



## VTE\* /P-Ex

# Carrier-Frequency Pulse Amplifier

Datasheet and Operating Instructions

### Technical Data

supply voltage  $U_B$ :

+8.5 up to 29 VDC, controlled  
(incl. reverse-battery protection)

quiescent current:

< 5 mA

frequency range:

2 up to 4,000 Hz

ambient temperature:

-40 up to +50°C

max. medium temperature:

+120°C with a distance of at least 25 mm  
between flow meter and amplifier housing  
+150°C with a distance of at least 65 mm  
between flow meter and amplifier housing

electrical connection:

5-pin amphenol plug

3-pin cable

5-pin cable

1 = + $U_B$

white

grey

2 = signal push pull

green

green

3 = 0 V

brown

brown

4 = OC signal (collector)

white

5 = OC signal (emitter)

yellow

housing:

stainless steel as per DIN 1.4104

ingress protection:

IP 65

dimensions:

H = 110 mm (VT\*K/P and VT\*R/P),

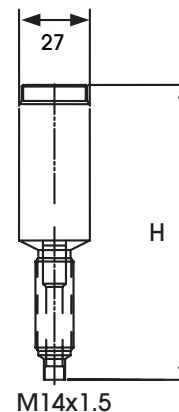
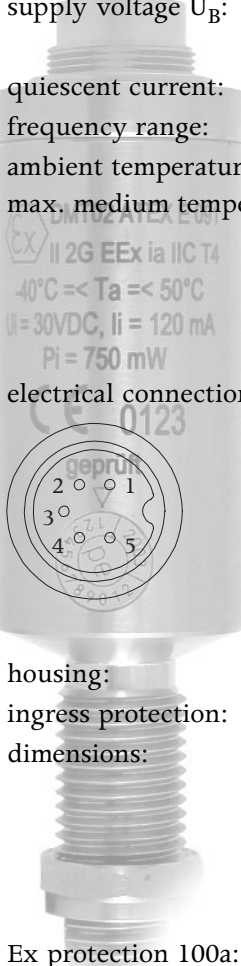
149 mm (VT\*L/P and VT\*S/P)

$\varnothing$  = 27 mm

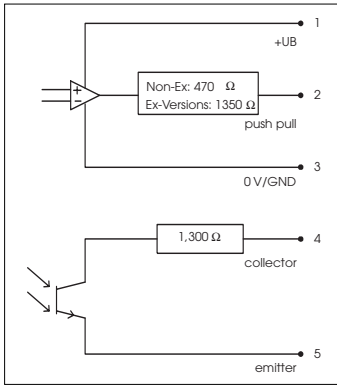
thread: M 14 x 1.5

Ex protection 100a:

 II 2 G EEx ia IIC T4



Output (short-circuit proof):



• push pull (see output curve below)

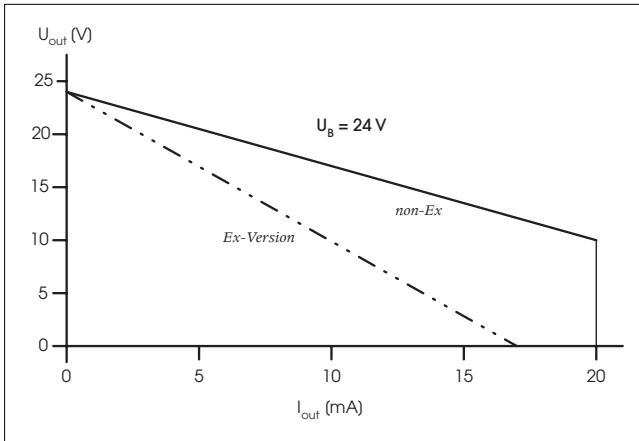
• voltage level NPN/open collector passive

$$U_{\text{High}} > U - (I_{\text{out}} \text{ (mA)} \times 1300 \Omega)$$

$$U_{\text{Low}} < 0.6 \text{ V} + (I_{\text{out}} \text{ (mA)} \times 1300 \Omega)$$

$$U_{\text{max}} = 30 \text{ V}$$

Characteristic output curve:



Ordering Information

VTE\* / P - Ex

Ex-protection

EK = short thread for ZHM 02–ZHM 04 and HM series

EL = long thread for ZHM 02–ZHM 07 and HM series


ER = short thread for ZHM 01 and SRZ series



ES = long thread for ZHM 01 and SRZ series

SR = center pickup with short thread

SS = center pickup with long thread

## Marking of the Pulse Amplifier

 Küppers Elektromechanik GmbH

 0123  II 2G EEx ia IIC T4

DMT 02 ATEX E 091

VTE\*/P -Ex Ser.Nr. 12345678 (serial number)

$-40^{\circ}\text{C} \leq T_a \leq 50^{\circ}\text{C}$

$U_i=30\text{V}/\text{DC}$ ,  $I_i = 120\text{mA}$ ,  $P_i = 750\text{mW}$

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

## Electrical Data

### *Supply circuit connector-pins 1 and 3*

voltage	$U_i = \text{DC } 30\text{V}$
current	$I_i = 120\text{mA}$
power	$P_i = 750\text{mW}$
effective internal capacitance	$C_i = \text{negligible}$
effective internal inductance	$L_i = \text{negligible}$

### *Signal circuit push/pull connector-pins 2 and 3*

voltage	$U_i = \text{DC } 30\text{V}$
current	$I_i = 120\text{mA}$
power	$P_i = 750\text{mW}$
internal resistance	$R_i = 1350 \Omega, \pm 5\%$
effective internal capacitance	$C_i = \text{negligible}$
effective internal inductance	$L_i = \text{negligible}$

### *Signal circuit open collector connector pins 4 and 5*

voltage	$U_i = \text{DC } 30\text{V}$
current	$I_i = 120\text{mA}$
power	$P_i = 750\text{mW}$
internal resistance	$R_i = 1200 \Omega, \pm 5\%$
effective internal capacitance	$C_i = \text{negligible}$
effective internal inductance	$L_i = \text{negligible}$

## 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°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.

