

KD10x
User Manual



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KD10x Serisi

SECTION 1
GENERAL
INFORMATIONS

1.1 Proper Use and Safety

- Installation and connections must be made by authorized personnel according to the instructions in the user manual. The device should not be operated without properly making the connections.
- Before connecting the device to the network, ensure that the power is turned off.
- Use a dry cloth to clean the device and remove dust. Do not use alcohol, thinner, or abrasive substances.
- The device should only be commissioned after all connections have been made. Do not open the device. There are no user-serviceable parts inside.
- The device should be kept away from humid, wet, vibrating, and dusty environments.

! The manufacturer is not responsible for any undesirable situations that may arise as a result of not taking the above precautions

1.2 General Features

The KD10x series devices are Modbus communication data loggers designed for backing up data from devices using the Modbus RTU and Modbus TCP protocols. The device has 2 RS485 ports, 2 RS232 ports, and an Ethernet interface. The device can connect to a TCP/IP infrastructure via the Ethernet interface, and optionally, it can also connect using Wi-Fi and GSM infrastructure.

- Supports Modbus TCP and Modbus RTU protocols.
- Eliminates data loss by recording data from serial devices that require memory.
- Offers support for up to 40 remote connections.
- Provides the option for version updates through the web interface.
- 32 MB of internal memory.

Product Selection Table

Product Name	Order Number	Product Description	Hardware Type	Memory
KD10	601760	Modbus Datalogger	Ethernet	32 MB
KD10W	601770	Modbus Datalogger	Ethernet + WI-FI	32 MB
KD10G	601780	Modbus Datalogger	Ethernet + 4G	32 MB

In order for the device to back up data, it is necessary to define which devices will be read via the Modbus protocol. The general information required for reading data over Modbus is as follows:

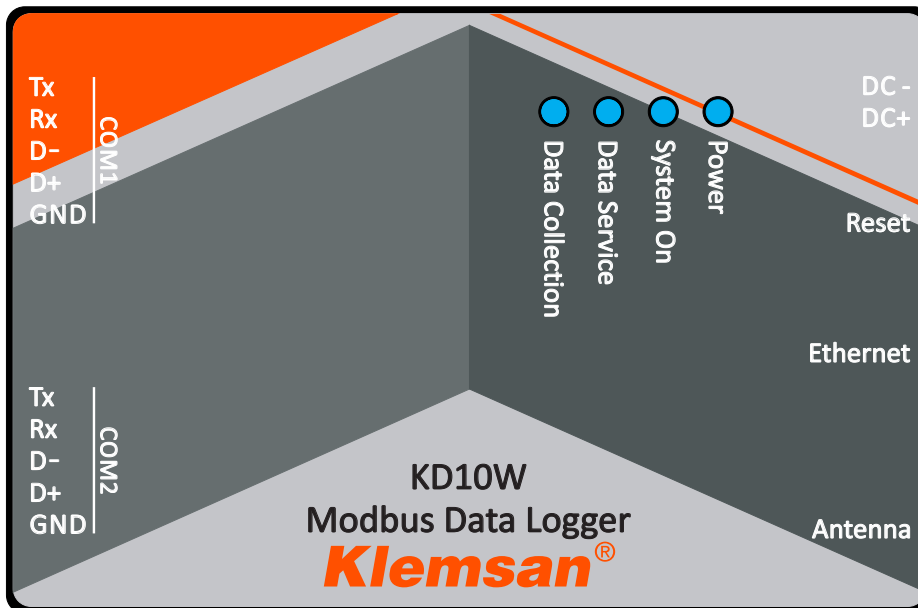
- Serial communication information of the devices on the Modbus network
- Slave IDs of the devices on the Modbus network
- Modbus address information to be read from serial devices (Modbus starting addresses, Modbus function, number of registers to be read)
- Reading frequencies of the data to be read

After the readings are performed at specific intervals, the data read is stored in the device's memory according to the settings entered into the device.

KD10x Serisi

SECTION 2
DEVICE
DEFINITIONS

About 30 seconds after the device is powered on, a warning sound is heard, indicating that the operating system has started. Approximately 40 seconds after the operating system boots up, two additional warning sounds are heard at short intervals. These sounds indicate that the software on the device has been activated. Devices with activated software can connect to the web interface.



2.1 Physical Connections

DC+ / DC- Terminals

These are the terminals for the power supply input to the device. A voltage between 9 and 36V DC must be applied.

Ethernet

The device communicates using the Modbus TCP protocol over the Ethernet interface.

COM1 and COM2 Terminals

These are the terminals where the serial communication interfaces are located. The device has two independent RS485 and two RS232 communication interfaces.

The RS232 communication interface is labeled as Tx and Rx, while the RS485 communication interface is labeled as D+ and D-.

Antenna

This is found in devices that communicate using Wi-Fi and 4G networks. It is an SMA-type connection point where the external antenna connection is made.

Micro SIM Card

This is found in devices that communicate using Wi-Fi and 4G networks. It is an SMA-type connection point where the external antenna connection is made.

2.2 LED Notifications and Buttons on the Device

There are four LEDs on the device.

Power

The red LED indicates that the device is powered on. It will remain continuously active after the device is powered

System On

The yellow LED indicates that the operating system has started. It blinks continuously after the operating system begins (approximately 30 seconds after being powered on).

Data Service

The serial devices connected to the device are read at specific intervals and stored in memory. Queries are sent to the serial devices for the data to be read. When a query is sent, the active yellow LED remains active until the serial device responds. Once the response is received, it switches to an inactive state.

Data Collection

The response received from the query sent to the serial device is indicated by this yellow LED. The LED remains active while the response is being received, and it switches to an inactive state once the response is complete.

Reset Button

When the reset button is pressed for more than 2 seconds, the device's IP address and web interface login password will revert to their default values. This process is called IP resetting.

Default IP: "192.168.35.15"

Default Password: "1234"

- ! If the IP reset is performed for KD10W, the Wi-Fi information (Wi-Fi Name and Password) will be deleted.

KD10x Serisi

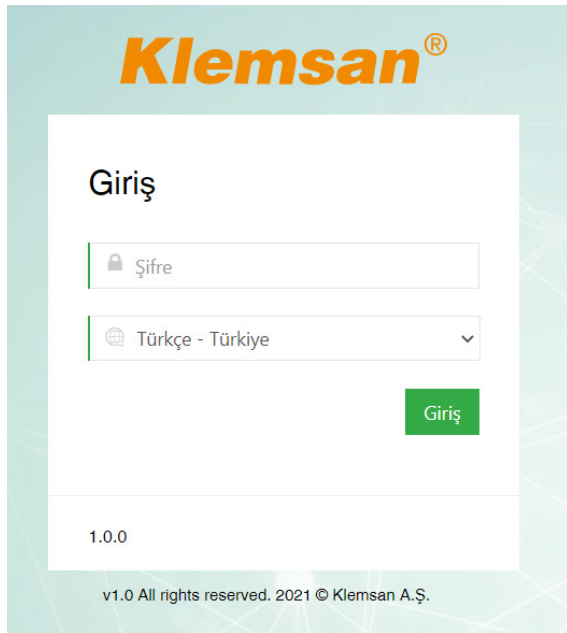
SECTION 3
WEB
INTERFACE

The KD10x web interface is a software that runs on an embedded web server, allowing configurations for all KD10x series devices. Access to the login page can be obtained by entering the IP address of the KD10x in the address bar of a web browser. For devices with forgotten IP addresses, pressing the "Reset" button for more than 2 seconds will revert them to the default IP address.

Default IP : 192.168.35.15

3.1 Login

After the device's IP address is entered in the internet browser, the "Login" screen will open. The desired password information must be entered on the login page. For devices with forgotten passwords, pressing the "Reset" button for more than 2 seconds will use the default password.



3.1.1 Login

Default Password: 1234

After successful login, the welcome screen opens. There are 4 pieces of information in the welcome message.

Last successful login: Shows the time information of the previous successful login.

Last successful login IP: Shows the IP address information of the computer with which the previous successful login was made.

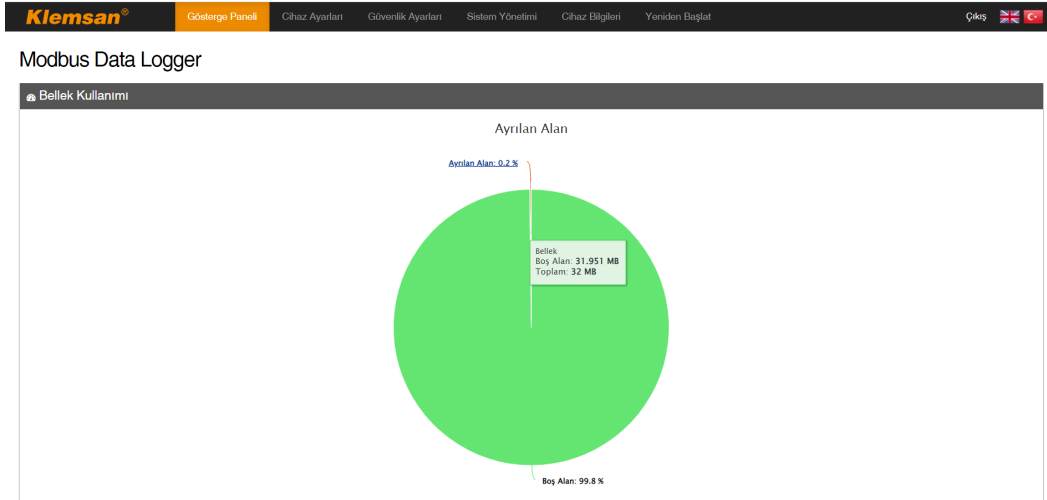
Last failed login: Displays the time information of the previous failed login attempt.

Last unsuccessful login IP: Shows the IP address of the computer with the previous unsuccessful login attempt.

! If the web interface is logged in using the default password, a password change warning is given for security reasons. Changing the password can be done by clicking on the "OK" button. The process of changing the password is described under the Security heading 3.4.1.

3.2 Dashboard

It is the page where the general device settings are shown.



3.2.1 Dashboard Memory Usage

Ağ Ayarları

Yerel Ağ Ayarları

MAC 04:CF:D6:D0:AF:50

IP Adresi 192.168.35.15

Alt Ağ Maskesi 255.255.0.0

Ağ Geçidi 192.168.35.254

DNS Adresi 120.80.80.80

DNS Adresi 221.5.88.88

Wi-Fi Ayarları

MAC

Wi-Fi Adı SAMGARS-2.4G

DHCP Pasif

IP Adresi

Alt Ağ Maskesi

Ağ Geçidi 192.168.2.1

Seri Bağlantı Ayarları

COM1 Ayarları

Baud Rate 38400

Stop Bit 1

Parite Parite Yok

Data Bit 8

Zaman Aşımı(msn) 1000

COM2 Ayarları

Baud Rate 38400

Stop Bit 1

Parite Parite Yok

Data Bit 8

Zaman Aşımı(msn) 1000

IP/Port Ayarları

IP 1:	Port 1:
IP 2:	Port 2:
IP 3:	Port 3:
IP 4:	Port 4:
IP 5:	Port 5:
IP 6:	Port 6:
IP 7:	Port 7:
IP 8:	Port 8:
IP 9:	Port 9:
IP 10:	Port 10:

3.2.2 Dashboard KD10W

Ağ Ayarları

Yerel Ağ Ayarları

MAC 30:E2:83:49:2D:78

IP Adresi 192.168.35.10

Alt Ağ Maskesi 255.255.0.0

Ağ Geçidi 192.168.35.254

DNS Adresi

DNS Adresi

GSM Ayarları

IMEI

IP Adresi

APN Adı mgba

Kullanıcı Adı

Şifre

Seri Bağlantı Ayarları

COM1 Ayarları

Baud Rate 57600

Stop Bit 1

Parite Parite Yok

Data Bit 8

Zaman Aşımı(msn) 1000

COM2 Ayarları

Baud Rate 38400

Stop Bit 1

Parite Parite Yok

Data Bit 8

Zaman Aşımı(msn) 1000

IP/Port Ayarları

IP 1: 192.168.35.03	Port 1: 502
IP 2: 170.225.143.16	Port 2: 4614
IP 3: 5.11.180.185	Port 3: 502
IP 4:	Port 4:
IP 5:	Port 5:
IP 6:	Port 6:
IP 7:	Port 7:
IP 8:	Port 8:
IP 9:	Port 9:
IP 10:	Port 10:

3.2.3 Dashboard KD10G

! The dashboard image varies according to the models.

3.2.1 Network Settings

This is the section showing the network settings of the Ethernet, WIFI and GSM interfaces, which vary depending on the device model.

⌵ Ağ Ayarları

Yerel Ağ Ayarları

MAC	04:CF:D0:D0:AF:50
IP Adresi	102.108.35.15
Alt Ağ Maskesi	255.255.0.0
Ağ Geçidi	102.108.35.254
DNS Adresi	120.80.80.80
DNS Adresi	221.5.88.88

Wi-Fi Ayarları

MAC	
Wi-Fi Adı	SAMGARS-2.4G
DHCP	Pasif
IP Adresi	
Alt Ağ Maskesi	
Ağ Geçidi	102.108.2.1

3.2.1.1 Dashboard - Network Settings KD10W

⌵ Ağ Ayarları

Yerel Ağ Ayarları

MAC	30:E2:83:40:2D:78
IP Adresi	102.108.35.10
Alt Ağ Maskesi	255.255.0.0
Ağ Geçidi	102.108.35.254
DNS Adresi	
DNS Adresi	

GSM Ayarları

IMEI	
IP Adresi	
APN Adı	mgsb
Kullanıcı Adı	
Şifre	

3.2.1.2 Dashboard- Network Settings KD10G

Under the local network settings, the device's Ethernet MAC address, static IP address, subnet mask, gateway address and DNS address information are available.

! Since the Ethernet port is common to all KD10x Series devices, "Local Network Settings" information is also common.

here is "Wi-Fi Settings" on the KD10W model device. Under Wi-Fi settings, there are Wi-Fi MAC address, wireless network name (SSID) connected via Wi-Fi, DHCP activity status information and IP address. If DHCP is inactive, subnet mask and gateway address information are also included.

KD10G series model devices have "GSM Settings". Under GSM settings, there are IMEI number, IP address, APN name, user name and password.

3.2.2 Serial Connection Settings

The baudrate, stop bit, parity and data bit information of the device's COM ports are included in this section.

☰
Seri Bağlantı Ayarları

COM1 Ayarları

Baud Rate 57600

Stop Bit 1

Parite Parite Yok

Data Bit 8

Zaman Aşımı(msn) 1000

COM2 Ayarları

Baud Rate 38400

Stop Bit 1

Parite Parite Yok

Data Bit 8

Zaman Aşımı(msn) 1000

3.2.2.1 Dashboard - Serial Connection Settings

3.2.3 IP/Port Settings

This is the section showing the IP/Port settings where Modbus TCP communication will be made. IP and Port information can be defined for up to 10 devices that support Modbus TCP.

☰
IP/Port Ayarları

IP 1: 192.168.38.03	Port 1: 502
IP 2: 170.235.143.18	Port 2: 4014
IP 3: 5.11.180.185	Port 3: 502
IP 4:	Port 4:
IP 5:	Port 5:
IP 6:	Port 6:
IP 7:	Port 7:
IP 8:	Port 8:
IP 9:	Port 9:
IP 10:	Port 10:

3.2.3.1 Dashboard - IP Port Settings

3.3 Device Settings

It is the section where device settings are made. All settings can be exported or imported. After all the configurations made, the settings should be written to the device by using the "Write All" button.

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KD10 Modbus Data Logger

Cihaz Ayarları

Ağ Ayarları Modbus Ayarları Log Ayarları Tümünü İçer Aktar Tümünü Dış Aktar Tümünü Yaz

Yerel Ağ Ayarları

Wi-Fi Ayarları Yerel Ağ Ayarları ?

IP Adresi
192.168.35.15

Altı Ağ Maskesi
255.255.0.0

Ağ Geçidi
192.168.35.254

DNS Adresi
120.80.80.80

DNS Adresi
221.5.88.88

3.3.1 Device Settings KD10W

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Modbus Data Logger

Cihaz Ayarları

Ağ Ayarları Modbus Ayarları Log Ayarları Tümünü İçer Aktar Tümünü Dış Aktar Tümünü Yaz

Yerel Ağ Ayarları

GSM Ayarları Yerel Ağ Ayarları ?

IP Adresi
192.168.35.16

Altı Ağ Maskesi
255.255.0.0

Ağ Geçidi
192.168.35.254

DNS Adresi

DNS Adresi

3.3.2 Device Settings KD10G

3.3.1 Network Settings

In this section, the settings of the Ethernet, WI-FI and GSM interfaces of the devices are made. Depending on the device model, the information shown on the relevant page may vary.

3.3.1.1 LAN Settings

Cihazın sahip olduğu Ethernet arayüzü için IP adresi, alt ağ maskesi, ağ geçidi ve DNS adresi ayarlarının yapıldığı bölümdür. KD10x serisi cihazlarda ortak olarak Ethernet portu bulunmaktadır ve bu sayfa hepsi için ortaktır.

Yerel Ağ Ayarları ?

IP Adresi

192.168.35.15

Alt Ağ Maskesi

255.255.0.0

Ağ Geçidi

192.168.35.254

DNS Adresi

120.80.80.80

DNS Adresi

221.5.88.88

3.3.1.1.1 LAN Settings



Basic information about the menu can be obtained by navigating to the icon with an arrow on the ? next to the title in the page.

3.3.1.2 WI-FI Settings

In this section on KD10W devices, necessary settings are made for the device to be included in the WI-FI network. In order to join the WI-FI network, the WI-FI Name (SSID), WI-FI password and IP information must be entered. If DHCP is enabled, a random IP will be assigned to the device.

It can be connected to the web interface with the Ethernet IP or WI-FI IP of the device.

Wi-Fi Ayarları ?

Wi-Fi Adı

KLEMSAN

Wi-Fi Şifresi

.....

DHCP

IP Adresi

192.168.2.10

Alt Ağ Maskesi

255.255.255.0

Ağ Geçidi

192.168.2.1

3.3.1.2.1. WI-FI Settings

3.3.1.3 GSM Settings

In this section on KD10G devices, the necessary settings are made for the devices to connect to the internet using the GSM infrastructure. APN name, user name and password are entered.

GSM Ayarları ?

APN Adı

Kullanıcı Adı

Şifre

3.3.1.3.1. GSM Settings

! Basic information about the menu can be obtained by navigating to the icon with an arrow on the ? next to the title in the page.

3.3.2 Modbus Settings

This is the section where the device's Modbus settings are made.

Modbus Data Logger

Cihaz Ayarları

Ağ Ayarları Modbus Ayarları Log Ayarları Tümünü İçer Aktar Tümünü Dış Aktar Tümünü Yaz

Seri Bağlantı Ayarları

IP/Port Ayarları

Modbus Slave Ayarları

COM1 Ayarları ?

Baud Rate
57600

Stop Bit
1

Parite
Parite Yok

Data Bit
8

Zaman Aşımı(msn)
1000

Sorgular Arası Bekleme(msn)
100

COM2 Ayarları ?

Baud Rate
38400

Stop Bit
1

Parite
Parite Yok

Data Bit
8

Zaman Aşımı(msn)
1000

Sorgular Arası Bekleme(msn)
100

3.3.2.1 Modbus Settings

3.3.2.1 Serial Connection Settings

Serial connection settings of the device are made in this section. There are 2 COM Ports on the device. Each COM port has 1 RS485 and 1 RS232 interface.



RS485 and RS232 interfaces in the same COM Port can be used for simultaneous communication, provided that the slave ID of the serial devices connected to the K10x Series is different.



There is no need to make any adjustments via the web interface for this process.

Supported serial communication parameters in KD10x Series devices are as follows.

Baudrate: 2400, 4800, 9600, 19200, 38400, 57600 and 115200

Default: 38400

Stop Bit: 1 ve 2

Default: 1

Parity: None Parity, Odd Parity and Even Parity

Default: None Parity

Data Bit: 7 and 8

Default: 8

COM1 Ayarları ?

Baud Rate	<input type="text" value="57600"/>
Stop Bit	<input type="text" value="1"/>
Parite	<input type="text" value="Parite Yok"/>
Data Bit	<input type="text" value="8"/>
Zaman Aşımı(msn)	<input type="text" value="1000"/>
Sorgular Arası Bekleme(msn)	<input type="text" value="100"/>

COM2 Ayarları ?

Baud Rate	<input type="text" value="38400"/>
Stop Bit	<input type="text" value="1"/>
Parite	<input type="text" value="Parite Yok"/>
Data Bit	<input type="text" value="8"/>
Zaman Aşımı(msn)	<input type="text" value="1000"/>
Sorgular Arası Bekleme(msn)	<input type="text" value="100"/>

3.3.2.1.1 Serial Connection Settings



Basic information about the menu can be obtained by navigating to the icon with an arrow on the ? next to the title in the page.

3.3.2.2 IP/Port Settings

Data read via Modbus RTU and Modbus TCP can be recorded on the devices. The IP and Port information for devices that will send data via Modbus TCP is entered under this tab. The IP/Port information for up to 10 different devices supporting the Modbus TCP protocol can be entered. Devices for which IP/Port data is entered can be named using the "Description" field.

IP/Port Ayarları ?

Açıklama 1	<input type="text" value="Lab Test"/>	IP 1:	<input type="text" value="192.168.38.63"/>	Port 1:	<input type="text" value="502"/>
Açıklama 2	<input type="text" value="WTOR"/>	IP 2:	<input type="text" value="176.235.143.18"/>	Port 2:	<input type="text" value="4614"/>
Açıklama 3	<input type="text" value="asd"/>	IP 3:	<input type="text" value="5.11.180.185"/>	Port 3:	<input type="text" value="502"/>
Açıklama 4	<input type="text"/>	IP 4:	<input type="text"/>	Port 4:	<input type="text"/>
Açıklama 5	<input type="text"/>	IP 5:	<input type="text"/>	Port 5:	<input type="text"/>
Açıklama 6	<input type="text"/>	IP 6:	<input type="text"/>	Port 6:	<input type="text"/>
Açıklama 7	<input type="text"/>	IP 7:	<input type="text"/>	Port 7:	<input type="text"/>
Açıklama 8	<input type="text"/>	IP 8:	<input type="text"/>	Port 8:	<input type="text"/>
Açıklama 9	<input type="text"/>	IP 9:	<input type="text"/>	Port 9:	<input type="text"/>
Açıklama 10	<input type="text"/>	IP 10:	<input type="text"/>	Port 10:	<input type="text"/>

Sorgu Ayarları ?

Bağlantı Zaman Aşımı(msn)	<input type="text" value="1000"/>	Yanıt Zaman Aşımı(msn)	<input type="text" value="1000"/>	Sorgular Arası Bekleme(msn)	<input type="text" value="100"/>
---------------------------	-----------------------------------	------------------------	-----------------------------------	-----------------------------	----------------------------------

3.3.2.2.1 IP/Port Settings



Basic information about the menu can be obtained by navigating to the icon with an arrow on the ? next to the title in the page.

3.3.2.3 Modbus Slave Settings

The port and timeout for reading the recorded data on the device are set in this tab. The recorded data can be queried as a Modbus request through this port. When no Modbus request is received by the device, the connection remains active for the duration of the "Passive Timeout." After that, the connection is terminated by the device.

Modbus Slave Ayarları

Port

Pasif Zaman Aşımı(msn)

3.3.2.3.1 Modbus Slave Settings

 This parameter is commonly used for both Modbus TCP and Modbus RTU.


 Basic information about the menu can be obtained by navigating to the icon with an arrow on the  next to the title in the page.

3.3.3 Log Settings

The KD10x series stores the data read via the Modbus protocol in bytes in the database. The data groups for which data recording is desired are managed on this page

3.3.3.1 Creating a Data Group

On the opened page, a new data group can be added using the "Add" button located at the top left. The added row includes the following information: "Group No," "Group Description," "Connection Profile," "Slave ID," "Log Period," "Log Count," "Service Slave ID," "Function," "Starting Address," and "Total Records."

 Each register read on the device is written to the registers of the KD10x device. The KD10x series devices store this data in their registers using different slave ID values. Each slave ID (from 1 to 247) has a memory capacity of 65535 registers. The desired value to be read must be selected based on which slave ID it will be read from.

Klemsan® Gösterge Paneli **Cihaz Ayarları** Güvenlik Ayarları Sistem Yönetimi Cihaz Bilgileri Yeniden Başlat Çıkış

Modbus Data Logger

Cihaz Ayarları

Ağ Ayarları Modbus Ayarları **Log Ayarları** Tümünü İçe Aktar Tümünü Değiştir Tümünü Yaz

Ekle +

Hepsi kayıt göster Ara Q

Grup No	Grup Açıklama	Bağlantı Profili	Slave ID	Log Periyodu	Log Adeti	Servis Slave ID	Fonksiyon	Başlangıç Adresi	Toplam Kayıt	Durum	Düzenle	Detay	Sil
1	Seri2	Modbus RTU - COM1	2	1 Dakika	100	2	03-Read Holding Registers	1200	1200 (1200-2400)	●	Düzenle	Detay	Sil
2	seri	Modbus RTU - COM1	3	1 Dakika	1000	1	03-Read Holding Registers	2400	12000 (2400-14400)	●	Düzenle	Detay	Sil
3	77	Modbus TCP - TCP3 asd	2	1 Dakika	1000	5	03-Read Holding Registers	34400	12000 (34400-46400)	●	Düzenle	Detay	Sil
4	99	Modbus TCP - TCP2 WTOR	1	1 Dakika	100	3	03-Read Holding Registers	46400	600 (46400-47000)	●	Düzenle	Detay	Sil

4 kayıttan 1 ile 4 arası gösteriliyor.

← Geri İleri →

3.3.3.1 Log Settings

Group No: This is a numeric field that increases with the "Add" button and cannot be changed by the user.

Group Description: The description information for the added data group should be entered here.

Connection Profile: This section allows you to select from which channel the Modbus data will be obtained. One of the two different COM terminals (COM 1 and COM 2) and one of the ten different TCP/IP addresses must be selected.

Slave ID: The slave ID of the serial device from which the data will be read must be entered in the defined Modbus channel.

Log Period: The reading period is the unit selected in seconds, minutes, hours, or days, with a minimum entry of 1. Readings will be made and recorded according to this entered period. When the period unit is selected as hours or days, additional entry of **minutes** can be made. This information determines at which minute of the hour/day the data recording will take place. For example, let's assume we selected the "Log Period" information as follows.

1	Day ▾	128
---	-------	-----

According to the above setting, recordings will be made every day at 02:08.

Log Count: This section determines how many times the data group will be recorded based on the period. Once the data group reaches the "Log Count," the oldest log will be deleted when a new log arrives

Service Slave ID: The Slave ID through which the recorded data will be read must be selected. It can take values between 1 and 247.

Function: The function with which the recorded data will be serviced is selected here.

Starting Address: This section specifies the address from which the data group will begin to be written.

Total Records: This is an area shown for informational purposes and is not a changeable field. The total number of registers entered using the "Detail" button is multiplied by the log count after adding the time information (Unix Time), which is stored as 2 registers at the beginning of each log. This value is limited to a maximum of 65,535, setting restrictions on the number of registers that can be entered in detail and the log count.

Status: Provides information about the last reading of the data group. If the last reading was successful, it is displayed in green; if unsuccessful, it is shown in red. When the user clicks on the red/green visual, they can access the reading date information related to the last reading.

Save: Saves the data group information present in the row.

Edit: Allows the editing of the data group information.

Detail: Opens a window for entering registers into the data group. This is explained in detail under the heading "3.3.3.2 Reading Group Definition".

Delete: Removes the relevant data group from the interface.

Data can be saved between addresses 0 and 65535 using the same Service Slave ID and Function. The logging addresses of different log groups using the same Slave ID and Function cannot overlap. For example, let's say we have two data groups with a Service Slave ID value of 1 and a Function of Read Holding Registers. The starting address of the first data group is 0, and 98 register readings are entered in the details. Including 2 registers for time information, the total number of registers becomes 100. This log group will log 10 entries (Log Count) in the device. Thus, 10 log entries x 100 registers = 1000 registers of memory space will be allocated. In this case, the starting address of our second data group can be at least 1000. The range 0-1000 will be allocated for our first data group.

3.3.3.2 Reading Group Definition

After the data group saving process is completed, the reading group should be defined. By clicking on the "Detail" section of the row containing the completed data group, the address definition process can be performed. In the opened page, the information for the data to be recorded can be entered using the "Add" button in the top left corner. For the data to be saved, the fields for "Function," "Address," and "Quantity" must be filled out.

Modbus Adresleri

Ekle +
İçe Aktar
Dışa Aktar
Log Temizleme

Hepsi kayıt göster Ara Q

No	Fonksiyon	Adres	Miktar	Düzenle	Sil
1	03-Read Holding Registers	0	120	Düzenle ↗	Sil 🗑
2	03-Read Holding Registers	120	120	Düzenle ↗	Sil 🗑
3	04-Read Input Registers	240	120	Düzenle ↗	Sil 🗑

3 kayıttan 1 ile 3 arası gösteriliyor.

[← Geri](#) [İleri →](#)

Loglama Koşulu Etkinleştirilsin mi?

Adres Fonksiyon Byte Sıralaması

Veri Tipi Açıklama

Gönderim Koşulu Değer 1

Kapat ✖
Kaydet [📄](#)

3.3.3.2.1 Okuma Grubu Oluşturma

No: This is a numerically increasing field that cannot be changed by the user and is created using the "Add" button.

Function: This field determines which function will be used to read the relevant Modbus address.

Address: The starting address of the data to be read should be entered here.

Count: This section determines how many registers will be read starting from the specified address. This field is limited to a maximum of 124, which is the maximum number of registers that can fit in a single Modbus query.

Save: This button saves the entered definition processes.

Edit: This allows for the modification of register information.

Cancel: This button allows for the deletion of the newly added row or cancels the changes made to the edited row.

Delete: This deletes the defined reading group.

When a new reading group is added, modifications can be made to the settings in the details of this reading group until the settings are written to the device. However, after the settings have been written to the device, **no new registers can be added, deleted, or modified** in the details of the reading group.

- ! Registers cannot be **imported** in the details window. The fundamental reason for this is that once the defined registers start being read, each data will be found in consecutive registers on the device. Changing the number of registers will alter where the data begins and ends, leading to erroneous readings. To prevent this situation, modifications are not allowed. If changes need to be made, the details can be exported from the details window, the group that needs to be edited can be deleted, and a new group can be added to import the modified data back.

In the reading group, while the defined data can be recorded unconditionally as mentioned above, it can also be recorded based on a specific condition.

By enabling the logging condition, data obtained from Modbus will be recorded only if they meet the specified condition in the defined reading group. When the "Should Logging Condition Be Enabled?" checkbox is ticked, a condition can be created for a single Modbus address. In this area, the following parameters are defined: "Address," "Function," "Byte Order," "Data Type," "Description," "Transmission Conditions," "Value 1," and "Value 2."

Address: The Modbus address to be read.

Function: Specifies which function will be used to read the relevant Modbus address.

Byte Order: Defines the format of the read data.

Description: The name given to the Modbus address. The data being read is sent with this name.

Send Condition: The condition for transmitting the desired data is selected from here. Eight different conditions can be chosen. The conditions are as follows.

- Greater
- Smaller
- Equals
- Not Equal
- Great Equal
- Small Equal
- In Range
- Out of Range

Value 1 ve Value 2: "Value 1" and/or "Value 2" are entered according to the specified sending conditions.

Modbus Adresleri

Ekle + İçe Aktar Dışa Aktar Log Temizleme

Hepsi kayıt göster Ara Q

No	Fonksiyon	Adres	Miktar	Düzenle	Sil
1	03-Read Holding Registers	0	120	Kaydet	İptal

1 kayıttan 1 ile 1 arası gösteriliyor.

← Geri İleri →

Loglama Koşulu Etkinleştirilsin mi?

Adres: 0 Fonksiyon: 03-Read Holding Registers Byte Sıralaması: Big Endian

Veri Tipi: Float 16 bit Açıklama: Gerilim Limit

Gönderim Koşulu: Aralık dışı Değer 1: 200 Değer 2: 250

Kapat Kaydet

3.3.3.2.2 Conditional Logging

3.4 Security Settings

The security settings of the device are made in this tab.

3.4.1 Security

This is the section where the password used when entering the web interface is changed. The current password must be entered first. In the next two fields, the new password to be created must be entered.

Şifre Güncelleme

Mevcut Şifre	<input type="text"/>	<input type="checkbox"/>
Yeni Şifre	<input type="text"/>	<input type="checkbox"/>
Yeni Şifre (Tekrar)	<input type="text"/>	<input type="checkbox"/>

3.4.1.1 Password Update

3.4.2 IP Filtering

This section is only available on KD10G model devices. It is possible to connect from the web interface externally if the devices connected to the mobile network via 4G are used with the static IP option in the internet or private APN. In addition to the web interfaces, if the Modbus Gateway feature is active, the specified ports will also be open to external access. In order to prevent such security vulnerabilities, IP filtering is performed.

For IP filtering, the "IP Filtering Activate" box must be checked. Then, up to 3 IP addresses are defined to allow device access. When devices with IP addresses other than these IP addresses try to Access the KD10G, the device gives an error 403 (Unauthorized Access).

! IP filtering only applies to 4G IP. There is no such restriction in Ethernet IP.

IP Filtreleme ?

IP Filtreleme Aktif	<input type="checkbox"/>
IP 1	<input type="text" value="88.249.232.229"/>
IP 2	<input type="text"/>
IP 3	<input type="text"/>

3.4.2.1 IP Filtering

! Basic information about the menu can be obtained by navigating to the icon with an arrow on the ? next to the title in the page.

3.5 System Management

General settings of the device are made under this section. The page has 4 sub-menus and "Firmware Update" is done under this menu.

KD10 Modbus Data Logger

Sistem Yönetimi

Genel Ayarlar Zaman Ayarları Ping Testi Loglar Yazılım Güncelleme

Cihaz

Cihaz Adı

Otomatik Yeniden Başlatma

Mod

Yeniden Başlatma Zamanı

Kaydet

3.5.1 System Management

3.5.1 General Settings

"Device Name" and "Automatic Reboot" are set under this tab.

Device Name: It is the identity information given to the device. After entering this information, this ID is included in the connection to the device via the web interface, in the browser tab header and on the web pages.

Klemsan® Gösterge Paneli Cihaz Ayarları Güvenlik Ayarları Sistem Yönetimi

KD10 Modbus Data Logger

Sistem Yönetimi

Genel Ayarlar Zaman Ayarları Ping Testi Loglar Yazılım Güncelleme

Cihaz

Cihaz Adı

Otomatik Yeniden Başlatma

Mod

Yeniden Başlatma Zamanı

3.5.1.1 General Settings

Automatic Reboot: It is used to restart the device at a certain time of the day. Thanks to the internal battery in the device, real time information is kept in the device. When this setting is activated, the device will reboot when the specified time is reached.

The screenshot shows the KlemSan web interface for the KD10 Modbus Data Logger. The 'Sistem Yönetimi' (System Management) section is active, with the 'Zaman Ayarları' (Time Settings) tab selected. The 'Otomatik Yeniden Başlatma' (Automatic Restart) section is visible, with a dropdown menu for 'Mod' (Mode) showing options: 'Günün zamanında' (At the time of the day), 'Kapalı' (Closed), and 'Günün zamanında' (At the time of the day). The 'Yeniden Başlatma Zamanı' (Restart Time) is set to '00:00'.

3.5.1.2 General Settings

3.5.2 Time Settings

The time information and settings of the device are located under this tab. The time zone should be selected correctly when making the time settings. Daylight saving time information is calculated according to these selected time zones. According to the time zone information selected in daylight saving time applications, the time of the device is updated automatically.

When automatic synchronization is activated, the time update is done automatically via the specified NTP server.

! In case the domain name is written as the NTP Server Address, the DNS address settings must be entered correctly so that the device can synchronize time.

Cihaz Zamanı	11.01.2022 15:22:48		
Zaman Dilimi	UTC		
Otomatik Senkronizasyon	<input checked="" type="checkbox"/>	NTP Sunucu Adresi	3.pool.ntp.org

3.5.1.2 General Settings

In addition to automatically updating the time, a time update is also performed manually.

Cihaz Zamanı	11.01.2022 15:23:27		
Zaman Dilimi	UTC		
Otomatik Senkronizasyon	<input type="checkbox"/>	NTP Sunucu Adresi	3.pool.ntp.org
Kullanıcı Zamanı	11.01.2022 15:21:01	Güncelle	
Ozel Zaman	11.01.2022 15:19	Güncelle	

3.5.2.2 Automatic Time Synchronization Passive

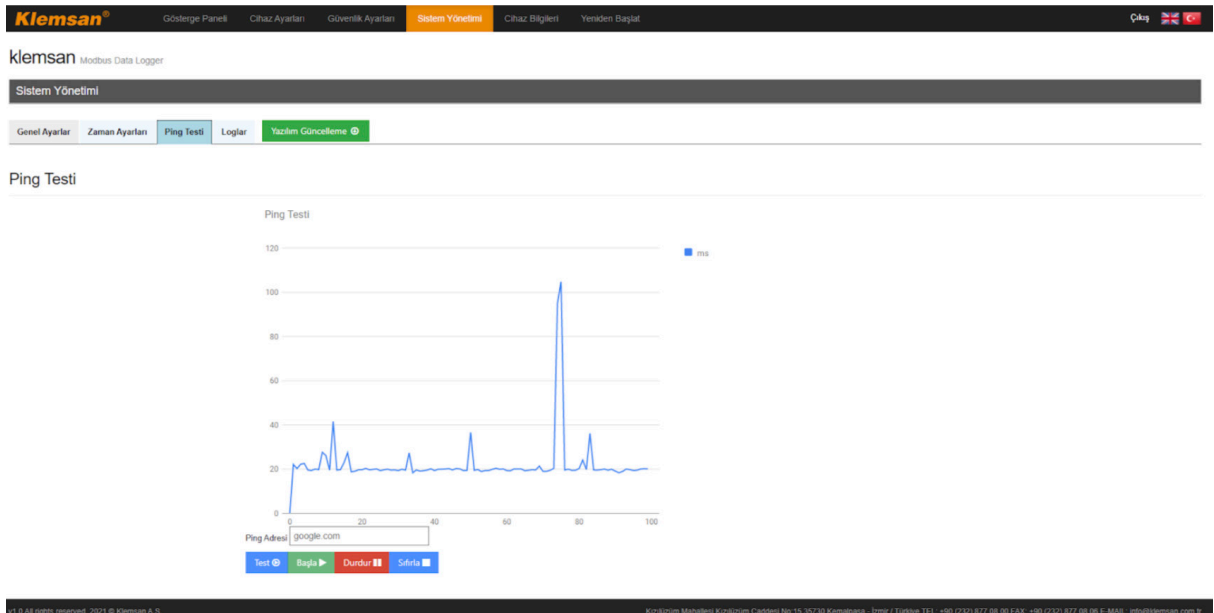
After the settings changes, the "Save" button must be pressed and the device must be restarted.

3.5.3 Ping Testi

The ping test has two main uses.

1)Checking the correctness of the device's network settings.

The image below shows the result of the ping sent to the "google.com" by the device.



Şekil 3.5.3.1 Ping Test

The following comments can be made for this image.

- The settings of the network to which the device is connected are correct.
- The device is connected to the internet.
- The DNS settings of the device are correct.



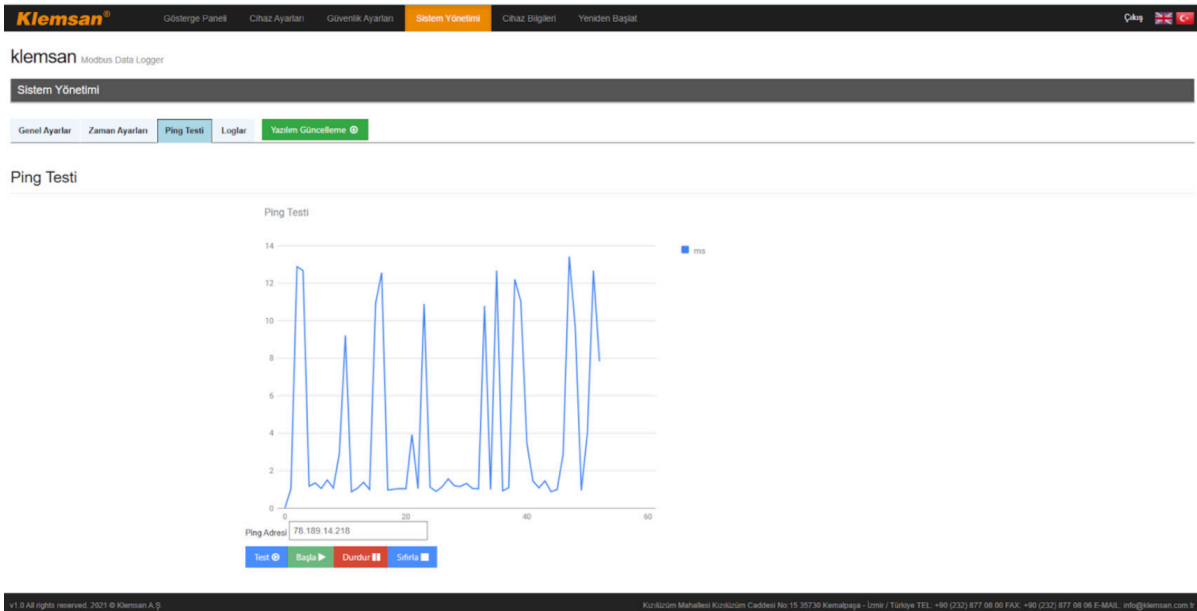
If the device can ping an IP address on the internet and cannot ping a domain name that is sure to exist, it means that the DNS address of the device was entered incorrectly.



If the device pings an IP address or domain name found on the Internet, it means that the device is included in the local network (because it is connected to the Web interface) but cannot connect to the Internet. In this case, the "LAN Settings" should be checked.

Testing the working conditions of the devices on the same network as the device.

The image below shows the result of the ping sent to the address "192.168.38.157" by the device. According to the ping test, it can be interpreted that the device with the IP address "192.168.38.57" is actively working on the network.



Şekil 3.5.3.2 Ping Test

3.5.4 Logs

Communication logs and statistics of the device are found in this section.

3.5.4.1 Communication Statistics

Under this section, there are statistical information of Modbus communication with serial devices. Modbus communication statistics can be viewed with the "Show" button in the upper right. For Modbus RTU communication, "RTU Statistics", for Modbus TCP communication, "TCP Statistics" should be checked.

Haberleşme İstatistiği

RTU İstatistikleri		TCP İstatistikleri	
Başarılı	0	Başarılı	0
Zaman Aşımı	97	Zaman Aşımı	0
Eksik Veri	0	Eksik Veri	0
Mesaj Uzunluğu Hatalı	0	Mesaj Uzunluğu Hatalı	0
CRC Hatalı	0	Transaction ID Hatalı	0
Genel Hata	0	Genel Hata	0
Illegal Function	0	Illegal Function	0
Illegal Data Address	0	Illegal Data Address	0
Illegal Data Value	0	Illegal Data Value	0
Slave Device Failure	0	Slave Device Failure	0
Acknowledge	0	Acknowledge	0
Slave Device Busy	0	Slave Device Busy	0
Negative Acknowledge	0	Negative Acknowledge	0
Memory Parity Error	0	Memory Parity Error	0
Gateway Path Unavailable	0	Gateway Path Unavailable	0
Gateway Target Device Failed to Respond	0	Gateway Target Device Failed to Respond	0
Grup İçerisinde Register Tanımlanmamış	0	Grup İçerisinde Register Tanımlanmamış	0
		Bağlantı Hatası	98

3.5.4.1.1 Communication Statistics

Error codes for Modbus RTU communication are as follows.

Status Code	Status Description	Detail
0	Successful	The group reading was successful.
2	Time Out	The response to the query was not received within the timeout period.
3	Missing Data	The response received is shorter than expected.
4	Message Length Incorrect	The message length information in the received response content is incorrect.
5	CRC Error	The content of the response received is corrupted.
100	General Error	An error was received in the codes executed while reading was taking place.
201	Register Not Defined in Group	No definition has been made for the read group detail.

Modbus TCP haberleşmesi için hata kodları aşağıdaki gibidir.

Status Code	Status Description	Detail
0	Successful	The group reading was successful.
1	Connection Error	Belirlenen IP/Port'a bağlantı kurulamamıştır.
2	Time Out	The response to the query was not received within the timeout period.
3	Missing Data	The response received is shorter than expected.
4	Message Length Incorrect	The message length information in the received response content is incorrect.
5	Transaction ID Error	The received response ID and the query ID are different from each other.
100	Genel Error	An error was received in the codes executed while reading was taking place.
201	Register Not Defined in Group	No definition has been made for the read group detail.

Standard Modbus error codes are as follows.

Error Code	Error Description
101	Illegal Function
102	Illegal Data Address
103	Illegal Data Value
104	Slave Device Failure
105	Acknowledge
106	Slave Device Busy
107	Negative Acknowledge
108	Memory Parity Error
109	Gateway Path Unavailable
110	Gateway Target Device Failed to Respond

3.5.4.2 Modbus Communication

Data packets received/sent via Modbus are recorded in the device. The device stores the last 100 Modbus queries and the answers of these 100 queries in its memory. (There are 200 record lines in total.)

The record line detail is as follows:

Information when the query was sent to the line -> Group Number [Communication Protocol] : Query Direction : Data
Such as;

2021-02-23 16:01:01-> Group Nr:2 [RTU] : TX: 01 03 00 00 00 1E C5 C2

2021-03-03 20:14:40-> Group Nr:2 [RTU] : RX: 01 03 08 3F A9 7E B8 37 87 40 A4 CB AA

Modbus Haberleşme

Göster

```

2022-01-12 08:16:01-> Group Nr:1 [RTU] : RX:
2022-01-12 08:16:02-> Group Nr:2 [RTU] : TX: 03 03 00 00 00 0A C4 2F
2022-01-12 08:16:02-> Group Nr:2 [RTU] : RX:
2022-01-12 08:17:01-> Group Nr:1 [RTU] : TX: 02 03 00 00 00 0A C5 FE
2022-01-12 08:17:01-> Group Nr:1 [RTU] : RX:
2022-01-12 08:17:02-> Group Nr:2 [RTU] : TX: 03 03 00 00 00 0A C4 2F
2022-01-12 08:17:02-> Group Nr:2 [RTU] : RX:
2022-01-12 08:18:01-> Group Nr:1 [RTU] : TX: 02 03 00 00 00 0A C5 FE
2022-01-12 08:18:01-> Group Nr:1 [RTU] : RX:
2022-01-12 08:18:02-> Group Nr:2 [RTU] : TX: 03 03 00 00 00 0A C4 2F
2022-01-12 08:18:02-> Group Nr:2 [RTU] : RX:
2022-01-12 08:19:01-> Group Nr:1 [RTU] : TX: 02 03 00 00 00 0A C5 FE
2022-01-12 08:19:01-> Group Nr:1 [RTU] : RX:
2022-01-12 08:19:02-> Group Nr:2 [RTU] : TX: 03 03 00 00 00 0A C4 2F
2022-01-12 08:19:02-> Group Nr:2 [RTU] : RX:
2022-01-12 08:20:01-> Group Nr:1 [RTU] : TX: 02 03 00 00 00 0A C5 FE
2022-01-12 08:20:01-> Group Nr:1 [RTU] : RX:
2022-01-12 08:20:02-> Group Nr:2 [RTU] : TX: 03 03 00 00 00 0A C4 2F
2022-01-12 08:20:02-> Group Nr:2 [RTU] : RX:

```

3.5.4.2.1 Modbus Communication

3.5.4.3 System Log

They are event records that contain basic information about the operations performed by the device during operation. System log records of the last 5 days are kept on the device. Older records are deleted.

Each log record can contain 1000 lines of log records. While the first 1000 data is recorded as Year-Month-Day 001, if it exceeds 1000, it is kept in the continuous records as Year-Month-Day 002.

Sistem Log

Log Kayıtları
2022-01-12 001 Göster

```

00:01:46-> Starting App.
00:01:47-> Starting Modbus Slave Data Logger App.
00:01:47-> XML configuration read starting.
00:01:50-> MAC address - License code: 30:E2:83:49:2D:78 - 389e45dd7577d67b79474617e80af604
00:01:50-> Serial port control
00:01:51-> License control
01:30:55-> Starting App.
01:30:55-> Starting Modbus Slave Data Logger App.
01:30:55-> XML configuration read starting.
01:30:58-> MAC address - License code: 30:E2:83:49:2D:78 - 389e45dd7577d67b79474617e80af604
01:30:58-> Serial port control
01:30:59-> License control
03:00:04-> Starting App.
03:00:04-> Starting Modbus Slave Data Logger App.
03:00:04-> XML configuration read starting.
03:00:07-> MAC address - License code: 30:E2:83:49:2D:78 - 389e45dd7577d67b79474617e80af604
03:00:07-> Serial port control
03:00:08-> License control
04:29:13-> Starting App.
04:29:13-> Starting Modbus Slave Data Logger App.

```

3.5.4.3.1 System Log

3.5.5 Firmware Update

This page is used when updating the device firmware or installing a new language pack on the device.

When the "Firmware Update" button is pressed, a warning is given on the page that opens with information about whether the device firmware is up-to-date.

192.168.38.56 web sitesinin mesajı

Yüklenebilecek yeni bir yazılım versiyonu bulunamadı.

Tamam

3.5.5.1 Firmware Update Warning Message

"The "Downloaded Languages" section is the area where the language packs of the device are displayed and new language packs can be installed. In this section, a new language pack can be added as well as the language pack updates of existing devices.

! The flags in the upper right should be used to change the language of the web interface.

In the "Downloadable Versions" section, the firmware installation can be done. There are versions available to install in this section.

! The most up to date version of the device is shown under the "Downloadable Versions " section.

The firmware update process is performed by using the "Install" button. It is recommended to check the "**Firmware Version**" information from the "**Device Information**" section after the installation is completed.

Yüklenmiş Diller

Hepsi kayıt göster
Ara Q

Numara	Dil Kodu	Dil Açıklaması	Yükle	Sil
1	en-US	İngilizce - Birleşik Krallık	Güncelle	
2	tr-TR	Türkçe - Türkiye	Güncelle	Sil
3			Yükle	
4			Yükle	
5			Yükle	

5 kayıttan 1 ile 5 arası gösteriliyor.

← Geri İleri →

Yüklenilecek Versiyonlar

Hepsi kayıt göster
Ara Q

Yazılım Versiyonu	Versiyon Değişiklikleri	Yükle
Veri Yok		

0 kayıttan 0 ile 0 arası gösteriliyor.

← Geri İleri →

3.5.5.2 Firmware Update

3.6 Device Information

This is the section with general information about the device. On this page, "Manufacturer Name", "Device Name", "Order Number", "Serial Number", "Firmware Version", "Firmware Version Date", "Hardware Version", "Hardware Type", "Read Register Limit", "Web Version", "Web Version Date" information is included.

Cihaz Bilgileri	
Üretici Adı	Klemsan
Cihaz Adı	KD10W
Sipariş Numarası	601770
Seri Numarası	10000000009
Yazılım Versiyonu	1.0
Yazılım Versiyon Tarihi	01.01.2021
Donanım Versiyonu	1.0.0
Donanım Tipi	Ethernet + Wi-Fi
Web Versiyonu	1.0.0
Web Versiyon Tarihi	16.02.2021

3.6.1 KD10W Device Information

Cihaz Bilgileri	
Üretici Adı	Klemsan
Cihaz Adı	KD10G
Sipariş Numarası	601780
Seri Numarası	10000000008
Yazılım Versiyonu	1.0
Yazılım Versiyon Tarihi	null
Donanım Versiyonu	1.0.0
Donanım Tipi	Ethernet + 4G
Web Versiyonu	1.0.0
Web Versiyon Tarihi	16.02.2021

3.6.2 KD10G Device Information

Manufacturer Name: Displays the name of the manufacturer company name.

Device Name: It refers to the ID given to the device in the "Device Name" section under "3.5.1 General Settings".

Order Number: Displays the order number of the device.

Serial Number: The serial number of the device is displayed.

Firmware Version: The firmware version of the device is displayed. It is recommended to check after a new firmware update on the device.

Firmware Version Date: Shows the date of the firmware version.

Hardware Version: Shows the hardware version.

Hardware Type: Shows the type of hardware the device has.

Web Version: It is the version information of the web interface.

Web Version Date: Shows the date of the web interface version.

3.7 Restart

It is the menu command that enables the device to be restarted via the web interface. The reboot time takes approximately 70 seconds.

192.168.35.16 web sitesinin mesajı

Cihazı yeniden başlatmak istiyor musunuz? Bu işlem yaklaşık 70 saniye sürecektir.

Tamam

İptal

3.7.1 Restart Warning Message



The user session can be terminated safely with the "Logout" button at the top right.

KD10x Serisi

SECTION 4
TECHNICAL
SPECIFICATIONS

- **Brand:** Klemsan
- **Model:** KD10G
- **Product:** Gateway
- **Description:** Modbus Datalogger
- **Manufacturer:** Klemsan Elektrik Elektronik A.Ş.
- **Assembled in:** TÜRKİYE
- **Address:** Kızılüzüm Mahallesi Kemalpaşa Kızılüzüm Cad. No:15 - 35730 Kemalpaşa - İzmir / TÜRKİYE

Processor	ARM Cortex A8 series TI AM335 2 600MHz
Memory	Onboard 256 MB DDR3 SDRAM
Storage	Onboard 256 MB NAND Flash
Reset IP	1x Reset switch Reset IP
Ethernet	1x10/100M LAN RJ45 connector
Serial / Parallel	2x RS232/RS485, Support 2.5KV photoelectric isolation protection
Storage	1*Micro SD on board
LED	1*PWR, 1*RUN, 2*GPIO
Power	Input 9-36VDC Wide Voltage
Power Connector	3.5mm 1x2 Pin power input connector
Power Consumption	250mA/12V
Dimensions (LxHxW)	110x25x75 mm
Operating Temperature	-20~70 °C
Storage Temperature	40~85 °C
Humidity	10 to 90% @40 °C
Certification Meet	CE/FCC Class A
Operating System	Linux kernel 4.4.12/3.2.0

Cellular Mode

Frequency Bands: LTE Cat-4/LTE Cat-1

LTE-TDD

B34/B38 /B39/B40/B41

LTE-FDD

B1/B2/B3/B4/B5/B7/B8/B12/B13/B18/B19/B20/B25/B26/B28/B66

3G

UMTS/HSDPA/HSPA+

B1/B2/B4/B5/B6/B8/B19

2G

GSM/GPRS/EDGE

850/900/1800/1900MHz

Data: LTE Cat-4 150Mbps(DL)/50Mbps(UL)
LTE Cat-1 10Mbps(DL)/5Mbps(UL)
3G (HSPA+) 42Mbps(DL)/5.76Mbps(UL)
2G (EDGE) 236.8Kbps(DL)/236.8Kbps(UL)
2G (GPRS) 85.6Kbps(DL)/85.6Kbps(UL)

Brand: SIMCOM

Model: SIM7600G-H

Commercial Name: SIM7600G-H

Output Power: GSM/GPRS power class :EGSM900: 4 (2W) DCS1800: 1 (1W)
EDGE power class:EGSM900: E2 (0.5W) DCS1800: E1 (0.4W)
UMTS power class:WCDMA :3 (0.25W)

Number of IMEI: 1

Number of SIM Slots in Device: 1

TAC Number: 86632303

Power per Band

Band	Max Power (dBm)	Min Power (dBm)
GSM 850	24	-10
GSM 900	24	-10
GSM 1800	24	-10
GSM 1900	24	-10
WCDMA Band 1	23	-10
WCDMA Band 2	23	-10
WCDMA Band 3	23	-10
WCDMA Band 4	23	-10
WCDMA Band 5	23	-10
WCDMA Band 6	23	-10
WCDMA Band 8	23	-10
WCDMA Band 19	23	-10
LTE Band 1	23	-10
LTE Band 2	23	-10
LTE Band 3	23	-10
LTE Band 4	23	-10
LTE Band 5	23	-10
LTE Band 7	23	-10
LTE Band 8	23	-10
LTE Band 12	23	-10
LTE Band 13	23	-10
LTE Band 17	23	-10
LTE Band 20	23	-10
LTE Band 28	23	-10

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