described below, are eligible to be marked in accordance with the referenced Certificate.

Product Certification History

Project	Date	Description
70088606	2016-10-07	Update Report 2413954 of WetHead probe, to update drawing 2013340 to add C22 (UNS N06022) to Material Specifications.
2649449	2013-09-29	(CLE255) Continuation of Project 2583156 for certification to Evaluate for update to report 2413954 to include the Smart head Option.
2627292	2013-05-23	Update to report 2413954 to include revised drawings 2013339 and 2013340 to replace 2009762 and 2011473.
2583156	2013-04-26	(CLE248) Evaluation for update of report 2413954 to include Smarthead option.
2533781	2012-06-27	Update to report 2413954 to include revised drawing. Update includes labeling to be added on the cable.
2413954	2011-12-21	Original Certification of Pilot, WetHead, and AirHead probes as Intrinsically Safe for Hazardous Locations.