



# Certificate of Compliance

Certificate: 1029981

Master Contract: 169790

Project: 70067333

Date Issued: 2016-07-22

Issued to: **Pepperl+Fuchs GmbH**  
**Lilienthalstrasse 200**  
**Mannheim, 68307**  
**GERMANY**  
Attention: **Stefan Wirtz**

*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  
**CLASS - C225803** - PROCESS CONTROL EQUIPMENT - Intrinsically Safe and Non-Incendive Systems - For Hazardous Locations

For details related to rating, size, configuration, etc. reference should be made to the CSA Certification Record or the descriptive report.

CLASS 2258 03 – PROCESS CONTROL EQUIPMENT – Intrinsically Safe and Non-Incendive Systems – For Hazardous Locations

CLASS 2258 04 – PROCESS CONTROL EQUIPMENT – Intrinsically Safe Entity – For Hazardous Locations

**Class I, Div. 1, Groups A, B, C and D; Class II, Div. 1, Groups E, F and G; Class III, Div.1;**

- Transformer Isolated Barriers, Models; KFD2-SR2-Ex2.W, KFD2-SR2-Ex2.W.SM, KFA6-SR2-Ex2.W, KFA5-SR2-Ex2.W, KFA6-SR2-Ex1.W, KFA5-SR2-Ex1.W, KFA6-SR2-Ex1.W.LB, KFA5-SR2-Ex1.W.LB, KFD2-SR2-Ex1.W.LB, KFD2-SR2-Ex1.W, KFD2-SR2-Ex2.2S, KFA5-SR2-Ex2.W.IR, KFA6-SR2-Ex2.W.IR; provides intrinsically safe circuits when connected per dwg. no. 116-0047; system parameters for terminals 1-3, 2-3, 4-6, 5-6,  $V_{max} = 12.6$  V,  $R_{min} = 650$  ohms; entity parameters  $V_{oc} = 12.6$  V,  $I_{sc} = 19.8$



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mA, Ca (A,B/C,E/D,F,G) = 1.273/3.82/10.18 uF, La (A,B/C,E/D,F,G) = 84.88/298.7/744.4 mH; the following models with part numbers greater than 100000 are suitable for mounting in Class I, Div. 2 Group A,B,C,D hazardous locations, KF\*\*-SR2-Ex1.W, KF\*\*-SR2-Ex1.W.LB, KF\*\*-SR2-Ex2.W, KFD2-SR2-Ex2.W.SM, KFD2-SR2-Ex2.2S and KF\*\*-SR2-Ex2.W.IR.

- Switch Isolator, Model KFD0-RO-Ex2; provides intrinsically safe voltage and current free contacts for connection to I.S. circuits in accordance with installation dwg. no. 116-0156; these barriers are suitable for mounting in Class I, Div. 2, Group A,B,C,D hazardous locations.
- Isolation Converters, Models KFD0-CC-Ex1 (Voc = 9.6 V, Isc = 0.5 mA, Ca (A,B/C,E/D,F,G) = 3.5/10.5/28 uF, La (A,B/C,E/D,F,G) = 1000/1000/1000 mH), KFD0-TR-Ex1 (Voc = 16.1 V, Isc = 33 mA, Ca (A,B/C,E/D,F,G) = 0.59/1.77/4.72 uF, La (A,B/C,E/D,F,G) = 30/113/268 mH) and KFD0-TT-Ex1 (Voc = 16.1 V, Isc = 0.8 mA, Ca (A,B/C,E/D,F,G) = 0.59/1.77/4.72 uF, La (A,B/C,E/D,F,G) = 1000/1000/1000 mH); provides intrinsically safe circuits when connected per dwg. no. 116-0132.
- Transformer Isolated Barriers, Models KFA5-SOT2-Ex1\*\*, KFA5-SOT2-Ex2\*\*, KFA6-SOT2-Ex1\*\* and , KFA6-SOT2-Ex2\*\*; input rated 115/230Vac, 48-62 Hz, 1.15 VA; provides intrinsically safe outputs when connected per dwg. no. 116-0047; system parameters Vmax = 10.5 V, Rmin = 81 ohms; entity parameters Voc = 10.5 V, Isc = 13 mA, Ca (A, B/C, E/D, F, G) = 2.66 / 7.9 / 21.3 uF, La (A,B/C,E/D,F,G) = 192 / 671 / 1000 mH.

Note: These barriers must be installed in suitable enclosures in a non-hazardous location (unless specified otherwise) and provide intrinsically safe circuits for switches, thermocouples, non-inductive resistive devices or CSA Certified equipment when installed per manufacturers control drawings.

#### **Ex [ia] IIC:**

- Transformer Isolated Barriers, Models KFD2-ST2-Ex1\*\*, KFD2-ST2-Ex2\*\*, KFD2-SOT2-Ex1\*\*, KFD2-SOT2-Ex2\*\*; provides intrinsically safe outputs when connected per dwg. no. 116-0047. Um = 60 V; system parameters Uo (Voc) = 10.5 V, Io (Isc) = 13 mA; entity parameters Uo (Voc) = 10.5 V, Io (Isc) = 13 mA, Co (Ca) = 2.66 / 7.9 / 21.3 uF (IIC / IIB / IIA), Lo (La) = 192 / 671 / 1000 mH (IIC / IIB / IIA); models with part numbers greater than 100000 are suitable for mounting in Class I, Div. 2/Zone 2, Group A,B,C,D/IIC,IIB,IIA hazardous locations.

Note: These barriers must be installed in suitable enclosures in a non-hazardous location (unless specified otherwise) and provide intrinsically safe circuits for switches, thermocouples, non-inductive resistive devices or CSA Certified equipment when installed per manufacturers control drawings. Non-I.S. terminals must not be connected to any equipment that uses or generates in excess of 60 Vrms or DC unless the voltage is limited by an adequate means acceptable to the authority having jurisdiction.

**CLASS 2258 04** – PROCESS CONTROL EQUIPMENT – Intrinsically Safe Entity – For Hazardous Locations  
**CLASS 2258 84** – PROCESS CONTROL EQUIPMENT – Intrinsically Safe Entity – For Hazardous Locations –  
Certified to US Standards



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**Class I, Div. 1, Groups A, B, C and D; Class II, Div. 1, Groups E, F and G; Class III, Div.1;  
Class I, Div. 2, Group A, B, C and D;**

- Universal Temperature Module, Models KFD2-UT2-Ex1 (1 channel) and KFD2-UT2-Ex2 (2 channel); input rated 20-30 Vdc, 48 mA (Ex1) and 70 mA (Ex2) T5 @ 60°C, provides intrinsically safe outputs when connected per dwg. No. 366-024CS-12, entity parameters  $V_{oc} = 9\text{ V}$ ,  $I_{sc} = 22\text{ mA}$ ,  $P_o = 50\text{ mW}$ ;  $C_a$  (A,B/C,E/D,F,G) = 4.9 / 40 / 500  $\mu\text{F}$ ,  $L_a$  (A,B/C,E/D,F,G) = 68 / 275 / 550 mH. Model numbers with a -1 suffix have a voltage output and model numbers without a -1 suffix have a current output.

These barriers must be installed in suitable enclosures in a non-hazardous or Class I, Division 2 hazardous location and provide intrinsically safe circuits for thermocouples, non-inductive resistive devices (RTDs or potentiometers) or CSA Certified entity equipment with mV outputs when installed per manufacturers control drawing.

**APPLICABLE REQUIREMENTS**

CSA C22.2 No. 0-M91	General Requirements – Canadian Electrical Code, Part II
CSA C22.2 No. 142-M1987	Process Control Equipment
CAN/CSA-C22.2 No.157-92	Intrinsically Safe and Non-Incendive Equipment for Use in Hazardous Locations
CSA C22.2 No. 213-M1987	Non-incendive Equipment for Use in Class I, Division 2 Hazardous Locations
UL 913: 6th Edition: 2002	Intrinsically Safe Apparatus and Associated Apparatus for Use in Class I, II, and III, Division 1, Hazardous (Classified) Locations
UL 916: 3rd Edition: 1998	Energy management Equipment
UL 1604: 3rd Edition: 1994	Electrical Equipment For Use In Class I and II, Division 2, And Class III Hazardous (Classified) Locations

**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.

The following markings are silk-screened onto the side panels of the isolators. Refer to Descriptive Documents List for nameplate details.



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- Manufacturer's name: "Pepperl + Fuchs", or CSA Master Contract Number "169790", adjacent to the CSA Mark in lieu of manufacturers name.
- Model number: As specified in the PRODUCTS section, above.
- Electrical ratings: As specified in the PRODUCTS section, above.
- Maximum Ambient temperature 60°C.
- Manufacturing date in MMY format, or serial number, traceable to 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).
- Temperature code: As specified in the PRODUCTS section, above. Marking of temperature code T5 or T6 is optional. T4 may be marked for uniformity.
- Reference to I.S. Control Drawing.
- The following words:
  - "[Exia]".
  - "ASSOCIATED EQUIPMENT / APPAREILLAGE CONNEXE".
  - WARNING: SUBSTITUTION OF COMPONENTS MAY IMPAIR INTRINSIC SAFETY: and, AVERTISSEMENT: LA SUBSTITUTION DE COMPOSANTS PEUT COMPROMETTRE LA SECURITE INTRINSEQUE".
- In addition to the markings required above, the following optional markings may also appear; fz [Ex ia] Class I, Zone 0 or 1, Groups IIC/IIB/IIA and Ex nA Class I, Zone 2, Groups IIC/IIB/IIA.

*Note - Jurisdictions in Canada may require these markings to also be provided in French language. It is the responsibility of the manufacturer to provide bilingual marking, where applicable, in accordance with the requirements of the Provincial Regulatory Authorities. It is the responsibility of the manufacturer to determine this requirement and have bilingual wording added to the "Markings".*