UMD 98 - Measuring equipment for installation in a control board

Download data sheet

UMD 98

The UMD 98 is an extremely powerful measurement device for installation on the front board* and replaces all analogue measurement devices. It measures 3/4-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. The device is connected via transformers with N/5 A or N/1 A, optionally via Rogowski coils (333 mV). It maps the network quality according to EN 50160, EN 61000-2-2, EN 61000-2-4, EN 61000-2-12. It has a brilliant, large colour graphical display. The UMD 98 is easy to operate via 5 function keys. It has two analogue inputs for RCM. It can be used in 230/400 V TN-S networks. It has a large 512 MB memory and an integrated web server. The device can be accessed via the Ethernet interface and the mini USB connection on the front. This enables internet protocols 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 also integrated. A local bus connection is optionally available for direct connection of the MMI modules. The PQ S and GO firmware modules can be added to extend the measurement device for network analysis. The ENVIS software is used to set parameters for the device and to visualise it. The CPU works at 25.6 kHz.

* 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. The RCM inputs can be used for differential current measurements.
Particularly suitable for building automation, computing centres and hospitals.

Standard

INPUTS 3U, 4I	MEASUREMENT U,I,P,Q	PF,cos,THD	+/- Wh,varh	HARMONICS 50
SAMPLING 25,6 kHz	FLASH 512MB	USB	STANDARDS IEC 61557-12	STANDARDS class 0.5S IEC 62053-22
MODBUS Modbus	WEBSERVER	NTP	ETH	

Optional

STANDARDS class S IEC 61000-4-30	STANDARDS EN 50160	FIRMWARE GO	INPUTS RCM	CURRENT INPUT X/5A
INPUTS Pt100	FIRMWARE RCS	LOCAL BUS	INPUTS/OUTPUTS 1 x DIGI	
SUPPLY 12V/24V/230V	CURRENT INPUT 333mV	RS485		

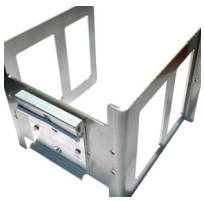
Technical specifications - UMD 98

		UMD 98RCM	UMD 98RCM-T	UMD 98LB
Inputs and outputs	Digital inputs/outputs	1 digital input/output	1 digital input/output	1 input/output*
	Relay inputs/outputs	None	None	None
	Analogue inputs/outputs	2 inputs (for RCM or as 0/4 - 20 mA)	1 input (for RCM or as 0/4 - 20 mA)	1 input* (for RCM or as 0/4 - 20 mA)
	Differential current inputs			
	Temperature inputs	None	1 Pt100 input -50 - 150 °C	1 Pt100 input* -50 - 150 °C
Communication	Interfaces	RS485, Ethernet, Front-USB	RS485, Ethernet, Front-USB	Ethernet, Front-USB, Local Bus
	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	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: 100 - 275 V AC / 90 - 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. 0.2	Current: Cl. 0.2	Frequency: Cl. 0.02
		Active power: Cl. 0.5	Reactive power: Cl. 1	Apparent power: Cl. 0.5
		Harmonic oscillations: Cl. 2	Power factor: Cl. 0.5	cos phi: Cl. 0.5
		Real energy: Cl. 0.5	Reactive energy: Cl. 2	Apparent energy Cl. 0.5
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*	4x 1 / 5 A; Optional: 4x 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 Cl. S		
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	+/- 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

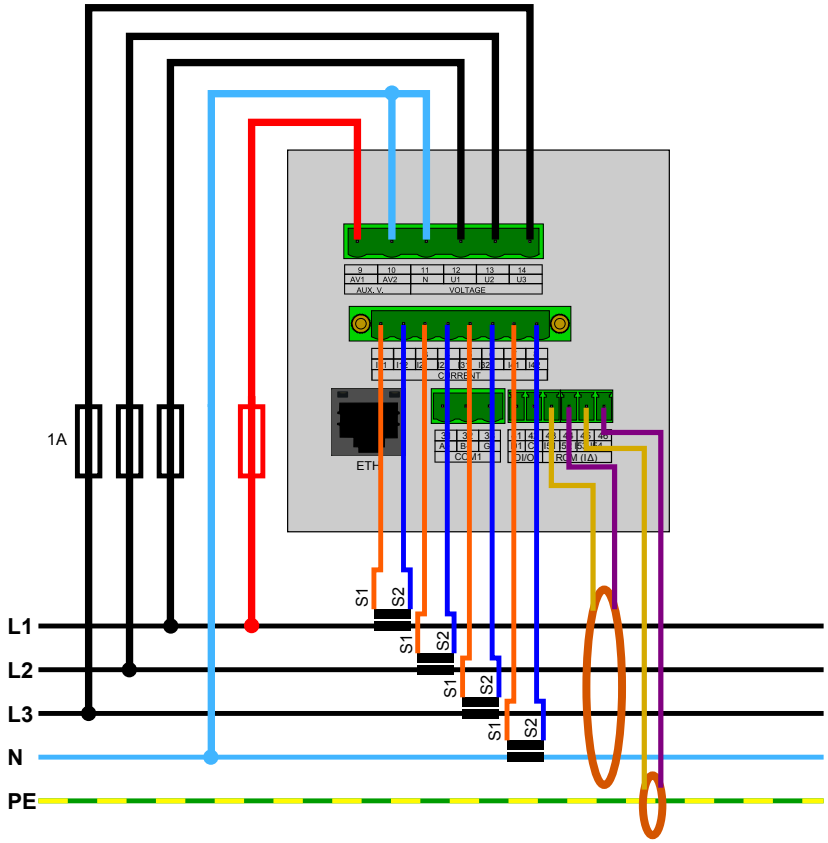
* depending on the variant

Supply voltage		Measurement voltage		Diff. current meas.	Functions				Communication					Type	Item number
100 - 275 V AC 80 - 350 V DC	20 - 50 V AC 20 - 75 V DC	8 - 660 V LL	20 - 1090 V LL	Number	Digital inputs/outputs	Memory size in MB	Clock	Pt100 input	RS485	Ethernet	Local Bus	Gateway Modbus master	USB		
●	-	●	-	2	1	512	●	-	●	●	-	●	●	UMD 98RCM*	11.29.1110
●	-	-	●	2	1	512	●	-	●	●	-	●	●	UMD 98RCM	11.29.2110
-	●	●	-	2	1	512	●	-	●	●	-	●	●	UMD 98RCM	11.29.3110
-	●	-	●	2	1	512	●	-	●	●	-	●	●	UMD 98RCM	11.29.4110
●	-	●	-	1	1	512	●	●	●	●	-	●	●	UMD 98RCM-T*	11.29.1125
●	-	-	●	1	1	512	●	●	●	●	-	●	●	UMD 98RCM-T	11.29.2125
-	●	●	-	1	1	512	●	●	●	●	-	●	●	UMD 98RCM-T	11.29.3125
-	●	-	●	1	1	512	●	●	●	●	-	●	●	UMD 98RCM-T	11.29.4125
-	●	●	-	1	1	512	●	●	-	●	●	●	●	UMD 98LB	11.61.3131
Variants with 333 mV direct connection															
●	-	●	-	1	1	512	●	●	●	●	-	●	●	UMD 98RCM-T FLEX	11.29.9125
-	●	●	-	-	-	512	●	-	-	●	●	●	●	UMD 98FLEX LB	11.59.9131

* preferred types (short delivery times)

Accessories		Item number
	AH9697 DIN top hat rail adapter (Depth incl. UMD: 110 mm)	81.00.9697
	USB 2.0 connection cable, Type A - mini B; 3.0m	18.21.2020
	IP65 protective hood	37.00.9600

Typical connection variant - UMD 98



Dimensional drawings - UMD 98