

Technical Datasheet



VTE 03 (Ex)

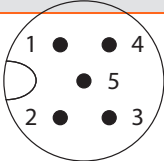
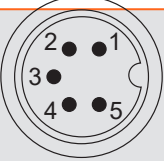
Carrier-Frequency Pulse Amplifiers
with Single Pickup

Description

The VTE 03 are carrier frequency pickups for the ZHM gear flow meter series. Due to the wide frequency range (0.5 to 5,000 Hz) they work with all ZHM.

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	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 ¹⁾	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.	

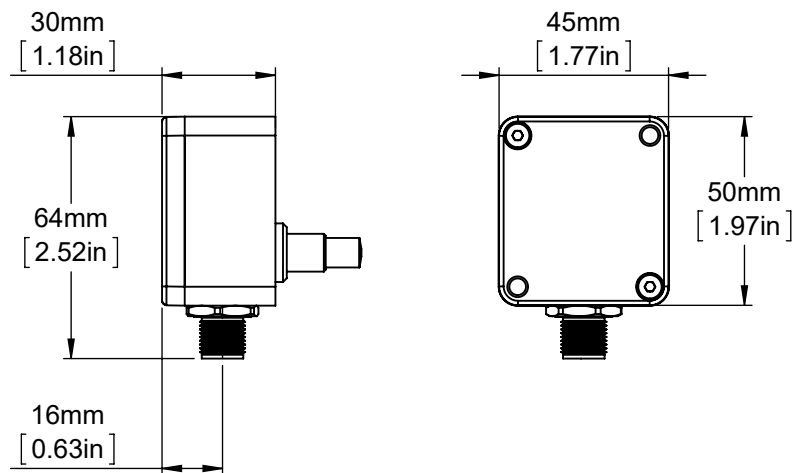
¹⁾ Other plugs or pin assignments on request..

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	$U_i = 30 \text{ V}$ $I_i = 24.6 \text{ mA}$ $P_i = 185 \text{ mW}$ $C_i = 8 \text{ nF}$

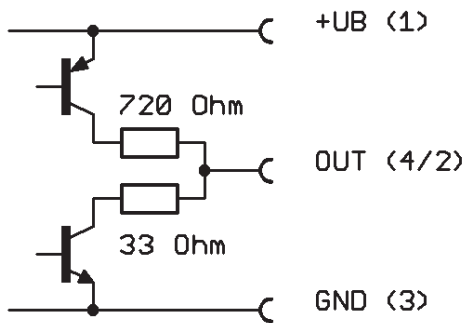
Ex-Supply Data Version „N“ NAMUR

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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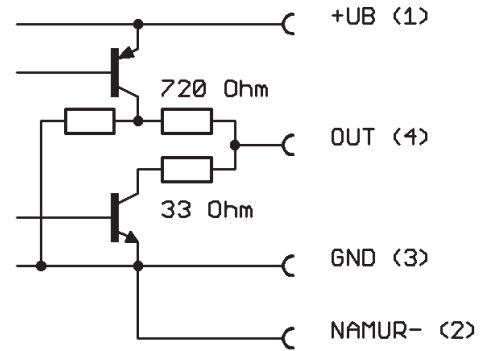
Dimensional Drawing

Output (short-circuit proof)

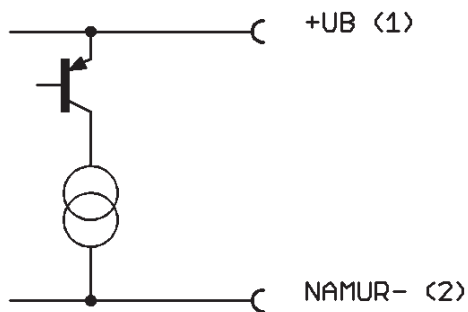
Push Pull



Push Pull + NAMUR



NAMUR



Ordering Code

	VTE03	-	X	X	-	X	-	X	-	X
Mechanical Design										
For ZHM 01			1	0						
For ZHM 01/1 and 01/2			1	1						
For ZHM 01/3			1	3						
For ZHM 02 and 02/1			2	0						
For ZHM 03			3	0						
Für ZHM 04			4	0						
Connector and output²⁾										
M16, Push Pull										A
M12, Push Pull										P
M12, NAMUR										N
M12, Universal (Push-Pull and NAMUR)										U
Options										
No Option										
LED										L
Ex Protection										
No certification										
ATEX (II 2G Ex ia IIC T4 Gb), IECEx, cCSAus										Ex
ATEX (II 3G Ex nA IIC T4)										Exn

Examples:

- VTE03-10-N For ZHM 01, M12 NAMUR, no option, no Ex certification
- VTE03-13-P-L-Ex For ZHM 01/3, M12 push-pull, LED, Ex certification ATEX, IECEx, cCSAus

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.

²⁾ Other plugs or pin assignments on request..



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