



Certificate of Compliance

Certificate: 80090651

Master Contract: 246454

Project: 80090651

Date Issued: 2024-05-09

Issued To: KEM Kueppers Elektromechanik GmbH
Liebigstraße 5
Karlsfeld, Bavaria, 85757
Germany

Attention: Johannes Vogl

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: Sorin Tat
Sorin Tat



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

Modular Pulse Amplifier model Tabc Series with Suffix Code abc as described in the Product Nomenclature below.



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Rated voltage 28Vdc, loop current 4-20mA communication and with two frequency outputs circuits 28V and 2.4mA (each) in normal operation.

Entity parameters: U_i (V_{max}) = 28V, I_i (I_{max}) = 93 mA, P_i = 650 mW, C_i =74.75nF L_i =470 μ H, Installation as per control drawing T100_D_EN_230130_E***. Enclosure Type 3.

Product Nomenclature model Tabc Series:

Where a = 1 or 2 or 3 depending on the Mounting type:

a = 1 if it is Flush-mount

a = 2 if it is Screw-in M14x1.5 short / \leq ZHM 04, SRZ & HM mount

a = 3 if it is Screw-in M14x1.5 long / ZHM, SRZ & HM mount

Where b = 0 or 1 depending on the Housing/Sensor/IP type:

b = 0 if it is Aluminum made material

b = 1 if it is Stainless Steel made material

Where c = 0 or 1 depending on the Connector type:

c = 0 if it is M12 Connector (5-pole)

c = 1 if it is M16 Connector (5-pole)

With the ambient/process range as shown below:

-40°C to +60°C/-40°C to +60°C* (for the flush mount model T1bc, T2bc and T3bc)

-40°C to +50°C/-40°C to +80°C* (for the top mounted using the 30mm mounting requirement for sensor model T2bc and T3bc)

-40°C to +50°C/-40°C to +95°C* (for the side mounted using the 30mm mounting requirement for sensor model T2bc and T3bc)

Conditions of Acceptability:

1. The Modular Pulse Amplifier is supplied by three Diode Safety Barriers (one for the Power Circuit, one for Frequency Output Circuit 1 and one for Frequency Output Circuit 2). These circuits must be kept separate in the field wiring by grounded metal shields. The terminations in the cable connector (not supplied with the apparatus) maintain 2mm separation. The cable shall provide an insulation min. 0.25 mm thickness.
2. The flush mount single or dual sensor tips are for $T_{ambient}$ and $T_{medium(process)}$ of -40°C to +60°C.
3. The long/short sensor tip are for $T_{ambient}$ of -40°C to +50°C, a $T_{medium(process)}$ of -40°C to +80°C (electronics installed above the mechanical meter), a $T_{medium(process)}$ of -40°C to +95°C (electronics installed beside the mechanical meter) and must have a minimum of 30mm distance between the Tabc housing and the mechanical meter.
4. In order to avoid a possible ignition hazard, the versions with an aluminum enclosure must not be subjected to impact or friction.



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5. Only the Modular Pulse Amplifier with product code T*10 and a stainless steel M12 connector, supplied by KEM, can be used as Type 3 for outdoors use. All the other configurations have to be used indoors.

APPLICABLE REQUIREMENTS

CAN/CSA C22.2 No. 60079-0:19 7 th Edition	-	Explosive atmospheres — Part 0: Equipment — General requirements
ANSI/UL 60079-0-20 7 th Edition	-	Explosive atmospheres — Part 0: Equipment — General requirements
CAN/CSA C22.2 No. 60079-11:14 (R2018) 2 nd Edition	-	Explosive atmospheres — Part 11: Equipment protection by intrinsic safety “i”
ANSI/UL 60079-11-2018 2nd Edition	-	Explosive atmospheres — Part 11: Equipment protection by intrinsic safety “i”
CAN/CSA C22.2 No. 61010-1-12 + UPD1:2015, UPD2:2016, AMD 1-18	-	Safety Requirements for Electrical Equipment for Measurement, Control and Laboratory Use - Part 1: General Requirements - Third Edition
ANSI/UL 61010-1-2018 Third Edition	-	Safety Requirements for Electrical Equipment for Measurement, Control and Laboratory Use - Part 1: General Requirements - Third Edition
CSA C22.2 No.94.2-20	-	Enclosures for electrical equipment, environmental considerations
ANSI/UL 50E-2020	-	Enclosures for electrical equipment, environmental considerations

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.

Method for marking: laser engraved on enclosure as shown in T100 Label Overview.

The following details shall be provided by manufacturer on nameplate:

- Manufacturer’s name or CSA Master Contract Number “246454”, adjacent to the CSA Mark in lieu of manufacturer’s name.



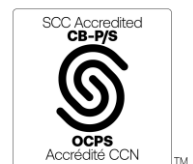
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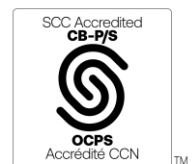
- Model designation: As specified in the PRODUCTS section, above.
- Electrical ratings: As specified in the PRODUCTS section, above.
- Ambient temperature rating: As specified in the PRODUCTS section, on the Control drawing.
- Manufacturing date, or serial number, traceable to year and month of manufacture.
- Enclosure ratings: As specified in the PRODUCTS section, above.
- The CSA Mark, with or without the “C” and “US” indicators, as shown on the Certificate of Conformity.
- The designation “CSA23CA80090651X”.
- Hazardous Location designation: As specified in the PRODUCTS section, above
- Method of Protection markings (Ex – markings): As specified in the PRODUCTS section, above.
- Temperature code: As specified in the PRODUCTS section, above.
- The manufacturing location shall be identified if the equipment can be produced in more than one facility.
- The following words:
 - For Canada: “INTRINSICALLY SAFE” and “SECURITE INTRINSEQUE”, or “IS” or “I.S.” or the symbol “Ex ia”
 - Installation per dwg. T100_D_EN_230130_E***.

Notes:

Products certified under Class(es) C225804, C225884 have been certified under CSA’s ISO/IEC 17065 accreditation with the Standards Council of Canada (SCC). www.scc.ca



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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
80090651	2024-05-09	Original intrinsically safe certification of the modular pulse amplifier Txxx .