

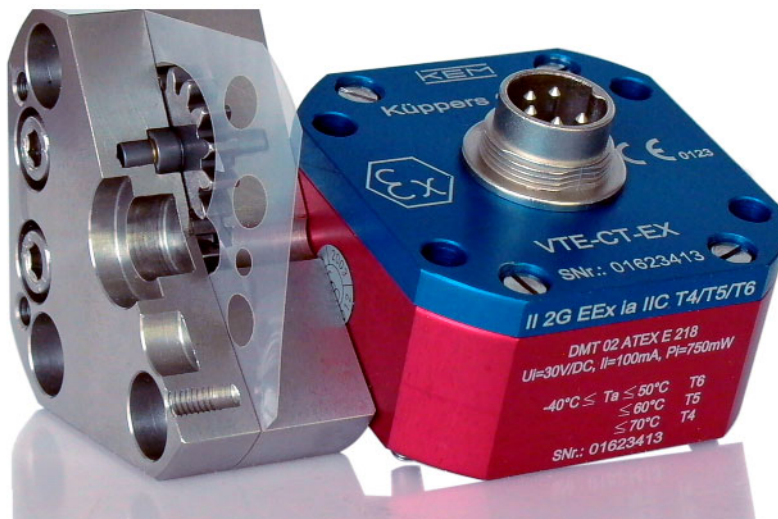


## VTE-C\* and VTE-C\* (Ex) Carrier-Frequency Pulse Amplifiers

Datasheet and Operating Instructions

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 squarewave 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.



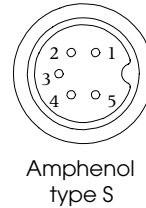
### Technical Data

ambient temperature:	-20 up to +50 °C
max. surface temperature of the amplifier for version VTE-CT (Ex) and VTE-CM (Ex):	T6: +50 °C, T5: +60 °C, T4: +70 °C
VTE-CS (Ex) and VTE-CR (Ex):	T6: +80 °C, T5: +120 °C, T4: +120 °C
VTE-CT and VTE-CM:	+70 °C
VTE-CS and VTE-CR:	max. +120 °C with a distance > 23 mm between amplifier and flow meter max. +180 °C with a distance > 62 mm between amplifier and flow meter

Technical Data (continued)

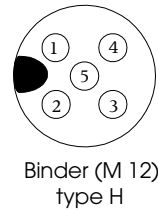
Ex-protection:  II 2 G EEx ia IIC T4/T5/T6  
 supply voltage: UB: +9 up to 29 V/DC  
 quiescent current: IR < 4 mA  
 frequency range: 1.5 bis 3,000 Hz according to flow meter  
 electrical connection: 5-pin amphenol plug type T3362500 or  
 5-pin binder plug 713 type 09-0433-81-05  
 pin connection type S

1 = +UB  
 2 = 0 V  
 3 = n.c.  
 4 = open collector signal (collector)  
 5 = open collector signal (emitter)

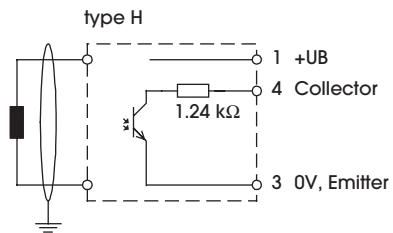
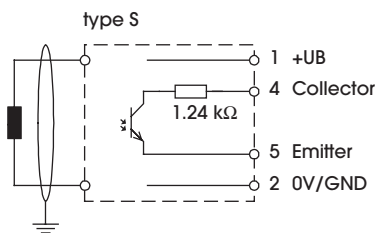


pin connection type H

1 = +UB  
 2 = n.c.  
 3 = 0 V, open collector signal (emitter)  
 4 = open collector signal (collector)  
 5 = PE



housing: aluminium, anodised  
 ingress protection IP 65 (DIN 40050)  
 pickup coil: stainless steel  
 weight: approx. 250 to 270 g  
 output: frequency output  
 passive NPN/OC

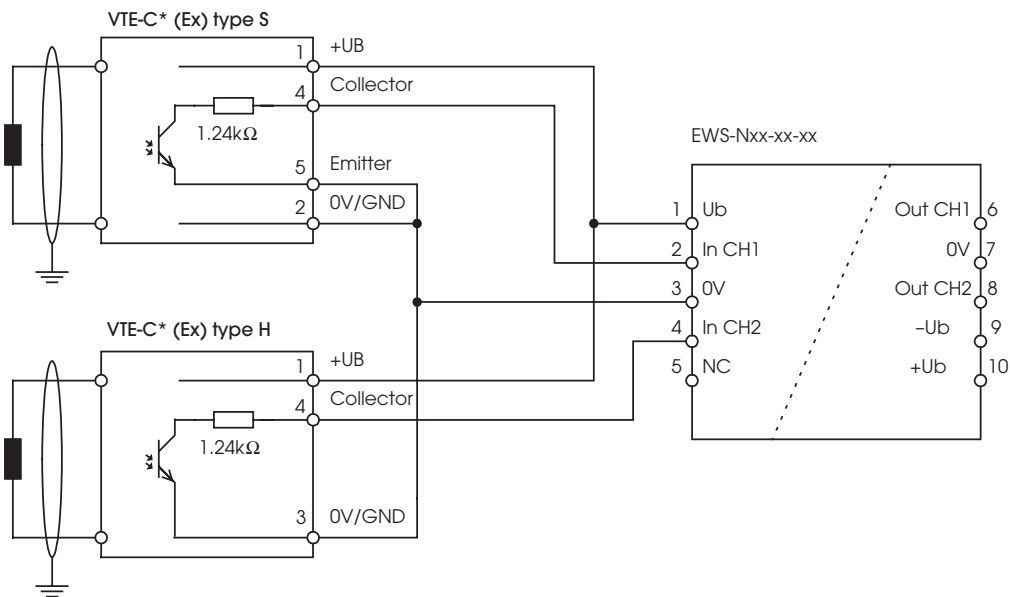


Safety-relevant parameters (only for Ex versions)

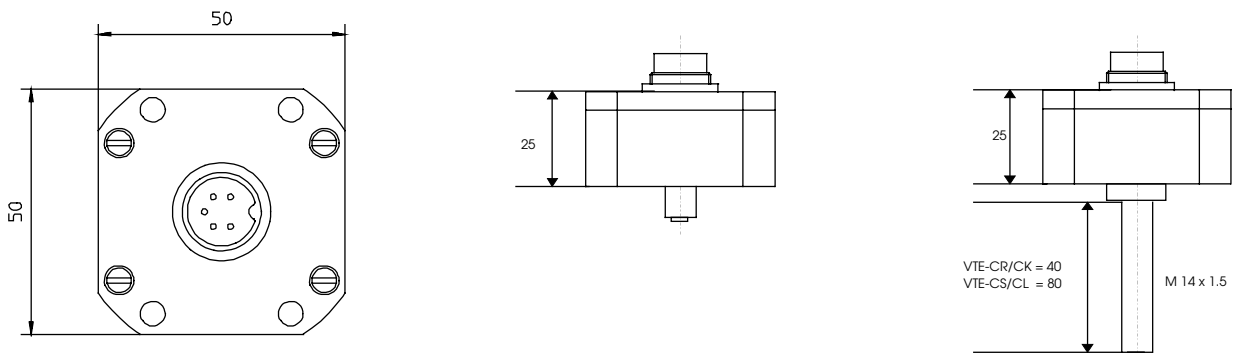
a) Supply circuit (type S connector-pins 1 and 2      type H connector-pins 1 and 3)  
 U<sub>max.</sub> = 30 V DC      I<sub>max.</sub> = 100 mA      P<sub>max.</sub> = 750 mW  
 C<sub>int.</sub> = 0      L<sub>int.</sub> = 0

b) Signal circuit (type S connector-pins 4 and 5      type H connector pins 3 and 4)  
 U<sub>max.</sub> = 30 V DC      I<sub>max.</sub> = 100 mA      P<sub>max.</sub> = 750 mW      R<sub>i</sub> = 1.24 kΩ (±5 %)  
 C<sub>int.</sub> = 0      L<sub>int.</sub> = 0

### Example for connecting Ex versions



### Dimensional drawing (mm)



### Ordering Information




VTE-\*\*-\*

- 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

VTE-\*\*-\* (Ex)

as above, additionally Ex protection  II 2 G EEx ia IIC T4/T5/T6

## Marking of the Pulse Amplifier

 Küppers Elektromechanik GmbH  
 0123  II 2G EEx ia II C T4/T5/T6  
DMT 02 ATEX E 218  
VTE\*\*-\*-Ex Ser.Nr. 123456789 (serial number)  
 $-40^{\circ}\text{C} \leq T_a \leq 50^{\circ}\text{C}$  T6  
 $\leq 60^{\circ}\text{C}$  T5  
 $\leq 70^{\circ}\text{C}$  T4  
 $U_i = 30 \text{ V/DC}$ ,  $I_i = 100 \text{ mA}$ ,  $P_i = 750 \text{ mW}$

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

## 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  $+50^{\circ}\text{C}$  (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.