UMD 709 – Measuring equipment for the DIN top hat rail

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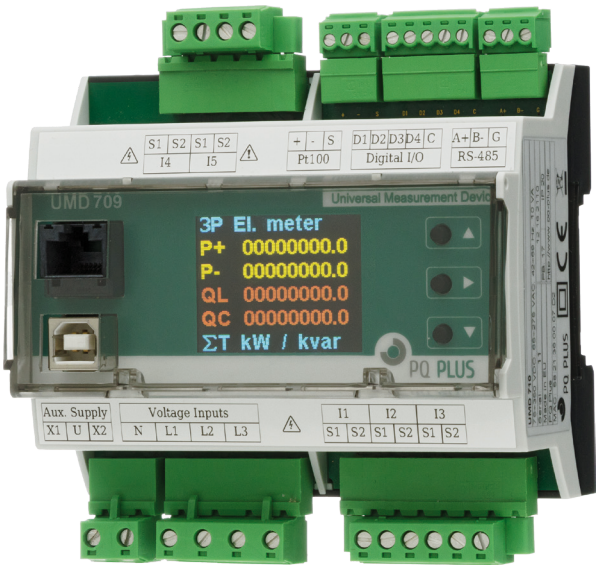
UMD 709

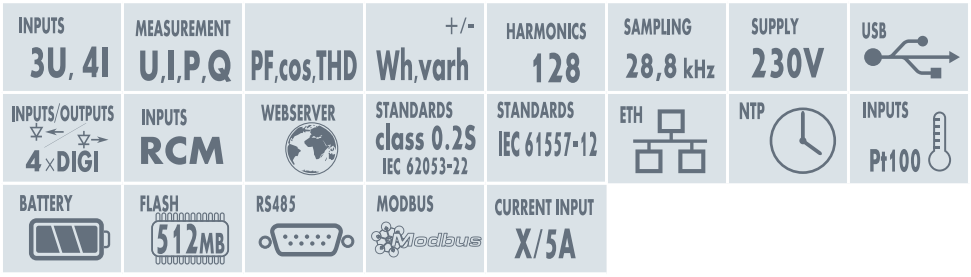
The UMD 709 is a compact high-end power quality measuring device for DIN top hat rail installation. It measures 3/4-phase current and voltage in 4-quadrant operation in class 0.05 and thus the work in class 0.2s, as well as all usual network quantities, e.g. harmonics up to the 128th Harmonics, optionally supraharmonics from 2 kHz to 9 kHz. The 5th input, residual currents can be measured continuously. The device maps network quality according to EN 50160, EN 61000-2-2, EN 61000-2-4, EN 61000-2-12 and measures in class S 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 enables internet protocols such as NTP to also be read in and PLC systems and building management systems to be connected easily. Digital inputs/outputs and a serial RS485 interface are integrated. With the optional firmware modules PQ S and GO, the power quality is continuously recorded and evaluated, oscilloscope functions for current and voltage are activated and trigger signals for limit value events are set.



Application

The device is used to monitor the voltage quality in computing centres, buildings or at energy suppliers continuously. Furthermore, the UMD 709 is used with a corresponding residual transformer for the detection of residual currents / differential currents.

Standard



Optional

Supply voltage		Measurement voltage	Diff. current meas.	Functions				Communication					Type	Item number
65 - 275 V AC 75 - 350 V DC		5 - 1470 V LL	Number	Digital inputs/ outputs	Memory size in MB	Clock	Pt100 input	RS485	Ethernet	Gateway Modbus master	Class A	USB		
•		•	1	4	512	•	•	•	•	•	-	•	UMD 709	11.15.2110

Technical specifications - UMD 709

UMD 709						
Inputs and outputs	Digital inputs/outputs	4 digital inputs/outputs				
	Relay inputs/outputs	None				
	Analogue inputs/outputs	None				
	Differential current inputs	1 input				
	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	230 V variant: 75 - 275 V AC / 75 - 300 V DCc				
	Power input	10 VA / 5 W				
	Overvoltage category	CAT III / 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: 3 - 850 V AC				
		U L-L: 5 - 1470 V AC				
	Overload voltage	Permanent U L-N: 1300 V AC / peak overload for max. 1 sec. U L-N: 2210 V AC				
	Input impedance voltage	3.9 MOhm				
	Input load voltage	< 0.1 VA				
	Frequency	40 ... 70 Hz (DC-500 mode: 0 ... 500 Hz)				
	Transformers	4x 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. S				
Mechanical attributes	Operating temperature range	-25 - 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 S: optional		GO: optional		RCS: optional
		MM: optional		UDP: optional		IEC104: optional
		SH: optional				

* depending on the variant