

Technical Support: Levitronix[®]
Technical Service Department
Technoparkstr. 1, CH-8005 Zurich, Switzerland

Phone for US: 888-569 07 18
Phone for outside US: +1 888-569 07 18
E-Mail: support@levitronix.com

1 Description and Preparation

1.1 Description

The LEVIFLOW[®] LFS-SU flowsensors are designed for non-invasive flow measurements in single-use applications of the Life Science industries. The wetted materials of the sensors are made out of biocompatible polypropylene (FDA, USP-VI, BSE/TSE and Animal free), which can be gamma sterilized.

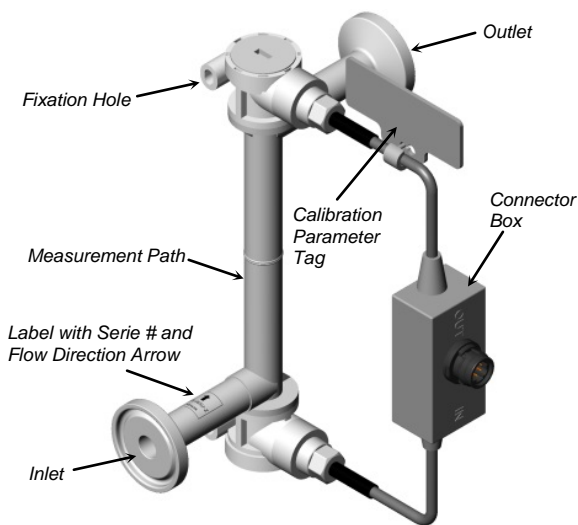


Figure 1: Single-use flowsensor (example LFS-06SU)

Before using the flowsensor make yourself familiar with the following instructions.

1.2 Inspection Prior to Use

The flowsensor should be inspected prior to use for any damage. Do not use the flowsensor if any damage is found. Contact Levitronix[®] regarding return of any suspected flowsensor.

1.3 Traceability for Troubleshooting

For full traceability of the flowsensor the serial number located on the sensor body (see Figure 1) shall be used. The serial number is also printed on the biocompatibility declaration and the calibration sheet delivered with each sensor.

1.4 Levitronix[®] Configuration Software

For sensor parameter setting and calibration parameter transfer to the converter (not necessary for sensors with a parameter chip) the Levitronix[®] Configuration Software with version V1.30 or newer is needed. For details regarding installation of software and establishing RS485 connection consult the LEVIFLOW[®] Configuration Software manual (see Doc# PL-4501-00).

2 General Warnings and Cautions

CAUTION				
Gamma Sterilization				
The LFS-SU flowsensors have been tested to be robust against gamma radiation with a dose up to 40 kGy.				
Handle the flowsensors with care, especially after gamma radiation with doses above 25 kGy, since the radiation exposure decreases the flexibility of the flowsensor material.				

3 Procedure for Installation

3.1 Mechanical/Electrical Installation

Connect the sensor to the converter together with the relevant adaptor cables. Take specific care about the flow direction indicated with the arrow on the flow sensor (see Figure 1). For details about mechanical and electrical installation and design of an adequate hydraulic circuit, consult the user manual (Doc# PL-4509-00).

3.2 Setting of Sensor Type Parameters

The sensor type (or size) specific parameters can be set or updated on the converter at the first installation or whenever the sensor type is changed.

Note: Sensors which are labeled with "Type: PC" on the calibration tag have an integrated parameter chip and parameters are transferred automatically to the converter.

Start the LEVIFLOW[®] Configuration Software and open the "Parameter Settings" menu (Figure 2). Make sure that "Sensor Size", "Full Scale", "Kinem. Viscosity" and "Liquid Temperature" are set to the values designated for the used sensor type. Table 1 table shows the standard values. For other configuration consult the specific sensor specification.

Sensor Type	Full Scale [L/min]	Kinem. Viscosity [cSt]	Liquid Temperature [°C]
LFS-03SU	0.800	1	20
LFS-06SU	8.000	1	20
LFS-10SU	20.000	1	20
LFS-15SU	50.000	1	20
LFS-20SU	80.000	1	20

Table 1: Standard sensor type parameters

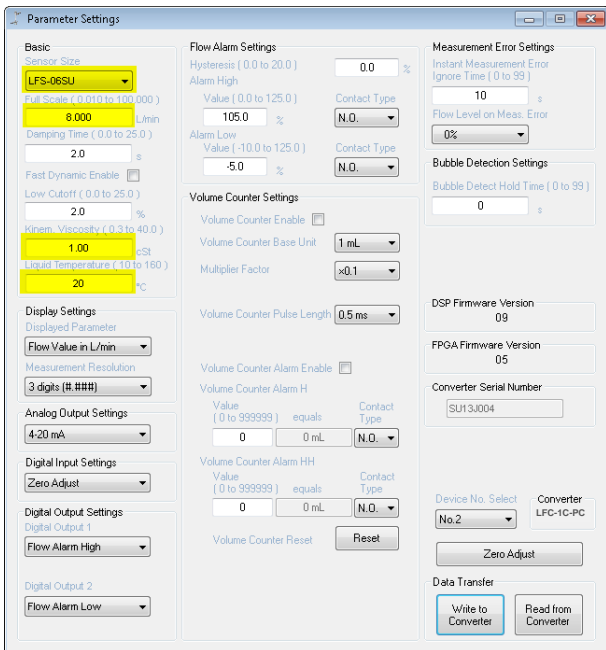


Figure 2: "Parameter Settings" menu of configuration software (Example for LFS-06SU)

3.3 Transfer of Basic Calibration Values

Next step is to transfer the calibration values. These values are available on the sensor tag or on the calibration sheet delivered with each sensor. Open the menu "Basic Calibration" of the configuration software (see Figure 3). Update the "K Factor" and the 5 "Calibration Values".

Store the settings to the converter by using the "Write to Converter" button.

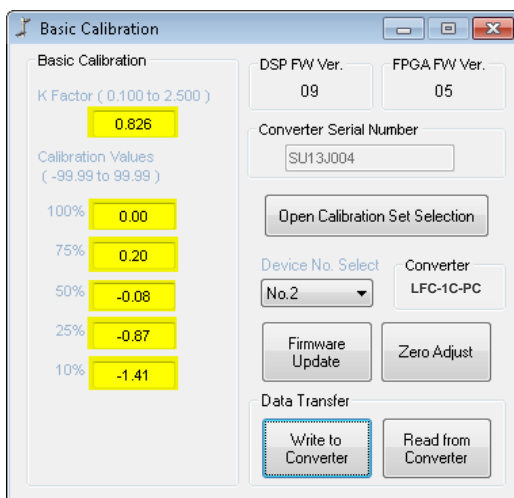


Figure 3: "Basic Calibration" menu of configuration software

3.4 Transfer of Linearizer Values

In some cases (for example for the LFS-03SU) additional linearizer values are defined to increase accuracy. These values are available on the backside of calibration parameter tag or on the calibration sheet delivered with each sensor. Open the "Linearizer" menu (see Figure 4) of the configuration software and transfer the linearizer values.

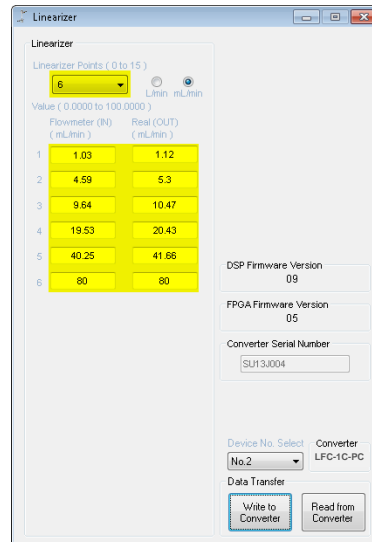


Figure 4: "Linearizer" menu of configuration software (Settings for example with LFS-03SU)

If no linearizer values are defined on the backside of the calibration parameter tag (for example for LFS-06SU and LFS-20SU), write "0" linearizer points to the "Linearizer Points" item (see Figure 5).



Figure 5: "Linearizer" menu of configuration software (Setting for no linearizer values)

Store the settings to the converter by using the "Write to Converter" button.