

# Technical Datasheet



## VIE 02 (Ex)

Inductive Pulse Amplifiers  
with Single Pickup

## Application

The VIE 02 are inductive pickups for ZHA, SRA and HM nn-U in aluminium housing. They provide a wide frequency range and a relative low impact on pressure drop and low flow performance. For meters with stainless steel housing, nevertheless, the pickup series VTE 02 is recommended.

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	7 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] <sup>1)</sup> Form L + S: -40 °C up to +150 °C [-40 °F up to +302 °F] <sup>2)</sup>	
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 <sup>3)</sup>	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	

<sup>1)</sup> With a distance >25 mm between flow meter and electronic housing

<sup>2)</sup> With a distance >65 mm between flow meter and electronic housing

<sup>3)</sup> Other plugs or pin assignments on request.

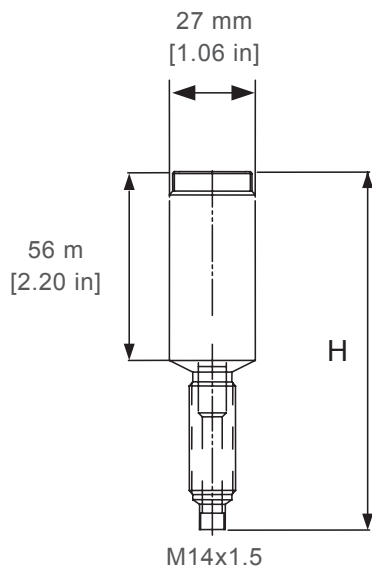
**Ex-Supply Data**

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)	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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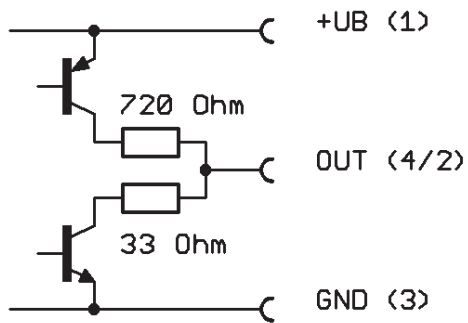
**Dimensional Drawing**



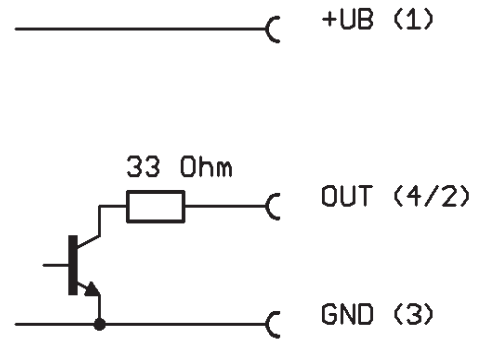
Type	H
VIE 02 - K	110 mm [4.33 in]
VIE 02 - R	110 mm [4.33 in]
VIE 02 - L	149 mm [5.87 in]
VIE 02 - S	149 mm [5.87 in]

## Output (short-circuit proof)

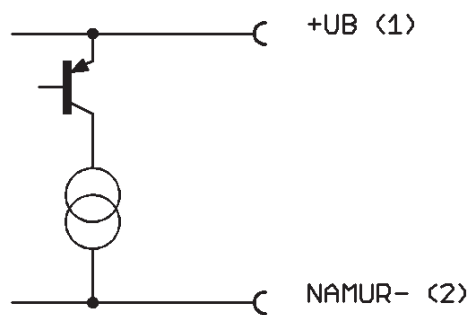
Push Pull



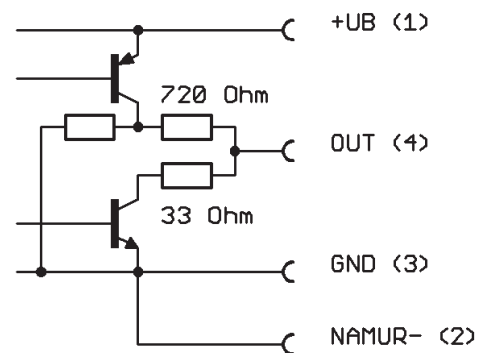
Open Collector



NAMUR



Push Pull + NAMUR



## Ordering Code

VIE02 - 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<sup>4)</sup>

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

VIE02-K-N-Ex	K-Pickup, M12, NAMUR, Ex certification ATEX, IECEx, cCSAus
VIE02-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.

<sup>4)</sup> Other plugs or pin assignments on request.



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