ZERTIFIKAT ◆ CERTIFICATE ◆ 認証証書 ◆ СЕРТИФИКАТ ◆ CERTIFICADO ◆ CERTIFICAT

(1) EC Type Examination Certificate

Product Service

(2) Equipment and Protective Systems Intended for Use in Potentially Explosive Atmospheres – **Directive 94/9/EC**

(3) EC Type Examination Certificate Number:

TPS 12 ATEX 20304 013 X

(4) Equipment: Local Display with Frequency and Analog Output for Volume Flow Series: VTC – Ex / VIC - Ex

(5) Manufacturer: KEM Küppers Elektromechanik GmbH

(6) Address: Liebigstr.5, 85757 Karlsfeld

(7) This equipment and any acceptable variation thereto are specified in the schedule to this certificate and the documents therein referred to.

(8) TÜV SÜD Product Service GmbH, notified body No. 0123 in accordance with Article 9 of the Council Directive 94/9/EC of March 23rd 1994, certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres, given in Annex II of the Directive.
The examination and test results are recorded in the confidential report 71396641.

(9) Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN 60079-0:2009 **EN 60079-11:2007**

(10) If the sign "X" is placed after the certificate number, it indicates that the equipment is subject to special conditions for safe use specified in the schedule to this certificate.

(11) This EC Type Examination Certificate relates only to the design and the construction of the specified equipment in accordance with Directive 94/9/EC. Further requirements of this Directive apply to the manufacture and supply of this equipment.

(12) The marking of the equipment shall include the following:

II 2G Ex ia IIC T4 Gb -20°C ≤ Ta ≤ +50°C

Certification body

Andres Pfeil

Filderstadt, 20.03.2012

486541

Product Service

(13) **Schedule**

(14) **EC Type Examination Certificate TPS 12 ATEX 20304 013 X**

(15) Description of equipment:

Local display with frequency and analog output for volume flow.

Electrical (and other) data:

Type:	Local Display VTC / VIC
Number:	-
Analog Output:	4 – 20 mA (scalable to the instantaneous value) „Flow“
Resolution:	12 Bit
Auxiliary Energy:	14 V+ (resistance x 20 mA)
Max. Resistance:	< 600 Ohm at Ub 24V
Temp. Drift:	0,05% p. 10K
Linearity:	± 0,005% from final value
Impulse Output:	Version 01: push/pull output ca. 20 mA Version 02: Namur Free programmable as 1:1 Frequency Output, Standard-Frequency-Output, Devider, Limit Value
LCD-Display:	Intelligent Graphic-Display 132*32 dot Visual range 15 * 50 mm
Background Lighting:	yellow / green (only at 3-wire operation)
Handling:	4-Key Keypad
Ambient Temperature:	-20 to +70°C
Allowed Medium-Temperature:	-40 to +120°C
Auxiliary Energy:	7 to 30 V DC (Frequency Output)
Electrical Connection:	Version 01: 6pin. screw-terminal strip by cable bushing (M20*1.5) Version 02: 5pol. M12 Connector Version 03: 8pol. M12 Connector
Degree of Protection:	IP 65
Enclosure Material:	Aluminium powder-coated blue (RAL 5005)
Sensor Material:	Stainless steel 1.4104
Enclosure Dimensions:	Diameter ca. 110 mm Version K: 155 mm Version L: 195 mm
Weight ca. :	400 g

TÜV SÜD Product Service GmbH · Zertifizierstelle · Ridlerstraße 65 · 80339 München · Germany

TÜV®

Product Service

Safety data:

PIN/KL

Between 1 and 2 Iout 4-20mA
Ui DC 30 V
Ii 120 mA
Pi 750 mW
Ci 25nF
Li insignificant

Between 3 and 4 signal-circuit fout NAMUR-output
Ui DC 20 V
Ii 50 mA
Pi 120 mW
Ci 5nF
Li insignificant

Between 3 und 4 signal-circuit fout P/P-output
Ui DC 30 V
Ii 24,6 mA
Pi 185 mW
Ci 5nF
Li insignificant

Between 3 und 7 supply-circuit P/P-output
Ui DC 30 V
Ii 120 mA
Pi 850 mW
Ci 5nF
Li insignificant

Between 3 und 5,6 2x optical coupler input
Ui DC 30 V
Ii 100 mA
Pi 60 mW
Ci 5nF
Li insignificant

(16) Test report: 71396641

(17) Special conditions for safe use:

To give the user the required informations to the degree of protection, the products have to be added with the following, additional label:

Special conditions "X" Local Display

- The Local Display deviates from the standard temperature range (-20°C ≤ Ta ≤ +40°C) but this is specified directly on the type label.
- The electrical supply data or rather the maximum data from the supply (appendant) equipment (barrier/switch amplifier) must not exceed the data according the data sheet "Safety values".
- The installation have to be done according to EN 60079-14, at this the cable lengths (Capacities/Inductances) have to be considered.
- The enclosure of the Local Display may only be opened by introduced and trained employees.

(18) Essential health and safety requirements:
met by standards

Certification body

Filderstadt, 20.03.2012

Andreas Pfeil

Product Service

1. Addition to EC Type Examination Certificate

(1) EC Type Examination Certificate Number

TPS 12 ATEX 20304 013 X

(2) Equipment: Local display with frequency and analog output for volume flow

versions (e. g.): VTC...-Ex, VIC...-Ex, VTG...-Ex, VIG...-Ex, VRC...-Ex

type: V b cd-e-f-g-h-Ex

coded with

V for amplifier and computing electronic
b pickup type: **T** = Carrier frequency, **I** = Inductive pickup,
R = Reed contact;
cd housing type: **C**, **GA**, **GS**;
e mechanical shape of pickup tip: **K**, **L**, **R**, **S**;
f connection method: **K** = Cable gland, **8** = 8-pin connector M12;
g interface: **H** = HART, **U** = USB, **N** = No interface;
h output type: **P** = P/P, **N** = NAMUR.

(3) Manufacturer: KEM Küppers Elektromechanik GmbH

(4) Address: Liebigstraße 5, D-85757 Karlsfeld

(5) Description:

There is a new pickup **b**: the reed switch **R**.

The electronic housings **GA** (aluminium) and **GS** (stainless steel) are possible variations.

For the USB interface technical specifications and conditions are added.

The temperature specifications are improved.

(6) Technical Data:

The previous specifications of intrinsic safety remain unchanged.

Ambiente temperature range T_a	-20 to 70 °C
Medium temperature range	-40 to 120 °C
USB connection (plug ST 2):	
Maximum safety voltage U_m	40 V
Fuse in supply conductor	max. 150 mA

(7) Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN 60079-0:2009 **EN 60079-11:2012**

(Document no.: TPS 12 ATEX 20304 013 X, 1. addition)
The document is internally administrated under the following number: EX5 12 03 20304 013

Product Service

(8) Special conditions for safe use:

The USB socket is not intrinsic safe. The connection is forbidden, while hazard an explosion: The explosive substances have to be surely excluded. The interface voltage U_m of the connected device has to be always lower than 40 V. Its supply conductor needs a melting fuse of max. 150 mA.

Caused by the medium, temperatures at the display housing are accepted in the range of -20 to 70 °C only.

The results of the Addendum are laid down in the confidential test report no. 713032010.

Certification body

Andreas Pfeil

486986

Filderstadt, 2013-11-28

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