

# VAROS Connect

Measurement technology rethought...

Measuring device with separate operation handling  
for installation of all types of distribution networks



# — VAROS Connect...

## ...Measurement technology rethought.

The devices of the VAROS Connect series are the next logical step into the future of measurement technology. Here we rely on proven quality without compromise and integrate it into a contemporary, future-proof application.

The most significant difference to existing models is the separation of measurement technology and operation handling. This opens up a wide range of possibilities in hardware design and offers almost unlimited options for networking with other hardware or for integration into modern measurement systems.

Display and control is performed on any Internet-capable terminal device: workstation, notebook, tablet or smartphone. Our new user interface can be optimally displayed in any modern browser, regardless of the platform.

Displaying on any end device provides great design flexibility for the graphical user interface. We have taken advantage of this to make navigation more intuitive. Despite the many innovations, the transition from a VAROS or AMA series device is easy thanks to the integrated help.

## With VAROS Connect, connectivity...

In addition to the usual physical interfaces, another interface is of particular importance for the VAROS Connect:

The WiFi interface provides the wireless connection to the end device, which takes over display and operation handling. WiFi provides the necessary transmission capacity so that not only measured values, but also the live display of the TV image are quickly available on the end device. A distinction must be made between two operating modes.

On the one hand, the VAROS Connect and the end device can be in the same network. This can be built up either wirelessly, via a physical connection or a VPN access.

If none is available, the VAROS Connect establishes its own WiFi network to which the end device can connect. For problematic cases, a small display and corresponding controls are placed on the back of the measurement device to check connectivity and set it manually if necessary.

The physical interfaces of the VAROS Connect offers everything one could wish for. In addition to the measurement input for the signal (optical or RF), an Ethernet port, a USB-A and a USB-C interface are available.

Especially the USB-C port is a true all-rounder: it can also be used to charge the device with up to 30W. The charging function via USB-C also opens the way to other commercially available power sources like a powerbank and cell phone chargers for mains voltage or 12V in the car.

In addition, a USB-C to HDMI adapter can be used to display the decoded TV picture—e.g., to show the end customer the desired TV picture on his own television device after interference suppression.

## ...and compatibility are writ large

As with the VAROS 107, all VAROS Connect models also have a defined and open interface. It enables the transfer of measured values to documentation and planning tools. The interaction with AND is integrated from the outset. Here, a measurement can even be started from the AND interface and the values automatically stored at the defined measuring point. Through the API, however, the measuring device can basically be accessed from any system in order to further process the measurement data.

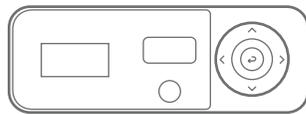
Of course, the creation of a measurement protocol is also possible in no time at all. Due to the operation handling via terminal device, the data management or a forwarding via e-mail client or messenger is intuitive, fast and easy.

# 4 devices—4 solutions

Our VAROS Connect concept is being successively expanded into an entire family of measuring instruments. The introduction of the models **VAROS Connect 201, 202, 203** and **204** is currently already underway.

The range of functions of the respective devices is being expanded as the model number increases.

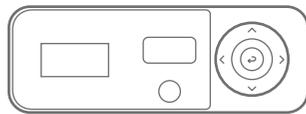
In parallel, both measuring receivers can be equipped with a modern DOCSIS 3.1 modem—resulting in the **VAROS Connect 203** and **204** types (without or with optical receiver).



## VAROS Connect 201

### Measuring ranges

DVB-S/S2/S2X—DVB-T/T2  
DVB-C—DAB/DAB+

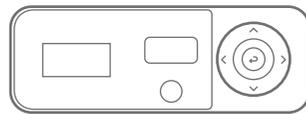


## VAROS Connect 202

### Measuring ranges

DVB-S/S2/S2X—DVB-T/T2  
DVB-C—DAB/DAB+

### Optical receiver

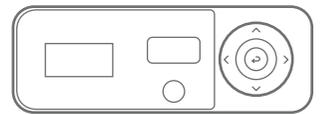


## VAROS Connect 203

### Measuring ranges

DVB-S/S2/S2X—DVB-T/T2  
DVB-C—DAB/DAB+

### DOCSIS 3.1 modem



## VAROS Connect 204

### Measuring ranges

DVB-S/S2/S2X—DVB-T/T2  
DVB-C—DAB/DAB+

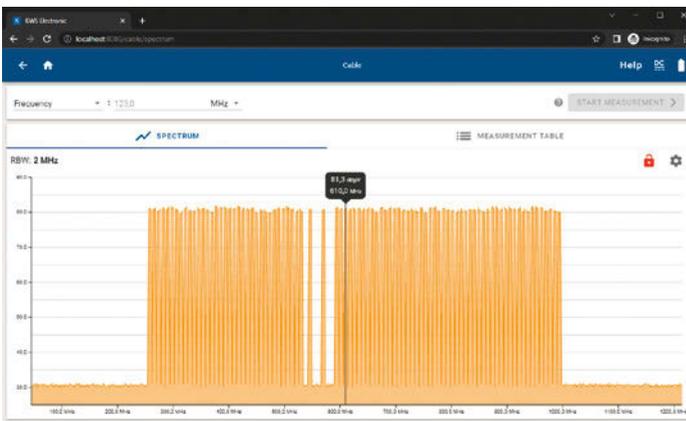
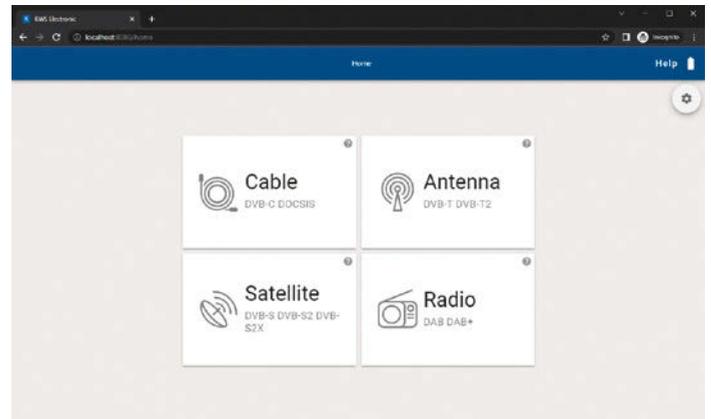
### Optical receiver

### DOCSIS 3.1 modem



# GUI

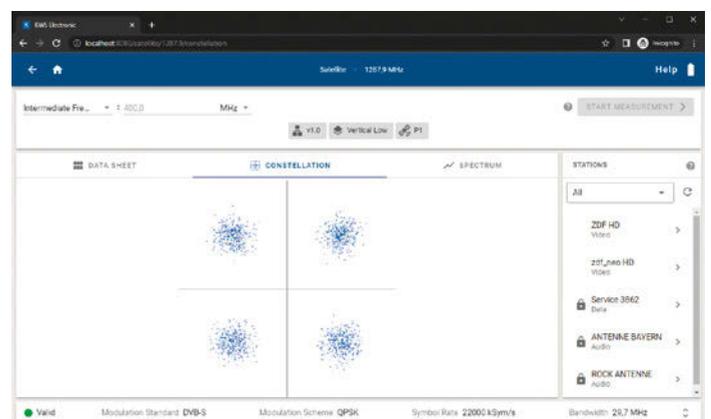
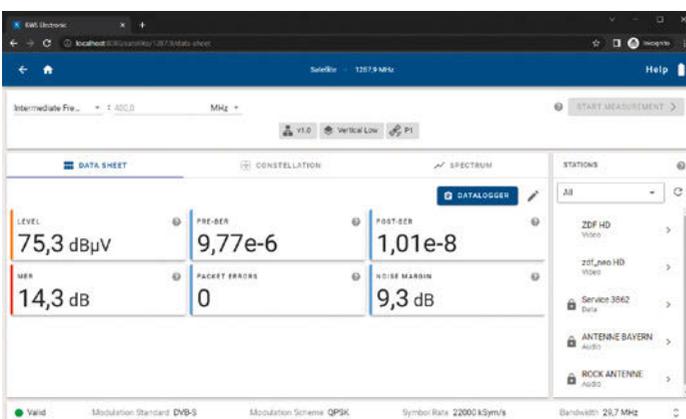
Our newly developed GUI brings our concentrated know-how into a new form. The interface is web-based and thus suitable for all common browsers such as Chrome, Safari, Edge or Firefox on the desktop or any mobile device. Through the use of modern and current toolkits, a responsive user interface has been created that visualizes all measurement data—at any time and regardless of the end device—in a clear and easy-to-understand fashion.



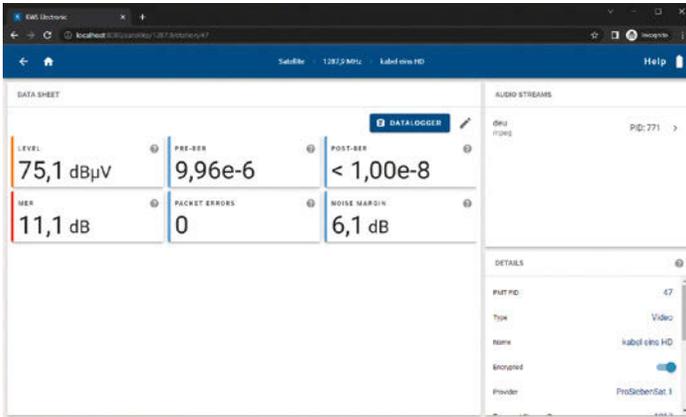
| Class | Frequency [MHz] | Modulation Standard | Modulation Scheme | Level [dBμV] | Post-BER | BER [1/E] | Packet Error | Noise Margin [dB] |
|-------|-----------------|---------------------|-------------------|--------------|----------|-----------|--------------|-------------------|
| D482  | 482.0           | DVB-C               | 256-QAM           | 14.0         | 1.04e-8  | 37.7      | 0            | 8.7               |
| D490  | 490.0           | DVB-C               | 256-QAM           | 15.4         | 1.00e-8  | 36.9      | 0            | 10.8              |
| D495  | 495.0           | DVB-C               | 256-QAM           | 15.3         | 1.00e-8  | 36.5      | 0            | 15.5              |
| D500  | 500.0           | DVB-C               | 256-QAM           | 15.3         | 1.00e-8  | 36.3      | 0            | 10.3              |
| D514  | 514.0           | DVB-C               | 256-QAM           | 14.6         | 1.02e-8  | 40.3      | 0            | 11.3              |
| D522  | 522.0           | DVB-C               | 256-QAM           | 13.9         | 1.00e-8  | 38.4      | 0            | 9.4               |
| D530  | 530.0           | DVB-C               | 256-QAM           | 14.4         | 1.00e-8  | 35.8      | 0            | 10.8              |
| D538  | 538.0           | ...                 | ...               | 15.0         | ...      | ...       | ...          | ...               |
| D548  | 548.0           | DVB-C               | 256-QAM           | 15.0         | 1.00e-8  | 35.1      | 0            | 12.1              |

The VAROS Connect offers a consistent and comprehensible display in all measurement ranges. After selecting a specific measurement range, the entire spectrum is immediately available. The intuitive zoom function after selecting a DVB transponder directly from the analyzer or by manual input can also be locked to exclude unintentional zooming.

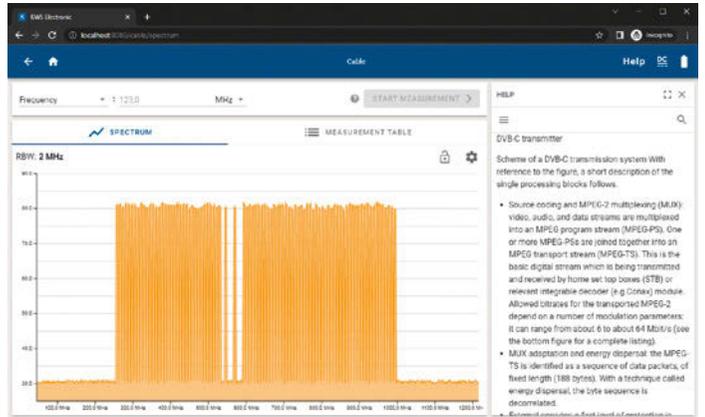
A measurement can be started in the spectrum view either after selection on the spectrum itself or input in the mask. The other tab allows a clear view into the channel table, where only the desired channel has to be selected.



In the measurement you can switch back and forth between the measured values, the constellation diagram and the channel spectrum as in the spectrum view. Thus, the measured values are particularly vivid and can be quickly compared with each other. In the right area, all transmitters or services on the channel are listed. One click takes you to a specific transmitter and its measured values.



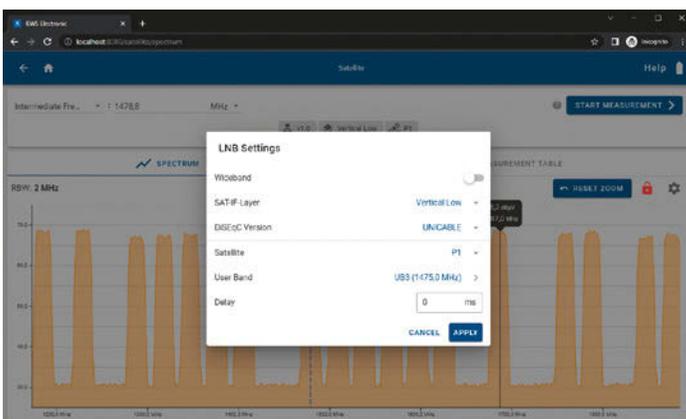
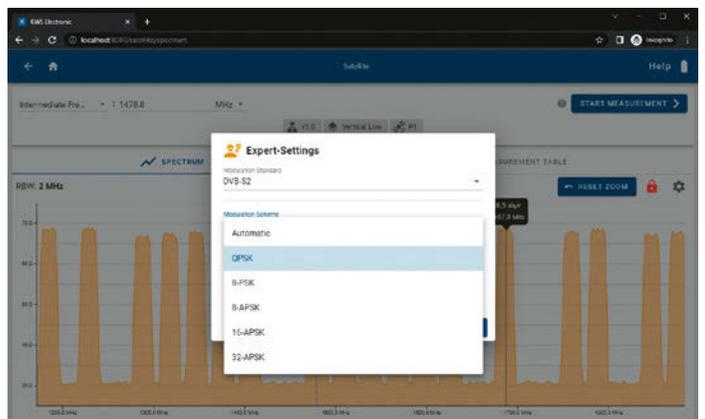
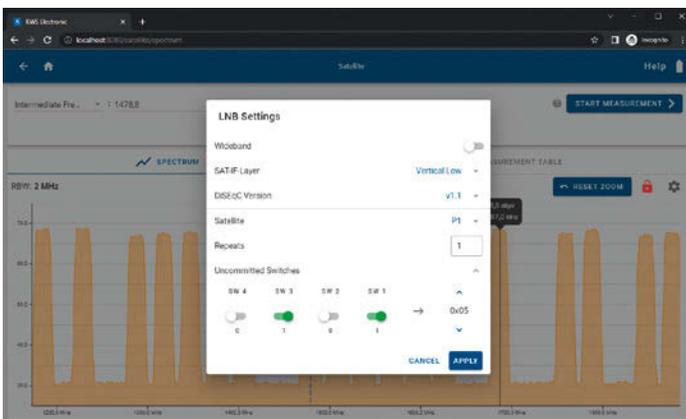
In the channel view, it is possible to select individual video and audio tracks and check them live via stream or HDMI output (via the USB-C port on the back).



The built-in help function should also be emphasized.

It contains easy-to-understand explanations and background information for every view.

Our in-house service team is constantly looking after the maintenance and expansion of the help function in order to expand it and guarantee its usefulness in the long term.



The SAT area is often particularly complex. Many different setting options require a high degree of knowledge and experience.

Here, the VAROS Connect supports the user with clear menus and views. At the same time, many selection options are already preset correctly. Those who prefer to make the settings themselves can continue to do so via the expert mode.

# Specifications

|                           |  |
|---------------------------|--|
| Model                     | VAROS Connect  |
| Dimension (H/W/D)         | 45 × 141 × 127 mm  |
| Weight                    | 0.95 kg  |
| Measuring ranges          | DVB-S/S2/S2X – DVB-T/T2 – DVB-C – DAB/DAB+   |
| Frequency ranges          | SAT 250–2,350 MHz – CATV and terrestrial 42–1,002 MHz  |
| Maximum level             | Up to 120 dBµV in all ranges   |
| Measurements              | Level – BER – MER – Packet Errors (PE) – Noise margin – Link margin – Constellation diagram  |
| TV image display          | H.265 (4K) including transport stream evaluation   |
| Analyzer                  | 5–2,400 MHz  |
| Internal storage          | 16 GB (10 GB available)  |
| SAT techniques            | DiSEqC 1.x/2.0 – UNICABLE – JESS (EN 50494 and EN 50607)   |
| Interfaces                | WLAN – REST interface/Websocket interface via open API – Ethernet (min. 10/100 Mbps) –<br>USB 2.0 (data socket) – USB-C 2.0 (data/charging socket) |
| Service voltages          | 13/18 V for SAT – 5/11–20 V for DVB-T2 and CATV  |
| Optical receiver (option) | 5–2,400 MHz – 1,260–1,620 nm   |
| DOCSIS 3.1                | Modem  |
| Battery                   | Lithium polymer battery 44.4 Wh  |
| Power supply              | USB-C (min. 9–15 V)  |

# Scope of delivery

| Model                       | VAROS Connect 201 | VAROS Connect 202 | VAROS Connect 203 | VAROS Connect 204 |
|-----------------------------|-------------------|-------------------|-------------------|-------------------|
| Power supply/charger        | •                 | •                 | •                 | •                 |
| USB-C cable                 | •                 | •                 | •                 | •                 |
| RF measuring cable          | •                 | •                 | •                 | •                 |
| Fiber optic measuring cable |                   | •                 |                   | •                 |
| Carrying case               | •                 | •                 | •                 | •                 |
| Carrying bag                | ○                 | ○                 | ○                 | ○                 |

The information contained in this catalogue is subject to change without notice.

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