

UMD 96 – Measuring equipment for installation in a control board

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UMD 96

The UMD 96 is a powerful measurement device for installation on the front board* and replaces all analogue measurement devices. It measures 3-phase current and voltage in 4-quadrant mode in class 0.2 and therefore the energy in class 0.5s, as well as all common network sizes such as harmonics up to the 50th harmonic. It can be measured via transformers with N/5 A and N/1 A, as well as via Rogowski coils (333 mV). It has an illuminated, large and easy to read digital display. It is easy to operate via 4 function keys. A PT100 is integrated internally. It is used in both 400 V networks and 690 V networks. The UMD 96 can also be equipped with an optional Ethernet interface and a web server. PLC systems and building management systems can therefore be connected easily. Digital inputs/outputs and a serial RS485 interface with Modbus are available. The ENVIS software is used to set parameters for the device and to visualise it.

* also suitable for DIN top hat rail installation with adapter



Application

The device is used to measure consumption in low-voltage main distribution and sub-distribution systems.

Standard

INPUTS 3U, 3I	MEASUREMENT U, I, P, Q	PF, cos, THD	Wh, varh	CURRENT INPUT X/5A	SUPPLY 230V
HARMONICS 50	SAMPLING 25,6 kHz	STANDARDS IEC 61557-12	STANDARDS class 0.5S IEC 62053-22	OUTPUTS 2×PULSE	INPUTS 1×DIGI

Optional

CURRENT INPUT X/100mA	CURRENT INPUT 333mV	SUPPLY 12V/24V/230V	M-BUS M-Bus	
ETH 	WEBSERVER 	OUTPUTS 2×RELAY	MODBUS 	RS485

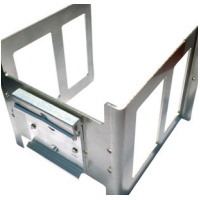
Technical specifications – UMD 96

		UMD 96	UMD 96M	UMD 96S	UMD 96EL
Inputs and outputs	Digital inputs/outputs	1 input and 2 outputs	1 input and 2 outputs	1 input and 2 outputs	1 input and 2 outputs
	Relay inputs/outputs	None	None	None	None
	Analogue inputs/outputs	None	None	None	None
	Differential current inputs	None	None	None	None
	Temperature inputs	None	None	None	None
Communication	Interfaces	None	M bus	RS485	Ethernet
	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 - 80 °C			
Data logger	Storage capacity and allocation	None			
	Measured value storage	Minimum and maximum storage			
Electrical connection	Supply voltage	230 V variant: 85 - 275 V AC / 80 - 350 V DCc			
		24 V variant: 20 - 50 V AC / 20 - 75 V DCc			
	Power input	8 VA / 4 W			
	Overvoltage category	CAT III / 300 V			
Accuracy classes		Voltage:	Cl. 0.5	Current:	Cl. 0.5
		Active power:	Cl. 0.5	Reactive power:	Cl. 1
		Harmonic oscillations:	Cl. 0.5	Power factor:	Cl. 0.5
		Real energy:	Cl. 0.5	Reactive energy:	Cl. 2
Measuring inputs	Voltage*	U L-N: 6 - 375 V AC; Optional: 10 - 625 V AC			
		U L-L: 8 - 660 V AC; Optional: 20 - 1090 V AC			
	Overload voltage*	Permanent U L-N: 600 V AC / peak overload for max. 1 sec. U L-N: 1200 V AC			
	Input impedance voltage*	3.6 MOhm			
	Input load voltage*	< 0.025 VA			
	Frequency	40 ... 70 Hz (DC-500 mode: 0 ... 500 Hz)			
	Transformers*	3x 1 / 5 A; Optional: 3x 333 mV			
	Overload current*	Permanent: 7.5 A AC (666 mV) / peak overload for max. 1 sec: 70 A AC (3,33 V)			
	Input impedance current*	< 10 mOhm			
	Input load current*	< 0.5 VA			
	Sampling rate	25.6 kHz			
	Harmonics per order	1st ... 50. for current and voltage			
	Measurement procedure	IEC 61000-4-30			
Mechanical attributes	Operating temperature range	-20 - 60 °C at < 95 % relative humidity			
	Bearing temperature range	-40 - 80 °C at < 95 % relative humidity			
	Protection class front / rear	IP 40; Optional IP 54 / IP 20			
	Dimensions WxHxD	96 x 96 x 80 mm			
	Weight	0.3 kg			
Internal real-time clock	Accuracy	None			
	Possible synchronisation	None			
FW Module		UDP: optional*			

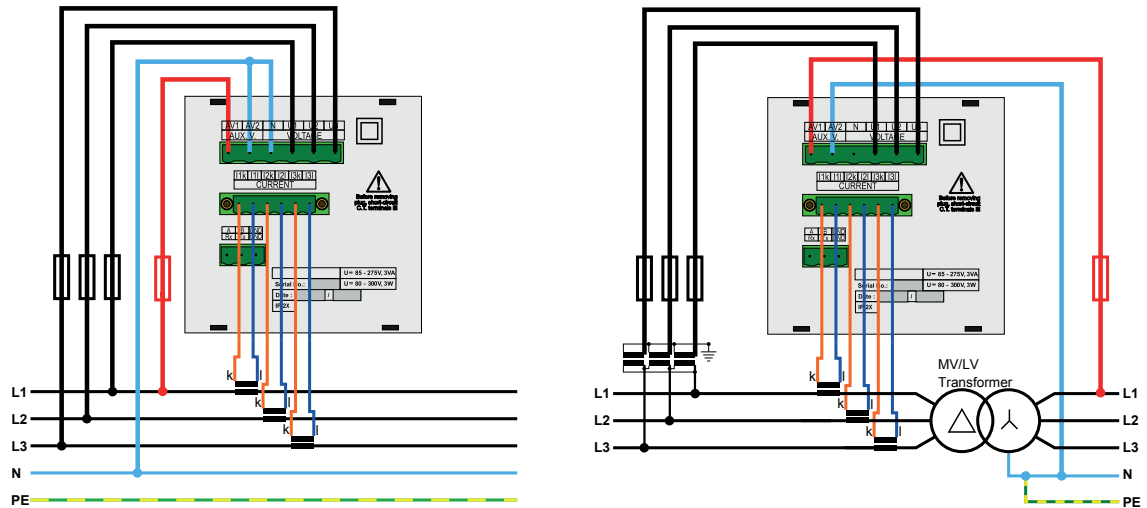
* depending on the variant

Supply voltage		Measurement voltage		Functions				Communication					Type	Item number
85 - 275 V AC 80 - 350 V DC	20 - 50 V AC 20 - 75 V DC	8 - 660 V LL	20 - 1090 V LL	Digital inputs	Digital outputs	Memory size in MB	Clock	RS485	Ethernet	Modbus master	M bus	USB		
•	-	•	-	1	2	-	-	-	-	-	-	-	UMD 96*	10.05.1000
•	-	-	•	1	2	-	-	-	-	-	-	-	UMD 96	10.05.2000
-	•	•	-	1	2	-	-	-	-	-	-	-	UMD 96	10.05.3000
-	•	-	•	1	2	-	-	-	-	-	-	-	UMD 96	10.05.4000
•	-	•	-	1	2	-	-	•	-	-	-	-	UMD 96S*	10.05.1001
•	-	-	•	1	2	-	-	•	-	-	-	-	UMD 96S	10.05.2001
-	•	•	-	1	2	-	-	•	-	-	-	-	UMD 96S	10.05.3001
-	•	-	•	1	2	-	-	•	-	-	-	-	UMD 96S	10.05.4001
•	-	•	-	1	2	-	-	-	•	-	-	-	UMD 96EL *	10.05.1002
•	-	-	•	1	2	-	-	-	•	-	-	-	UMD 96EL	10.05.2002
-	•	•	-	1	2	-	-	-	•	-	-	-	UMD 96EL	10.05.3002
-	•	-	•	1	2	-	-	-	•	-	-	-	UMD 96EL	10.05.4002
•	-	•	-	1	2	-	-	-	-	-	•	-	UMD 96M	10.05.1013
•	-	-	•	1	2	-	-	-	-	-	•	-	UMD 96M	10.05.2013
-	•	•	-	1	2	-	-	-	-	-	•	-	UMD 96M	10.05.3013
-	•	-	•	1	2	-	-	-	-	-	•	-	UMD 96M	10.05.4013
Variant with 333 mV direct connection														
•	-	•	-	1	2	-	-	•	-	-	-	-	UMD 96S	10.05.9001

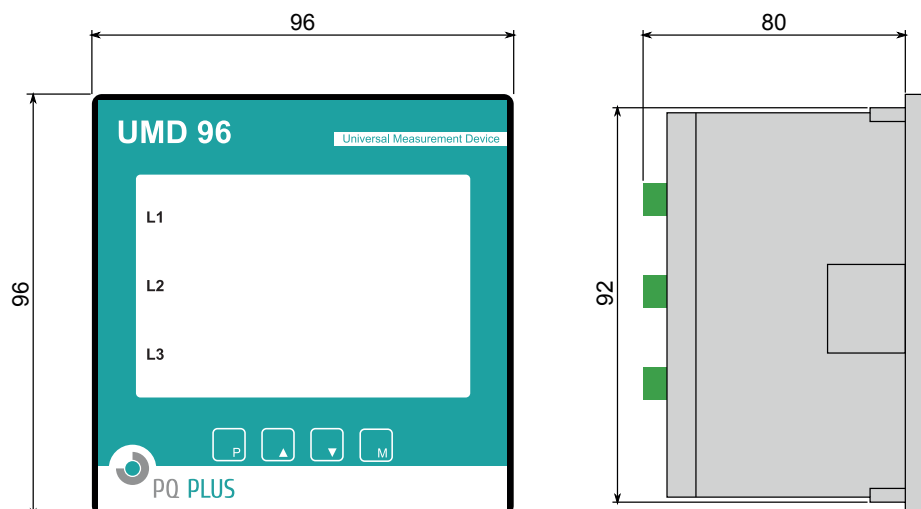
* preferred types (short delivery times)

Accessories		Item number
	AH9697 DIN top hat rail adapter (Depth incl. UMD: 110 mm)	81.00.9697
	IP65 protective hood	37.00.9600

Typical connection variant - UMD 96



Dimensional drawings - UMD 96



UMD 97 – Measuring equipment for installation in a control board

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* also suitable for DIN top hat rail installation with adapter.

Application

The device is used to measure network quality and consumption in low-voltage main distribution and sub-distribution systems.

Standard

INPUTS 3U, 3I	MEASUREMENT U,I,P,Q	PF,cos,THD	+/- Wh,varh	HARMONICS 50	SUPPLY 230V
SAMPLING 25,6 kHz	FLASH 512MB	USB	STANDARDS IEC 61557-12	STANDARDS class 0.5S IEC 62053-22	INPUTS 1xDIGI
CURRENT INPUT X/5A	MODBUS Modbus	OUTPUTS 2xPULSE			

Optional

WEBSERVER 	INPUTS/OUTPUTS  4xDIGI	FIRMWARE GO	ETH 	RS485 
STANDARDS EN 50160	STANDARDS class S IEC 61000-4-30	SUPPLY 12V/24V/230V		OUTPUTS  2xRELAY
NTP 	FIRMWARE RCS			