

Quick Start Installation

Connecting the device and activating the software

FSI temperature monitoring system

Type 2549A



2549A_012-053e-10.23

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Foreword

Thank you for choosing a Kistler quality product. Please read these instructions carefully, so that you can take advantage of the features of this product. The information in this document is subject to change at any time without prior notice. Kistler reserves the right to improve and modify the product in accordance with technical progress without the obligation to inform persons and organizations based on these changes.

The present instructions are for rapid commissioning of the device.

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1. General notes

The Kistler FSI temperature monitoring system is a high-speed optical system to map and examine thermal behavior of powertrain components based on Fiber Segment Interferometry (FSI). It supports multiple optical fiber sensors for precision measurement of temperature. Each sensor fiber can contain numerous individual measuring elements. The data acquisition system is configured and operated with an intuitive user interface called cockpit.

These instructions are provided to support rapid commissioning of the device, in order to install the software, get access to the online help, and start measuring quickly. This document complements the main software help and user manual that explains all technical and functional details in more depth.

2. Device description

The following short description explains the basic functions of the device:

The FSI interrogator is an optoelectronic unit that illuminates the fiber network and records the optical reflection returned from each measuring element. To control the interrogator, a Windows PC and an Ethernet/LAN connection is required.

A single interrogator can manage up to 4 sensor fibers, each with up to a maximum of 22 measurement segments. Up to 4 interrogators can be cascaded and controlled by the cockpit software.

The FSI sensor fibers are customized to match the specific application and calibrated individually. The sophisticated structure of the fiber in combination with the protective sleeve, transforms local thermal effects segment-wise, resulting in a high-precision and quasi-distributed thermometer.

Connections/Indicators on the front panel



Connections/Indicators on the back panel



Description	
1	Status LED – Power
2	Status LED – Ready
3	Status LED – Measuring
4	Status LED – Warning/Fault
5	Fiber sensor connectors - FC/APC 2.5 mm
6	CAN – D-Sub, 9Pin, male
7	Power supply – LEMO B
8	Interface to cockpit, Ethernet – RJ45

For other optional accessories see data sheet or directly contact your Kistler salesperson.



If not in use, always seal the fiber sensor connectors with the protective covers provided.

3. Explanation of the light emitting diodes

LED Status			
Power	Ready	Measuring	Warning/Fault
● off	● idle	● idle	● ok
● on	● ready	● measuring	● fault
	● identify		

4. Commissioning

Power supply


For test bed applications and laboratory use, there is a 24 V mains power supply provided with this device. Mains power fluctuations of up to 10% of voltage input are permitted. Ensure that you always use an adequately rated mains cable with the included mains power supply. Although the FSI interrogator is designed to be used with the provided power supply, it can be used with appropriate power supplies with voltages in a range of 9 to 30 VDC, such as those provided in-vehicle by the vehicle power network.

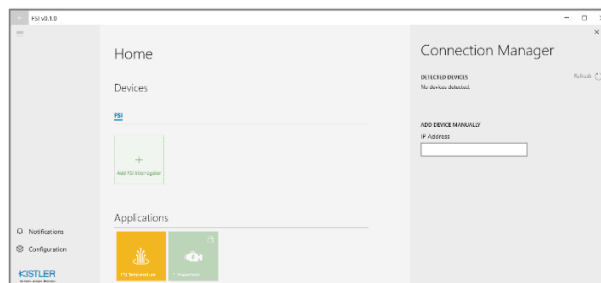
Cockpit software installation

Please install cockpit on your PC running Windows 10 or higher by performing the following steps:

- 1 Open the file FSIInstallation.zip from the included USB stick or from the following link:
<https://kibox-update.kistler.com/api/Deployment/downloadFsiLatestVersion>
- 2 The install wizard leads you through the installation process.
- 3 Choose your path for the installation.
- 4 Next update will be delivered via
Cockpit -> Notifications -> System update section.

Connect to the FSI interrogator

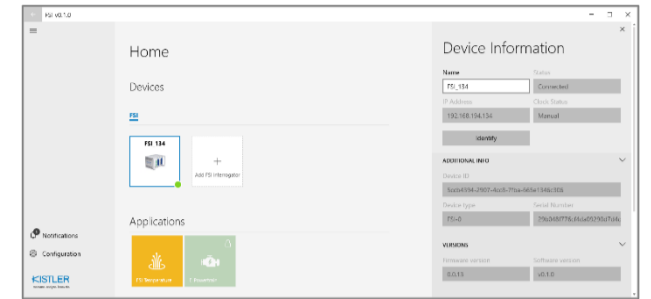
- 1 Start the Application by double clicking on the  Kistler.Cockpit.Shell.exe in your chosen FSI directory.
- 2 The system informs users when a new software release is available under Notifications. Download the update first and execute it afterwards.
- 3 Click on "+ Add FSI interrogator" to setup a connection.
- 4 In the **Connection Manager** you can directly select one of the detected devices or manually configure a connection by entering an IP address.



The connection must be configured accordingly. This is done by comparing the IP addresses between FSI interrogator and the PC. If required, the IP address of the interrogator can be changed to suit the network requirements.

Licensing

- 1 For the first connection, it is necessary to connect cockpit to the Internet to activate the software license.
- 2 By clicking on the button "Activate/renew Licenses" a Kistler website automatically synchronizes the available License package for your FSI device.



- 3 Clicking on an unlocked application package opens the default template.

The system is now ready to start measurement tasks. The software is installed, the hardware is connected, and the license is activated. Next, it is necessary to parametrize the system for the measurement application. Please refer to the user manual in the Help Menu for advice and support on how this can be done.

5. Service and support

Please contact your sales partner directly for additional product information. The help function in the cockpit software is context sensitive and is activated with the "F1" key.

Repairs at Kistler

Repairs at the Kistler factory can be arranged via the local sales company. Information can be found at www.kistler.com. Please contact your sales partner directly for additional product information.

Disposal instructions for electronic devices

Old electronics devices may not be disposed of with household refuse/residual waste. Please return obsolete devices to the nearest electronics disposal center for disposal or contact your Kistler Sales Representative.

6. Conformity

CE (Europe)

The full text of the EU declaration of conformity is available at the following Internet address:

<https://www.kistler.com/de/produkt/type-2549A/>

7. Safety instructions

As an environmentally aware company, Kistler does not send out operating instructions in paper form. For this reason, please refer to the following information regarding the installation and operation of Kistler products:

- The safety and warning information set out below
- The specifically applicable instruction manual for the purchased product

Instruction manuals for each product are available on the Kistler website and can be accessed via the type number at www.kistler.com or with the QR code.

Paper instruction manuals can also be requested from Kistler's customer service or the responsible Kistler sales department.



Instruction manuals are subject to change at any time without advance notification, in particular regarding equipment modifications (conversions, retrofits etc.). Instruction manuals must be accessed regularly on the internet for this reason.

Safety and warning information

7.1 General

Kistler offers a wide range of products in the dynamic measurement technology sector for recording pressure, force, torque and acceleration, designed exclusively for use in industry and research with an emphasis on automotive development, industrial automation and further applications engaged in pushing back the frontiers of physical science. These products are high-precision devices that acquire and process data that can be transmitted electronically to other systems.

At the time of purchase, each Kistler product is compliant with the necessary and applicable safety regulations and all other relevant requirements. Every product is in perfect condition with respect to safety requirements when it leaves Kistler's factory.

7.2 Setting up and using your product

Only qualified individuals with the necessary technical know-how are allowed to install and operate Kistler products. These qualified individuals must adhere to all requirements contained in this safety and warning information and in the applicable instruction manual for the respective product. They must also comply with the applicable national safety provisions for installation and operation in each case.

If a product is not installed, used or maintained in the proper manner, this could result in serious injuries or fatal accidents and damage to the product and its surroundings.

Please check for any damage to the packaging before unpacking the product. Any damage found must be reported to the shipping company and the Kistler Sales Center or its distributor.

The delivery scope must be checked before starting to set up the product. If a part is missing, the responsible Kistler Sales Center or its distributor must be notified.

If the product has visible signs of damage, no longer works, is stored for lengthy periods in unfavorable conditions and/or was exposed to major stresses during shipping, safe operation is no longer guaranteed and the product must immediately be returned for repair to Kistler or the responsible distributor.

The product may not be disassembled, opened, repaired or otherwise modified because this may impair its operation and, in particular, can result in electric shocks. Any attempt to open or modify the product or to damage or remove labels will automatically result in the voiding of all warranty claims.

The product must not be used in potentially explosive environments unless it is specifically designated for such use.

7.3 Product use

During storage and operation, the specifications on ambient temperature stated in the technical data must also be observed. The product may be permanently damaged if the permissible ambient temperature is exceeded to a significant extent.

The product may only be used under the specified operating conditions; in particular, high relative air humidity and temperature fluctuations that might result in condensation should be avoided.

Under no circumstances must the protective ground conductor be interrupted or rendered ineffective. Its purpose is to provide protection against electric shocks and it must therefore be connected to the relevant equipment.

Defective fuses must only be replaced by appropriate substitute types with the specified current rating. "Repaired" fuses must not be used, and fuse holders must not be short-circuited.

Do not perform tuning, maintenance or repair work on live, open devices.

7.4 Electromagnetic compatibility

To ensure that electromagnetic compatibility (EMC) is maintained for the entire measuring chain, particular attention must be paid to connection of the inputs and outputs of the cable screen, and to the cable installation:

- Cables must not be run parallel to wiring that causes interference.
- Only the supplied or optionally available cables must be used.
- Please ensure a reliable connection between shielding, connector boxes and device enclosures.
- Machinery and hardware must also comply with the EMC standards.

7.5 Software upgrades and updates

The most recent software and firmware available on the Kistler website must always be used.

Kistler accepts no liability whatsoever for direct or consequential damage caused by products with outdated firmware.

7.6 Disposal information for electrical equipment



The product must not be disposed of as domestic waste. It must be taken instead to a suitable collection point for the recycling of disposable or rechargeable batteries, electrical and electronic equipment. Sorting, collecting and recycling helps to preserve natural

resources and prevents impairment of human health and the environment by hazardous substances that may be released through the incorrect disposal of disposable or rechargeable batteries, electrical and electronic equipment.

Please contact your Kistler Sales Center if you have any questions about disposal.

Contact addresses and further information are available at this internet address: www.kistler.com

7.7 Laser safety



The FSI interrogator is a Class 1 laser product according to EN/IEC 60825-1:2014. Avoid long-term viewing of the output, especially using optical viewing instruments. Do not attempt to operate the device in a disassembled state or otherwise access the laser directly, as this may result in hazardous radiation exposure.