

UMD 710MVU - Measuring equipment for the DIN top hat rail in CAT IV environments for medium voltage applications

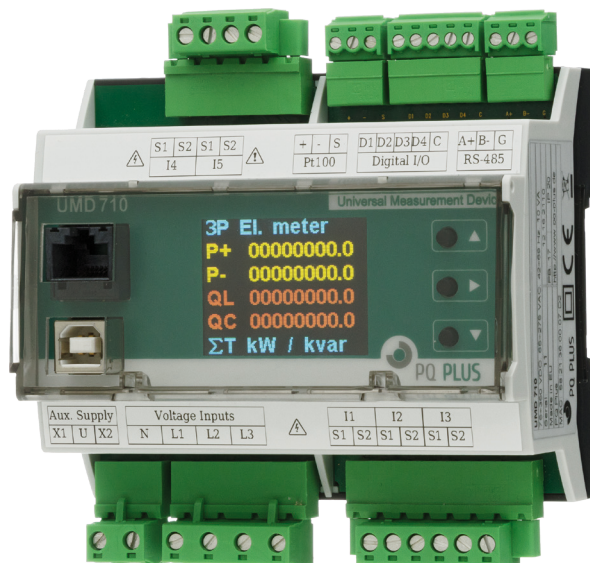
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UMD 710MVU

The UMD 710MVU is a compact high-end power quality measuring device for CAT IV environments for DIN top hat rail installation. The UMD 710MVU is equipped with an extra-low voltage input for direct connection of voltage sensors with an output signal of $3.25\text{ V} / \sqrt{3}$. It measures 3-phase current and voltage with up to 3 tariffs in 4-quadrant operation in class 0.05 and thus the work in class 0.2s, as well as all usual network quantities, e.g. harmonics up to the 128th harmonics and optionally the super harmonics from 2 kHz to 9 kHz. The device maps the network quality according to EN 50160, EN 61000-2-2, EN 61000-2-4 and EN 61000-2-12 and measures in class A according to EN 61000-4-30.

It has a large 512 MB memory. The device can be accessed via the Ethernet interface and live measured values can be observed using the web browser via the corresponding web server. This also allows Internet protocols such as NTP to be read in and it is easy to connect PLC systems and building management systems. 4 digital inputs/outputs and a serial RS485 interface are integrated.



Application

The device is used in all CAT IV environments for connection to voltage sensors. A suitable CAT IV power unit is available in our accessories.

Standard

INPUTS 3U, 3I	MEASUREMENT U, I, P, Q	PF, cos, THD	+/- Wh, varh	HARMONICS 128	SAMPLING 28,8 kHz	SUPPLY 24V	USB
INPUTS/OUTPUTS 4xDIGI	VOLTAGE INPUT 3,25/√3	WEBSERVER	STANDARDS class 0.2S IEC 62053-22	STANDARDS IEC 61557-12	ETH	NTP	INPUTS Pt100
FLASH 512MB	RS485	MODBUS	CURRENT INPUT X/5A	STANDARDS class A IEC 61000-4-30	FIRMWARE GO	STANDARDS EN 50160	CAT IV

Optional

FIRMWARE RCS
SUPRAHARMONICS 2 kHz 9 kHz

Supply voltage	Measurement voltage	Functions				Communication					Type	Item number
		Digital inputs/ outputs	Memory size in MB	Clock	Pt100 input	RS485	Ethernet	Gateway Modbus master	Class A	USB		
10 - 30 V DC	0.03 - 11.5 V	4	512	•	•	•	•	•	•	•	UMD 710MVU	12.52.4110

Technical specifications - UMD 710MVU

UMD 710MVU						
Inputs and outputs	Digital inputs/outputs	4 digital inputs/outputs				
	Relay inputs/outputs	None				
	Analogue inputs/outputs	None				
	Differential current inputs	None				
	Temperature inputs	1 Pt100 input -50 - 170 °C				
Communication	Interfaces	RS485, Ethernet, Front-USB				
	Communication protocols	Modbus RTU, Modbus TCP/IP, SMTP, SNMP, DHCP, JSON				
Further functions	Alarms	integrated logic: Limit values for exceeding/falling below freely defined values				
	Internal temperature measurement	-40 - 85 °C				
Data logger	Storage capacity and allocation	512 MB flash freely partitionable into several archives				
	Measured value storage	Freely configurable measured values with different averaging intervals				
Electrical connection	Supply voltage	24 V variant: 10 - 30 V DC				
	Power input	7 VA / 3 W				
	Overvoltage category	CAT IV / 300 V				
Accuracy classes	Voltage:	Cl. 0.1	Current:	Cl. 0.1	Frequency:	Cl. 0.02
	Active power:	Cl. 0.2	Reactive power:	Cl. 1	Apparent power:	Cl. 0.2
	Harmonic oscillations:	Cl. 1	Power factor:	Cl. 0.5	cos phi:	Cl. 0.5
	Real energy:	Cl. 0.2	Reactive energy:	Cl. 2	Apparent energy	Cl. 0.5
Measuring inputs	Voltage	U L-N: 0.02 - 11.5 V AC U L-L: 0.04 - 20 V AC				
	Overload voltage	Permanent U L-N: 18 V AC / peak overload for max. 1 sec. U L-N: 30 V AC				
	Input impedance voltage	200 kOhm				
	Input load voltage	< 0.1 VA				
	Frequency	40 ... 70 Hz (DC-500 mode: 0 ... 500 Hz)				
	Transformers	3x 1 / 5 A				
	Overload current	Permanent: 15 A AC / peak overload for max. 1 sec: 70 A AC				
	Input impedance current	< 10 mOhm				
	Input load current	< 1 VA				
	Sampling rate	28.8 kHz				
	Harmonics per order	1st ... 128. for current and voltage; Optional: Supraharmonics from 2 kHz ... 9 kHz				
	Measurement procedure	IEC 61000-4-30 Cl. A				
Mechanical attributes	Operating temperature range	-20 - 60 °C at < 95 % relative humidity				
	Bearing temperature range	-30 - 80 °C at < 95 % relative humidity				
	Protection class front / total	IP 40 / IP 20				
	Dimensions WxHxD	108 x 90 x 61 mm				
	Weight	0.3 kg				
Internal real-time clock	Accuracy	+/- 0.2 s per day at 0 - 40 °C				
	Possible synchronisation	NTP/SNTP; External GPS receiver; External pulses; System frequency; PC time				
FW Module		PQ A: included	GO: included	RCS: optional		
		MM: optional	UDP: optional	IEC104: optional		
		SH: optional				

* depending on the variant