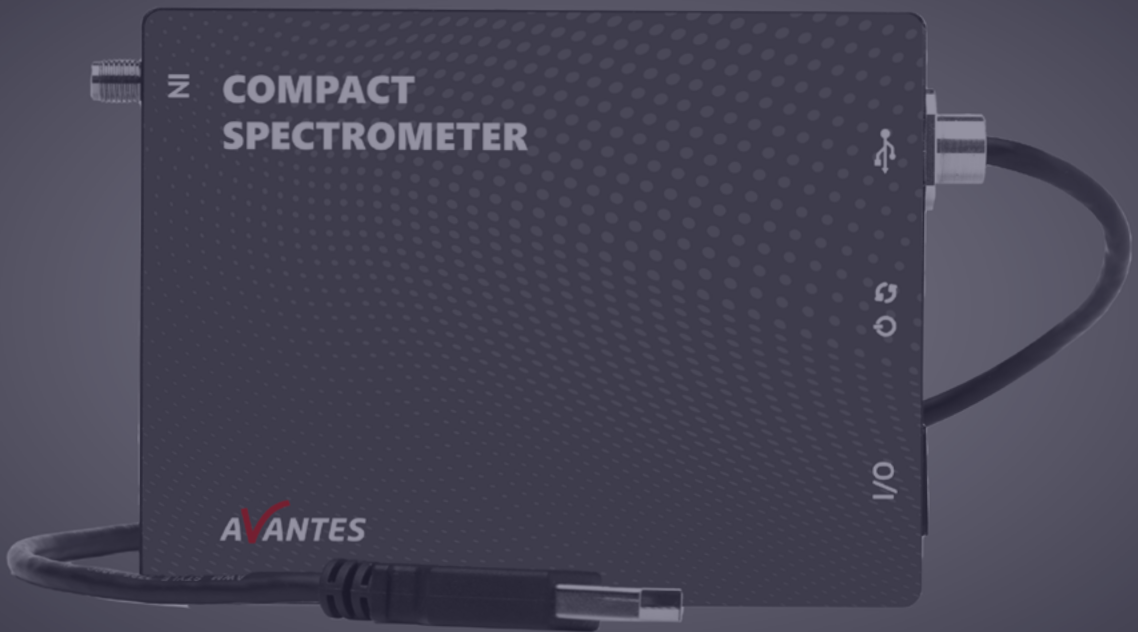


# COMPACT SPECTROMETER

## COMPACTLINE



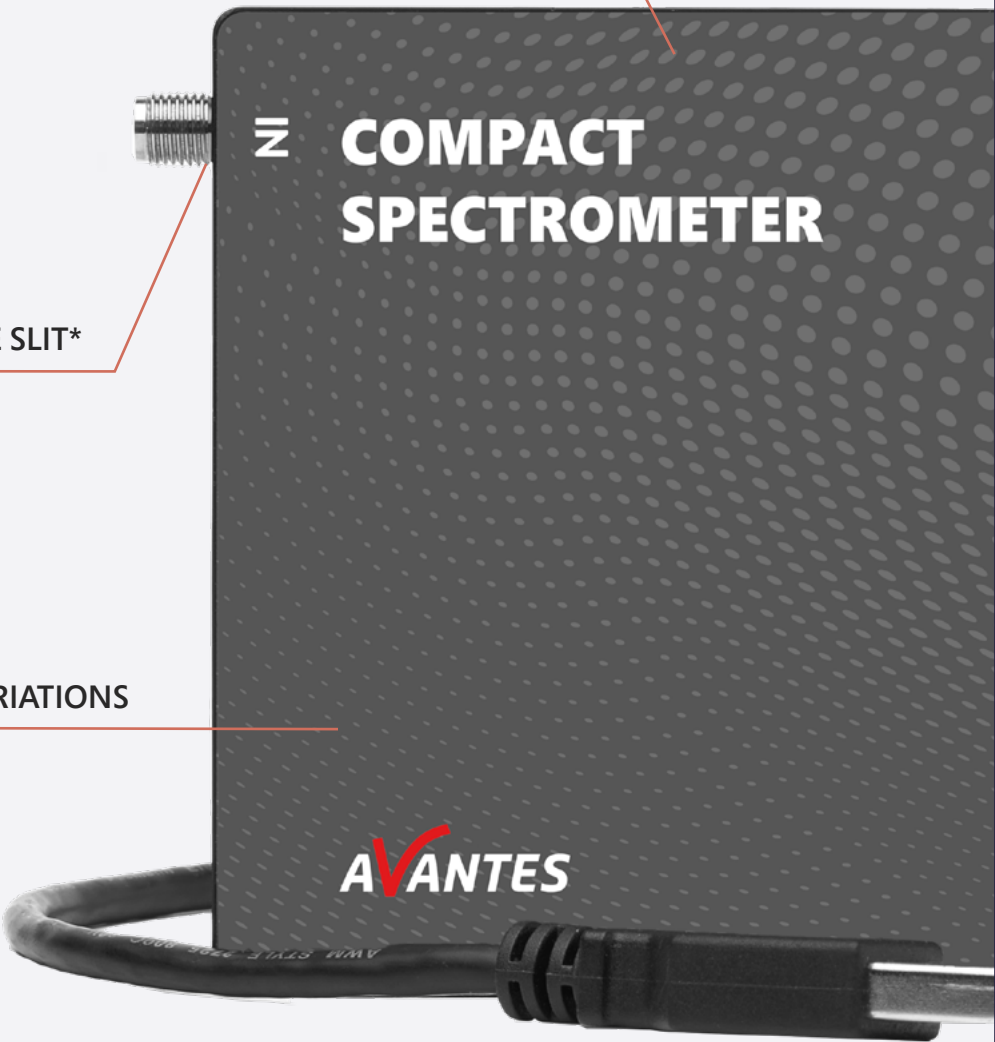
# COMPACT SIZE, LIMITLESS POSSIBILITIES

OUTSTANDING STRAY LIGHT PERFORMANCE

REPLACEABLE SLIT\*

MULTIPLE VARIATIONS

USB-POWERED



# WHY CHOOSE COMPACT?

**Superior Optical Performance.** The Compact Spectrometer's optical engine and detector are carefully engineered to deliver exceptional performance, providing users with reliable and accurate results. Users can trust in the precision and accuracy of their measurements.

**Easy Integration.** The Compact Spectrometer is easy to integrate into a variety of products and systems due to its compact size, and various communication protocols. It is a convenient choice for applications where size and flexibility are important considerations.

**Performance customization.** Customize your Compact Spectrometer through the use of different slit sizes, gratings and connectors. The customization options make this device the perfect fit for countless applications in various markets.

**Choose your communication.** The Compact Spectrometer offers multiple communication options to ensure a perfect match with your application. The options include USB2, direct interfacing, RS232, and SPI, allowing users to choose the best method for their specific needs.

*\*Optional*

## WE OFFER THE DEVICE

The Compact Spectrometer is a versatile and powerful device that can be customized to fit your application's needs. There are three different variations available, each designed to cater to specific applications and requirements.

### Compact Spectrometer

The Compact Spectrometer offers high-end performance with improved speed, minimal straylight, and a high signal-to-noise. The device is available with a 2048 or 4096 pixel detector, the option for a replaceable slit connector, and USB communication.



### Compact Spectrometer Link

The Compact Spectrometer Link is the ideal choice if you want to integrate the device into a system that requires a different communication protocol. The Link comes with RS232 or SPI communication protocols, which allows you to enhance the functionality of your equipment.



### Compact Spectrometer Bench Only

The Compact Spectrometer Bench Only offers you our high-end Czerny-Turner bench. This includes the optical engine and detector, but no additional electronics. Unlock flexibility and customization by incorporating your own electronics.



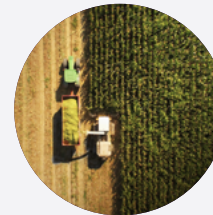
### More information

Scan the QR-code to read more information about the different Compact Spectrometer variations.



## YOU MAKE IT SPECIAL

A spectrometer is 'just' a device without you using it in your application. Due to the compact size, flexibility and easy integration, the Compact Spectrometer ensures wide usability in various applications and industries, such as:



### Agriculture & Food

Use the Compact Spectrometer in the agricultural and food industry for applications such as food sorting and precision agriculture. It can analyze food products and the nutrient content of soil and plants, improving efficiency and accuracy in these industries.



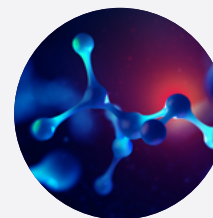
### Semiconductor

In the semiconductor industry the Compact Spectrometer is ideal for applications like thin film coating and end-point detection. The spectrometer analyses the thickness of the films being applied, or monitor a plasma etching process by detecting the end-point when a layer is removed.



### Environmental

The Compact Spectrometer is an invaluable tool for the environmental industry, especially in applications like contamination and pollution monitoring. The device measures water, air, soil, or products in real-time to quickly quantitate, identify and trace contaminants and pollution.



### Medical

Due to the easy integration into other devices, the Compact Spectrometer is a perfect candidate for applications such as blood analysis, cancer detection, or endoscopy. The device helps medical professionals diagnose and treat various conditions, making them an invaluable asset for the medical market.

# SPECIFICATIONS

The Compact Spectrometer offers high-end performance with high speed, minimal stray light, and a high signal-to-noise ratio. All variations are compatible with Avantes light sources, accessories, and AvaSoft software.

*The technical data in this table only relates to the USB-powered Compact Spectrometer*

	Compact Spectrometer 2K	Compact Spectrometer 4K
Optical Bench	Symmetrical Czerny-Turner design, 75 mm focal length; Compact Spectrometer bench	
Wavelength range	190 - 1100 nm	
Stray light	0.1 - 1% (typical value 300l/mm, blaze 300 nm < 0.3%)	
Detector	HAM S11639, CMOS linear array, 2048 pixels (14x200 μm)	HAM S13496, CMOS linear array, 4096 pixels (7x200μm)
Signal/Noise	375:1	365:1
Dynamic Range	4500	
Dark noise	15 cnts	
AD converter	16-bit, 6 MHz	
Integration time	9 μs – 30 s	
Interface	USB 2.0 (480Mbps) / pigtailed (38cm) USB-A	
Sample speed on-board averaging	0.36 ms/scan	0.70 ms/scan
Data transfer speed	0.79 ms/scan	1.12 ms/scan
Digital I/O	5 bidirectional programmable I/O; 1 Analog out, 1 Analog in, 1x5V	
Dimensions, weight	105 x 80 x 20 mm, 277,5 grams	
Power supply	Default USB power, 500 mA	
Temperature range	5-55 °C	



## FULL PRODUCT OVERVIEW & SPECIFICATIONS

Scan the QR-code for the full Compact Spectrometer overview, grating options, ordering options, and more. Discover the flexibility of the device and find your ideal variation.

# FUTURE-PROOF MANUFACTURING

There is a worldwide increasing demand for spectrometers. More and more customers purchase in large volumes, which means that the performance of each spectrometer must be exactly the same. Avantes' spectrometers are produced with AvaMation, a semi-automated manufacturing process.

This new manufacturing method not only improves precision and efficiency for our manufacturing process, but also yields the following benefits for you as a customer:



## Scalable manufacturing capabilities

From small up to very high volume orders, with AvaMation, we are flexible when it comes to customizing orders.



## Superior inter-instrument reproducibility

Through AvaMation, we take quality assurance to a higher level and provide more manufacturing precision and speed.



## Enabling data analysis

By collecting data from the manufacturing process, we can continue to innovate and make product improvements in the future.

