User's manual







Configurator program

Interface IC-1

1 General information

-Safe operation is only possible when the operating conditions correspond to the conditions described here.

-Performing the work described here for the installation and configuration of the sensor, possible due to safety engineering conditions and warrant conditions, should only be done by personnel authorized by the manufacturer.

-Disassembly and modification by yourself is prohibited.

-If the device is not used in accordance with the instructions or for purposes not described in the manual, it may result in danger.

-This device is not intended for use in potentially explosive environments and safetyrelated system parts in accordance with SIL.

-These instructions should be kept so that the personnel may use it at any time. -All operations with the device must be carried out by professionally trained personnel using protective clothing.

-Please read this manual and make sure you can use this product for the right application.

-The operator of the device is responsible for using the device for its intended purpose, as well as for its serviceability during use.

-The operator of the device is also responsible for compliance with all safety standards and regulations in accordance with the current legislation.

2 Warranty

-The conformity of the device and these instructions has been checked for conformity, however deviations are not excluded.

-Therefore, we do not guarantee full compliance with these instructions for the device. The instructions are checked and the necessary changes, if any, will be made in the next edition.

-Technical changes may also be made to the device.

3 Standards

This device complies with Directive 2004/108 / EC.

Product Requirements
 -The IC-1 interface allows connecting Senserion GmbH devices via USB to a computer.
 System requirements:

-Windows 10

-USB connector

- 5 The delivery includes
 - -IC-1 interface

-USB cable

-Sensor cable

-USB stick with the "Configurator" program

6 LEDs features

-There are two LEDs on the front panel.

-Green indicates that the supply voltage for the sensor is normal.

-Yellow indicates that signals from the sensor are connected to the rear panel connector.

7 Program "Configurator"

The program "Configurator" is on the stick and needs to be copied on computer. You can also run the program from the stick.

arameters Adjust analog output Adjust measure	Serial number Update	
Analog input Frequecy input		Analyzing
Flow rate V Measuring range:	Analog output Frequency input	Restart
0 100 1/min ~ 0% 100%	Typ Current V 420 mA V	Save Parameters
Filter Filter 1: 0.25 sec ──	Push/pull v	Bypass set
Filter 2: 0.25 sec V	Limit switch	Bunner ment
Filter 3: 0.25 sec Filter 4: off	Alarm: 50 %, Tiset 0 Sec.	Dypass reset
Power On Delay	Hysteresis: 4 % Treset 0 Sec.	
Analog 50 % mA	Up. Internatinger •	
Switch	Frequency output Frequency output on/off	
Delay-Time: 0 Sec.	Input = Output	
Primary Sensor	Min.: 0 Hz Max : 2000 Hz	
TLE4941PLUS 🗸	Pulse ortput	
Voc = 12 V	Pulse output on/off	
Level Copm. Hi = 2 V	1 L ✓ /Puls Puls + ✓ 25.4 Pipe - Ø Status: O k	
Lever Comp. Lo = 1,8	Tipe w Status. O.K.	

- 8 Steps to Install UNI-F-DA in a VHS Sensor
 - 8.1 Connect the IC-1 interface to the computer using a USB cable.
 - 8.2 Wait for the computer to recognize the new device and finish installing the driver.
 - 8.3 No additional power supply is required to operate the interface.
 - 8.4 Start the Configurator program.
 - 8.5 Make sure the interface is found by the program.



- 8.6 Connect the UNO-F-DA sensor with a cable to the interface.
- 8.7 Click Analyzing and wait for results.



8.8 Switch from analog input to the frequency input.

ing herst. Fensuency in an table	Analog output Analog output an vitif Type Gurrent v 4.20mA v	Andrarg Pentert	Flow rate	~	
к 100% r1 <u>025 нес </u>	Technology digital output [feauency input]	Save Factories Bypass ed	Measuring ran	ge:	
e2 025ec ~ e3 025ec ~ e4 05 ~	Line switch Line switch on loff Alarm SC S. Twit D Sec. Minterest: A D Sec.	Bypass reset	0	350	l∕min ∽
ver On Delay Analog <u>50 %</u> mA Ferences 50 % Hz	Type Min v Romal Hung, v		0%	100%	1. Alexandre 1. Al
Switch O.R	Frequency output Frequency output Frequency output Frequency F				
mier Senaur TLEAS41PLUS v	Min: 0 Hit Main. 2005 Hit				
and an an	Pulse output				

8.9 Adjust the flow rate, the measuring range and the unit depending on the specific VHS.

8.10 Set in Analog and Technology Digital Output to Frequency Input.



8.11 Go to the Frequency output and activate the frequency output and Input = Output.

Configurator V1.00		- 🗆 ×				
staneters Adjust analog output "Adjutment measur	e Setal number					
Analog mout Enquercy mout	Analog output	Analyzing	E.	CONTRACTOR N		
Row rate V Measuring range	Analog output on off	Pestat	FR	equency	output	
01 1001	Technology detail a trut	Save Parameters		Emarica		on /off
Filer Filer 1 0.25 sec v	putriput v	Dyposs set	~	Ineque	ncy output	01/01
Filer 2 025aec ~	Linit switch	Bypass most		Innet	Ordered	
Ren 4: (d) ~	Alam SQ 1 Test 0 Sec.			1 input =	Output	
Power On Delay	Type Man v remaining v					
Analog S0 3 mA Hz	Fitquency output		N	lin -	0	H7
Delay-Trive	Feasing saturation of			an 1	U	112
Premier Senatr	Min: 0 Hz				0000	
TLEASH1PLUS	Max 2000 He		Iv	/lax.:	2000	Hz
Vcc + 12.00 V	Pulse supplied on lot					entrance of
Level Copp. H = 2.00 V Level Corp. La = 1.60 V	25.4 Pps-0 Satur OA.					

8.12 Click Save Parameters

8.13 Connect the Oscilloscope to the connector on the IC-1 interface.



- 1 +Vcc
- 2 Analog output
- 3 Analog output0V
- 4 Digital output

Connection to following plugs:

- 2- Oscilloscope input
- 3 0V

8.14 Press Bypass set so that the LEDs activate in yellow which means the plugs are now active.



8.14 Checkup of your montage

-Rotate the VHS sensor screws.

-Make sure the primary sensor detects the rotation of the screw.

-If there is no signal, turn the UNI-F-DA sensor until it is in the proper position and a signal appears.

-The pulse wide modulation should be 50 % (Width of the pulse as wide as the idle state) with no pulse loss.

-If the signal quality is good, secure the UNI-F-DA sensor to VHS with the locknut.

8.15 If the fluid flow has ripples, you can smooth them out by filtering the signal by changing the seconds in Filter 4.

	Filter	
	Filter 1: off 🗸	
Andy may Andy may Andy may Andy may Andy may Andy may Andy may Andy may Reason space Imparty max Imparty max Imparty max Reason space Imparty max Imparty max Imparty max Total total space Imparty max Imparty max Imparty max	Filter 2: off 🗸	
0: 100: Technologi (pipel called) Pearson product Sime Towned Part 1::::::::::::::::::::::::::::::::::::	Filter 3: off 🗸	
Red: (250m) V Rev (250m) V Rev: (250m) V Rev (250m) V Rev: (250m) V Rev (250m) V Rev: (250m) (250m) (250m) V (250m) Rev: (250m) (250m) (250m) (250m) (250m)	Filter 4: 0.25 sec	
Nature Nature<	Power Or 0.25 sec 0.5 sec	
Mare and Mare and Varia 1.00 V Mare and Care Level Care N+ 2.00 V Total Science Onto Level Care N+ 2.00 V Total Science Onto	Analo 2 sec	nA
Base Gest nor personn	Frequi ⁴ sec	Hz
8.16 Sets the output signals at power-on.	Switch 16 sec 32 sec	

8.16 Sets the output signals at power-on.



-It is possible to set a fixed state of the outputs for the "Delay - Time".

-This is useful when the equipment is taking time to get up and running. In this case, the sensor will not generate signals that can be perceived by the equipment as "Error".

8.17 You should not change any setting at the section Primary Sensor, because it may result in the inoperability of the sensor, which is not recommended.

default_Sensor	~	1
14	0.00	1
VCC =	3,00	V
Level Copm. Hi =	2,00] v
Level Comp. Lo =	1.00) v
	Level Copm. Hi = Level Comp. Lo =	Level Copm. Hi = 2,00 Level Comp. Lo = 1,00

8.18 Parameterised in the section Analog output

-When reading the sensor parameters, the current output 0/4 .. 20 mA or the "Voltage" output 0 .. 5 / 10V will be set automatically.

Configurator V1.00 Pesanetes: Adjust androj output: Adjustent measure: Setal number	×	Analog output Frequency input
Model Security (C) Model	NY A V	Typ Current V 420 mA V
Particip Normality Particip Normality Party Normality Normality Normality Viral Normality Normality Normality Units Normality Normality Normality		Analog output Frequency input ✓ ✓ Analog output on/off Typ Voltage 010 V ✓
Saus. Genit neu gestatet		

-You can turn on or turn off the analog output on/off in the section Analog output to activate or deactivate this function.

-Can be selected for current output 0..20mA or 4..20mA.

-For the "Voltage" output, you can set 0..10 or 0..5V.

8.19 Parameterizing the switch output

Analog Input Frequency Input Row rate V Nearanty range 0 100 0 100 0 100 0 00 100 0	Analog exput Analog exput an left Type Connect v (4.20mA v)	Androms Peater			witch on/off				
Par 1 0.25 sec ~ / Par 2 0.25 sec ~ / Par 2 0.25 sec ~ / Par 2 0.25 sec ~ /	Technology digital cubict Guati-pull Loss teatch an india Arm SG Test D Sec.	Bypass met		Alarm:	50	%	T set	0	Sec
Ren 4 (pf) Rower On Delay Analog 50 % mA Preservey 50 % He	Hydrowski 4 5. Tread 0 Sec. Tyr: Min v romating v Fingurey solut			Hysteresis:	4	%	T reset	0	Sec
Delay-Tener Delay-Tener ThERETPLUS	Preparting social and other Prepart = Output Min: 0 IN Nov. 2000 Inc. Public social			Тур:	Min 🗸	no	rmal hing	~	
Vice + 12,00 V Level Cape: H = 2,00 V Level Cape: Le + 1,60 V	Pulse output on/laf T D Puls Puls Puls Puls Puls D Salue O.k.								

-You can activate or deactivate the switch output.

-Set the desired alarm level - "Alarm" 0.00 ... 100.00% of the measured range of the liquid flow.

-Set the desired characteristic - Min./Max.

-Set the desired hysteresis, switch-on and switch-off delay times.

8.20 Parameterisation of the Section Frequency output.

nguatan vi nu Heni Adjust analog subut. Adjetivert measure: Setal number		
alog nout Finaurop nout	Andyang	Frequency output
ter rate Finguncy rput	Penter	
01. 1001. Technology digital subsul framavecu into	Save Facereters	Frequency output on/off
wr 1 0.25 sec v	Bypass set	
er2 025aec v Lint switch or loft er2 025aec v Lint switch or loft er2 025aec v Aem Sci v Text 0 ::	Bipass mont	Input = Output
wer On Deby	n.,	
Analog 50 3 mA Min V Minalog V		Min.: 0 Hz
Swith Sk v Freuency output		
Har-Time: D input - Output		in the second second
mier Senarr Mei, 0 He Trückenter He		Max.: 2000 Hz
Rube subject on VP		
Level Coper H = 200 V T L /Puls Puls +		

-Frequency output can be enabled or disabled.

-You can enable or disenable the function input = output.

-If the output is used for a specific frequency, disable the output = input function and adjust the Max.

8.21 Pulse output parameterization

Staus: Genit neu gestatet



-Pulse output can be turned on and off.

-Adjust the desired amount of volume liquid at which the pulse should generated.

-The program "Configurator" controls the parameters you have set and messages:

"OK." or "Error".

-After completing the installation of the parameters press Save Parameters.



-Change Analog input to Frequency input.

-Press Read table.

Value	Normalization	Measuring range	^		Analog input	hiling		Frequecy input
						Restart		Analog input Frequecy input
				Modul Nr.: Counter:	2	Save Paramete	ers	
				Min. value: Max. value:	0	Bypass set		
					New table	Bypass reset		Read table
-					Read table 🔎			The de table
					Write table]		
				Address:	8300			
					Read value:			
-								
-								

-Read the adjustment table for the frequency input.

-Change the Max input frequency to match 100% of the measuring range of the VHS sensor.

-For example, for VHS DN32 max. The frequency at 350 liters per minute is 201.1 Hz.

-The frequency is entered with a multiplier of 10. Therefore you have to enter 2011 in the Value Slot.



-Write a new adjustment table to the sensor. Therefore press the Write table button.

Value	Nomalization	Neaturng	^	free entry and	
0	0	0			Analyzing
2011	10000	100			Restart
			Modul Nr.: Counter:	2	Save Parameters
-			Min. value: Max. value	0	Bypass set
				New table	Bypass reset
	_			Read table	
				Write ta	
			Address:	8306	
			-	Read value:	
_		-			

-The first column of the table is the frequency of the input signal.

-The second column corresponds to the % of the measured range with a multiplier of 100.

For example:

	Value	Normalization	Measuring range	^
	0	0	0	
1	2011	10000	100	
				-88

-0 is the frequency at no flow and corresponds to 0% of the measuring range.

-2011 - 201.1Hz corresponds to 10000 or 100.00% of the measuring range.

-After setting the parameters and correcting the adjustment table, the device is ready for operation.

8.23 You can check the operation by activating the connector on the back of the interface and connecting the measuring devices press Bypass set.

8.24 Serial number of the instrument

arameters Adjust analog output Adjust measure Serial number Update	
Serial number:	Analyzing
Read	Restart
Write	Save Parameter
	Bypass set
	Bypass reset

-You can read and write the serial number to the sensor.

8.25 Adjust analog output

-It is possible to check and correct the current output or the "Voltage" output.

-The UNI-F-DA is delivered with the analog outputs already calibrated.



8.26 Update of application software

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-The software is supplied by SESNSERION GmbH if required.

8.27 Transport and storage

-The interface should be transported in a package that ensures its mechanical safety. The interface can be stored at temperatures of 0 .. 60 ° C avoiding dampness.

-When disposing of the interface, it is necessary to provide for the separation of materials in accordance with applicable laws.