Device overview and technical data

	MRG 96RM-E RCM Flex	MRG 512-PRO PQ Flex
Item number	**52.16.906**	**52.16.905**
Interfaces		
Ethernet 10/100 Base-TX (RJ-45 socket)	•	•
Measurement of the power quality		
Harmonics per order / current and voltage	1. – 40.	1. – 63.
Harmonics per order / active and reactive power	1. – 40.	1. – 63.
Interharmonics - current / voltage	-	•
Flicker: Short term, long term, present	-	•
Measurement data recording		
Memory (Flash)	256 MB	256 MB
Measured voltage input		
Overvoltage category	600 V CAT III	600 V CAT III
Displays and inputs / outputs		
LCD display	LCD display with backlight, 2 buttons	Colour graphical display 320 x 240, 256 colours, 6 buttons

General	MRG 96RM-E RCM Flex	MRG 512-PRO PQ Flex
Use in low and medium voltage networks	•	•
Accuracy of measurement with voltage	0.2 %	0.1%
Accuracy of measurement with current	0.2 %	0.1%
Accuracy of measurement with active energy (kWh, …/5 A)	Class 0.5S	Class 0.2S
Number of measurement points per period	426	512
Uninterrupted measurement	•	•
RMS - momentary value		
Current, voltage, frequency	•	•
Active, reactive and apparent power / total and per phase	•	•
Power factor / total and per phase	•	•
Energy measurement		
Active, reactive and apparent energy [L1, L2, L3, L4, Σ L1–3,Σ L1–4]	•	•
Recording of the mean values		
Voltage, current / present and maximum	•	•
Active, reactive and apparent power / present and maximum	•	•
Frequency / present and maximum	•	•
Requirement calculation mode (bi-metallic function) / thermal	•	•
Other measurements		
Operating hours measurement	•	•
Clock	•	•
Measurement of the power quality		
Distortion factor THD-U in %	•	•
Distortion factor THD-I in %	•	•
Current and voltage, positive, zero and negative sequence component	•	•
Transients	-	> 39 µs
Error / event plotter function	•	•
Short term interruptions	-	•
Oscillogram function (wave form U and I)	-	•
Under and overvoltage recording	•	•
Measurement data recording		
Mean, minimum, maximum values	•	•
Alarm messages	•	•
Time stamp	•	•
Time basis mean value	freely user-defined	freely user-defined
RMS averaging, arithmetic	•	•
Displays and inputs / outputs		
Analogue inputs (RCM, analogue)	•	•
Voltage and current inputs	L1, L2, L3 + N	every 4
Password protection	•	•

Comment:
For detailed technical information, please refer to the operation manual and the Modbus address list.

• = included
– = not included

Janitza®

Fig.: Rogowski coil with measurement transducer

Fig.: Voltage taps

Comment:
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• = included
– = not included

*[1] Optional additional functions with the packages GridVis®-Professional, GridVis®-Service and GridVis®-Ultimate.

*[2] The UMG 96RM-E can only determine measured values if a voltage L1-N greater than 20 Veff (4-wire measurement) or a voltage L1-L2 greater than 34 Veff (3-wire measurement) is applied at the voltage measurement input V1.

*[3] The UMG 512-PRO can only determine measured values, if an L-N voltage of greater than 10 Veff or an L-L voltage of greater than 18 Veff is applied to at least one voltage measurement input.

	MRG 96RM-E RCM Flex	MRG 512-PRO PQ Flex
Protocols		
Modbus TCP, Modbus RTU over Ethernet	•	•
HTTP (homepage configurable)	•	•
SMTP (email)	•	•
NTP (time synchronisation)	•	•
TFTP (automatic configuration)	•	•
FTP (file transfer)	•	•
SNMP	•	•
DHCP	•	•
TCP/IP	•	•
BACnet (optional)	•	•
ICMP (Ping)	•	•
GridVis® Basic software*[1]		
Online graphs	•	•
Historical graphs	•	•
Databases (Janitza DB, Derby DB)	•	•
Manual reports (energy, power quality)	•	•
Graphical programming	-	•
Topology views	•	•
Manual read-out of the measuring devices	•	•
Graph sets	•	•
Programming / threshold values / alarm management		
Application programs freely programmable	-	7
Graphical programming	-	•
Programming via source code Jasic®	-	•
Comparator (5 Groups with 10 comparators each)	•	-
Technical data		
Nominal voltage, three-phase, 4-conductor (L-N, L-L)	277 / 480 V AC	417 / 720 V AC
Nominal voltage, three-phase, 3-conductor (L-L)	480 V AC	600 V AC
Measurement in which quadrants	4	4
Networks	TN, TT, IT	TN, TT
Measurement in single-phase/multi-phase networks	1 ph, 2 ph, 3 ph, 4 ph	1 ph, 2 ph, 3 ph, 4 ph and up to 4 times 1 ph
Measured voltage input		
Metering range, voltage L-N, AC (without transformer)	0*[2] to 300 V_{rms}	0*[3] to 600 V_{rms}
Metering range, voltage L-L, AC (without transformer)	0*[2] to 520 V_{rms}	0*[3] to 1000 V_{rms}
Resolution	0.01 V	0.01 V
Impedance	3 MOhm / phase	4 MOhm / phase
Frequency measuring range	45 to 65 Hz	15 to 440 Hz
Power consumption	approx. 0.1 VA	approx. 0.1 VA
Measured current input		
Rated current	5 A	5 A
Resolution	0.1 mA	0.1 mA
Metering range	0.005 - 6 A_{rms}	0.005 - 7 A_{rms}
Overvoltage category	300 V CAT II	300 V CAT III
Measurement voltage surge	2 kV	6 kV
Power consumption	approx. 0.2 VA (Ri = 5 mOhm)	approx. 0.1 VA (Ri = 5 MOhm)
Overload for 1 sec.	120 A (sinusoidal)	120 A (sinusoidal)
Sampling rate	20 kHz	25.6 kHz
Mechanical properties		
Weight	approx. 3.4 kg	approx. 14.2 kg
Device dimensions in mm (L x W x H)	350 x 295 x 150	Approx. 500 x 390 x 230
Protection class per EN 60529	Front: IP40; Back: IP20	Front: IP40; Back: IP20
Safety		
Europe	CE labelling	CE labelling