



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

5-pin plug S713

1 = +UB

2 = n.c.

3 = 0 V

4 = Signal Push Pull

5 = n.c.

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)

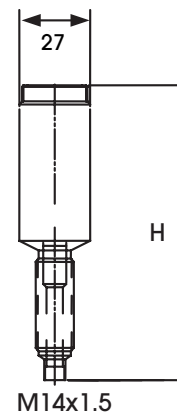
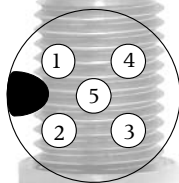
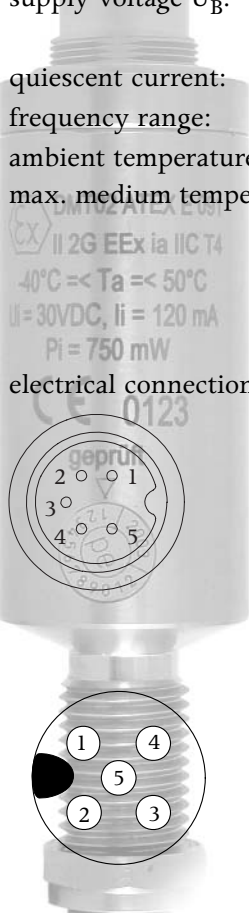
Ø = 27 mm

thread: M 14 x 1.5

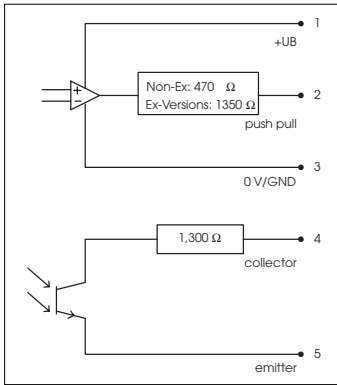
Ex protection 100a:



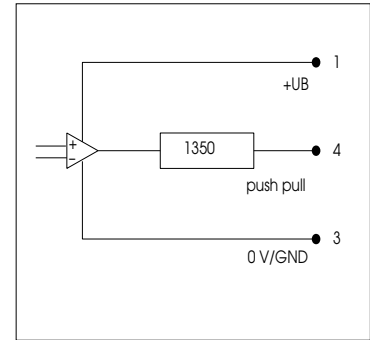
II 2 G EEx ia IIC T4



Output (short-circuit proof):

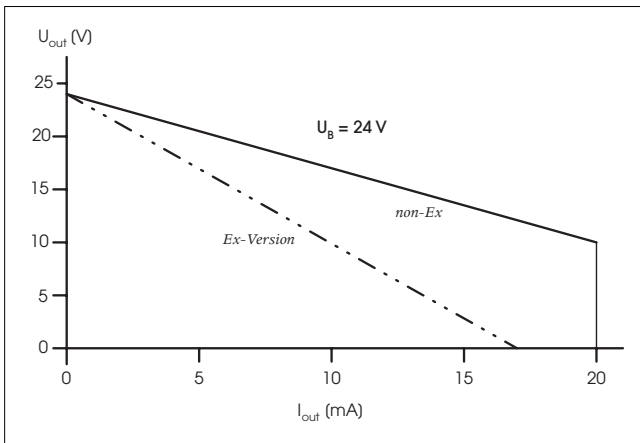


- push pull (see output curve below)
- voltage level NPN/open collector passive
 - $U_{High} > U - (I_{out} \text{ (mA)} \times 1300 \Omega)$
 - $U_{Low} < 0.6 \text{ V} + (I_{out} \text{ (mA)} \times 1300 \Omega)$
 - $U_{max} = 30 \text{ V}$



Version VTE*/P-Ex-12

Characteristic output curve:






Ordering Information

VTE* / P - Ex - xx

- 07 = round shape with UNF thread and 3-pin ITT plug
- 09 = compact version with 3-pin ITT plug
- 12 = 5-pin plug type S713 (M12)
- Ex protection
- EU = short with UNF thread
- EK = short for ZHM 02–ZHM 04 and HM series
- EL = long for ZHM 02–ZHM 07 and HM series
- ER = short for ZHM 01 and SRZ series
- ES = long for ZHM 01 and SRZ series
- SR = centre pickup short
- SS = centre pickup long
- E1 = compact version for ZHM 01 with 5-pin plug type S713
- E2 = compact version for ZHM 02–03 with 5-pin plug type S713
- EC = compact version for ZHM in cartridge design with 5-pin plug type S713

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

VT**/P-Ex-00 to 09

Supply circuit (pin 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 current circuit push/pull (pin 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 copen collector (pin 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	$L_i = \text{negligible}$

VT**/P-Ex-12

Supply circuit (pin 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 current circuit push/pull (pin 4 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	$L_i = \text{negligible}$

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.
- g) Disconnect power supply before soldering the electrical connector.

