

# Technical Datasheet



## VRGS Ex

Local Display for Reed Contacts  
for wall mount with frequency and analog output

# Local Display for Reed Contacts – VRGS Ex

## Description

Compact on-site display with input for reed contacts to evaluate volume flows. All measurement results and parameters relevant for the process can be shown directly on the VRGS Ex's graphic display (that can be illuminated) and changed with 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 VRGS Ex 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 Easy Control" visualization software. Optionally this interface can also be carried out as HART.

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.

## Application

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

## Technical Data

### General

Display	Intelligent LCD graphic display 132 * 32 dot View 15 * 50 mm
Operation	4-keys
Frequency Range	0.001 - 100 Hz
Ambient Temperature	-20 °C up to +70 °C [-4 °F up to +158 °F ]
Electrical Connection	Internal screw type terminals (clamping range for 0.14 - 1.5mm <sup>2</sup> ) Cable gland fo cable 7-13 mm
Pin Assignment	Digital output: „P“ 1 = +I 2 = -I 3 = 0 V 4 = DIG.OUT 5 = IN_A 7 = +24 V
EMC	According to EN 61000-6-4 and EN 61000-6-2
Ex-Approval	ATEX II 2G Ex ia IIC T4 Gb

## Analog Output

Type	4 - 20 mA, 2-wire (passive)
Supply Voltage	15 to 30 V, controlled
Load	< 400 Ω (at 24 V supply)
Resolution	12 Bit
Operating Time	300 ms at $f_{mes} > 5$ Hz
Temp. Drift	< 100 ppm/K
Linearity	± 0.05 % F.S.
Sensor Material	Stainless steel 1.4401 [AISI 316]

## Digital Output

Quantity	1
Output Type	„P“: Push/Pull ( $I_{max}$ 20 mA, $U_B$ max 30 V)
Output Mode	a. Input 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	Stainless Steel DIN 1.4401 [AISI 316]
Weight	c.a. 3.4 kg
Protection Class	IP65
Dimensions	See dimensional drawing (page 5)
Housing connections	2 x M20x1,5 on the side without cable screw connection Sealing plug; 3/4" NPT (Sensor)

## Interfaces (only one possible)

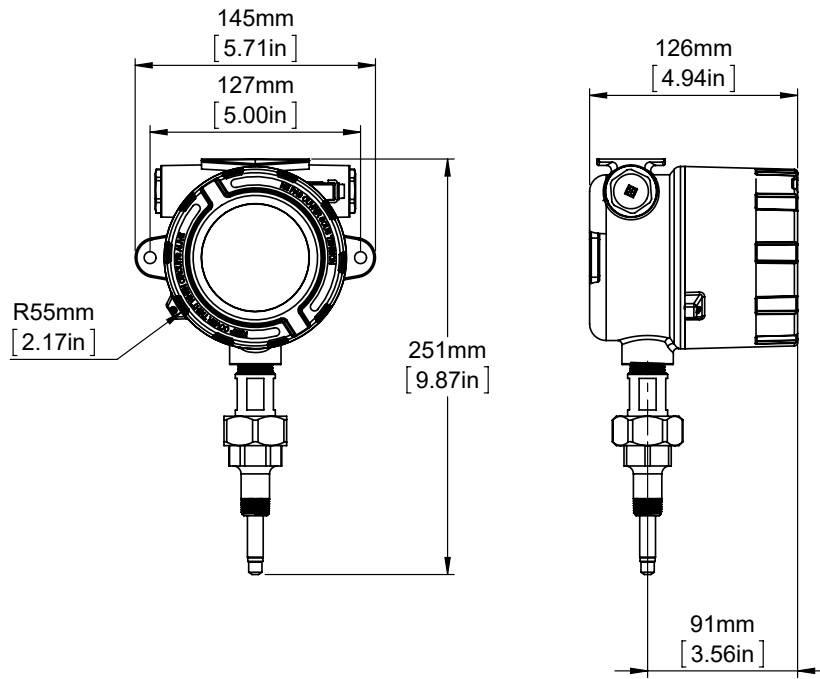
Option H	HART 7
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## Control Inputs

Quantity	1 with output version „P“
Level	active high at $U_{in} > 3$ V referred to PIN (clamp 3)
Internal Resistance	3.3k
Programmable Function	Totalizer reset, hold, switch to linearisation tables

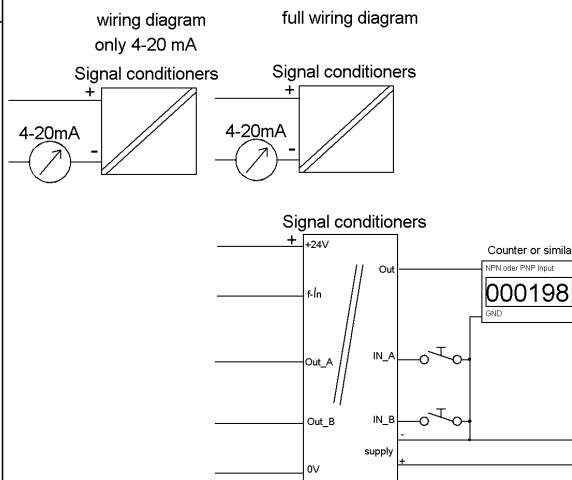
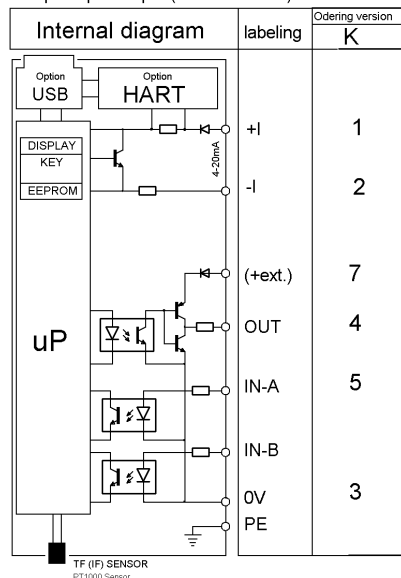
# Local Display for Reed Contacts – VRGS Ex

## Dimensional Drawing



## Connections

with push/pull output ( Ex and no Ex )



## Safety Instructions

- Always supply pin 1 and 2 of the loop current.
- For using the VRGS \*-\*-Ex suitable barriers are required.
- No backlight for Ex versions.

# Local Display for Reed Contacts – VRGS Ex

## Ordering Code

V X G - X - X - X - X - X - X

### Pickup-System

Reed Switch R

### Housing

Stainless steel 1.4401 S

### Mechanical Sensor

No Sensor, 1 m cable X

### Connection Version

Cable gland K

### Interface

HART-Interface H

### Digital Output

Push/Pull Output P

### Ex Protection

Ex-version Ex I (no backlight for Ex), ATEX Zone 1 II 2G Ex ia IIC T4 Gb Ex



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