

Technical Datasheet

Starting from version: V06-12



VTG/VIG (Ex)

Local Display

for wall mount with analog and frequency output

Description

Compact on-site display with external carrier frequency or inductive sensor for the evaluation of volume flows.

All measurement results and parameters relevant for the process can be shown directly on the VTG/VIG via the graphic display (that can be illuminated) and changed using the four membrane keys.

3 linearization banks with 20 points each are available to improve the accuracy. They are used to linearize the measurement signal depending on the chosen operating mode (external control, fixed assignment).

In pure 2-conductor operation (4 - 20 mA) the instantaneous value (flow) is dimensionally output on the current loop according to the programming.

A programmable digital output and a maximum of two control inputs (see technical data) are available in addition for further processing and control.

The VTG/VIG has an interface that allows operating parameters to be set and measured values to be read with the help of the CON.USB interface adapter and the "KEM EasyControl" visualization software. Optionally this interface can also be carried out as HART or USB.

The electrical connection is realized via a screw terminal strip that is exposed when the front cover is unscrewed and the display unit is flipped open.

Applications (depending on version)

- Ex-Approval
- Stainless steel or aluminum housing
- 3 x 20 points linearisation
- Graphic display
- Fast setup
- Integrated interface
- Programming and visualisation via KEM „Easy Control“ possible
- Setting of operation type
- Normalized frequency output
- Control inputs
- 2 Status-LEDs

Technical Data

General

Display	Intelligent LCD graphic display 132 * 32 dot View 15 * 50 mm
Backlight	Yellow/green (not EX available or for NAMUR)
Operation	4-keys
Frequency Range	VTG: 1 to 3,000 Hz (typical 0.5 to 5,000 Hz) VIG: 7 to 3,000 Hz (typical 5 to 5,000 Hz)
Media 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⁾ Max. medium temperature +120°C [248 °F] independent from sensor form (Ex, T4)
Ambient Temperature	-20 °C up to +70 °C [-4 °F up to +158 °F] (non Ex / Ex, T4)
Electrical Connection	Version K: External screw type terminals (Cable gland for 7 -13 mm) Internal screw type terminals (Cable gland for 0.14 - 1.5mm ²)
Pin Assignment	Digital output: „P“ „N“ 1 = +I 1 = +I 2 = -I 2 = -I 3 = 0 V 3 = 0 V 4 = DIG.OUT 4 = + NAMUR 5 = IN_A 5 = IN_A 7 = +24 V 6 = IN_B
EMC	According to EN 61000-6-4 and EN 61000-6-2
Ex-Approval	ATEX II 2G Ex ia IIC T4 Gb

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

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

Analogue Output

Type	4 - 20 mA, 2-wire (passive)
Supplier	15 to 30 V, controlled
Load	< 400 Ω (at 24 V)
Resolution	12 Bit
Temp. Drift	< 100 ppm/K
Linearity	\pm 0.05 % F.S.
Sensor Material	Stainless steel 1.4104 [AISI 430 F]

Digital output (Impulse-Frequency Output-Limit)

Quantity	1
Output Type	Digital execution: „N“: NAMUR „P“: Push/Pull (I_{max} 20 mA U_B max 30 V)
Output Mode	a. Direct frequency b. Normalized frequency (1.2 - 1,000 Hz) c. Divider with programmable pulse time (1 - 420 ms) d. Batch e. Limit (actual value or temperature)

Housing

Housing Material	Version A: Aluminum powder-coated blue [RAL 5015] Version B: Stainless steel DIN 1.4104 [AISI 316]
Weight	Version A: ca. 1.5 kg Version B: ca. 3.4 kg
Protection Class	IP65 (higher on request)
Dimensions	See dimensional drawing (page 4)

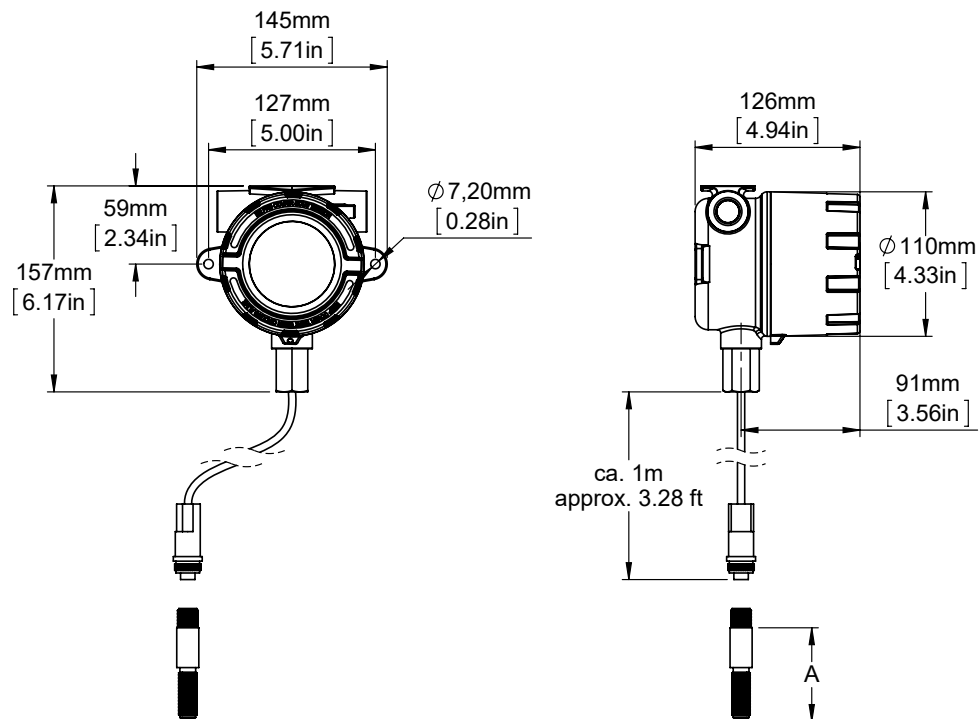
Interface (only one available)

Standard	„CON.USB.WT“ and incidental remote software „KEM EasyControl“
Option H	HART 7
Option U	USB

Control Inputs

Quantity	1 for version with cable gland „P“ 2 for version with cable gland „N“
Level	Active high at $U_{in} > 3$ V related to pin 3
Internable Resistance	3.3 k
Programmable Function	Totalizer reset, hold, switch to linearisation tables

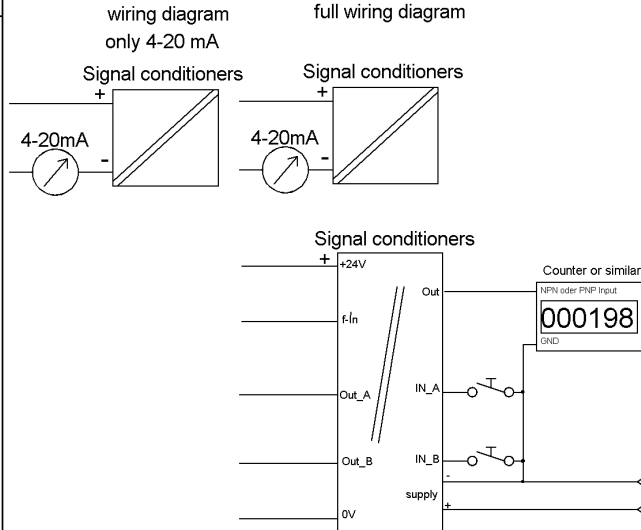
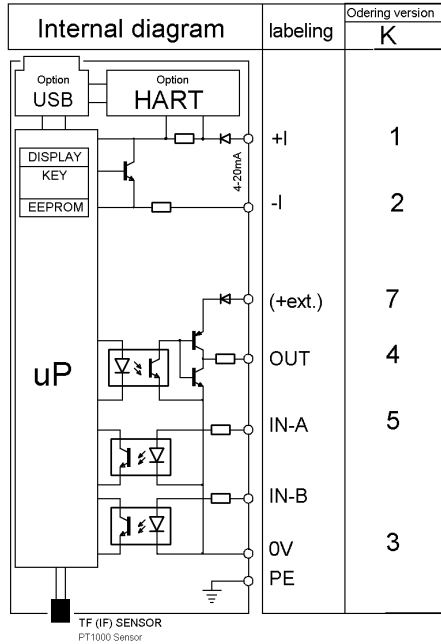
Dimensional Drawing



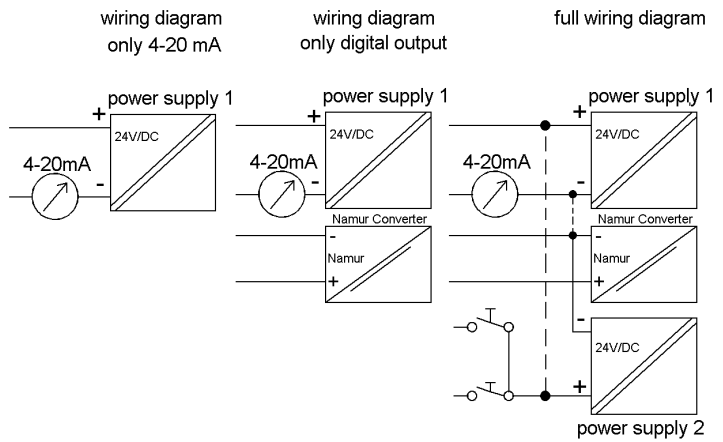
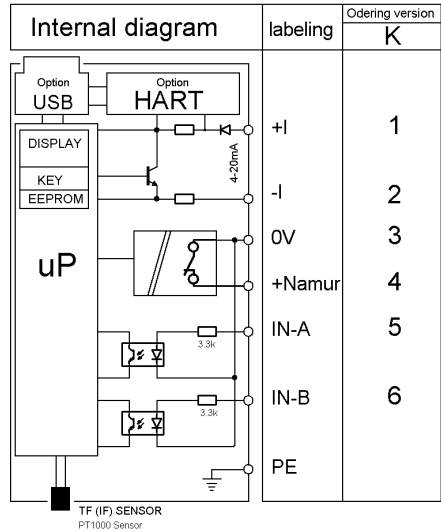
Type	A
K or R	72 mm [2.83 in]
L or S	100 mm [3.94 in]

Wiring Diagramm

with push/pull output (Ex and no Ex)



with NAMUR output (Ex and no Ex)



Note: connect " - - - " if you use only power supply 1

Safety Instructions

- Always supply pin 1 and 2.
- When the V*G **** - Ex please follow the related rules for hazardous areas.
- No backlight for Ex versions or versions with NAMUR available.

Ordering Code

	V	X	G	X	-	X	-	X	-	X	-	X	-	X
Pickup-System														
Carrier frequency		T												
Inductive		I												
Housing														
Aluminium pressure die-casting, painted				A										
Stainless steel 1.4401				S										
Mechanical Sensor														
ZHM 01/* - 04, HM Serie						K								
ZHM 01, SRZ Serie, LFM Serie						R								
ZHM 01/* -07, HM Serie						L								
ZHM 01, SRZ Serie, LFM Serie						S								
Connection Version														
Cable gland								K						
Interface														
HART-Interface										H				
USB-Interface (do not use in hazardous areas)										U				
KEM-Interface (do not use in hazardous areas)										N				
Digital Output														
Push/Pull Output												P		
NAMUR Output												N		
Ex Protection														
Ex-version Ex I (no backlight for Ex), ATEX Zone 1 II 2G Ex ia IIC T4 Gb														Ex
ATEX Zone 2 II 3G Ex nA IIC T4 Gc														Exn

Options on request:

- cable entry M20x1.5 (only VTGS)
- Ingress protection IP66/67



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