User Guide

essent**im**

extensions

essentim

Table of Content

essentim

Notes

⚠️	Warning: This symbol represents a warning. It describes a dangerous situation or indicates safety risks.
👉	Note: This symbol indicates important information.
🗑️	The symbol of a crossed-out dustbin indicates that this device contains electronic components and must not be disposed of with household waste in accordance with Directive 2002/96/EC (WEEE).

Legal notice

No part of this document may be reproduced, electronically duplicated or distributed in any form without written permission from essent**im** GmbH.

essent**im** GmbH assumes no liability for any errors or omissions. The determination of valid measurement results, conclusions and measures derived therefrom are the sole responsibility of the user. essent**im** GmbH does not guarantee the validity of the determined measurement values or measurement results. Furthermore, essent**im** GmbH does not assume any liability for errors or damages resulting from the use of the determined measured values.

Subject to technical changes. All rights reserved. © essentim GmbH

Warranty and liability

The device complies with the basic safety and health requirements of the relevant EU regulations and has been tested for proper functioning at the factory. When claiming warranty, the device number must be indicated (see product label on the device). Failure to comply with the manufacturer's specifications or legal requirements or unauthorized modifications to the equipment or unauthorized replacement of individual parts or accessories may significantly impair the electrical safety of this product and void the warranty. Any liability, property damage or personal injury resulting from the device being used contrary to the instructions in this manual is excluded. We reserve the right to make technical design and execution changes at any time without prior notice as a result of continuous further development and product improvement. No liability is accepted for damage resulting from improper use. Warranty claims are then also void. Liability for any damage to property or personal injury that occurs is then transferred to the operator.

Safety Instructions

Read these instructions carefully before commissioning and using the device and always keep the instructions within easy reach!

⚠️ **Warning**
Always observe all safety instructions in this document! Non-observance may result in personal injury or damage to property! Always keep the safety instructions and the user manual permanently always keep the safety instructions and the user manual in an accessible and permanent place.

- Observe all technical limits as well as storage conditions for the device.
- If there is obvious damage to the device, it must be taken out of service and stored safely.
- Do not attempt to repair or modify the device. For maintenance and repair, the device must be sent to the manufacturer or an agency designated by the manufacturer.
- Before operation, the safety instructions and the user manual must have been read and understood by the user. The device may only be operated by persons to whom this applies.
- In addition to the instructions and safety notes in this manual, the basic regulations for occupational safety must be observed.
- The system is safe and reliable and complies with the relevant EU directives. Improper use may result in damage to the user, third parties or material objects.
- The user is responsible for safety risks arising from biological material or samples used and monitored with the extension probe.
- Maintenance or repairs may only be carried out by the manufacturer or persons or companies authorized by the manufacturer.
- Do not operate the device in potentially explosive atmospheres, aggressive atmospheres or explosion protection zones.
- The device is not a toy. Keep the device away from children and animals.
- Avoid contact with liquids or high humidity in the area of the plug.
- Avoid liquid penetration into the plug.
- Protect the device from permanent direct sunlight.
- Do not remove any safety signs, stickers or labels from the device. Keep all safety signs, stickers and labels in a legible condition.
- Do not open the device with a tool.
- The product should not be sterilized.

Intended Use and User

The essent**im** extensions are sensor extensions specially developed for the essentim sphere and spider sensors to measure various parameters.

⚠️ **Warning**
Always observe the safe operating conditions specified here!
Failure to do so may result in personal injury and/or damage to property.

- The extensions only provide measured values in conjunction with essentim sensors.
- The extensions should be operated at room temperature. With selected extensions, only the sensor part may be inserted into the volume to be measured.
- Avoid mechanical loads on the extensions, damage to the housing or the sensor can lead to measurement inaccuracy or device failure.

The user is, for example, a trained laboratory employee / assistant / technician / student. Each user must have read and understood the safety instructions and the user manual.

Device Description and Initial Setup

General Information

The essent**im** extensions are sensor extensions that are connected by cable to an essentim sensor (sphere or spider) to measure different parameters.

Portfolio

	extension	Description	Specifications
	pt100	Temperature probe	-90 to +60 °C typ. class A accuracy -196 to -90 °C typ. ± 3 °C (Drift max 1 °C/year)
	K-type	Temperature probe	-40 to +375 °C (typ. ± 1.5 °C)
	CO2	CO2 Sensor with integrated temperature and humidity sensor	0 – 25 vol% (typ. +/- 1 vol%) -20 to +85 °C (typ. ± 0.3 °C) 0 – 95 % rH (typ. ± 2 %)
	Opt.-T	Infrared temperature probe	-10 to +58 °C (typ. ± 0.3 °C)
	I/O	Potential-free contact	1 or 0
	Analogue	Almost any industrial sensor is possible, contact info@essentim.com for more information	

Initial Setup

An extension is automatically recognized by the essentim sensors as soon as they are connected. To do this, plug the USB-C connector of the extension into the socket of the sensor (sphere or spider).

The measurement data can be displayed and visualized in the essent**im** web application. A gateway is required to transfer the measurement data from the sensor to the cloud.

Note

An extension can have more than one measurement parameter. A CO2 extension, for example, has three parameters. Please note that the essent**im** sphere or spider has a maximum of 12 free slots for measurement parameters. Fully occupied slots can only be released again by resetting the device.

Technical Data

Manufacturer	essent**im** GmbH
Model	PT100, K-Type, CO2, …
Type	Sensor extension for essent**im** sphere or scope
Operating condition (EN / IEC 61010-1) - Operating location	Indoor, no use or storage in explosive atmospheres.
- Ambient temperature	-10 to + 58 °C
- Humidity	Maximum 100 % relative humidity, non-condensing
- Other	Do not expose to chemicals or mechanical stress. The product should not be sterilized! Observe the cleaning instructions in the user manual to prevent damage.
Storage and loading conditions - Temperature	0 to 40°C
- Humidity	10 to 50%
- Other	Protected from frost and heat, not in contact with hazardous substances in a place protected from dust and sunlight.
Conformities	RoHS, CE, FCC (pt100)

Transport and Storage

Warning
Improper transport can lead to personal injury and damage to property.
Observe all instructions for safe transport.

The **essentim** pt100 extension must be secured during transport to prevent possible mechanical impact.

An unused extension should be stored away from dust, sunlight and moisture.

Note
Probe tip and probe cable must not be squeezed or bent
to prevent measurement deviations.

Storage and loading conditions	
- Temperature	0 to 40°C
- Humidity	10 to 50%
- Others	Protected from frost and heat, not in contact with hazardous substances in a place protected from dust and sunlight.

Cleaning, Maintenance and Repair

Cleaning

The essentim extensions can be cleaned with demineralized water or Isopropanol (70%). The cleaning fluid should be applied with a lint-free cloth.

essentim GmbH recommends the following procedure for cleaning:

1. Moisten a cloth with Isopropanol and wipe over the surface and the cable.

2. Let the liquid soak for one minute

3. Wipe the pt100 extension dry with a lint-free cloth.

4. Wait a further five minutes to allow any residue from the Isopropanol to evaporate.

5. The procedure can be repeated if necessary

6. The extension can be used again

⚠️ **Warning**
The extension should not be sterilized. essentim GmbH does not give approval for sterilization processes of any kind, as both thermal and chemical processes can destroy the extension and lead to property damage and personal injury!

Maintenance and Repair

Checking the measuring accuracy
To determine the measuring accuracy, we recommend performing an annual metrological traceability.

Defect
In case of a defect, please contact essentim GmbH.
support@essentim.com
www.essentim.com

Disposal

The extension is marked according to the EU Directive on Waste Electrical and Electronic Equipment (WEEE).

WEEE registration number of essent**im** GmbH: DE 22316070.

This product must not be disposed of with household waste.

The extension can be taken to a designated primary treatment facility for the disposal of electrical and electronic equipment at your own expense for environmentally sound disposal. As a designated B2B product, you can alternatively return the extension (sufficiently stamped) to essent**im** GmbH. We will dispose of the device at our expense in a proper and environmentally friendly manner.

Changelog

22.08.2023	Erstellung der Bedienungsanleitung	V 1.0

essentim

www.essentim.com