

Modbus/TCP, Modbus/RTU INTERFACE MANUAL

**ECO GATEWAYS AS OF YEAR OF MANUFACTURE 2023
WITH WEBSERVER**

**ESERA STATION 200 V2
ECO 110 SENSOR GATEWAY PRO
ECO 501 SENSOR GATEWAY PRO
ECO 502 SENSOR GATEWAY PRO
ECO 503 IT/IOT SWITCH
ECO 608 SENSOR GATEWAY 1-WIRE**

UMS2205 ENVIRONMENTAL MONITORING STATION

V2.0 R1.2

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2. PRODUCT OVERVIEW ECO AND EC GATEWAYS

The ESERA EC and ECO gateways of the latest generation are divided into different series. We offer the right device for different requirements and areas of application, such as private, commercial and industrial use.

The following is an overview of the ECO and EC gateways.

All gateways have an access point and web server. Only the gateways with this equipment will be discussed in this manual. In the following overview, the devices for this manual are marked in green.

For the gateways without web server and access point use the manual version 1.0.

ECO GATEWAY WITH MAXI INTERFACE, MODBUS interface AND ACCESS POINT AND WEBSERVER Described below in this manual.	EC and ECO GATEWAY STANDARD INTERFACE, WITHOUT WEBSERVER Not described in this manual
<ul style="list-style-type: none"> • ECO 110 Sensor Gateway 1-Wire Interface • ECO 501 Pro, Sensor Gateway Modbus/TCP MQTT, with 1-Wire Interface • ECO 502 Pro, Sensor Gateway Modbus/RTU with 1-Wire Interface • ECO 503, IT/IoT Switch Gateway, Modbus/TCP, MQTT, 8-channel switching module 10/16A and dig. inputs • ECO 608 Pro, Security Sensor Gateway, Modbus/TCP, MQTT, with 1-Wire Interface, digital I/O • UMS 2206 Pro, Smart City environmental measurement system, wall mount, 8 environmental sensors, UPS, 1-Wire interface, digital I/O 	<ul style="list-style-type: none"> • 1-Wire Gateway 10, Smart Home Sensor Gateway, with 1-Wire Interface • 1-Wire Gateway 20, Smart Home Sensor Gateway, with 1-Wire Interface Relay + analog Out • ECO 100, Smart Building Sensor Gateway with 1-Wire Interface

3. MODBUS/TCP GENERAL

Modbus/TCP is a protocol for communication between devices in a network, based on the Modbus protocol and the TCP/IP protocol.

Modbus is a serial-based protocol that is widely used in industrial automation to transmit measurement data, control commands, and status messages. It is also widely used in computer network technology and is used to connect devices in a network.

The Modbus/TCP protocol allows to connect controllers and gateways in Ethernet networks by embedding Modbus data packets into TCP/IP data packets. It uses the standard port number 502.

The protocol works with two types of packets: Requests and responses. A request is sent from one device to another to retrieve data or send commands. The response contains the data or confirmation that the command has been executed.

It also supports various functions, including reading and writing data registers, reading input registers, and reading and writing lock bits.

Modbus/TCP provides an effective and reliable way to exchange data between different devices on a network and is used in many different applications in industrial automation, building automation and other fields.

4. MODBUS COMMUNICATION ECO GATEWAY

Modbus is de facto the common bus standard for communication between PLC machine controllers and the machine-related environment in industry.

No PLC controller on the market can do without this bus interface. The success story of the Modbus standard was initiated in 1979 by Gould-Modicon for communication with its [programmable logic](#) controllers.

In the industry, Modbus has become a standard because it is an open protocol. Since 2007, the Modbus TCP version has been part of the [IEC 61158](#) standard. (Source: <https://de.wikipedia.org/wiki/Modbus>)

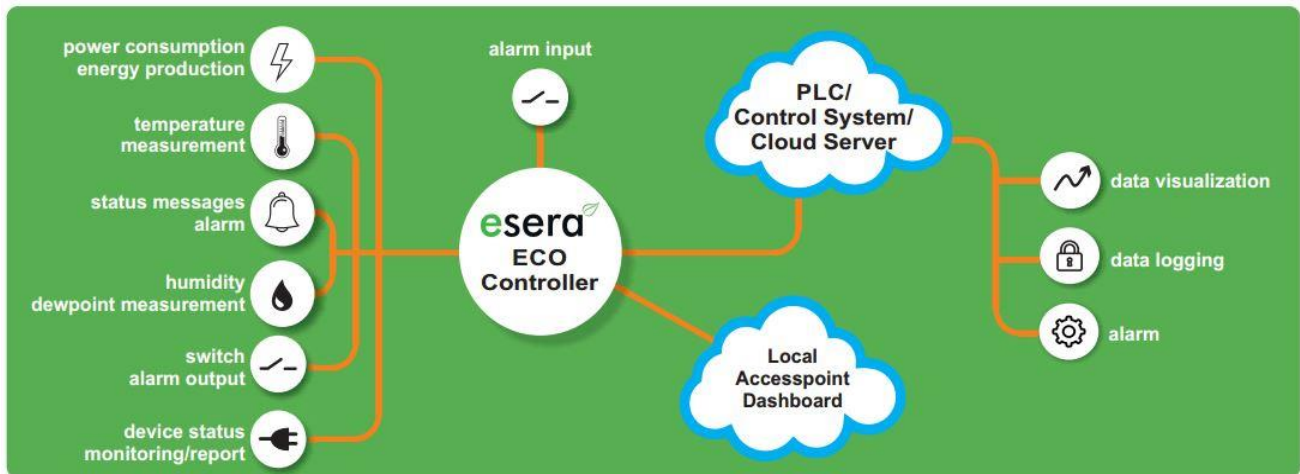
ESERA has Modbus/TCP and Modbus/RTU as an integral part of the data interfaces of the ECO Gateway product series, and can thus connect various industry standards, such as Modbus, MQTT, LoRaWAN, NB-IoT and 1-Wire, via gateways.

During the development of the ECO sensor gateways, special emphasis was placed on user-friendliness and many automatic functions. This is additionally supported by a configuration software, Config Tool 3, which combines all desirable functions up to the documentation and an installation report.

By the ESERA gateways are intended for a wide range of applications, even far outside the industry attractive. The application areas include all commercial applications, such as smart home, smart building, data center, OT and IoT systems.

5. ECO GATEWAY SYSTEM

Many sensors, a powerful interface, a web server and access point, and a fully automated plug and play system.



6. The ESERA ECO Gateway Concept

- A large number of sensors can be connect fully automatically via Industrial 1-Wire Bus using Auto-E-Connect.
- Up to 30 sensors with a maximum of 150 sensor values can be connected.
- In addition, there are direct analog and digital inputs of the ECO Gateway.
- Furthermore, there is a housing interior climate monitoring system with alarm system.
- Extremely powerful data interface for up to 5 simultaneous data connections to control rooms and PLC controllers
- Modern settings of the gateway via web server
- Connectable access point for independent access by mobile devices, such as smartphones, tablet or laptop.

7. INTERFACE (MAXI INTERFACE) - AND I/O SECTION

The basic structure of all ESERA ECO gateways is such that the devices consist of two sections. The first section consists of an I/O gateway (1-Wire bus, eBus and/or sensor unit) and the second section consists of a very powerful interface. This very powerful interface is referred to below as the **Maxi Interface**.

The two sections communicate with each other internally.

These two sections are built into separate, electronic units on a gateway basis.

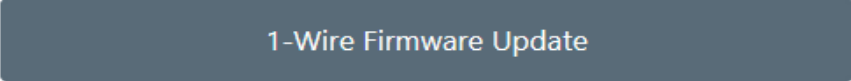
The advantage is that each of the sections is specially optimized for its task. This gives you an extremely powerful, robust device with low energy consumption. The ECO gateways are designed for years of use.

No Linux system is used in either of the sections. All sections of the devices are natively programmed and thus very low-maintenance.

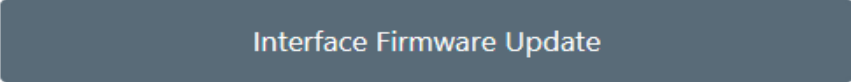
The advantage here is clearly the years of use without any update.

Depending on the ECO gateway, different I/O functions, e.g. 1-Wire or eBus and different interfaces, e.g. Ethernet, WLAN, NB-IoT, LoRaWAN, are available.

For the above reason, there are two firmware update buttons. Please avoid confusing the firmware versions.



1-Wire Firmware Update



Interface Firmware Update

Illustration:
Extract from the main page of the web
server

8. CONFIGURATION MODBUS INTERFACE

NOTE

The following description is intended for ECO Sensor Gateways from year of manufacture 2023 with web server and access point. If you have a 1-Wire gateway without web server, please use the interface manual Modbus V1.0

8.1. ACTIVATE ACCESS POINT



Push button to activate the Access Point

The ECO Gateways with Maxi interface have a connectable WiFi (WLAN) access point.

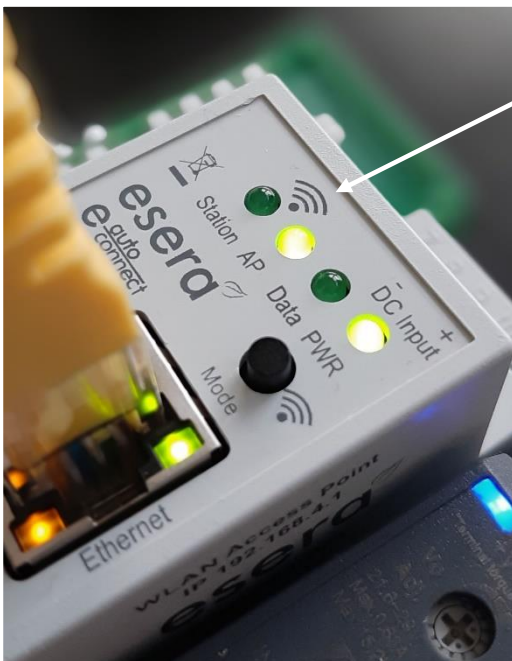
This means that you can access the device via mobile end device, such as smartphone, tablet or laptop. This is possible directly - without additional devices via WiFi (WLAN), access point (e.g. Fritzbox).

NOTE

You activate the access point by pressing (of 5 seconds length) on the button on the top. The access point is active for approx. 30 minutes. After that, it deactivates automatically for security reasons. You can switch off the access point by pressing the button again for at least 5 seconds.

What is an access point?

With an access point (wireless LAN **AP mode**), mobile end devices such as laptop, tablet, smartphone, etc. can be connected directly to the ECO Gateway. No additional wireless LAN access point is required.



When the access point is activated, we talk about the AP mode of the WLAN interface of the ECO Gateway. (See figure, LED "AP" is on, LED "Station" is off)

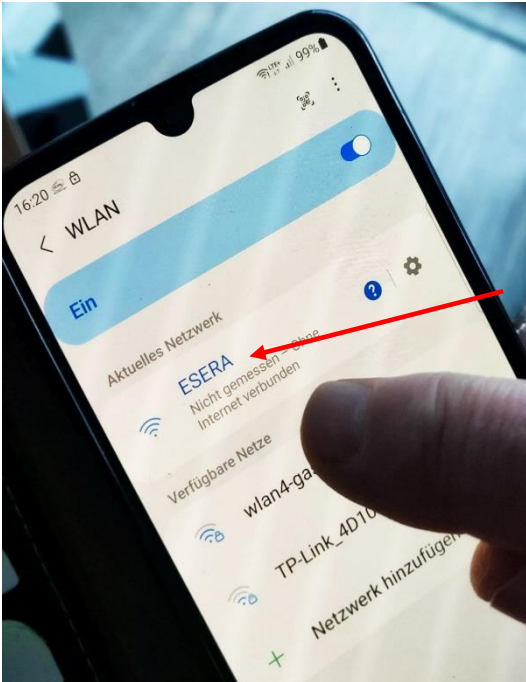
If you no longer need the access point, switch it off by pressing the button again for at least 5 seconds.

NOTE

The web server is continuously available via the Ethernet interface. You can reach it via the IP address of the device. The IP address of the ECO gateway can be found on the "Ethernet Interface Settings" web page

8.2. SELECT ACCESS POINT

The ECO gateway with Maxi interface registers as a WLAN access point with the identifier "ESERA". In the delivery state, the Ethernet interface is set to "DHCP". The access point is open, without an access password.



Select "ESERA" Access Point

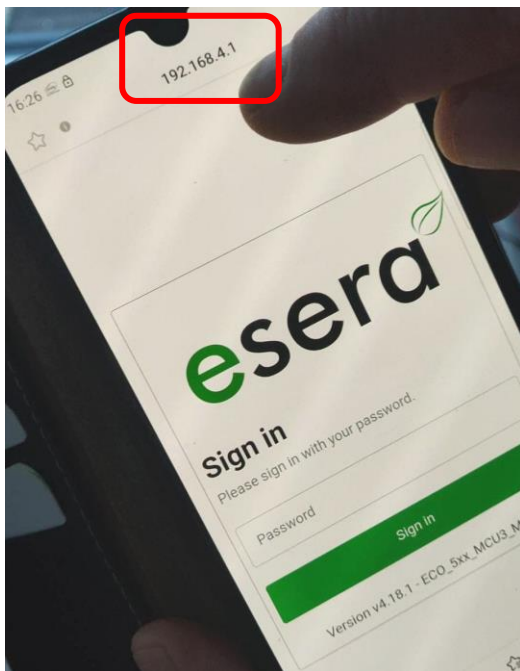
NOTE

The ECO WLAN access point can be found as a WLAN network at the identifier "ESERA".

8.3. CALL WEB SERVER VIA WIFI

If you have connected to the WLAN network "ESERA", the web browser starts directly on many mobile phones.

If this is not the case, switch to your web browser (e.g. Firefox, Chrome, etc.) and enter the IP address of the ECO Gateway. Now the web server of the ECO Gateway should be visible, comparable to the following picture.



NOTE

The IP address of the ECO Gateway via Access Point is: **192.168.4.1**

The IP address of the access point is printed on the right side of the gateway housing.

Important:

Enter the IP address without "https://".

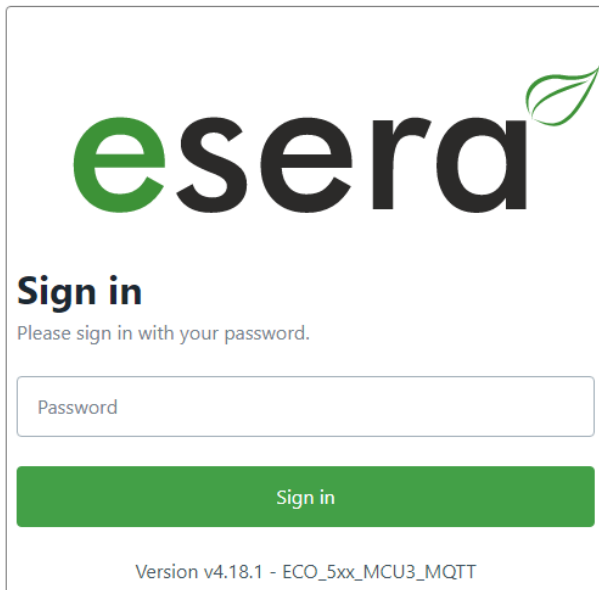
The configuration of the device is currently only possible via the web server of the ECO Gateway.

8.4. CALL WEBSERVER VIA LAN

You can also connect the web server of the ECO Gateway at any time via LAN interface using the set Reach IP address.

The IP address of the ECO Gateway is shown on the device display (if the device has a display). If the device does not have a display, you can also read out the current IP address (not the IP address of the access point) via your router/access point/DHCP server.

8.5. WEBSERVER, SIGN IN/LOG IN



Password, Sign in/Log in

To be able to log into the web server of the ECO Gateway, use for the first login the **Startup/default password: eserapwd**

For security reasons, the password is not displayed in plain text, but with dots.

After entering the password, click on the "Log in" button to open the main menu (hereinafter referred to as the main menu).

Please change the password after the first login, otherwise unauthorized persons can also make settings on the ECO Gateway.

Please enter a new and secure password via the main menu/"Change Password".

Advice on how to assign secure passwords can be found on the Internet.

Software version Ethernet interface/Log Out

Click on the "Log Out" button to exit the web interface.

NOTE

The startup/default password for Log In is: eserapwd

IMPORTANT

Please change the password after the first login.

8.6. HOME/MAIN PAGE

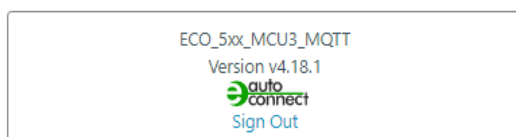
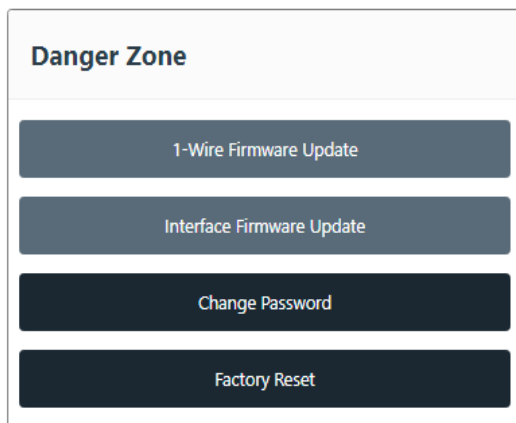
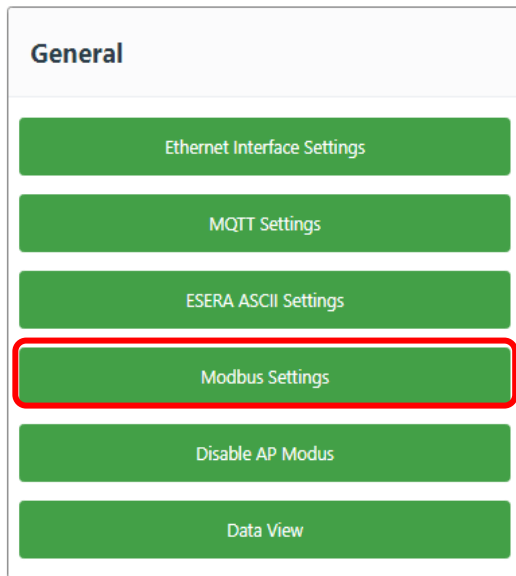
The ECO gateways are delivered with different equipment regarding interfaces and protocols. The main page is divided into two sections:

- **General**

Here you will find all menus for configuring the interfaces and viewing the gateway and sensor data. The various buttons (selection keys) take you to the corresponding submenus, which are described below.

- **Danger Zone**

Here you get to submenus where you should take great care, because the possible changes are usually not undoable.



Ethernet Interface Setting

Use this button to enter the menu for setting the IP address, Sub Net and Gateway number.

MQTT Settings (if supported by the device)

In this menu you can enter e.g. access data of the MQTT broker.

ESERA ASCII Settings

From here you come to the submenu for setting the data port. Pressing the button takes you to the menu for configuring socket interfaces 2 - 5.

Modbus Settings

In this menu you can set e.g. the port number of the Modbus/TCP interfaces.

Data View

Here you can view the gateway data and the sensors connected via 1-Wire bus system. Here you will also find the Auto-E-Connect information.

Firmware update, 1-Wire bus, I/O section

Using this button you can perform an update of the Perform 1-Wire section.

Firmware Update Interface Section

This button allows you to perform a firmware update of the interface and the web server.

Change Password

To change the password for the web server, click the "Change Password" button.

Factory Reset

You may reset the Ethernet interface to the delivery state. For this press the button "Factory Reset"

Software version Ethernet interface/Log Out

Display of the software version of the Ethernet interface installed on the device. The version of the 1-Wire firmware can be seen via the Config Tool 3.

Sign Out

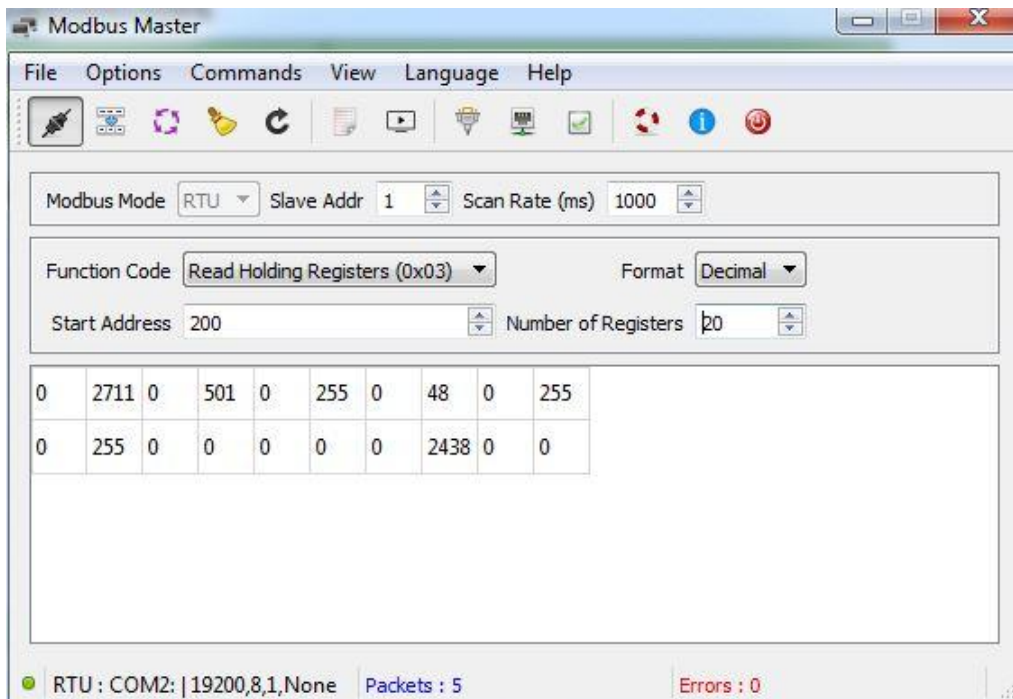
Click the "Sign Out" button to exit the web server.

9. MODBUS TEST SOFTWARE

To perform first tests via Windows and a small test program, you can use e.g. the program *Modbus Master* (qmodmaster). It is an open source program. Below the link for the download.

<https://sourceforge.net/projects/qmodmaster/>

We do not take any liability for the link and the test program.



10. MODBUS FUNCTION CODES

Structure and function codes Modbus RTU, RS485 interface		Structure and function codes Modbus TCP, Ethernet interface	
FC1,2 (reads single bits):		FC1,2 (reads single bits):	
Gateway no.	Example: 1	Transactionsnr high	Example: 0
Function code	1	Transactionsnr low	0
Start address high (bit)	0	Protocol ident high	0
Start address low (bit)	32	Protocol ident low	0
Number of bits high	0	Bytes from here	6
Number of bits low	8	Recognition	e.g. 1
CRC high	x	Function code	1
CRC low	x	Start address high (bit)	0
		Start address low (bit)	32
		Number of bits high	0
		Number of bits low	8
FC3,4 (reads words):		FC3,4 (reads words):	
Gateway no.	1	Transactionsnr high	0
Function code	4	Transactionsnr low	0
Start address high (word)	238	Protocol ident high	0
Start address low (word)	102	Protocol ident low	0
Word count high	0	Bytes from here	6
Word count low	9	Recognition	e.g. 1
CRC high	x	Function code	4
CRC low	x	Start address high (word)	238
		Start address low (word)	102
		Word count high	0
		Word count low	9
FC5 (sets one bit):		FC5 (sets one bit):	
Gateway no.	1	Transactionsnr high	0
Function code	5	Transactionsnr low	0
Start address high (bit)	0	Protocol ident high	0
Start address low (bit)	32	Protocol ident low	0
Bit value high	255 or 0	Bytes from here	6
Bit value low	0	Recognition	e.g. 1
CRC high	x	Function code	5
CRC low	x	Start address high (bit)	0
		Start address low (bit)	32
		Bit value high	255 or 0
		Bit value low	0
FC6 (writes a word):		FC6 (writes a word):	
Gateway no.	1	Transactionsnr high	0
Function code	6	Transactionsnr low	0
Start address high (word)	1	Protocol ident high	0
Start address low (word)	146	Protocol ident low	0
Write value high	0	Bytes from here	6
Write value low	85	Recognition	e.g. 1
CRC high	x	Function code	6
CRC low	x	Start address high (word)	1
		Start address low (word)	146
		Write value high	0
		Write value low	85

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FC16 (writes words):		FC16 (writes words):	
Gateway no.	1	Transactionsnr high	0
Function code	16	Transactionsnr low	0
Start address high (word)	238	Protocol ident high	0
Start address low (word)	102	Protocol ident low	0
Word count high	0	Bytes from here	11
Word count low	2	Recognition	e.g. 1
Byte count	4	Function code	16
Write value1 high	0	Start address high (word)	238
Write value1 low	123	Start address low (word)	102
Write value2 high	0	Word count high	0
Write value2 low	234	Word count low	2
CRC high	x	Byte count	4
CRC low	x	Write value1 high	0
		Write value1 low	123
		Write value2 high	0
		Write value2 low	234

11. MODBUS ADDRESSES

NOTE: Only for ECO Sensor Gateways from year of manufacture 2023 with web server, e.g. ECO 501, ECO 502, ECO 608

11.1. MODBUS READ ADDRESSES, SYSTEM VARIABLES

Description	Reading addresses				Comment	
	Address	Word Quantity (16Bit)	Data type	Bit address		
System inputs and outputs and sensors of the ECO Gateway						
Binary inputs Only: Gateway 2, Gateway 20 ECO 200	50001	1	Word		Status of the binary inputs of the 1-Wire Gateway 2 / 1-Wire Gateway 20	HHLL
Binary outputs Gateway 2, Gateway 20, ECO 200 Outputs	50002	1	Word	32 to 36	Status of the binary outputs of the 1-Wire Gateway 2 / 1-Wire Gateway 20	HHLL
Analog output Only: Gateway 2, Gateway 20	50003	1	Word	16 to 19	Status of the analog output of the 1-Wire gateway 2 / 1-Wire gateway 20	HHLL
Binary input or output (optional) ECO 100 ECO 200	50004 - 50009	1	Word		Status of binary / digital inputs or outputs, depending on the equipment of the ECO gateways. (For details see operating instructions of the respective ECO gateway)	HHLL
Sensor value 1-8 ECO 100, ECO 200	50020 - 50029	1	Integer		Depending on the integrated sensor, Temperature, rel. humidity, dew point, etc. (For details see operating instructions of the respective ECO gateway)	HHLL

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Modbus addresses System variables						
Gateway no.	60000	1	Word		Output of the assigned number of the 1-Wire gateway / 1-Wire gateway	HHLL
Item no.	60001	1	Word		Part number of the 1-Wire gateway / 1-Wire gateway	HHLL
Firmware version	61000	5	String		Firmware version of the 1-Wire gateway / 1-Wire gateway	HHLL
Hardware version	61010	3	String		Hardware version of the 1-Wire gateway / 1-Wire gateway	HHLL
Serial number	61020	9	String		Serial number of the 1-Wire gateway / 1-Wire gateway	HHLL
Time	61030	4	String		Time off (RTC)of the 1-Wire gateway / 1-Wire gateway	hh:mm:ss
Date	61035	4	String		Date (RTC) 1-Wire Gateway / 1-Wire Gateway	dd.mm.yy
Time, date	61030	9	String		Combination of time and date (RTC)	hh:mm:ss dd.mm.yy
OWD Quantity	61039	1	Word		Output how many 1-Wire (OWD) sensors or actuators are stored	HHLL

11.2. MODBUS READ ADDRESSES 1-WIRE SENSORS / OWD

	Reading addresses				Multisensors Temperature and rel. humidity Art. No. 11131, 11132, 11134, 11135, 11150, 11160, 11167, 11168 and more	Multisensors with air quality Art. No. 11151, 11152, 11165, 11171 and others	PV sensor e.g. 11112	Brightness sensor e.g. 11129	Comment
	Address	Word Quantit y (16Bit)	Data type	Bit address					
1-Wire Multisensors Standard and PRO									
OWD 1 Sensor data	40100	1	Integer		Temperature				HL LH
	40101	1	Integer		Dew point	not used (255)			HL LH
	40102, 40103	2	Dwort		Power Good				HH HL LH LL
	40104, 40105	2	Dwort		rel. Humidity	Brightness	Brightness		HH HL LH LL
	40106, 40107	2	Dwort		Brightness*	Air Quality	Irradiation	Status input binary	HH HL LH LL
	40108, 40109	2	Dwort		not used (255)				HH HL LH LL
	40110, 40111	2	Dwort		not used (255)				HH HL LH LL
	40112, 40113	2	Dwort		Status 0=sensor/actuator active, 5=currently not readable, 10=no sensor/actuator present				HH HL LH LL
	40114, 40115	2	Dwort		Error Counter				HH HL LH LL
	40116, 40117	2	Dwort		Part number / Type				HH HL LH LL
OWD 1 Auto-e-connect data	40118	1	Word		Part number / Type				HL LH
	40119	1	Word		Herstelljahr / Date of Manufacture				HL LH
	40120	1	Word		Software version				HL LH
	40121	1	Word		Software revision				HL LH

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	40122	1	Word		Hardware version			HL LH	
	40123	1	Word		Interface version			HL LH	
	40124	1	Word		OWD Position, OWD Desired position of the sensor in the ECO Gateway			HL LH	
	40125	1	Word		Auto e-connect class			HL LH	
OWD 2 Sensor data	40200	1	Integer		Temperature			HL LH	
	40201	1	Integer		Dew point	not used (255)		HL LH	
	40202, 40203	2	Dwort		Power Good			HH HL LH LL	
	40204, 40205	2	Dwort		rel. Humidity	Brightness	Brightness	HH HL LH LL	
	40206, 40207	2	Dwort		Brightness*	Air Quality	Irradiation	Status input binary	HH HL LH LL
	40208, 40209	2	Dwort		not used (255)			HH HL LH LL	
	40210, 40211	2	Dwort		not used (255)			HH HL LH LL	
	40212, 40213	2	Dwort		Status 0=sensor/actuator active, 5=currently not readable, 10=no sensor/actuator present			HH HL LH LL	
	40214, 40215	2	Dwort		Error Counter			HH HL LH LL	
	40216, 40217	2	Dwort		Part number / Type			HH HL LH LL	
OWD 2 Auto-e-connect data	40218	1	Word		Part number / Type			HL LH	
	40219	1	Word		Herstelljahr / Date of Manufacture			HL LH	
	40220	1	Word		Software version			HL LH	
	40221	1	Word		Software revision			HL LH	
	40222	1	Word		Hardware version			HL LH	
	40223	1	Word		Interface version			HL LH	
	40224	1	Word		OWD Position, OWD Desired position of the sensor in the ECO Gateway			HL LH	
	40225	1	Word		Auto e-connect class			HL LH	

11.3. MODBUS READ ADDRESSES 1-WIRE TEMPERATURE SENSORS

	Reading addresses				Temperature sensors z. B 11106	Comment
	Address	Word Quantity (16Bit)	Data type	Bit address		
1-Wire temperature sensor						
OWD 1 Sensor data	40100	1	Integer		Temperature	HL LH
	40101	1	Integer		not used (255)	HL LH
	40102, 40103	2	Dwort		not used (255)	HH HL LH LL
	40104, 40105	2	Dwort		not used (255)	HH HL LH LL
	40106, 40107	2	Dwort		not used (255)	HH HL LH LL
	40108, 40109	2	Dwort		not used (255)	HH HL LH LL
	40110, 40111	2	Dwort		not used (255)	HH HL LH LL
	40112, 40113	2	Dwort		Status	HH HL LH LL
	40114, 40115	2	Dwort		Error Counter	HH HL LH LL
	40116, 40117	2	Dwort		Part number / Type	HH HL LH LL
OWD 1 auto-e-connect data	40118	1	Word		Part number / Type	HL LH
	40119	1	Word		not used (255)	HL LH
	40120	1	Word		not used (255)	HL LH
	40121	1	Word		not used (255)	HL LH
	40122	1	Word		not used (255)	HL LH
	40123	1	Word		not used (255)	HL LH
	40124	1	Word		OWD Position, OWD Desired position of the sensor in the ECO Gateway	HL LH
	40125	1	Word		Auto e-connect class	HL LH

11.4. MODBUS READ ADDRESSES 1-WIRE ACTUATORS

Description	Reading addresses				8-fold binary output/ Switch module (binary output) with pushbutton interface e.g. 11220, 11228	Dual switch module e.g. 11218, 11233	8-fold switching module (binary output) e.g. 11229	iButton DS2401 and more	Comment
	Address	Word Quantity (16Bit)	Data type	Bit address					
OWD 1	40102, 40103	2	Dwort	1632 to 1639 (102*16)	Status input decimal	not used (255)	not used (255)	not used (255)	HH HL LH LL
	40104, 40105	2	Dwort		Status input binary	not used (255)	not used (255)	0 or 1 (bit)	HH HL LH LL
	40106, 40107	2	Dwort		Status output decimal	Status output decimal	Status output decimal	not used (255)	HH HL LH LL
	40108, 40109	2	Dwort		Status output binary	Status output binary	Status output binary	not used (255)	HH HL LH LL
	40110, 40111	2	Dwort		not used (255)	not used (255)	not used (255)	not used (255)	HH HL LH LL
	40112, 40113	2	Dwort		Status 0=sensor/actuator active, 5=currently not readable, 10=no sensor/actuator present				HH HL LH LL
	40114, 40115	2	Dwort		Error Counter				HH HL LH LL
	40116, 40117	2	Dwort		Part number / Type				HH HL LH LL
OWD 2	40201,40202	2	Dwort	2	Dwort	1632 to 1639 (102*16)	Status input decimal	not used (255)	HH HL LH LL
	40203,40204	2	Dwort	2	Dwort		Status input binary	not used (255)	HH HL LH LL
	40205,40206	2	Dwort	2	Dwort		Status output decimal	Status output decimal	HH HL LH LL
	40207,40208	2	Dwort	2	Dwort		Status output binary	Status output binary	HH HL LH LL
	40209,40210	2	Dwort	2	Dwort		not used (255)	not used (255)	HH HL LH LL
	40211,40212	2	Dwort	2	Dwort		Status 0=sensor/actuator active, 5=currently not readable, 10=no	HH HL LH LL	HH HL LH LL

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							sensor/actuator present		
	40213,40214	2	Dwort	2	Dwort		Error Counter	HH HL LH LL	HH HL LH LL
	40215,40216	2	Dwort	2	Dwort		Part number / Type	HH HL LH LL	HH HL LH LL
OWD 3 to OWD 30	40201,40202	2	Dwort	2	Dwort	1632 to 1639 (102*16)	Status input decimal	not used (255)	HH HL LH LL
	40203,40204	2	Dwort	2	Dwort		Status input binary	not used (255)	HH HL LH LL
	40205,40206	2	Dwort	2	Dwort		Status output decimal	Status output decimal	HH HL LH LL
	40207,40208	2	Dwort	2	Dwort		Status output binary	Status output binary	HH HL LH LL
	40209,40210	2	Dwort	2	Dwort		not used (255)	not used (255)	HH HL LH LL
	40211,40212	2	Dwort	2	Dwort		Status 0=sensor/actuator active, 5=currently not readable, 10=no sensor/actuator present	HH HL LH LL	HH HL LH LL
	40213,40214	2	Dwort	2	Dwort		Error Counter	HH HL LH LL	HH HL LH LL
	40215,40216	2	Dwort	2	Dwort		Part number / Type	HH HL LH LL	HH HL LH LL

11.5. MODBUS WRITE ADDRESSES

Description	Reading addresses					Comment
	Address	Word Quantity (16Bit)	Data type	Bit address		
System variables						
Gateway 2, Gateway 20 Inputs	-	-	-	-		
Gateway no.	-	-	-	-		
Item no.	-	-	-	-		
Firmware version	-	-	-	-		
Hardware version	-	-	-	-		
Serial number	-	-	-	-		
Time	61030	3	Word	61030		hh:mm:ss
Date	61035	3	Word	61035		dd.mm.yy
Time, date	-	-	-	-		hh:mm:ss dd.mm.yy

11.6. MODBUS WRITE ADDRESSES 1-WIRE SENSORS

Description	Reading addresses				Temperature and humidity sensor e.g. Art. No. 11131, 11132, 11134, 11135 and others	Temperature, humidity air quality sensor e.g. 11127	Temperature, brightness and irradiation e.g. 11112	Brightness sensor e.g. 11129	Comment
	Address	Word Quantity (16Bit)	Data type	Bit address					
OWD 1	40100	-	-		-	-	-	-	
	40101,40102	-	Dwort	1632 to 1639 (102*16)	-	-	-	-	
	40103,40104	2	Dwort		-	-	-	-	
	40105,40106	2	Dwort		-	-	-	-	
	40107,40108	2	Dword 4		-	-	-	-	
	40109,40110	2	Dword 5		-	-	-	-	
	40111,40112	2	Dword 6		-	-	-	-	
	40113,40114	2	Dword 7		-	-	-	-	
40115,40116	2	Dword 8		-	-	-	-		
OWD 2	40200	1	Integer		-	-	-	-	
	40201,40202	2	Dword 1	3232 to 3239 (202*16)	-	-	-	-	
	40203,40204	2	Dword 2		-	-	-	-	
	40205,40206	2	Dword 3		-	-	-	-	
	40207,40208	2	Dword 4		-	-	-	-	
	40209,40210	2	Dword 5		-	-	-	-	
	40211,40212	2	Dword 6		-	-	-	-	
	40213,40214	2	Dword 7		-	-	-	-	
40215,40216	2	Dword 8		-	-	-	-		
OWD 3	40300	1	Integer		-	-	-	-	

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	40301,40302	2	Dword 1	4832 to 4839 (302*16)	-	-	-	-	
	40303,40304	2	Dword 2		-	-	-	-	
	40305,40306	2	Dword 3		-	-	-	-	
	40307,40308	2	Dword 4		-	-	-	-	
	40309,40310	2	Dword 5		-	-	-	-	
	40311,40312	2	Dword 6		-	-	-	-	
	40313,40314	2	Dword 7		-	-	-	-	
	40315,40316	2	Dword 8		-	-	-	-	
OWD 4	40400	1	Integer		-	-	-	-	
	40401,40402	2	Dword 1	6432 to 6439 (402*16)	-	-	-	-	
	40403,40404	2	Dword 2		-	-	-	-	
	40405,40406	2	Dword 3		-	-	-	-	
	40407,40408	2	Dword 4		-	-	-	-	
	40409,40410	2	Dword 5		-	-	-	-	
	40411,40412	2	Dword 6		-	-	-	-	
	40413,40414	2	Dword 7		-	-	-	-	
	40415,40416	2	Dword 8		-	--	-	-	
etc. up to OWD 30									

11.7. MODBUS WRITE ADDRESSES 1-WIRE ACTUATORS

Description	Writing addresses				8-fold binary output/ Switch module (binary output) with pushbutton interface e.g. 11220, 11228	Dual switch module e.g. 11218 and 11233	8-fold switching module (binary output) e.g. 11229	iButton DS2401 and more	Comment
	Address	Word Quantity (16Bit)	Data type	Bit address					
OWD 1	40100	1	Integer	-	-	-	-	-	-
	40101,40102	1	Byte		-	-	-	-	-
	40103,40104	1	Byte		-	-	-	-	-
	40105,40106	1	Byte/bit		Output decimal	Output binary 1	Output decimal	-	Value range 0-255
	40107,40108	1	Byte/bit		Output Binary	Output binary 2	Output Binary	-	Value range 0-255
	40109,40110	1	-		-	-	-	-	-
	40111,40112	1	-		-	-	-	-	-
	40113,40114	1	-		-	-	-	-	-
40115,40116	1	-		-	-	-	-	-	
OWD 2	40200	1	Integer	3232 to 3239 (202*16)	-	-	-	-	-
	40201,40202	1	Byte		-	-	-	-	-
	40203,40204	1	Byte		-	-	-	-	-
	40205,40206	1	Byte		Output decimal	Output binary 1	Output decimal	-	Value range 0-255
	40207,40208	1	Byte		Output Binary	Output binary 2	Output Binary	-	Value range 0-255
	40209,40210	2	Dwort		-	-	-	-	-
	40211,40212	2	Dwort		-	-	-	-	-
	40213,40214	2	Dwort		-	-	-	-	-
40215,40216	2	Dwort		-	-	-	-	-	
OWD 3	40300	1	Integer		-	-	-	-	-
	40301,40302	2	Dwort	4832 to 4839 (302*16)	-	-	-	-	-
	40303,40304	2	Dwort		-	-	-	-	-
	40305,40306	2	Dwort		Output decimal	Output binary 1	Output decimal	-	Value range 0-255

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	40307,40308	2	Dwort		Output Binary	Output binary 2	Output Binary	-	Value range 0-255
	40309,40310	2	Dwort		-	-	-	-	-
	311,312	2	Dwort		-	-	-	-	-
	313,314	2	Dwort		-	-	-	-	-
	315,316	2	Dwort		-	-	-	-	-
OWD 4	40400	1	Integer	6432 to 6439 (402*16)	-	-	-	-	-
	40401,40402	1	Dwort		-	-	-	-	-
	40403,40404	1	Dwort		-	-	-	-	-
	40405,40406	1	Dwort		Output decimal	Output binary 1	Output decimal	-	Value range 0-255
	40407,40408	1	Dwort		Output Binary	Output binary 2	Output Binary	-	Value range 0-255
	40409,40410	1	Dwort		-	-	-	-	-
	40411,40412	1	Dwort		-	-	-	-	-
	40413,40414	1	Dwort		-	-	-	-	-
etc. up to OWD 30				32 to 36					

12. CONCLUSION AND REVIEWS

We have put a lot of effort into the development of the ECO web server to include as many practical concerns as possible from a user's point of view. However, since we are not really an "uninitiated user", we certainly do not succeed 100%. Therefore we would like to ask you to send us your feedback, your impressions and suggestions for improvement, as well as possible errors by mail to support@esera.de. We would be very pleased about a product review in our online store.

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