Certificate of Compliance

Certificate:	80090651	**Master Contract:**	246454
Project:	80257362	**Date Issued:**	2025-09-01
Issued to:	**KEM Kueppers Elektromechanik GmbH** **Liebigstraße 5** **Karlsfeld, Bavaria 85757** **Germany** **Attention:** Reinhold Hirmer	**Issued by:**	*Sorin Tat* Sorin Tat

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.

PRODUCTS

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

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

Model(s)
Tabc

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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: Ui (Vmax) = 28V, Ii (Imax) = 93 mA, Pi = 650 mW, Ci =74.75nF Li =470µH, 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 / ≤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)

b = 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 Tambient and Tmedium(process) of -40°C to +60°C.
3. The long/short sensor tip are for Tambient of -40°C to +50°C, a Tmedium(process) of -40°C to +80°C (electronics installed

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above the mechanical meter), a Tmedium(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.
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 - Explosive atmospheres - Part 0: Equipment - General requirements

ANSI/UL 60079-0:2019 - Seventh Edition - Including revisions through July 19, 2024 - UL Standard for Safety Explosive atmospheres – Part 0: Equipment – General requirements

ANSI/UL 60079-11 (Sixth Edition; Reprint with Revisions Through and Including September 14, 2018) - UL Standard for Safety Explosive Atmospheres – Part 11: Equipment Protection by Intrinsic Safety "i"

CAN/CSA C22.2 No. 61010-1-12,UPD1:2015, UPD2:2016, AMD1:2018, UPD3:2023 - Safety requirements for electrical equipment for measurement, control, and laboratory use - Part 1: General requirements

UL 61010-1 3rd ed (Rev. Nov 21, 2018) - UL Standard for Safety Electrical Equipment For Measurement, Control, and Laboratory Use; Part 1: General Requirements - Third Edition; Including Revisions through November 21, 2018

CSA C22.2 No. 94.2:20 - Third Edition - Enclosures for electrical equipment, environmental considerations

UL 50E:2020 - Third Edition - UL Standard for Safety for Enclosures for Electrical Equipment, Environmental Considerations

CAN/CSA-C22.2 No. 60079-11:14 - Second Edition - Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"

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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

SCC Accredited CB-P/S OCPS Accrédité CCN TM

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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
80257362	2025-09-01	Update to Report 80090651: Adding identification "Ga" on the nameplate drawing.
80090651	2024-05-09	Original intrinsically safe certification of the modular pulse amplifier Txxx .

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