Küppers Elektromechanik GmbH

Certified according to DIN EN ISO 9001

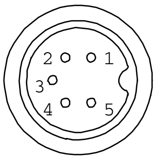
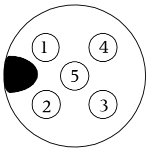
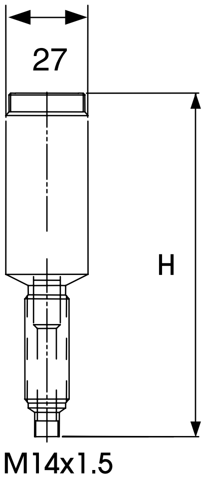
Datasheet and Operating Instructions

VTE*/P-Ex

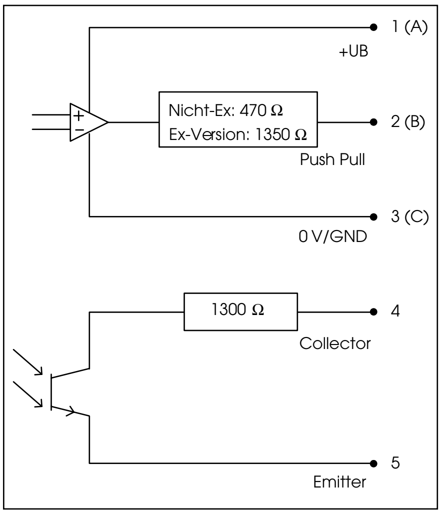
Carrier-Frequency Pulse Amplifier

Index

Technical Data

Supply voltage U_B	+8.5 up to 29 V DC, controlled			
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 = +UB	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 und VT*R/P), 149 mm (VT*L/P und VT*S/P) Ø = 27 mm thread: M 14 x 1.5			
Ex protection 100a	Ex II 2 G EEx ia IIC T4			

Output (short-circuit proof):



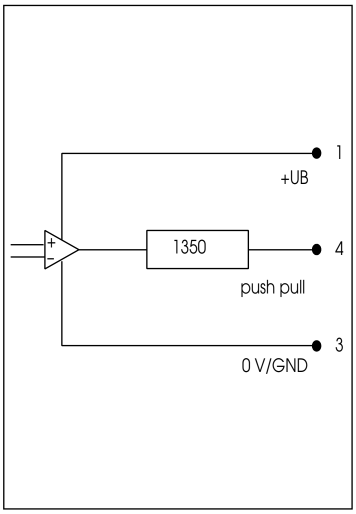
- push pull (see output curve below)

- voltage level NPN/open collector passive

$U_{high} > U_B - (I_{out}\ (mA) \times 1300\ \Omega)$

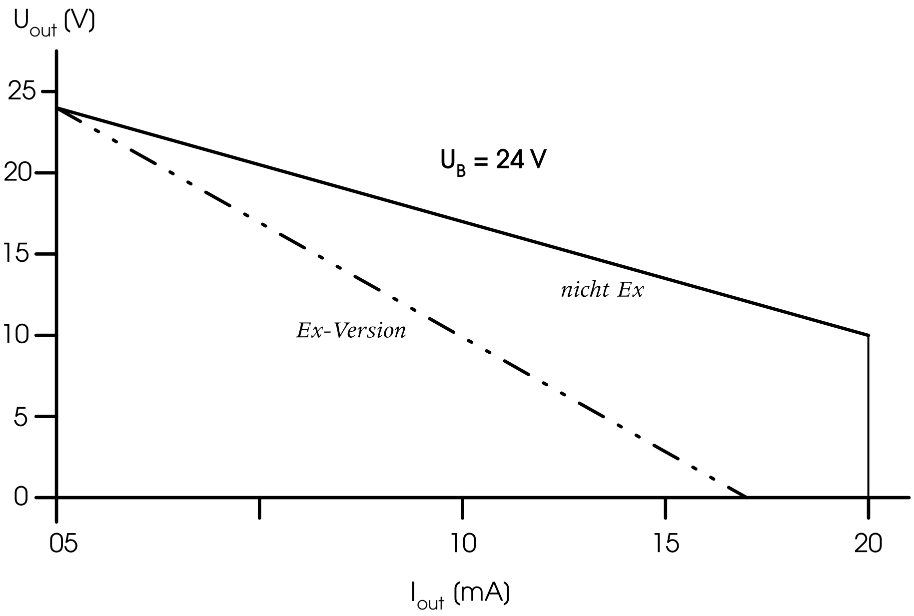
$U_{low} < 0.6\ V + (I_{out}\ (mA) \times 1300\ \Omega)$

$U_{max} = 30\ V$



Version VTE*/P-Ex-12

Characteristic output curve:



Electrical Data

VT**/P-Ex-00 bis 09

Supply circuit (pin 1 and 3)

Voltage	Ui=DC 30V
Current	Ii = 120 mA
Power	Pi = 750 mW
Effective internal capacitance	Ci = negligible
Effective internal inductance	Li = negligible

Signal current ciruit push/pull (pin 2 and 3)

Voltage	Ui = DC 30 V
Current	Ii = 120 mA
Power	Pi = 750 mW
Internal resistance	Ri = 1350 Ω ±5%
Effective internal capacitance	Ci = negligible
Effective internal inductance	Li = negligible

Signal copen collector (pin 4 and 5)

Voltage	Ui = DC 30 V
Current	Ii = 120 mA
Power	Pi = 750 mW
Internal resistance	Ri = 1200 Ω ±5%
Effective internal capacitance	Ci = negligible
Effective internal inductance	Li = negligible

VT**/P-Ex-12

Supply circuit (pin 1 and 3)

Voltage	Ui=DC 30 V
Current	Ii = 120 mA
Power	Pi = 750 mW
Effective internal capacitance	Ci = negligible
Effective internal inductance	Li = negligible

Signal current ciruit push/pull (pin 4 and 3)

Voltage	Ui = DC 30 V
Current	Ii = 120 mA
Power	Pi = 750 mW
Internal resistance	Ri = 1350 Ω, ±5 %
Effective internal capacitance	Ci = negligible
Effective internal inductance	Li = negligible

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

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.

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