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Technical Datasheet & Manual


# VTE-C* und VTE-C* (Ex)

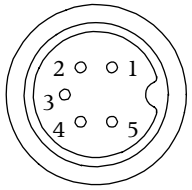
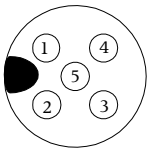
## Carrier-Frequency Pulse Amplifiers

## Description

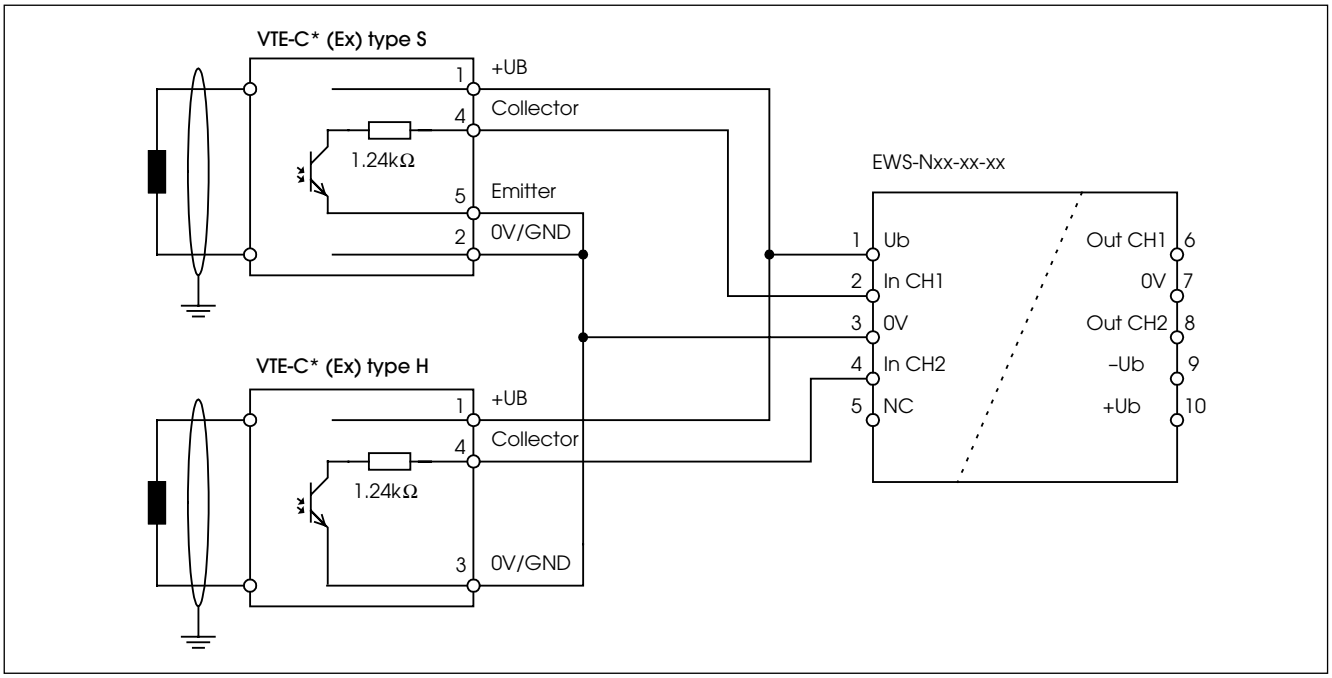
An integral carrier-frequency pickup detects the r.p.m. of the KEM flow meter through the body of the meter without coming into contact with the measuring medium. The output signal of the pickup is amplified and converted to current or voltage square wave pulses.

Versions VTE-C* (Ex) have Ex-protection EX II 2 G EEx ia IIC T4/ T5/T6. Our type EWS separation amplifier is recommended for an intrinsically safe supply of the Ex-versions.

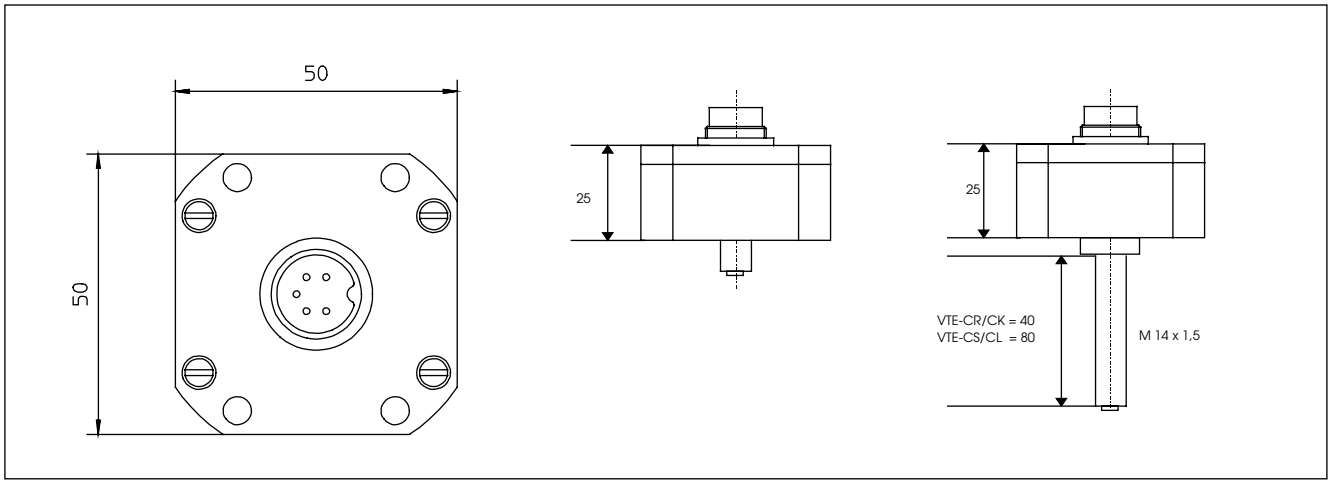
## Technical Data

| | | |
|---|---|---|
| Supply voltage $U_B$: | UB: +9 bis 29 V DC | |
| Quiescent current: | IR < 4 mA | |
| Frequency range: | 1.5 up to 3,000 Hz according to flow meter | |
| Ambient temperature: | -20 up to +50 °C | |
| Medium temperature: | VTE-CT (Ex) and VTE-CM (Ex): T6: +50 °C, T5: +60 °C, T4: +70 °C<br>VTE-CS (Ex) and VTE-CR (Ex): T6: +80 °C, T5: +120 °C, T4: +120 °C<br>VTE-CT and VTE-CM: +70 °C<br>VTE-CS and VTE-CR: max. +120 °C with a distance > 23 mm between amplifier and flow meter<br>max. +180 °C with a distance > 62 mm between amplifier and flow meter | |
| Electrical connection: | 5-pin amphenol plug type T3362500 or<br>5-pin binder plug 713 type 09-0433-81-05<br>pin connection type S<br>1 =+UB<br>2= 0 V<br>3= n.c.<br>4= open collector signal (collector)<br>5= open collector signal (emitter) | Amphenol type S<br>  |
| | pin connection type H<br>1 =+UB<br>2= n.c.<br>3= 0 V, open collector signal (emitter)<br>4= open collector signal (collector)<br>5= PE | Binder (M 12) type H<br>  |
| Housing: | Aluminium, anodised | |
| Ingress protection: | IP 65 (DIN 40050) | |
| Weight: | approx. 250 up to 270 g | |
| IS approval ATEX 100: | Ex II 2 G EEx ia IIC T4/T5/T6 | |
| Output: | frequency output<br>passive NPN/OC | |

## Electrical connection




## Dimensional Drawing (mm)



## Safety-relevant parameters (only for Ex versions)

**Supply circuit (type S connector-pins 1 and 2 / type H connector-pins 1 and 3)**

| | |
|---|---|
| voltage: | Ui = DC 30 V |
| current power: | Ii = 100 mA |
| power: | Pi = 750 mW |
| effective internal capacity: | Ci = negligible |
| effective internal inductivity: | Li = negligible |

**Signal circuit (type S connector-pins 4 and 5 / type H connector pins 3 and 4)**

| | |
|---|---|
| voltage: | Ui = DC 30 V |
| current power: | Ii = 100 mA |
| power: | Pi = 750 mW |
| internal resistance: | Ri ≥ 1.24 kΩ, ±5% |
| effective internal capacity: | Ci = negligible |
| effective internal inductivity: | Li = negligible |

## Ordering Information

**VTE - **.*- Ex**

- for Ex-protection
- S = standard: amphenol plug
  H = automation plug: Binder 713
- CT = plug-in version for ZHM 01/1 CT
  CM = plug-in version for LFM 10
  CR = short screw-in version for ZHM 01 and SRZ series
  CS = long screw-in version for ZHM 01 und SRZ-Serie
  CK = short screw-in version for ZHM 02–ZHM 07 and turbines
  CL = long screw-in version for ZHM 02–ZHM 07 and turbines
- Carrier-Frequency Pulse Amplifiers

## Notes on Installation

The following has to be adhered to:

a. Installation instructions for electrical devices
Installation instructions for associated intrinsically-safe devices
The »Special conditions for safe use« as per EC-Type Examination Certificate.

b. The amplifier has to be installed in a way that the max. ambient temperature does under no circumstances exceed +50C (consider self heating).

c. With cables care should be taken, that the max inductivity and capacity of the respective voltage or gas group are not exceeded.

d. Exceeding or falling below the regular measuring range will cause invalid frequency output signals.

e. Shielded cables are to be used as connecting lines.

f. Generally, supplied units have to be connected by an expert according to EMC stipulations.

## Marking of the Pulse Amplifier

KEM Küppers Elektromechanik GmbH
CE 0123 Ex II 2G EEx ia II C T4/T5/T6

DMT 02 ATEX E 218
VTE**-*-Ex Ser.Nr. 123456789
-40°C ≤ Ta ≤ 50 °C T6
≤ 60 °C T5
≤ 70 °C T4
Ui = 30 V/DC, Ii = 100 mA, Pi = 750 mW

The test sticker marks the year of building and the person in charge of test.