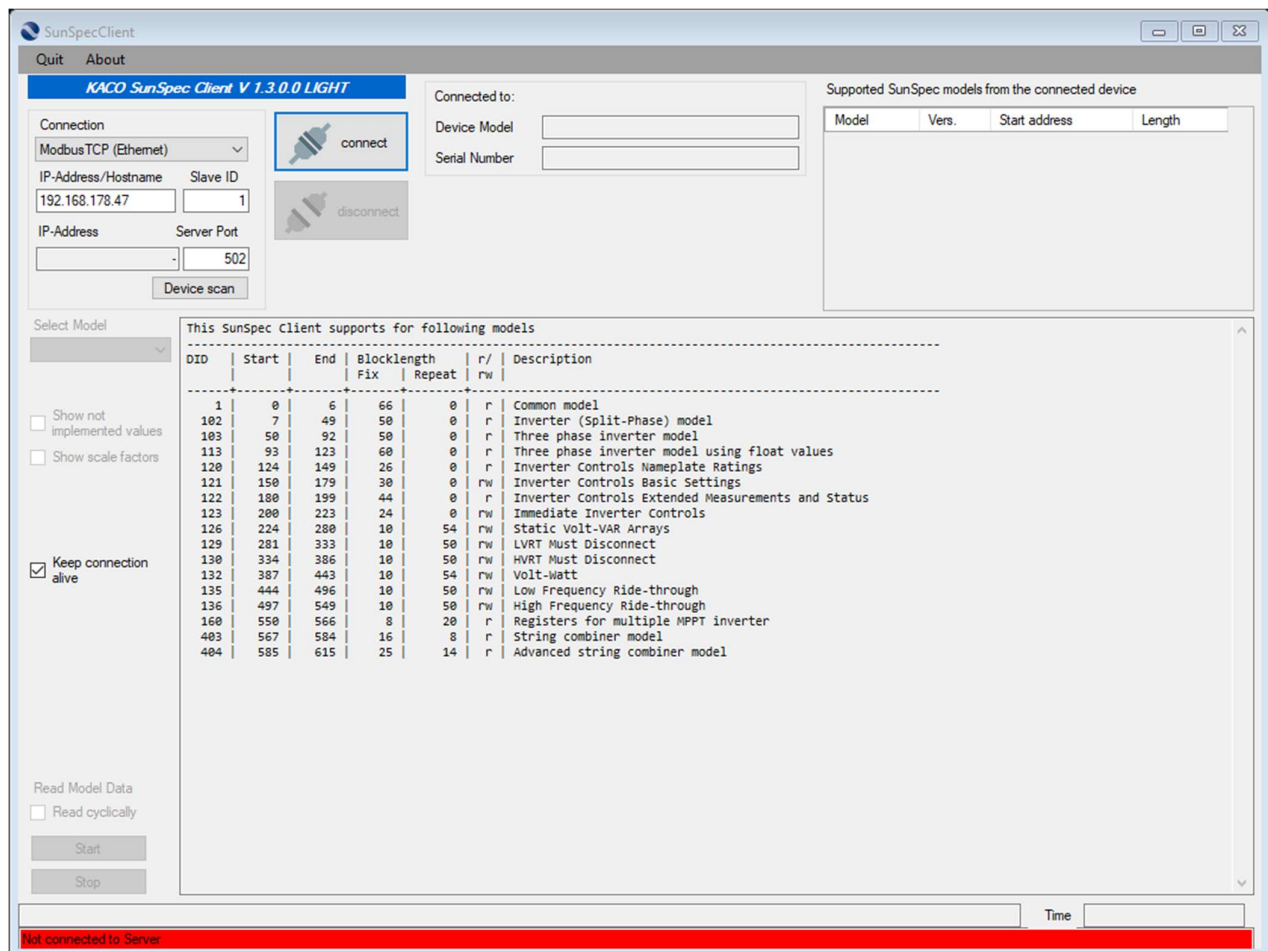


Manual

KACO SunSpec Client LIGHT

V1.3.0



Manual KACO SunSpec Client LIGHT

Content

1	DESCRIPTION.....	3
1.1	REQUIREMENTS	3
1.2	INSTALLATION	3
1.3	SUPPORTED SUNSPEC MODELS BY THIS TOOL	3
1.4	START OF THE APPLICATION	3
1.5	SUPPORTED CONNECTIONS.....	4
1.6	TOOL SETTINGS.....	4
1.7	CONNECTION	5
1.8	BY THE DEVICE SUPPORTED SUNSPEC MODELS	6
1.9	DISPLAY OPTIONS FOR READING MODEL DATA	6
1.10	READ A SUNSPEC MODEL.....	6
1.11	SHOW THE MODBUS START ADDRESS OF A SUNSPEC VALUE.....	7
1.12	KEEP CONNECTION ALIVE SUPPORT	7
1.13	TIME MEASUREMENT	7
1.14	CONFIGURATION OF INTERVAL FOR CYCLICALLY READ.....	7
1.15	DEVICE SCAN.....	8
1.16	QUIT THE SUNSPEC CLIENT	8
2	SCREENSHOTS MODBUS TCP CONNECTION	9
3	SCREENSHOTS MODBUS RTU CONNECTION	10

Manual KACO SunSpec Client LIGHT

1 Description

1.1 Requirements

The KACO SunSpec Client is a Windows tool running in the DotNet framework, to read SunSpec models and show the address of the SunSpec value's start register.

1.2 Installation

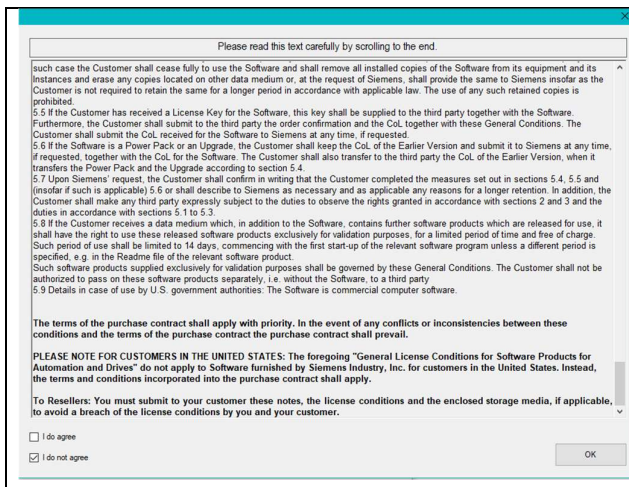
In order to use the SunSpec Client, the Application "SunSpecClient.exe" must be copied into a directory.

1.3 Supported SunSpec models by this tool

- 1 Common model
- 102 Inverter (Split-Phase) model
- 103 Three phase inverter model
- 113 Three phase inverter model using float values
- 120 Inverter Controls Nameplate Ratings
- 121 Inverter Controls Basic Settings
- 122 Inverter Controls Extended Measurements and Status
- 123 Immediate Inverter Controls
- 126 Static Volt-VAR Arrays
- 129 LVRT Must Disconnect
- 130 HVRT Must Disconnect
- 132 Volt-Watt
- 135 Low Frequency Ride-through
- 136 High Frequency Ride-through
- 160 Registers for multiple MPPT inverter
- 403 String combiner model
- 404 Advanced string combiner model

The description of the supported SunSpec models is located inside the SunSpec client.

1.4 Start of the application

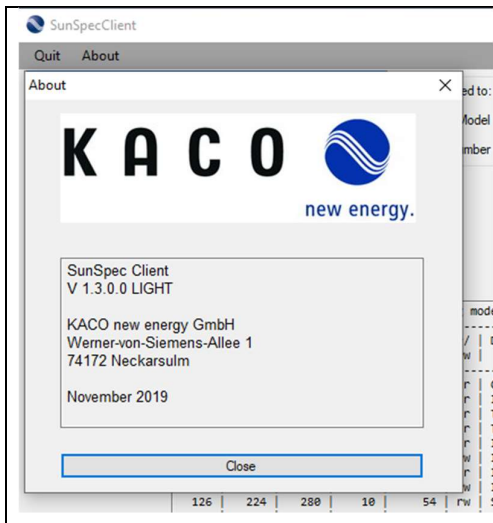


The disclaimer dialog is displayed each time the Tool is started.

If the disclaimer is accepted by activating "I do agree" and confirming with "OK", the application starts. Otherwise the SunSpec client is closed.

When the application starts, the screen displays information about the supported SunSpec models.

Manual KACO SunSpec Client LIGHT



By clicking the entry “About” of the main menu the About dialog will be shown.

This can be closed by pressing the “Close” button.

1.5 Supported connections

- Modbus TCP (Ethernet)
- Modbus RTU (RS485)

1.6 Tool settings

While quitting this tool, the following communication settings are saved in an INI file in

"C:\Users\<username>\AppData\Local\SunSpecClient\SunSpecClient\SunSpecClientSetting.INI".

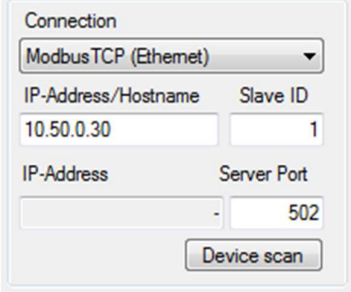
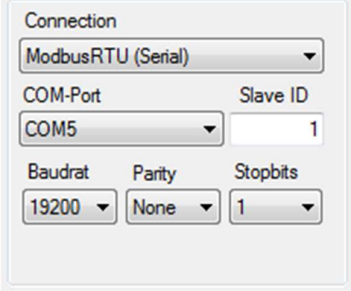
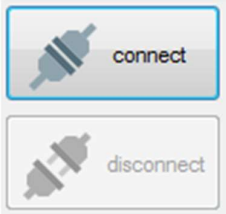
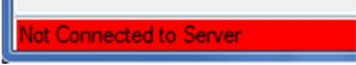

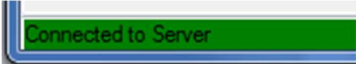

During the launch of this tool, these will be loaded and used if possible:

SunSpec-Client settings:

- Connection [ModbusTCP (Ethernet), ModbusRTU (Serial)]
- Server IP-Address or Hostname
- Server Port
- COM-Port [All available serial ports]
- Slave ID
- Baudrate [1200, 2400, 4800, 9600, 19200, 38400, 57600, 115200]
- Parity [Even, Odd, None]
- Stopbits [1, 1.5, 2]
- Keep connection alive
- Interval for cyclically read SunSec models
- Some other settings (not used in this version of the tool):

Manual KACO SunSpec Client LIGHT

1.7 Connection

 <p>Connection ModbusTCP (Ethernet)</p> <p>IP-Address/Hostname Slave ID 10.50.0.30 1</p> <p>IP-Address Server Port - 502</p> <p>Device scan</p> <p>IP-Address/Hostname Slave ID eb-f1 1</p> <p>IP-Address Server Port 172.16.70.23 502</p>	<p>Modbus TCP connection:</p> <p>The server IP address or the hostname, the server port and the slave ID must be set according to the settings of the device to be connected.</p> <p>To communicate with the connected device, the slave ID must be set to "1".</p> <p>In order to communicate with devices connected (e.g., via ModBus RTU) to the connected device (e.g., string collectors on the inverter), the corresponding slave ID must be set.</p> <p>If a Hostname is typed in the the responding IP address is shown if the host is reachable, else a error message is shown</p>
 <p>Connection ModbusRTU (Serial)</p> <p>COM-Port Slave ID COM5 1</p> <p>Baudrat Parity Stopbits 19200 None 1</p>	<p>Modbus RTU connection:</p> <p>In the select list, all serial ports, supported by the operating system of the PC are listed, the real hardware- and the virtual ports, provided by adapters.</p> <p>The Slave-ID, Baudrate, Parity and Stopbits must be set according to the settings of the device to be connected.</p>
 <p>connect</p> <p>disconnect</p>	<p>Unconnected:</p> <p>The "disconnect" button is disabled, by pressing the "connect" button the connection will be started.</p> <p>In the status line the following message is shown:</p> 
 <p>connect</p> <p>disconnect</p>	<p>Connected:</p> <p>The "connect" button is disabled, by pressing the "disconnect" button the connection will closed.</p> <p>In the status line the following message is shown:</p>  <p>In the center of the screen, the dat of the connected device will be shown:</p>  <p>Connected to:</p> <p>Device Model blueplanet gs 50.0 TL3S-B/M</p> <p>Serial Number 173305</p>

Manual KACO SunSpec Client LIGHT

1.8 By the device supported SunSpec models

Supported SunSpec Models			
Model	Vers.	Start address	Length
1	-	40002	66
103	-	40070	50
113	-	40122	60
120	-	40184	26
121	-	40212	30
122	-	40244	44
123	-	40290	24

This tool starts to check the supported SunSpec models from the connected device after clicking of the button 'connect' and lists all supported models in a scrollable table with Model DID, Version (not used in this tool), Start address and Length.

With each detected SunSpec model, a length test is performed:

If there is no repeat block, the total length must be equal to the length of the fixed block. If there are repeat blocks, the total length must be equal to the length of the fixed block plus an integer multiple of the length of the repeat block.

Select Model

1

1
103
113
120
121
122
123
126
129
130
132
135
136
160

These detected models, where the tests were successful, are also provided in a selection list for reading the model values.

1.9 Display options for reading model data

<p><input type="checkbox"/> Show not implemented values</p> <p><input type="checkbox"/> Show scale factors</p>	<p>If it is checked, all not implemented values will displayed in the table with the value "n.i."</p> <p>If it is checked, the scale factors will also be displayed in the table of the fix block.</p>
--	--

1.10 Read a SunSpec model

<p>Read Model Data</p> <p><input type="checkbox"/> Read cyclically</p> <p>Start</p> <p>Read Model Data</p> <p><input checked="" type="checkbox"/> Read cyclically</p> <p>Start</p> <p>Stop</p>	<p>After Starting the Tool and connect to the device, the Data of Model 1 will be shown (see Screenshots Modbus TCP connection).</p> <p>To read the data of a SunSpec model from the connected device, the model to be read is selected and then the "Start" button is pressed.</p> <p>In order to read and display the data cyclically, the "Read cyclically" checkbox must be activated.</p> <p>The cyclic reading of the data can be stopped at any time with the "Stop" button.</p>
--	---

Manual KACO SunSpec Client LIGHT

1.11 Show the Modbus start address of a SunSpec value

Please click on a value in the SunSpec model value tables below, to see the register address

40075

Three phase inverter model (Model: 103)

SunSpec name	Value	Unit
Amps	16,58	A
Amps PhaseA	5,55	A
Amps PhaseB	5,55	A
Amps PhaseC	5,48	A
Phase Voltage AN	234,0	V

After a model has been selected and the data of this model have been read in and displayed, you can click on a value in the "Value" column in the data table to display its Modbus start address.

1.12 Keep connection alive support

☒ Keep connection alive

If this check box is checked, then all 30 seconds a read command which reads 1 register from address 40000 is performed. This feature is for life support of Modbus servers which closes the connection if 5 minutes are no activities on the Modbus. The feature is on per default. By selecting Modbus RTU connection it will deactivated and by selection of a TCP connection it will activated. After this the user can change it. If a cyclic reading or writing is active then life support is intern deactivated.

1.13 Time measurement

Time 0h 0m 0s 364ms

In the status line on the right side of the application the elapsed time for reading of models will displayed

1.14 Configuration of Interval for cyclically read

Interval for cyclically read SunSpec models

1000 ms Read ☐

For cyclically reading of SunSpec models there is a input data field, where the in interval time can be configured in ms (from 100 to 60000)
The "Read" indicator shows read activities.

Manual KACO SunSpec Client LIGHT

1.15 Device scan

Device scan

By clicking the button "Device scan" in the "Connection" section, the "SunSpec device scan" window will displayed.

By clicking the button "Start scan", a scan of the selected IP range will be done and tge result will be displayed.

SunSpec device scan

IP-Address

172

16

210

Range from...

130

... to

150

Port

502

Current IP

done...

Start scan

Close

To connect to one of the found SunSpec devices, please select an IP address by clicking in the table.
After that close this window.

Result

Found 7 SunSpec devices and 1 Modbus devices

IP-Address	Name	Serial-No.
172.16.210.134	Modbus device	
172.16.210.138	blueplanet 9.0 TL3	9.0TL01492419
172.16.210.139	blueplanet 10.0 TL3 INT	10.0TL01543749
172.16.210.140	blueplanet 10.0 TL3 INT	10.0TL01535334
172.16.210.141	blueplanet 9.0 TL3	5.0TL01492123
172.16.210.142	blueplanet 9.0 TL3	5.0TL01492124
172.16.210.143	blueplanet 9.0 TL3	6.5TL01492120
172.16.210.146	blueplanet 50.0 TL3 WM	50.0TL01526541

If the found device is a Modbus device then it will displayed with name "Modbus device", if it supports SunSpec, it will displayed with device name and serial no.

A device from the list can be selected for connection by clicking in the list.

If the this window will be closed, the IP address of the selected device (if it supports SunSpec), will be trasfered to the IP adress input field of the main window, so it can be connected direct by clicking the button "connect".

When the device scan is reopened, if a scan has already been performed, the existing list will be displayed again. This allows another device to be selected from the list for a connection.

1.16 Quit the SunSpec client

SunSpecClient

Quit About

Quit

Do you realy want to quit the SunSpec Client?

Yes No

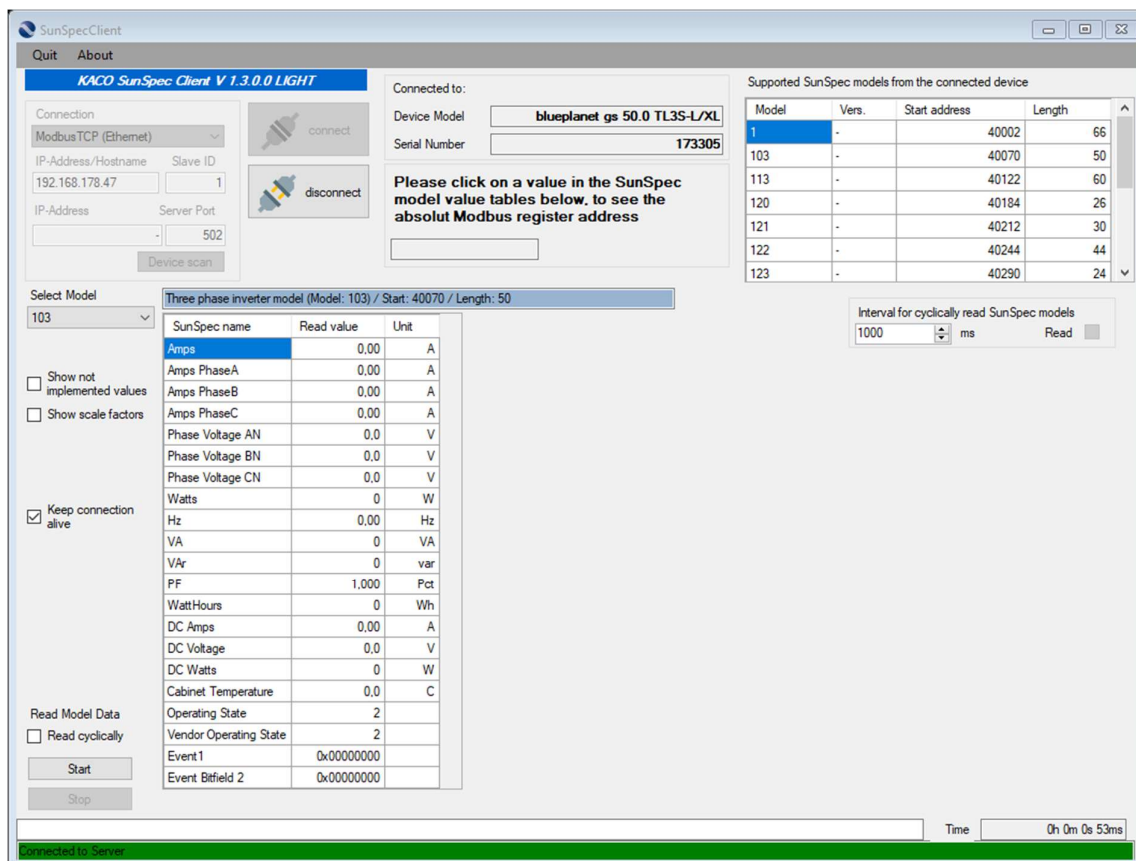
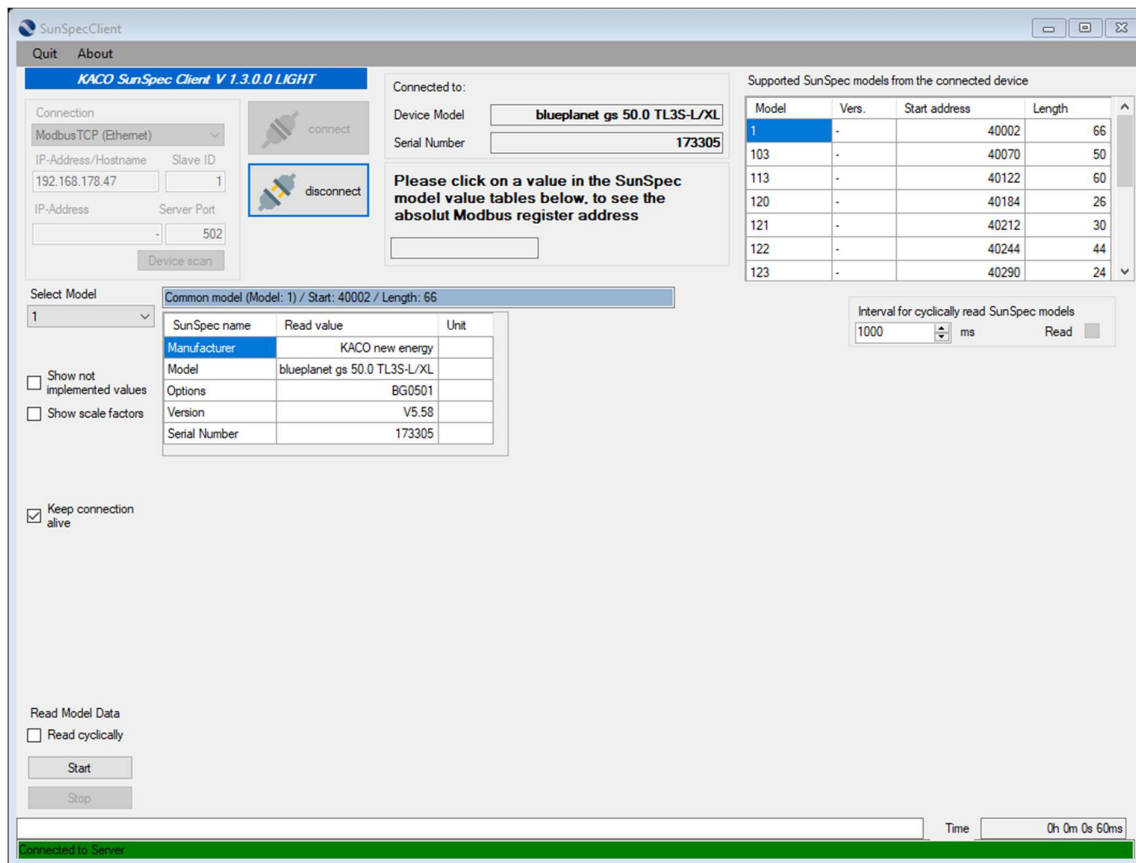
By clicking the "Quit" entry in the main menu, the "Quit" dialog is displayed.

If this is confirmed with "Yes", if there is a connection, it will first be disconnected, then the SunSpec client will be closed.

If you click "No", the SunSpec client will continue.

Manual KACO SunSpec Client LIGHT

2 Screenshots Modbus TCP connection



Manual KACO SunSpec Client LIGHT

3 Screenshots Modbus RTU connection

