PQ PLUS UMD 705E Digital Rail Mount Meter

PQ PLUS UMD 705E Digital Rail Mount Meter User Guide

Contents

PQ PLUS UMD 705E Digital Rail Mount Meter

Product Information

Specifications:

- **Dimensions:** 106 x 90 x 58 mm
- **Weight:** Approx. 200 g
- **Max. Data Transfer Rate:** 100 MBit/s
- **Baud Rate:** 2400…1382400 Baud
- **Operating Voltage:** Max. 60 VAC / 100 VDC
- **Supported Protocols:** Modbus RTU / TCP, DHCP, SMTP, NTP, SNMP

Product Usage Instructions

Installation:
The UMD 705 is designed to be mounted on a DIN top-hat rail.

Mounting: Follow the dimensions provided for proper mounting.

Voltage Supply:
The UMD 705 can be powered by two different voltage supplies:

- 20…50VAC or 20…75VDC
- 85…510VAC or 85…350VDC

Connect the voltage supply to the X1 and X2 terminals. It is recommended to use a 1A circuit breaker for

protection.

Voltage Measurement:
The device has 3 voltage inputs for direct and current transformer measurements. Connect phase voltages to terminals L1, L2, L3, and the neutral conductor to N. Protect the voltage path with a 1A circuit breaker.

Connecting a Current Transformer:
The UMD 705 requires current transformers for current measurements. Locate the connections at the bottom of the device labeled accordingly.

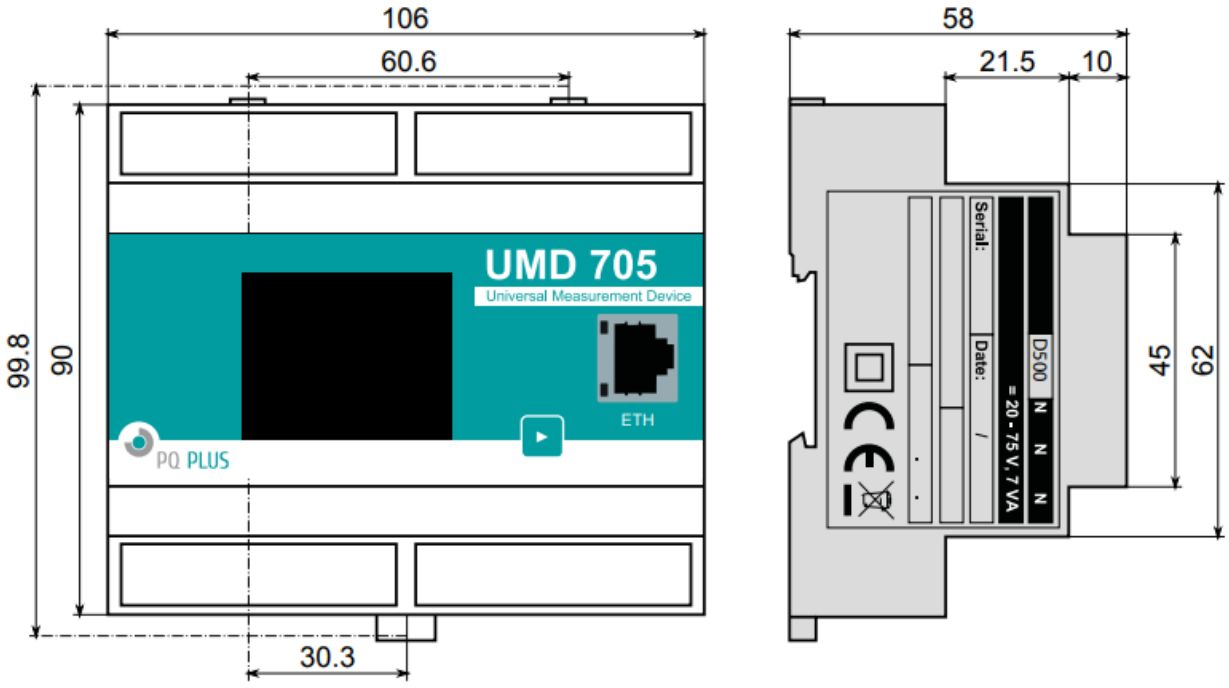
FAQ:

- **Q: Where can I find detailed instructions for the UMD 705?**

  A: Detailed instructions can be found on our website at https://www.pq-plus.de/en/media-downloads/.

Installation

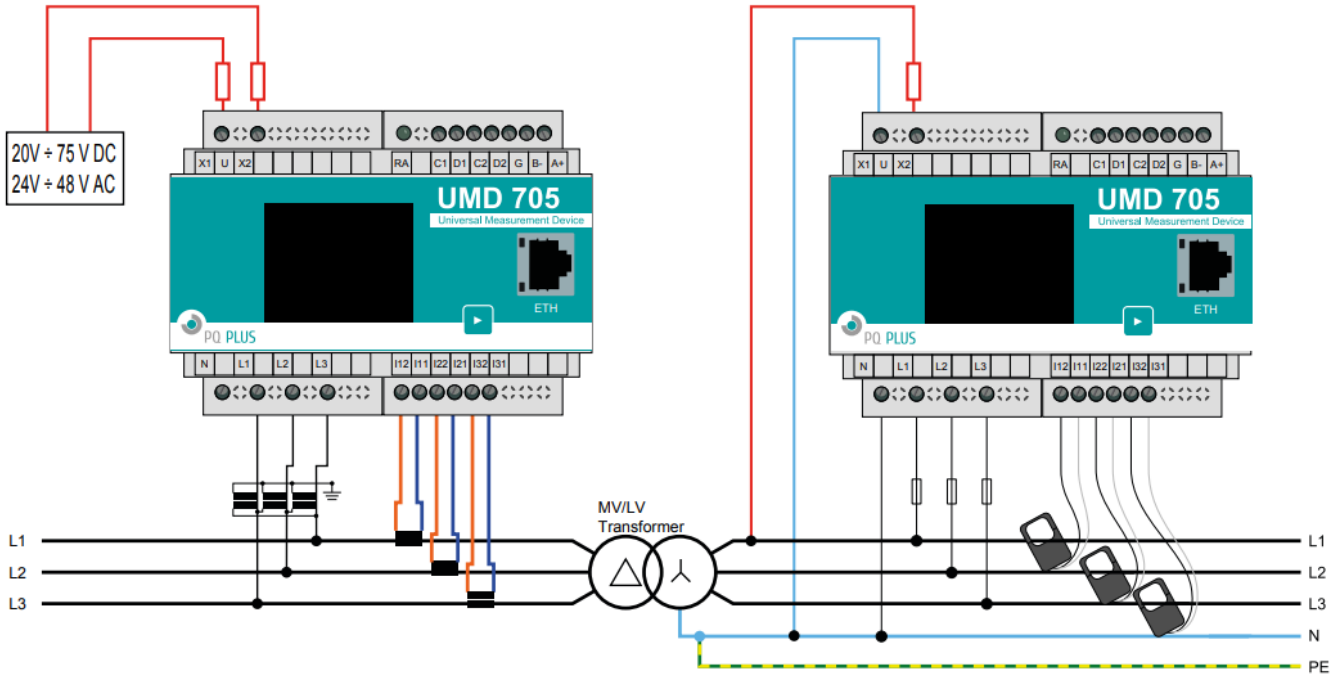
Mounting
The UMD 705 is intended for mounting on the DIN top-hat rail.



Voltage supply
The UMD 705 is available with 2 different voltage supplies:

- The 24 V version requires a voltage of:
  - 20 … 50 VAC
  - 20 … 75 VDC
- The 230 V version requires a voltage of:
  - 85 … 510 VAC
  - 85 … 350 VDC

The connections for this are located at the bottom of the UMD and labeled X1 and X2. It is recommended to protect the voltage supply with a 1 A circuit breaker.



Voltage measurement
The UMD 705 has 3 voltage inputs that are suitable for both direct and current transformer measurements. The phase voltages are measured via the terminals L1, L2, L3 and the joint neutral conductor connection N.
It is recommended to protect the voltage paths with a 1 A circuit breaker.

Connecting a current transformer
The universal measurement devices are not designed for direct current measurement. The connections of the required current transformers are located at the bottom of the device and labeled as follows:

- I11 and I12 for the current transformer on phase 1
- I21 and I22 for the current transformer on phase 2
- I31 and I32 for the current transformer on phase 3

The current transformer connection terminals are designed for secondary signals of 1 A or 5 A.

RJ45 interface
The UMD 705E has a standard RJ45 connection for the LAN. The connection is located to the right of the display.

RS485 interface

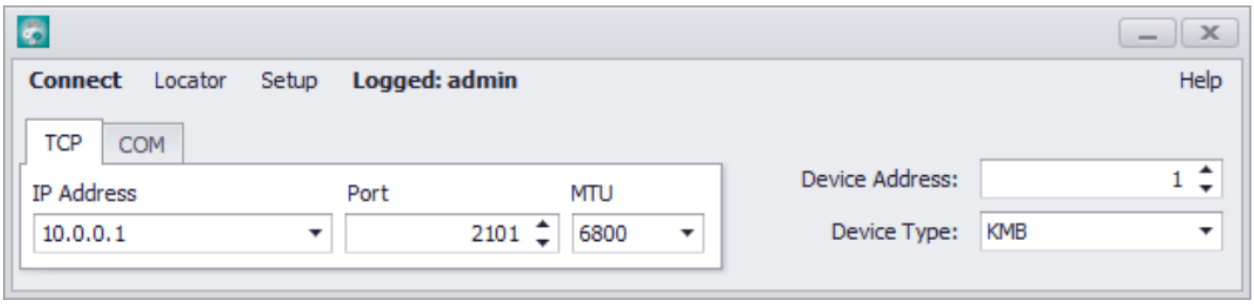
The UMD 705E is equipped with an RS485 interface that communicates via the Modbus RTU protocol. The connections are located on the top of the device and labeled “A+”, “B-”, and “G”.

Commissioning

Factory communication settings
The UMD 705E is delivered with the IP address 10.0.0.1 by default. The serial interface is pre-set to the device address 1 and a baud rate of 9600 baud.

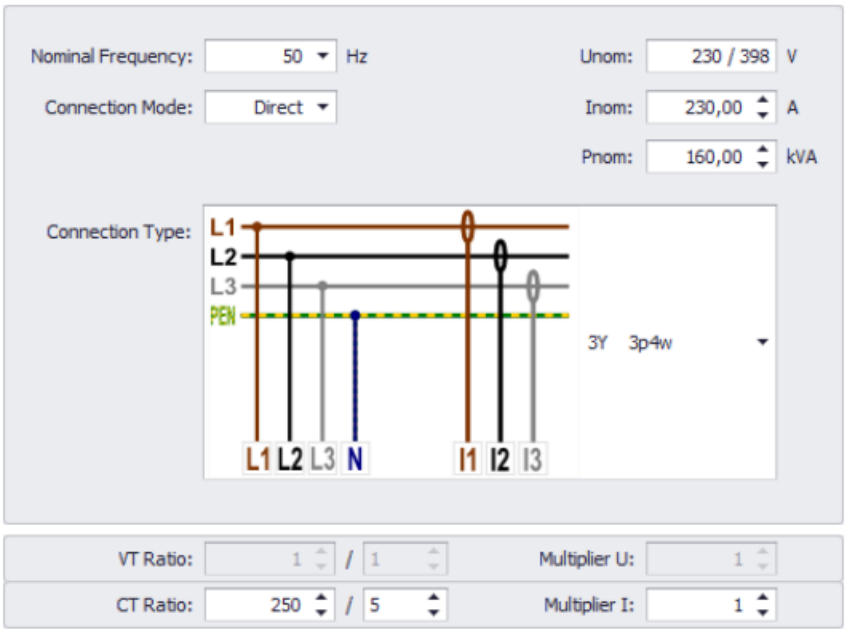
Connecting to a PC
You can either use an interface converter (e.g. RS485 to USB) or a LAN cable to connect the UMD to a PC.

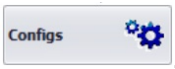
- **Converter:** The associated USB driver of the interface converter must be installed on the PC for this.
- **LAN:** If you want to connect to the device by LAN cable, you need to either adjust your device's IP address to your network or the IP address of your computer. The UMD 705E is delivered with the IP: 10.0.0.1.
    - Open the ENVIS. Daq and select the item "COM" for a USB connection and the item "TCP" for Ethernet.



    - Open the drop-down menu and select the COM interface or enter the IP address of the UMD in the field provided for this.
    - Clicking "Connect" establishes a connection to the device. You can make all further settings of the device here.

Setting the current transformer

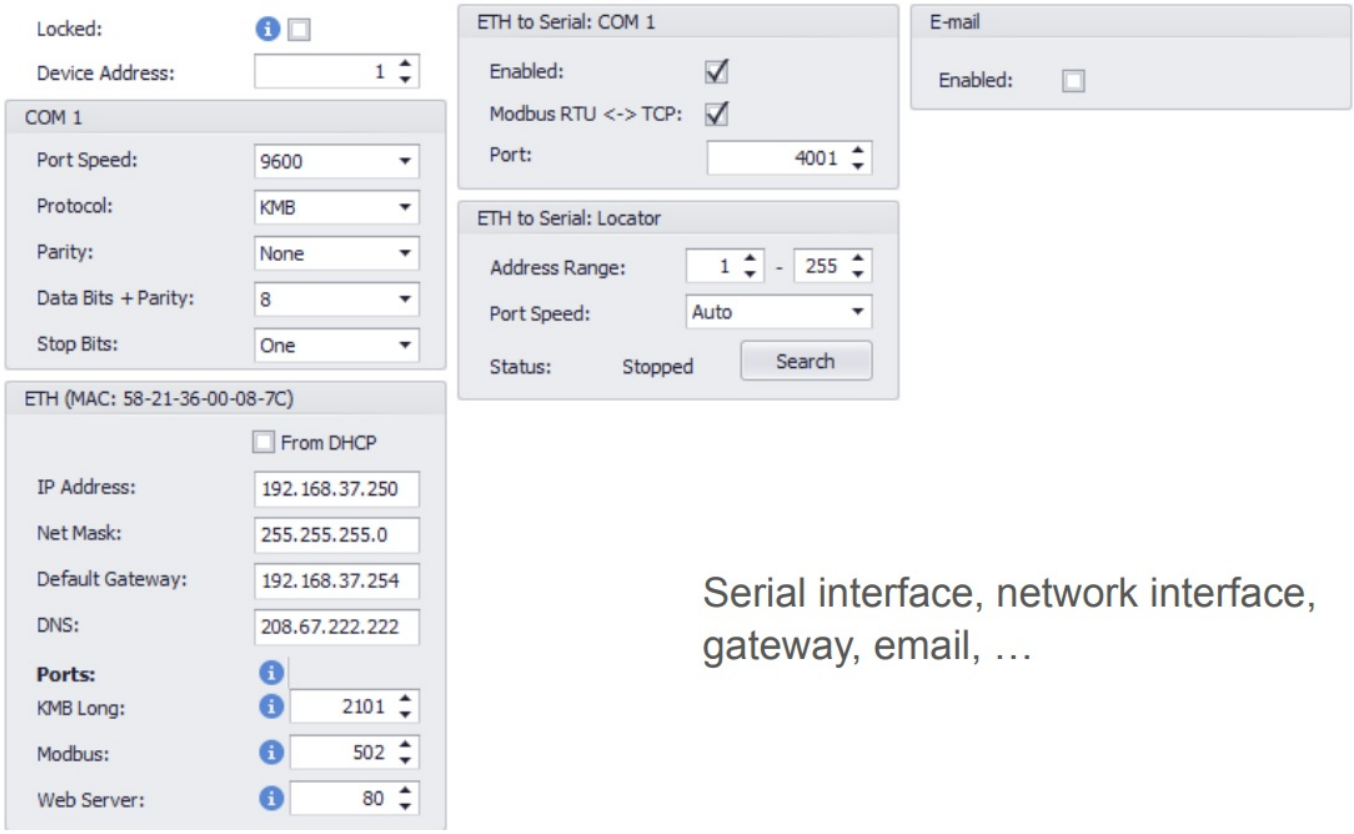


- Once you have connected to the device in the software, select the item 

.
- You can configure the measure-ment under the tab "Install":
- Nominal values, network configuration, current transformer ratios, …

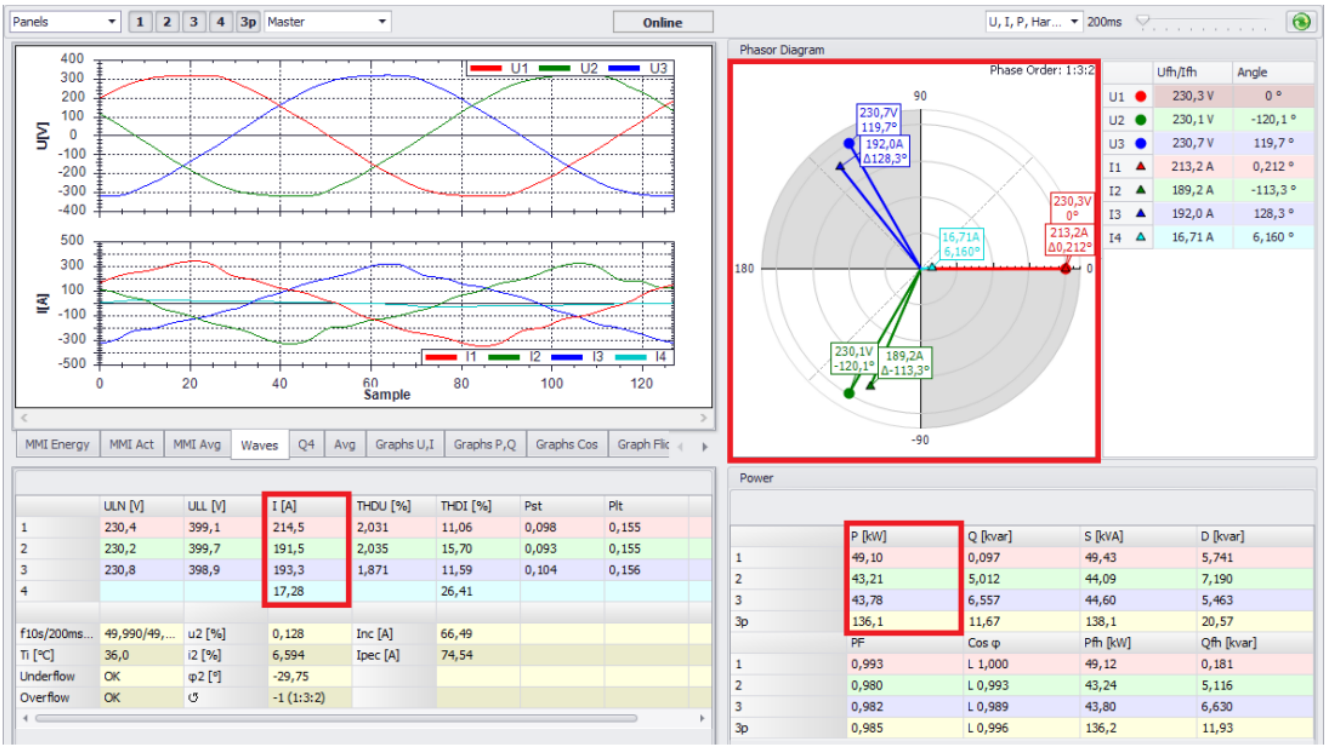
Setting communication parameters

All communication parameters of the UMD can be set under the item "Communication".



Checking the connection and settings
The connection and settings of the universal measurement device can now be reviewed via the device display or the “Act Data” in the ENVIS. Daq.

- The display of the currents can be used to review plausibility. If you do not know the current, we recommend comparing the current with a current clamp.
- When displaying the individual active powers, consumption is displayed without a prefix and supply with a negative prefix. This permits verification of the correct installation and connection of the current transformers. Only the total power can be checked on the UMD 705 display!
- The pointer diagram can be used to check the rotating field and assignment of the current and voltage paths. Observe the phase shift of current and voltage for this.



Technical data

Voltage supply	230 V: 85 … 510 VAC; 85 … 350 VDC
	24 V: 20 … 75 VDC
Voltage measurement	4 … 420 VLN; 7 … 720 VLL
Frequency	40 … 70 Hz
Sampling rate	25.6 kHz
Power consumption	7 VA / 3.5 W
Ambient temperature Corporation	-25 … 70 °C
Protection type front/rear	IP40 / IP20
EMC	Class A: Industrial area according to IEC 61326-1
Overvoltage category	230 V: Category III; 24 V: Category IV
Overload (permanent)	U: 1252 VLN | I: 10 AAC
Overload (1s)	U: 2800 VLN | I: 90 AAC
Mechanical data	
Mounting	35 mm DIN rail
Dimensions WxHxD	106 x 90 x 58 mm
Weight	Approx. 200 g
Interfaces	
RJ45	Max. 100 MBit/s
RS485	2400 … 1382400 baud
Digital in/output	Max. 60 VAC / 100 VDC
Protocols	Modbus RTU / TCP, DHCP, SMTP, NTP, SNMP

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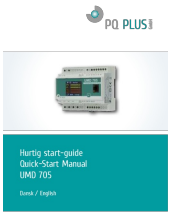
For further information and the current catalog, see our website. https://www.pq-plus.de

You can find detailed instructions on our website at: https://www.pq-plus.de/en/media-downloads/

Documents / Resources

	**PQ PLUS UMD 705E Digital Rail Mount Meter** [pdf] User Guide UMD 705E Digital Rail Mount Meter, UMD 705E, Digital Rail Mount Meter, Rail Mount Meter, Mount Meter, Meter

References

- **User Manual**