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General description

PLM33PC is computer software determined for PLM33 devices. Software brings a basic overview of measured values, device parametrization and interface for uploading of new device firmware. Software is designed for operation system Windows. PLM33 is connecting to software by USB interface.

Software requirements

Operating system:	Windows 7, 10 or 11
Processor:	Intel Core 2 Duo 2 GHZ
Operating memory:	4GB
Interface:	USB
Software package:	.NET Framework 4

Software instalation

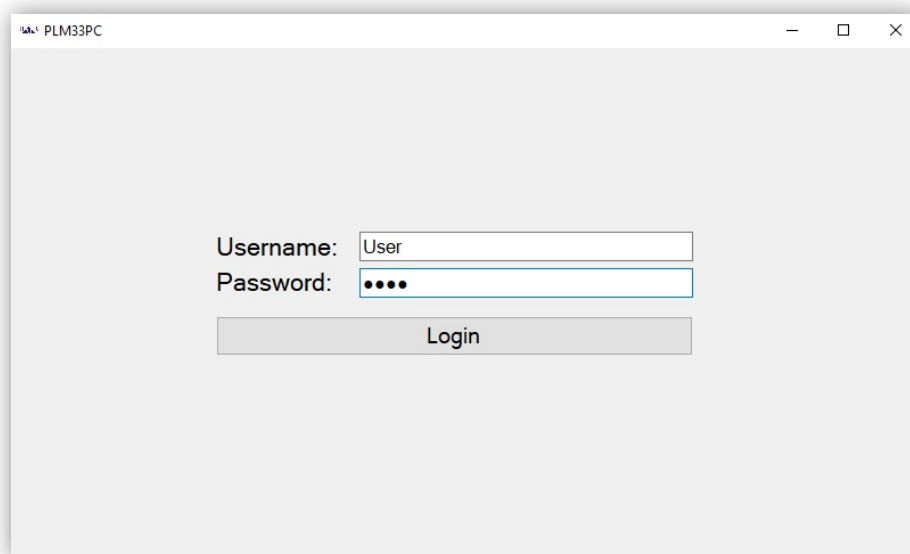
The software is shared in a compressed zip folder and does not install. To run the software, you need to extract the folder and run the PLM33PC.exe file. The folder also contains the USB driver and a changelog file. The USB driver file must not be deleted, deletion of file will cause the PLM33PC software malfunction .

First start up

Login data is required when starting the program. Login information can be changed in the software on the Program Settings bookmark. It is recommended to change your login information.

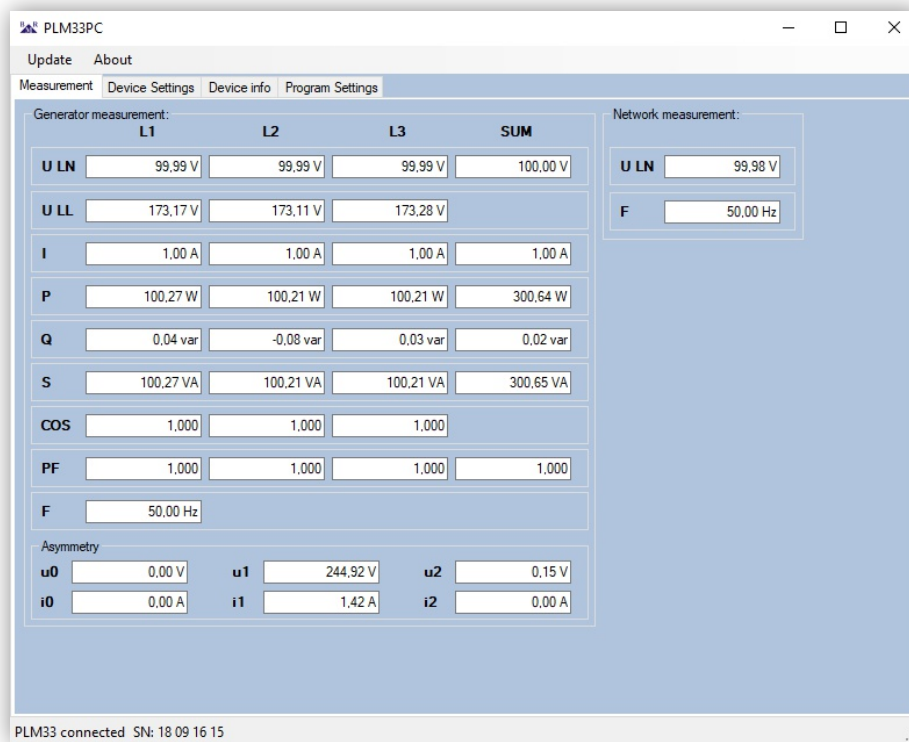
Defaul login data:

Username: User
Password: voith1234



Picture_1: Login

Measurement bookmark and basic software overview



Picture_2: Measurement bookmark

Status bar

- Device connection state and device serial number

Program bookmarks

Measurement:

- Basic overview of measurement values

Device Settings:

- Bookmark used for configuration of device

Device info:

- Information about device (serial number, hardware version and firmware version)

Program Settings:

- Bookmark used for setting of login information to PLM33PC software

Software Menu

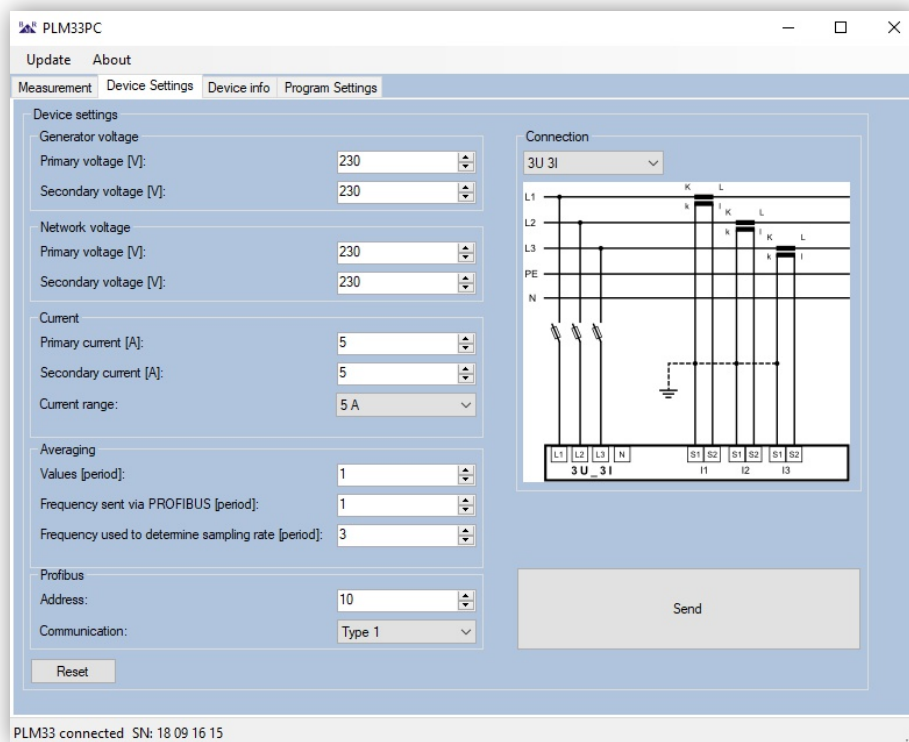
Update:

- Menu item determined for new firmware upload into the PLM33 device

About:

- Basic information about PLM33PC software

Device Settings



Picture_3: Device Settings

Generator voltage

Conversion of primary voltage transformers on generator voltage inputs. If primary transformers are not used, Primary voltage and Secondary voltage must be set the same.

Primary voltage [V]: [1 ... 750000]

- Value of primary voltage

Secondary voltage [V]: [1 ... 750000]

- Value of secondary voltage

Network voltage

Conversion of primary voltage transformers on network voltage input. If primary transformer is not used, Primary voltage and Secondary voltage must be set the same.

Primary voltage [V]: [1 ... 750000]

- Value of primary voltage

Secondary voltage [V]: [1 ... 750000]

- Value of secondary voltage

Current

Conversion of primary current transformers on generator current inputs. If primary transformers are not used, Primary current and Secondary current must be set the same.

Primary current [A]: [1 ... 750000]

- Value of primary current

Secondary current [A]: [1 ... 750000]

- Value of secondary current

Current range: [1A , 5A]

- Toggles the current input range on Generator current inputs between 1A and 5A

Averaging

Values [period]: [1 ... 10]

- Number of periods used for averaging of measured values sent over PROFIBUS interface. Values on PROFIBUS interface are refreshed every 2ms.

Frequency sent via PROFIBUS [period]: [1 ... 10]

- Number of periods used for averaging of frequency sent over PROFIBUS interface. Value of frequency on PROFIBUS interface is refreshed every 2ms.

Frequency used to determine sampling rate [period]: [1 ... 10]

- Number of periods used for averaging of frequency used to determine sampling rate of PLM33.

Profibus

Address: [1 ... 125]

- Device address on PROFIBUS interface

Communication: [Type_1, Type_2, Type_3]

- Type of communication on Profibus interface. Description od communication type is in Appendix_1

Connection

- Device connection type to power network. Nowadays is available only 3U_3I connection.

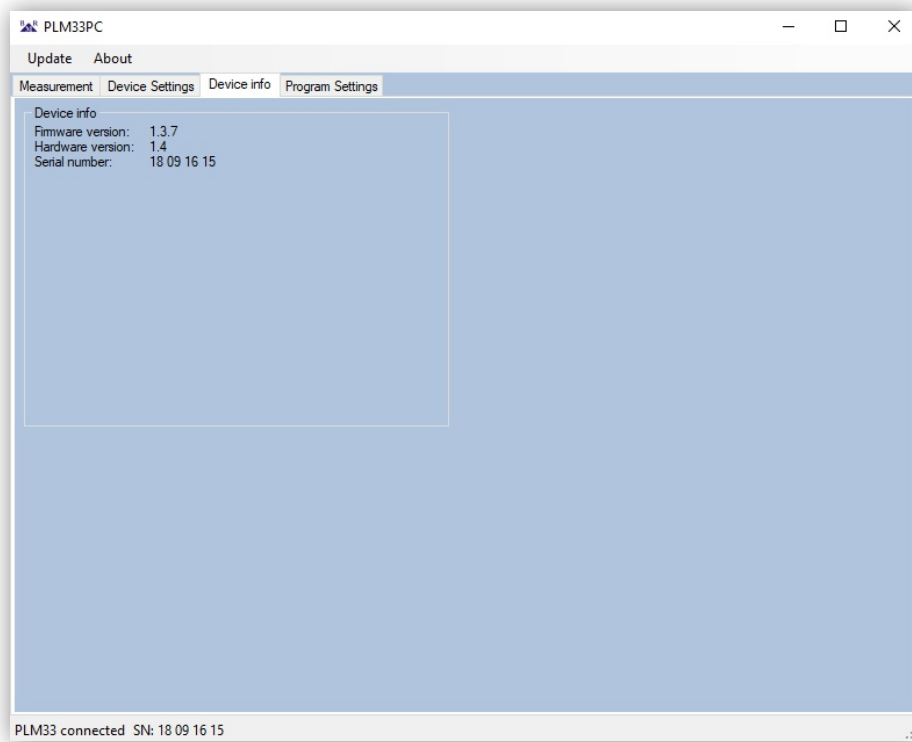
Reset button

- If reset button is pressed and task is confirmed by user, device will be set to the factory settings.

Send button

- If send button is pressed, actual configuration is send to the device.

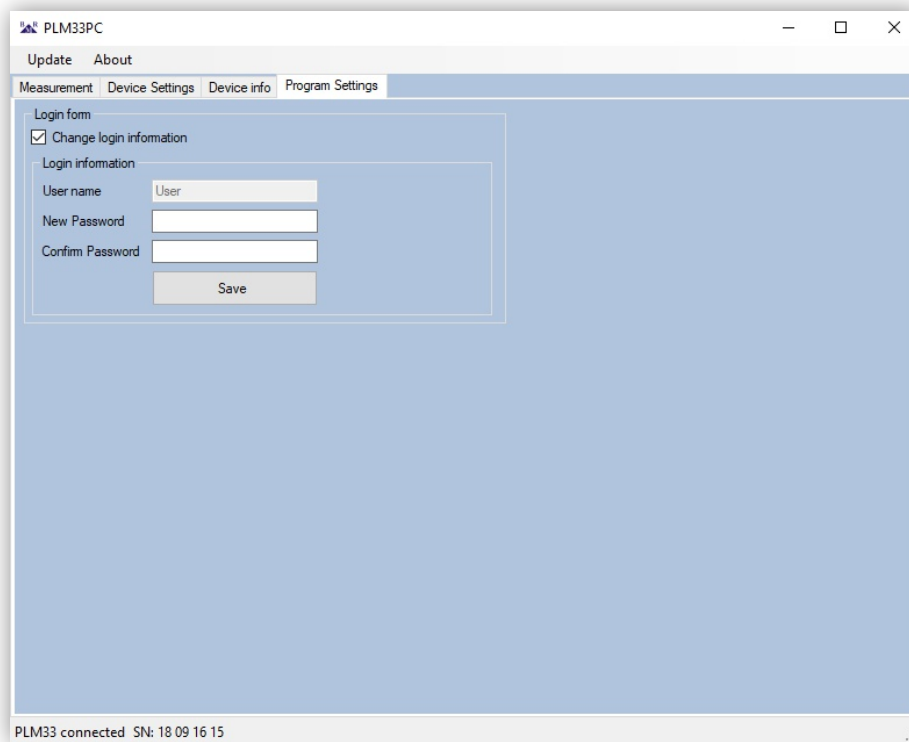
Device info



Picture_4: Device info

Device info bookmark contains information about actually connected device.

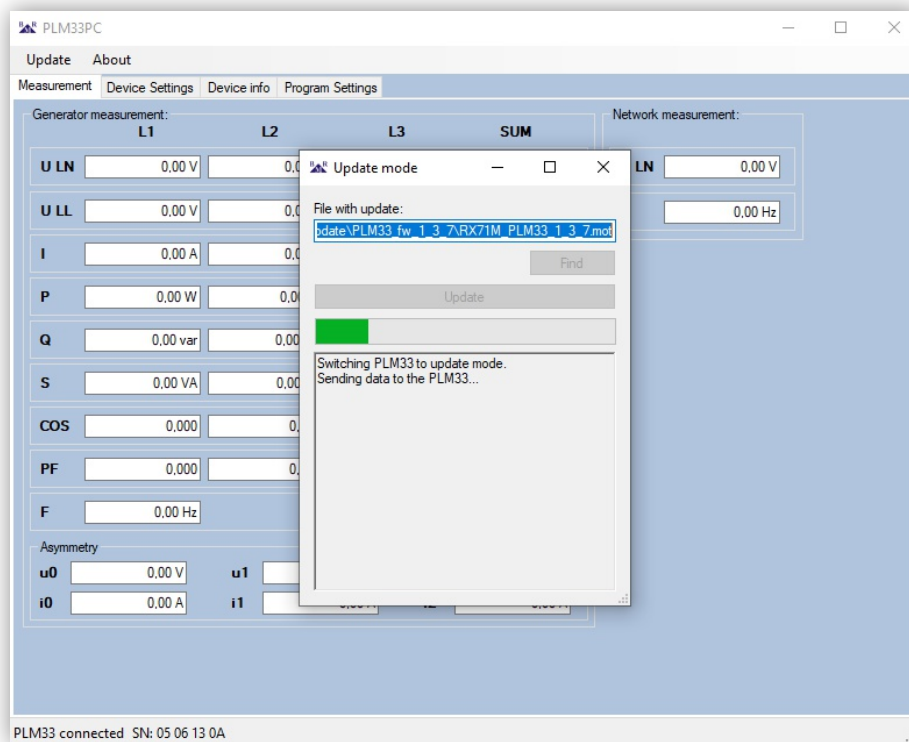
Program Settings



Picture_5: Program Settings

Program settings bookmark allows changing login information for the PLM33PC program. New Password and Confirm Password must be the same, otherwise the new login information will not be saved by pressing the Save button and user will be informed about it. Number of password characters is not limited, but it is recommended to use a password up to 20 characters. Special characters and numbers are not required in password.

Device firmware update



Picture_6: Device firmware update

PLM33 firmware is updatable by software PLM33PC. Interface for upload of new firmware is located in Menu -> Update. The device must be connected to update the firmware. User has to find a firmware file, update process will start immediately after pressing Update button. Update process takes approximately minute.

It is recommended to upload firmware with the same or higher firmware version that the device actually contains. Uploading firmware with a lower firmware version than the device actually contains, it is also allowed, but it is strongly recommended consultation with device manufacturer before uploading the firmware. It is also recommended to reset the device after uploading the new firmware on the bookmark Device Settings.

Appendix_1

PLM33 supports three types of communication protocols on Profibus interface. Protocol type is software switchable by software PLM33PC. After consultation with the manufacturer, the communication protocol and measured parameters can be expanded according to the customer's requirements.

Communication: Type_1

Parameter	Range	Value	Byte order	Type	Formula
BIN		0 ... 65535	1, 2	Word uint16	Bus Increment Number
DIN		0 ... 65535	3, 4	Word uint16	Data Increment Number
I RMS	0 ... 12A	0 ... 65535	5, 6	Word uint16	$(I1 + I2 + I3) / 3$
U RMS	0 ... 300V	0 ... 65535	7,8	Word uint16	$(U1 + U2 + U3 / 3) L-N$
P RMS	+/- 10800W	+/- 10800000	9,10,11,12	Double word int32	$P = P1 + P2 + P3$
Q RMS	+/- 10800Var	+/- 10800000	13,14,15,16	Double word int32	$Q = Q1 + Q2 + Q3$
Frequency	0 ... 300Hz	0 ... 65535	17, 18	Word uint16	Generator frequency

Communication: Type_2

Parameter	Range	Value	Byte order	Type	Formula
BIN		0 ... 65535	1, 2	Word uint16	Bus Increment Number
DIN		0 ... 65535	3, 4	Word uint16	Data Increment Number
I RMS	0 ... 12A	0 ... 65535	5, 6	Word uint16	$(I1 + I2 + I3) / 3$
U RMS	0 ... 300V	0 ... 65535	7,8	Word uint16	$(U1 + U2 + U3 / 3) L-N$
P RMS	+/- 10800W	+/- 10800000	9,10,11,12	Double word int32	$P = P1 + P2 + P3$
Q RMS	+/- 10800Var	+/- 10800000	13,14,15,16	Double word int32	$Q = Q1 + Q2 + Q3$
Frequency	0 ... 300Hz	0 ... 65535	17, 18	Word uint16	Generator frequency
NV U RMS	0 ... 300V	0 ... 65535	19, 20	Word uint16	Network voltage
NV Frequency	0 ... 300Hz	0 ... 65535	21, 22	Word uint16	Network frequency

Communication: Type_3

Parameter	Range	Value	Byte order	Type	Formula
BIN			1, 2	Word uint16	Bus Increment Number
DIN			3, 4	Word uint16	Data Increment Number
I RMS	0 ... 12A	0 ... 65535	5, 6	Word uint16	$(I1 + I2 + I3) / 3$
U RMS	0 ... 300V	0 ... 65535	7,8	Word uint16	$(U1 + U2 + U3 / 3) L-N$
P RMS	+/- 10800W	+/- 10800000	9,10,11,12	Double word int32	$P = P1 + P2 + P3$
Q RMS	+/- 10800Var	+/- 10800000	13,14,15,16	Double word int32	$Q = Q1 + Q2 + Q3$
Frequency	0 ... 300Hz	0 ... 65535	17, 18	Word uint16	Generator frequency
NV U RMS	0 ... 300V	0 ... 65535	19, 20	Word uint16	Network voltage
NV Frequency	0 ... 300Hz	0 ... 65535	21, 22	Word uint16	Network frequency
Unbalance U1	0 ... 500V	0 ... 65535	23, 24	Word uint16	Voltage positive sequence
Unbalance U2	0 ... 500V	0 ... 65535	25, 26	Word uint16	Voltage negative sequence
Unbalance U0	0 ... 500V	0 ... 65535	27, 28	Word uint16	Voltage zero sequence
Unbalance I1	0 ... 17A	0 ... 65535	29, 30	Word uint16	Current positive sequence
Unbalance I2	0 ... 17A	0 ... 65535	31, 32	Word uint16	Current negative sequence
Unbalance I0	0 ... 17A	0 ... 65535	33, 34	Word uint16	Current zero sequence

Device manufacturer

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