Altech Corp.®
MEXICO

UNIVERSAL MONITOR DO-1
FOR MODBUS

FAQ

Modbus

SIMPLE DEVICE MONITORING
FOR YOUR BUSINESS

V3/24

The current Modbus standards dictate the use of Client-Server device terminology in favor of Master-Slave;
However, common practice is still to use Master-Slave terms when referring to connected Modbus devices.
For ease of use / integration of the **DO-1** device we have kept the current terminology with future plans to update
to the new standard as it becomes more common place.

For now: Client = Master , Server = Slave and vice versa.

Frequently Asked Questions (FAQs)

General

What makes DO-1 universal and what are its main features and functions?

DO-1 enables the integration of different manufacturers of measured value monitoring devices and sensors, which use the Modbus standard **RTU or TCP**, into a monitoring network. The variety of devices offers numerous application possibilities. You can customize monitoring and visualization via user-defined dashboards and configure alarm functions and user rights and roles individually. Plus, there are no license fees for **DO-1**.

What can I monitor with DO-1?

A wide range of parameters and conditions can be monitored with the help of measured value monitoring devices or sensors. Example: In a warehouse, various sensors are used for monitoring and safety to ensure the conditions and protection of goods and employees. These sensors are monitored using **DO-1**.

What parameters and conditions can I monitor accurately with DO-1?

DO-1 allows you to monitor a variety of parameters and conditions. Among others:
Temperature, humidity, pressure, motion, light, sound, gas, liquid level, distance, air quality, vibration, current, voltage, energy, water quality and position.

In which application areas are these parameters and states used?

The areas of application are diverse and range from industry to healthcare. Sensors capture data, control processes and improve safety in various areas:

- **Temperature:** Use in heating, ventilation and air conditioning (HVAC) systems, process control, weather monitoring and healthcare.
- **Humidity:** HVAC control, sensitive goods storage, agricultural monitoring and precision manufacturing.
- **Pressure:** Industrial process control, hydraulic and pneumatic systems, weather forecasting and geotechnical.
- **Motion:** security systems, building automation, automotive and robotics.
- **Light:** lighting control, light sensors for imaging, street lighting and environmental monitoring.
- **Sound:** noise level monitoring, quality assurance, acoustic measurements and environmental noise monitoring.
- **Gas:** gas detection in industrial plants, carbon monoxide monitoring in homes, environmental protection and safety.
- **Liquid level:** level monitoring in tanks and vessels, water management and process industry.
- **Distance:** positioning in robotics, object detection in vehicles, automatic door opening and obstacle detection.
- **Air quality:** indoor pollutant monitoring, environmental monitoring and healthcare.
- **Vibration:** structural monitoring, machine condition monitoring, earthquake detection, and vehicle dynamics.
- **Power:** energy management, electrical load monitoring, electromobility, and electrical equipment monitoring.
- **Voltage:** power supply monitoring, power supply quality and battery monitoring.
- **Energy:** energy management, consumption monitoring, solar system monitoring, and electric vehicle charging stations.
- **Water quality:** water parameters monitoring in drinking water systems, environmental protection and water treatment.
- **Position:** GPS tracking, navigation systems, aircraft guidance, vehicle tracking and robotics.

Setup and Installation

How do I set up the device?
Please follow the steps described in the user manual for device installation and configuration.

Does the DO-1 require additional software?

No, the **DO-1** is supplied with pre-installed software so that no additional software is required. The device can only be addressed via its IP address. However, if the IP address is unknown, a specially developed program is available for download under DO-1 Device Finder. This program locates the **DO-1** in the local network (LAN) and provides information such as type, IP address, location and port details.

What are the dimensions and weight of the device?
The device has the following dimensions: width 55mm, height 30mm, length 71mm and weight 130g.

Which variants of the device are available?

Currently only two versions are available:
A **stand-alone version** and a version with an adapter for the **35mm DIN rail**.

What memory capacity does the device have?

The device has an internal memory of **5 GB**, which can be expanded **up to 128 GB** using an **SD card**.

Can I customize the appearance and settings of the device?

Yes, you can individually adapt the settings to the connected measured value monitoring devices or sensors from different manufacturers. You also have the option to customize digital monitoring and visualization via dashboards. Alarm functions, user rights and roles are also customizable.

Which Modbus devices can I integrate into my network?

You can integrate devices that communicate via **RS-485** and are equipped with an **RS-485 port**. This port can be in the form of simple screw terminals, a DB9 connector or an RJ45 connector. In addition, you can integrate devices that support Modbus TCP.

Is it possible to have more than one Master in a Modbus network?

No, in a 2-wire RS485 (Modbus RTU) network, only one Master is supported. However, in an Ethernet Network or LAN (Modbus TCP), multiple clients (masters) can be accommodated as each client has a unique IP address.

What is the difference between master-slave and client-server in Modbus protocols?

While the functionalities are similar, the terminology used (master-slave vs. client-server) distinguishes between the roles and interactions of devices within a Modbus network. Master-Slave configuration is used in the Modbus RTU protocol, whereas Client-Server configuration is used in the Modbus TCP protocol.

Which cable should be used for wiring the Modbus Monitoring Network?

It is recommended to use a **2-core shielded and twisted cable** for signal transmission.

Which points require special attention when setting up a Modbus Monitoring Network?
The **wiring** and **settings** of the Modbus devices.

Which Modbus Standards does DO-1 support?
Modbus **RTU** and Modbus **TCP**.

Why are the device templates of the manufacturer Selec already integrated?

The integration of Selec device templates offers several advantages. It significantly reduces implementation time, especially without specific device selection from other manufacturers. In addition, Selec devices are tested to work with **DO-1** and offer excellent value for money.

Usage and functions

What are the options for being alerted?
Alarms can be displayed via email, on the dashboard, and can also be signaled audibly or visually using an **RS-485 output module**.

Can I create visual or audible alarms with the DO-1?
Yes, by using an **RS-485 output module**.

What are the necessary system requirements?
To access **DO-1**, both the **DO-1** and the computer, laptop, tablet or smartphone must be on the <u>same network</u> (LAN). You can then access the **DO-1's web-based user interface** using any web browser.

How can I switch the device on and off?
The device is switched on and off by plugging or unplugging the green **2-pin connector** connected to the **12-24 V power supply**.

Which languages are supported by DO-1?
German, English, Spanish

In which languages is the manual available?
German, English, Spanish

Troubleshooting and problem solving

What should I do if I forget my user password?
Please contact the administrator of **DO-1**.

What should I do if I forgot the Administrator password?
We recommend resetting the device to the factory settings. Read the next question and the corresponding answer.

How can I reset the device to factory settings?

To do this, press and hold the reset button. All LEDs go out with the exception of the power LED, which lights up continuously. After **10 seconds**, the Eth. LED also lights up. Then release the reset button to reset all values. A new configuration file is created at the same time.

How can I fix common problems or errors?

The most common problems are related to **RS-485 communication**, especially physical wire connections and communication settings. To solve these problems, carefully follow the instructions in the 'Troubleshooting RS-485 communication problems' section. In addition, problems and errors can occur due to device and register requirements of different manufacturers. Many manufacturers interpret the Modbus standard differently, which can lead to confusion, especially when reading Modbus registers, because different terminologies are used.

What challenges might I face when integrating devices from different manufacturers into my surveillance network?

Many manufacturers interpret the Modbus standard differently, which can lead to confusion, especially when reading Modbus registers, as different terminologies are used depending on the manufacturer.

Updates and Upgrades

How do I update the firmware or software of the device?

Log in to **DO-1** (through the Web GUI) as an administrator, click on the 'System' menu item and then click on the 'Status' menu item. In the 'Updates' tile, check for an update by clicking on the appropriate button. Follow the instructions.

Support

What should I do if I am unable to monitor a specific manufacturer's device with the DO-1?

Contact the **DO-1 Technical Team:** support@do-1.com

Is there technical support available?

Contact the **DO-1 Technical Team:** support@do-1.com

Accessories and extensions

Are there any accessories or add-ons available?

No accessories or extensions are currently available.

Licensing and terms of use

Are license fees charged?

There are no monthly or annual license fees for **DO-1**.