



IECEX Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification System for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.: **IECEX CSA 23.0019X** Page 1 of 3 [Certificate history:](#)
Status: **Current** Issue No: 0
Date of Issue: 2023-06-19
Applicant: **KEM Küppers Elektromechanik GmbH**
Liebigstraße 5
85757 Karlsfeld
Germany
Equipment: **Modular Pulse Amplifier model Tabc Series**
Optional accessory:
Type of Protection: **Intrinsically Safe**
Marking: Ex ia IIC T4 Ga

Approved for issue on behalf of the IECEx
Certification Body:

Dave Magee

Position:

Senior Director of Operations, Toronto

Signature:
(for printed version)

Date:
(for printed version)

1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting www.iecex.com or use of this QR Code.



Certificate issued by:

CSA Group
178 Rexdale Boulevard
Toronto, Ontario M9W 1R3
Canada





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Manufacturer: **KEM Küppers Elektromechanik GmbH**
Liebigstraße 5
85757 Karlsfeld
Germany

Manufacturing locations: **KEM Küppers Elektromechanik GmbH**
Wetzeller Straße 22
Bad Kötzing, Bavaria 93444
Germany

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements. This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended

STANDARDS :

The equipment and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards

[IEC 60079-0:2017](#) Explosive atmospheres - Part 0: Equipment - General requirements
Edition:7.0

[IEC 60079-11:2011](#) Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
Edition:6.0

This Certificate **does not** indicate compliance with safety and performance requirements other than those expressly included in the Standards listed above.

TEST & ASSESSMENT REPORTS:

A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in:

Test Report:

[CA/CSA/ExTR23.0010/00](#)

Quality Assessment Report:

[DE/TPS/QAR12.0003/11](#)



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EQUIPMENT:

Equipment and systems covered by this Certificate are as follows:

The Tabc model is used as a pulse amplifier for mechanical positive displacement meters (PD meters). The rotation in these displacement meters of, for example, a gear wheel, turbine wheel or spindle is detected, processed and output. The measuring principle based on the detection of magnetic field lines which are manipulated from the gears, turbine wheels or spindles. The pulse amplifier can be mounted on all KEM mechanical meters. The pulse amplifiers detect the rotation without any contact to the medium.

The Tabc model is a 4-20mA transmitter with 28Vdc input(Power circuit) and with two frequency outputs circuits 28V and 2.4mA (each) in normal operation.

Each pulse amplifier includes a housing, a connector and one or two sensor tips.

Different stainless-steel sensor tips are available which thread into the housing as follows:

- flush mount single or dual sensor tips are for a Tmedium(process) of -40°C to +60°C
- long/short sensor tip are for a Tmedium(process) of -40°C to +80°C (electronics installed above the mechanical meter) or a Tmedium(process) of -40°C to +95°C (electronics installed beside the mechanical meter)

Each sensor tip contains the mounted Hall sensor, temperature sensor and a small magnet which is embedded in a small PCB.

Each sensor tip contains the mounted Hall sensor, temperature sensor and a small magnet.

Modular Pulse Amplifier model Tabc Series with the following Product Code description

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)

SPECIFIC CONDITIONS OF USE: YES as shown below:

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 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.