2 Channel USB-Sensor-Interface with Configuration and Evaluation Software

SI-USB

- O Fast Measurement of up to 2500/s
- *O* Up to 16 Bit Resolution
- **O** Full Synchronism of both Measuring Channels
- O Input Ranges for mV, V and mA
- *O* Input Ranges combinable with each other
- O Adjustment and Control Trigger via Software



Description

The sensor interface SI-USB is connected between the sensor and the PC. By this, analog sensor signals with up to 16 bit resolution are digitized. Highly-dynamic are realizable with a measuring rate of 2500 measurements/sec per measurement channel. The measured values are transferred to a PC via the USB interface and are visualized through the software. If a control signal is integrated in the sensor, an automatic

adjustment can be carried out, which is checkable at any time (monitoring of the measuring chain).

Following sensor output signals can be digitally converted and conveniently displayed and evaluated by the freely available corresponding software:

USB/SG	Excitation 5 V ≤20 mA Input range ±3 mV/V
USB/U5/U10	Excitation 12 V \leq 200 mA Input range ±5 V/±10 V

USB/I20 Excitation 12 V ≤200 mA Input range 0/4...20 mA

Many commercially available sensors such as force-, torque-, displacement- or pressure sensors can be used with the SI-USB. The sensor parameters can be stored in the SI-USB. After a one-time parameterization each sensor is automatically recognized by the software.

The voltage supply of the SI-USB occurs via an external power supply unit. Through the measuring amplifier, the connected sensors are being directly supplied with voltage directly, whereby a separate voltage of the sensors has been omitted.

Unwanted frequencies are filtered with the second-order low-pass filter. Here, a differentiation between 4 limit frequencies is possible. The connection to LabVIEW or the integration into internal programs is possible with the freely available driver package.

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Type SI-USB//SG/SG SI-USB//SG/VS SI-USB//20120 SI-USB//20120 <th>Specifications</th> <th></th> <th></th> <th></th> <th></th> <th></th>	Specifications						
Article-No. 111963 111964 113022 111966 111973 Input Range 2*350 2*51 V 2*10420 mA SG:±5 V Type SI-USB//SG/U10 SI-USB//SG/U10 SI-USB//SG/U10 SI-USB//SG/U10 SI-USB//SG/U10 Article-No. 113021 111974 113023 111975 113024 Input Range SG; ±10 V SG; 0/420 mA ±5 V; ±10 V ±5 V; 0/420 mA ±10 V; 0/420 mA Evaluation Side SG 100240 V AC Output Power Supply 24 V DC 1.25 A Supply Power Supply Voltage 100240 V AC Output Power Supply 24 V DC 1.25 A Supply Voltage SI-USB SG 5 V : 200 mA SG 5 V : 200 mA Measured Values SG ±3 mV/V = ±3000 Digits U5/U10/U20 12 V : 200 mA Measured Values SG 11 mV/V = ±25000 Digits U5/U10/U10 ±5 V : 10/V ±2500 Digits U50 U5/U10/U20 0/420 mA = 0/400020000 Digits U5/U10/U20 0 Digits U5/U10/U20 SG 10 m CM : 25000 Digits <t< th=""><th>Туре</th><th>SI-USB/SG/SG</th><th>SI-USB/U5/U5</th><th>SI-USB/U10/U10</th><th>SI-USB/120/120</th><th>SI-USB/SG/U5</th></t<>	Туре	SI-USB/SG/SG	SI-USB/U5/U5	SI-USB/U10/U10	SI-USB/120/120	SI-USB/SG/U5	
Input Range 2°5G 2°±5V 2°±10V 2°0/420 mA SG: ±5V Type SI-USB/SG/U0 SI-USB/USG/U0 SI-USG/USG/USG/USG/USG/USG/USG/USG/USG/USG/	Article-No.	111963	111964	113022	111966	111973	
Type SI-USB/SG/U0 SI-USB/SG/20 SI-USB/U10/20 SI-USB/U10/20 Article-No. 113021 111974 113023 111975 113024 Input Range SG; ±10 V SG; 0/420 mA ±5 V; 0/420 mA ±10 V; 0/420 mA Supply Power Supply Voltage 100240 V/C 24 V DC 1.25 A Supply Power Supply 24 V DC 1.25 A Supply Yoltage SI-USB 1230 V DC 600 mA Excitation Sensor SG 5 V ≤20 mA SG 12 V ≤200 mA Measured Values SG ±3 mV/V = ±30000 Digits U5/U10 ± 25000 Digits U5/U10 ± 25000 Digits L20 0/420 mA = 0/40002000D Digits 100 1 V = 5000 Digits U5 U5 1 V = 5000 Digits 101 1 V = 5000 Digits U5 1 V = 2500 Digits U10 1 V = 2500 Digits 100 1 MA 1000 Digits U5 U20 1 MA 100/100 1 MA 100 1 V = 2500 Digits U20 1 MA 1000 Digits 100 1 MQ 100 1 MQ 100	Input Range	2*SG	2*±5 V	2*±10 V	2*0/420 mA	SG; ±5 V	
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U5/U10 ±5 V/±10 V = ±25000 Digits I20 0/420 mA = 0/400020000 Digits Resolution SG 1 mV/V = 10000 Digits U5 1 V = 5000 Digits U10 1 V = 5000 Digits I20 1mA = 1000 Digits Qutput Format 0 Digits Input Resistance SG/U5/U10/I20 0 Digits Qutput Format 16 Bit Signed Int. Input Resistance SG/U5/U10 >1 MQ I20 burden 62 Ω Second-Order Low-Pass Filter Hz 30/300/1000/3000 Measuring Rate max. 2500 Meas./s Temperature Drift 4 Bit/10 K Linearity Error 4 Bit/10 K Linearity Error ±32 Digits Accuracy ±32 Digits Viscellaneous 1 m (max. 3 m) Cable Length SI-USB-Evaluation ² 3 m Cable Length SI-USB-Sensor 1 m (max. 3 m) Nominal Temperature Range -10+70 °C Storage Temperature Range -10+70 °C Dimensions (L x B x H) 480 g US/U10/I20 <td>Measured Values</td> <td></td> <td>SG</td> <td>ŧ</td> <td>:3 mV/V = ±30000 Dig</td> <td>its</td>	Measured Values		SG	ŧ	:3 mV/V = ±30000 Dig	its	
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Storage Temperature Range -10+70 °C Dimensions (L x B x H) 125 x 80 x 57 mm Weight 480 g Level of Protection IP40 Electrical Connection SG U5/U10/I20 Female socket 6-pin USR PX0446 [P68 B Mini USB	Service Temperature Range		0+50 °C				
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Weight 480 g Level of Protection IP40 Electrical Connection SG Female socket 6-pin U5/U10/I20 Female socket 12-pin USB PX0446 IP68 B Mini USB	Dimensions (L x B x H)		125 x 80 x 57 mm				
Level of Protection IP40 Electrical Connection SG Female socket 6-pin U5/U10/I20 Female socket 12-pin USB PX0446 IP68 B Mini USB	Weight		480 g				
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U5/U10/I20 Female socket 12-pin	Electrical Connection SG		SG	Female socket 6-pin			
USB PX0446 IP68 R Mini USB			U5/U10/I20		Female socket 12-pir	า	
			USB	F	X0446 IP68 B Mini US	SB	

Article-No.	Option/Accessory	Description
110564	mV/V	mV/V adjusted sensitivity
10302	KS6	Male cable connector 6-pin
10303	KS12	Male cable connector 12-pin

¹ Power Supply in scope of delivery. ² Cable SI-USB-Evaluation in scope of delivery.

Configuration and Evaluation Software

- Comfortable Configuration and Evaluation Software
- *O* Graphical Presentation of up to 2 Input Channels max.
- *O* Automatic Scaling of Y-axis
- Simultaneous Storage of up to 2 Input Channels
- *O* Automatic Storage Function of the Measured Values as CSV- and BMP-File



Description

Configuration and evaluation software for analysis and graphical presentation on a PC.

The software allows direct read-in of measured data into a text file in CSV-Format through the USB-Port of a PC. This enables further analyses with a commercially available spreadsheet program at any time.

Specifications

Туре	VS2 ³
Interface	USB
Protocol	Lorenz standard protocol
System Requirements	Windows [®] '03/ '08/ Vista/ 7/ 8 32/64 Bit ⁴ Dual-Core ex 1.8 GHz (with diagram)

Conversion in physical variables	\checkmark
Simultaneous measurement	Up to 2 input channels
Graphical presentation of the measured variables	\checkmark
Automatic or manual storage in a CSV- and BMP-file	\checkmark
Print-out of the diagram with date and definable headline	\checkmark
Scaling function of the input variable to any display value with unit	\checkmark
Resettable minimum value memory for any measured variable	\checkmark
Resettable maximum value memory for any measured variable	\checkmark
Variable average determination	\checkmark
Tare for each measured value	\checkmark

VS2

³ Software/driver download: www.lorenz-sensors.com.

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