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Küppers Elektromechanik GmbH

Technical Datasheet

VTE 02 (Ex)

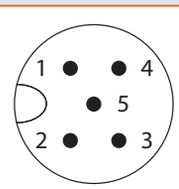
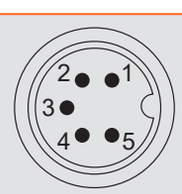
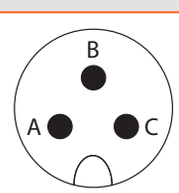
Carrier-Frequency Pulse Amplifiers
with Single Pickup

Application

The VTE 02 are carrier frequency pickups for all ZHM, HM, SRZ and LFM. Due to the wide frequency range (0.5 to 5,000 Hz) they work with all sizes.

For applications in harzardous 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	Form K + R: -40 °C up to +120 °C [-40 °F up to +248 °F][1)] Form L + S: -40 °C up to +150 °C [-40 °F up to +302 °F][2)]	
Housing	Stainless steel as per DIN 1.4104 [AISI 430F] Option: 1.4404 [AISI 316L]	
Dimensions	See dimensional drawing (page 3)	
Ingress Protection	IP65	
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[2)]	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) (option) 1 = +U_B 2 = Signal Push Pull 3 = 0 V 4 = n.c. 5 = n.c.	
	MIL plug-in connector (3-pin, male, A-coded) (option) A = +U_B B = 0 V C = output	

[1)] With a distance >25 mm between flow meter and electronic housing
[2)] With a distance >65 mm between flow meter and electronic housing
[3)] Other plugs or pin assignments on request.

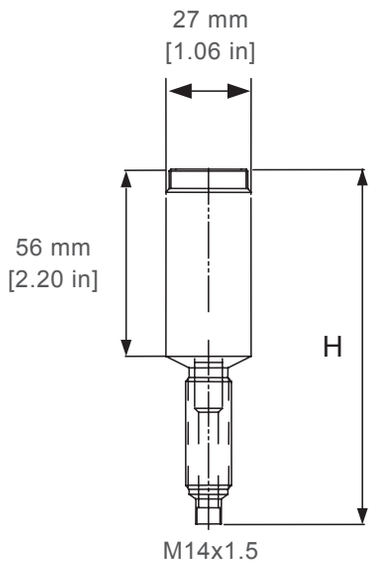
Ex-Supply Data

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

Ex-Supply Data Version „N“ NAMUR

Supply and Signal Circuit (pin 1 and 2)	Voltage Current Power Effective internal capacitance	U_i = DC 10.5 V I_i = 16 mA P_i = 40 mW C_i = 8 nF

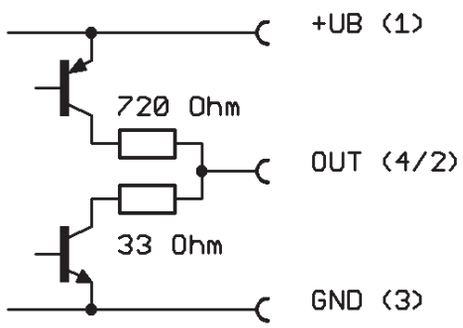
Dimensional Drawing



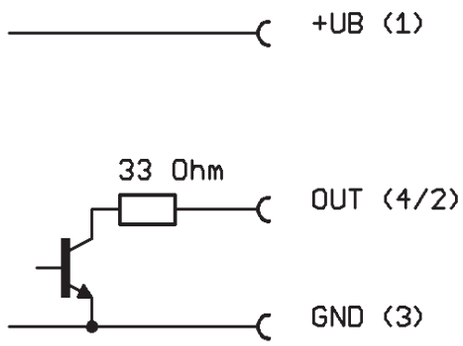
Type	H
VTE 02 - K	110 mm (4.33 in)
VTE 02 - R	110 mm (4.33 in)
VTE 02 - L	149 mm (5.87 in)
VTE 02 - S	149 mm (5.87 in)

Output (short-circuit proof)

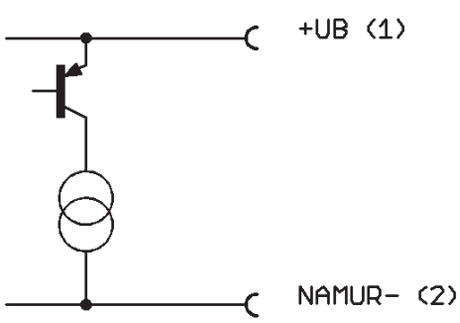
Push Pull



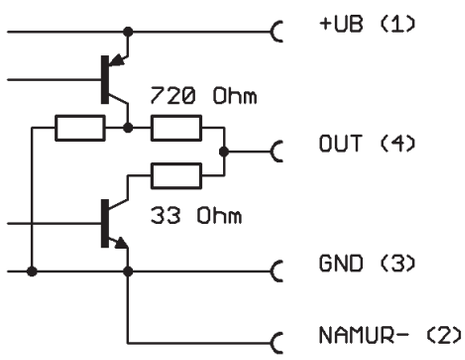
Open Collector



NAMUR



Push Pull + NAMUR



Ordering Code

	VTE02 -	X	-	X	-	X	-	X
Pickup form								
ZHM 01/* - 04, HM series		K						
ZHM 01, SRZ Serie, LFM series		R						
ZHM 01/* - 07, HM series		L						
ZHM 01, SRZ , LFM series		S						
Output[4)]								
M16, Push-Pull				A				
MIL-5015 3-pin, Push Pull				D				
MIL-5015 3-pin, Open Collector				E				
M12, Push Pull				P				
M12, NAMUR				N				
M12, NAMUR + Push Pull				U				
Ex Protection								
No certification								
ATEX (II 2G Ex ia IIC T4 Gb), IECEx, cCSAus						Ex		
ATEX (II 3G Ex nA IIC T4)						Exn		
For custom specific options								01-99

Examples

VTE02-K-N-Ex	K-Pickup, M12, NAMUR, Ex certification ATEX, IECEx, cCSAus
VTE02-R-P	R-Pickup, M12 push-pull, no Ex

Safety Instructions

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 +60 °C [+140 °F].

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 making electrical connection.

[4)] Other plugs or pin assignments on request.

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