

# Technical Datasheet



## VTE 04 (Ex)

Carrier-Frequency Pulse Amplifiers  
with Single Pickup

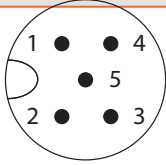
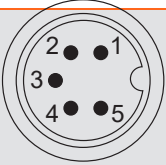
# Carrier-Frequency Pulse Amplifiers – VTE 04 (Ex)

## Description

The VTE 04 are carrier frequency pickups for the LFM and ZHM flow meters in cartridge housing. Due to the wide frequency range (0.5 to 5000 Hz) they work with all ZHM and LFM.

For applications in hazardous areas intrinsically safe versions with ATEX and IECEx certification for zone 1 and cCSAus certification for zone 0 and division 1 are available.

## Technical Data

Supply Voltage $U_B$	10 up to 30 V DC, regulated 7 up to 30 V DC („U“, NAMUR operation) 5 up to 10.5 V („N“)	
Quiescent Current	< 1 mA	
Frequency Range	0.5 up to 5,000 Hz	
Ambient Temperature	-40 °C up to +80 °C [-40 °F up to +176 °F] (non Ex) -40 °C up to +60 °C [-40 °F up to +140 °F] (Ex, T4)	
Medium Temperature	-40 °C up to +80 °C [-40 °F up to +176 °F] (non Ex) -40 °C up to +60 °C [-40 °F up to +140 °F] (Ex T4)	
Dimensions	See dimensional drawing (page 3)	
Ingress Protection	IP 65	
Ex Protection	ATEX: II 2G Ex ia IIC T4 Gb IECEx: Ex ia IIC T4 Gb cCSAus: Class I, Div. 1, Groups A, B, C, D; T4 Ex ia IIC T4 Ga Class I, Zone 0 AEx ia IIC T4 Ga	
Electrical Connection <sup>1)</sup>	M12 plug-in connector (5-pin, male, A-coded) 1 = + $U_B$ 2 = n.c. / NAMUR- („N“, „U“) 3 = 0 V (not „N“) 4 = Signal Push Pull (not „N“) 5 = n.c.	
	M16 plug-in connector (5-pin, male, A-coded) 1 = + $U_B$ 2 = Signal Push Pull 3 = 0 V 4 = n.c. 5 = n.c.	

<sup>1)</sup> Other plugs or pin assignments on request..

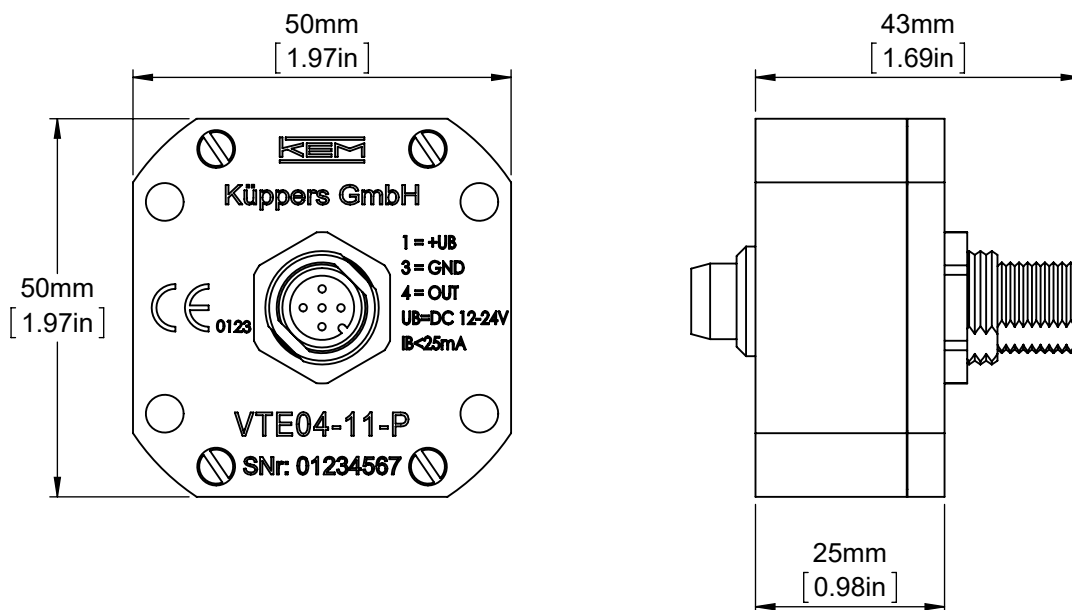
## Ex Supply Data

Supply Circuit (Pin 1 and 3) (Version P, U)	Voltage Current Power Effective internal capacitance	$U_i = \text{DC } 30 \text{ V}$ $I_i = 120 \text{ mA}$ $P_i = 850 \text{ mW}$ $C_i = 8 \text{ nF}$
Signal Current Circuit Push/Pull (pin 3 and 4) (Version, P, U)	Voltage Current Power Effective internal capacitance	$U_i = 30 \text{ V}$ $I_i = 24.6 \text{ mA}$ $P_i = 185 \text{ mW}$ $C_i = 8 \text{ nF}$

## Ex-Supply Data Version „N“ NAMUR

Supply and Signal Circuit (Pin 1 and 2) (Version „N“)	Voltage Current Power Effective internal capacitance	$U_i = \text{DC } 10.5 \text{ V}$ $I_i = 16 \text{ mA}$ $P_i = 40 \text{ mW}$ $C_i = 8 \text{ nF}$
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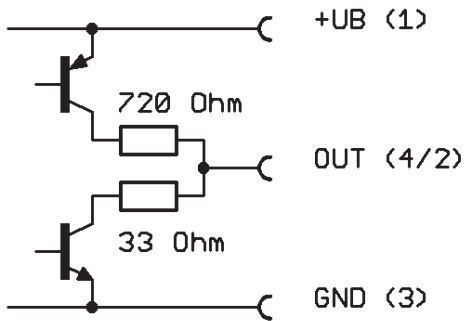
## Dimensional Drawing



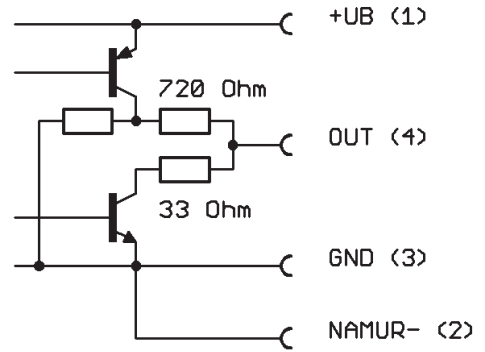
# Carrier-Frequency Pulse Amplifiers – VTE 04 (Ex)

## Output (short-circuit proof)

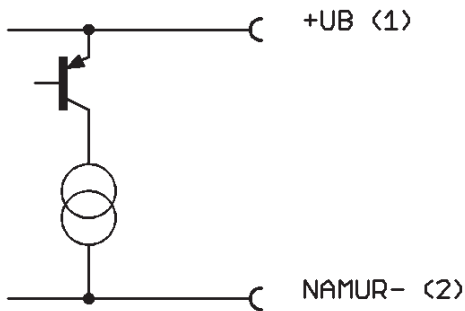
Push Pull



Push Pull + NAMUR



NAMUR



## Ordering Code

VTE04 - X X - X - X - X

### Mechanical Design

For LFM	0	1
For ZHM 01/1 and 01/2	1	1

### Connector and Output<sup>2)</sup>

M16, Push Pull	A
M12, Push Pull	P
M12, NAMUR	N
M12, Universal (Push-Pull and NAMUR)	U

### Options

Other options on request

### Ex Protection

No certification	
ATEX (II 2G Ex ia IIC T4 Gb), IECEx, cCSAus	Ex
ATEX (II 3G Ex nA IIC T4)	Exn

## Safety Instructions

The following has to be adhered to:

- Installation instructions for electrical devices.  
Installation instructions for associated intrinsically-safe devices.  
The »Special conditions for safe use« as per EC-Type Examination Certificate.
- The amplifier has to be installed in a way that the max. ambient temperature does under no circumstances exceed 60 °C [140 °F].
- With cables care should be taken, that the max inductivity and capacity of the respective voltage or gas group are not exceeded.
- Exceeding or falling below the regular measuring range will cause invalid frequency output signals.
- Shielded cables are to be used as connecting lines.
- Generally, supplied units have to be connected by an expert according to EMC stipulations.
- Disconnect power supply before making electrical connection.

<sup>2)</sup> Other plugs or pin assignments on request..

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