UMD 707RCM – Measuring equipment for the top hat rail

UMD 707RCM

The UMD 707RCM is a compact, high-end residual current measurement device for installation on the DIN top hat rail. It measures 5-channel residual currents (type A) and the voltage quality (harmonics up to the 128th harmonic; voltage dips 40 µsec).

Measurement is performed via the RCM-CT residual current transformer.
The device 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. Therefore, internet protocols such as NTP can also be read in.

PLC systems and building management systems can be connected easily via modbus TCP. Digital inputs/outputs and a serial RS485 interface are integrated. The GO firmware module is used to activate oscilloscope functions for voltage, and to set trigger signals for limit value events. A PT100 input is also provided.

Download
data sheet

Application

The device is used to measure residual currents in outgoing lines/sub-distribution systems. Therefore continuous monitoring in accordance with VDE 0105-100/A1 can be established, resulting in measuring the insulation resistance according to DGUV V3 being redundant.

Standard

INPUTS 3U, 5I	HARMONICS 128	SAMPLING 28,8 kHz	SUPPLY 230V	USB	ETH	NTP	INPUTS Pt100
INPUTS/OUTPUTS 4×DIGI	INPUTS RCM	WEBSERVER	BATTERY	FLASH 512MB	RS485	MODBUS	

Optional

STANDARDS class S IEC 61000-4-30	FIRMWARE GO	SUPRAHARMONICS 2 kHz...9 kHz
FIRMWARE RCS	STANDARDS EN 50160	

Supply voltage	Measurement voltage	Diff. current meas.	Functions					Communication					
65 - 275 VAC 75 - 350 VDC	5 - 1470 V LL	Number	Digital inputs/outputs	Memory size in MB	Clock	Pt100 input	RS485	Ethernet	Gateway Modbus master	USB	Type	Item number
•	•	5	4	512	•	•	•	•	•	•	UMD 707RCM	13.25.1104

Technical specifications – UMD 707RCM

	UMD 707RCM		
Inputs and outputs	Digital inputs/outputs	4 digital inputs/outputs		
	Relay inputs/outputs	None		
	Analogue inputs/outputs	None		
	Differential current inputs	5 inputs		
	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: 85 - 250 V AC / 85 - 270 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
		Harmonic oscillations: Cl. 1		
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	5x RCM		
	Overload current	Permanent: 80 mA / peak overload for max. 1 sec: 120 mA		
	Input impedance current	100 Ohm		
	Input load current	< 0.2 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