Quick Start Guide

Sensor with I²C Interface

Dear Customer

Thank you for choosing our product. Below, you will find important information regarding setup and use. A detailed description is available on our website: www.delfasys.de
If you encounter any issues during operation, please do not hesitate to contact us.

Detailed Manual:

Intended Use

This product is designed for experimental setups and prototyping in office or private environments. It is not intended for safety-critical applications or permanent installation in end products.

Safety Instructions:

- Observe the specified operating voltage. The device must not be operated with any other supply voltage.
- The device is designed gor use in dry indoor environments only and must not be exposed to moisture or water.
- Always disconnect the power supply before connection or disconnect the sensor.
- Further safety-related information can be found in the enclosed document „Safety and Warning Instructions."

Caution: Failure to follow these instructions may result in malfunction, overheating, fire, or electric shock.

Disclaimer

Delfa Systems GmbH assumes no liability for damages caused by improper use, incorrect installation, or modifications to the product.

Symbol on Electrical and Electronic Equipment

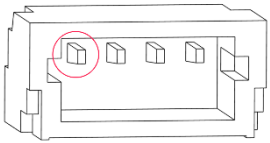
The crossed-out wheeled bin symbol indicates that electrical and electronic devices must not be disposed of with household waste. Old devices must be taken to an appropriate collection point. Before disposal, remove any batteries or accumulators that are not enclosed within the device.

Declaration of Conformity:

Delfa Systems GmbH, Im Altseiterstal 7, D-66538 Neunkirchen, hereby declares that this product meets the essential requirements of the applicable EU directives and complies with Directive 2011/65/EU (RoHS). The full text of the EU Declaration of Conformity is available at: www.delfasys.de

Electrical Connection

- **Solder Pads:** The labels can be found directly next to the corresponding pads.
- **JST SH Connector:** The pin assignment follows the Qwiic standard. Compatible accessories can be used. Pin 1 is marked in the image below.



Pin	Label	Description
1	GND	Ground
2	V+	Power supply (3.3 – 5.0 V DC)
3	SDA	Serial data line
4	SCL	Serial clock line

Reading Sensor Strain Data

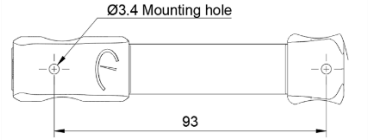
- The sensor's I²C address is **0x48** (7-bit, without the read/write bit).
- When reading data, **2 bytes** of measurement data are transmitted:

Byte	Content
0	MSB
1	LSB

- The sensor value S is calculated as: $S = 256 \cdot MSB + LSB$. This value is dimensionless and directly proportional to the strain.

Mechanical Dimensions

(a) Initial state: 93 mm hole-to-hole distance



(b) Maximum stretched state: 143 mm hole-to-hole distance



Warning: The sensor must never be stretched beyond its specified load limits! Overloading may cause permanent damage to the sensor.

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