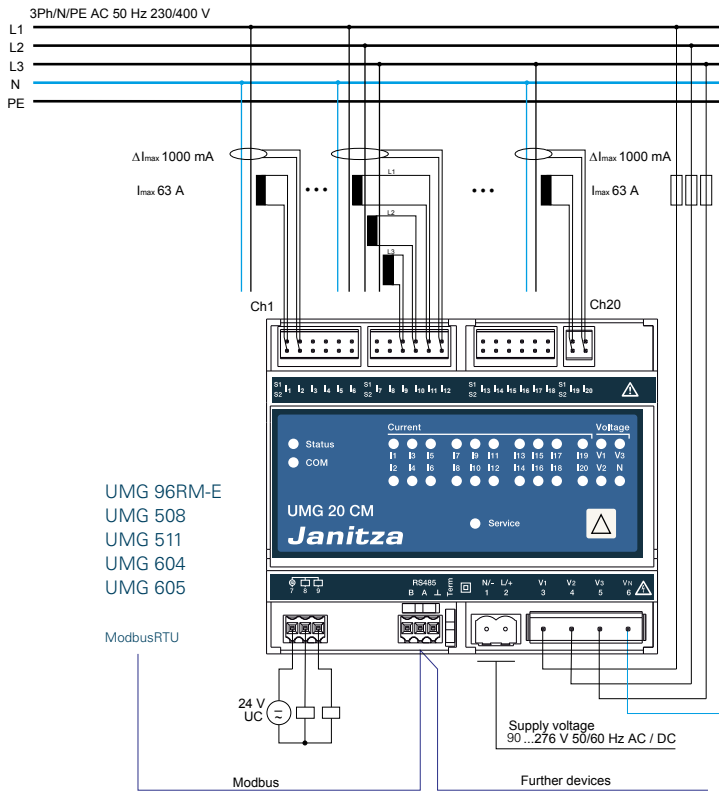




Typical connection



Recommendation: The bus should not contain more than 10 devices, type UMG 20CM if several UMG 20CM measuring channels are used. If the APP "20CM-Webmonitor" is used, the number is limited to 5 devices due to the APP management).



Device overview and technical data

		UMG 20CM
Item number		14.01.625
Operating voltage		90 ... 276 V AC / DC
General		
Use in low and medium voltage networks		•
Accuracy voltage measurement		0.5 %
Accuracy current measurement		0.5 %
Accuracy active energy (kWh)		Class 1
Number of measurement points per period		400
Uninterrupted measurement		•
RMS - momentary value		
Current, voltage, frequency		•
Active, reactive and apparent power for each of the 20 current inputs		•
Power factor for each of the 20 current inputs		•
Energy measurement		
Active energy (for each of the 20 current inputs, + 7 aggregating channels)		•
Recording of the mean values		
Current / present, minimum and maximum		•
Active power / present, minimum and maximum		•
Frequency / present		•
Aggregating channels		7

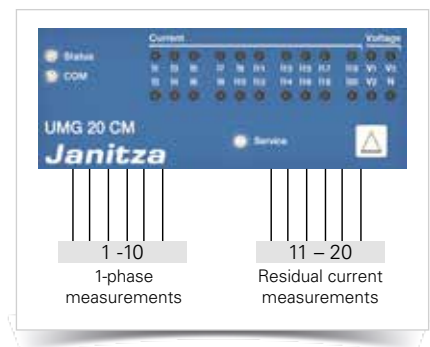


Fig.: 10 single-phase operational current measurements, 10 single-phase residual current measurements,

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

• = included - = not included

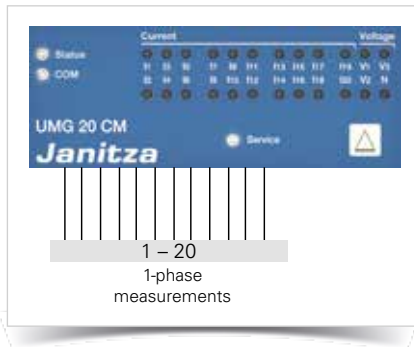


Fig.: 20 single-phase operating current or RCM measurements

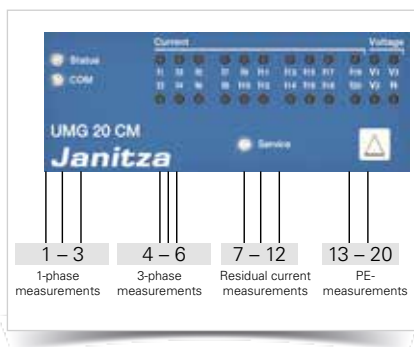


Fig.: 3 single-phase operational current measurements,
1 three-phase operational current measurement,
6 single-phase residual current measurements,
8 single-phase PE measurements

RCM measurement	
Residual current monitoring for all 20 channels (selectable)	•
Current transformer connection monitoring (i.e. wire break will be detected)	•
Power quality measurements	
Harmonics per order / current and voltage (absolute and in %)	1st – 63rd
Distortion factor THD-I in %	•
Under and overcurrent recording	•
Crest factor	•
Measured data recording	
Minimum, maximum values	•
Measured data channels	24
Alarm messages	•
Time stamp	•
Displays and inputs / outputs	
LCD display	-
LEDs (3 states each)	27
Digital outputs (as switch or pulse output)	2
Voltage measurement inputs	L1, L2, L3 + N
Current measurement inputs	20
Communication	
Interfaces	
RS485: 9.6 – 115.2 kbps (Screw-type terminal)	•
Protocols	
Modbus RTU (Slave)	•
Software GridVis®-Basic*1	
Online and historic graphs	•
Databases (Janitza DB, Derby DB); MySQL, MS SQL with higher GridVis® versions)	•
Manual reports (energy, power quality)	•
Graphical programming	•
Topology views	•
Manual read-out of the measuring devices	•
Graph sets	•
Technical data	
Type of measurement	Constant true RMS up to the 63rd harmonic
Nominal voltage, three-phase, 4-conductor (L-N, L-L)	230 / 400 V AC
Measurement in quadrants	4
Networks	TN, TT, IT
Measurement in single-phase / multi-phase networks	1 ph, 2 ph, 3 ph, 4 ph and up to 20 times 1 ph
Measured voltage input	
Overvoltage category	300 V CAT III
Measured range, voltage L-N, AC (without potential transformer)	10 ... 300 Vrms
Measured range, voltage L-L, AC (without potential transformer)	18 ... 480 Vrms
Resolution	0.1 V
Impedance	1.3 MOhm / phase
Frequency measuring range	45 ... 65 Hz
Sampling frequency	20 kHz / phase
Measured current input	
Evaluation range of the operating current	0 ... 600 A
Evaluation range of the residual current	10 ... 1,000 mA
Resolution	1 mA
Digital inputs and outputs	
Number of digital outputs	2
Switching voltage	max. 60 V DC, 30 V AC
Maximum current	350 mA
Switch-on resistance	2 Ohm
Maximum cable length	up to 30 m unshielded, from 30 m shielded

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

• = included - = not included

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

Mechanical properties	
Weight	270 g
Device dimensions in mm (H x W x D)	90 x 105 x approx. 73
Protection class per EN 60529	IP20
Assembly per IEC EN 60999-1 / DIN EN 50022	35-mm DIN rail
Environmental conditions	
Temperature range	Operation: K55 (-10 ... +55 °C)
Relative humidity	Operation: 5 to 95 % (at 25 °C)
Operating height	0 ... 2,000 m above sea level
Degree of pollution	3
Installation position	user-defined
Electromagnetic compatibility	
Electromagnetic compatibility of electrical equipment	Directive 2004/108/EC
Electrical appliances for application within particular voltage limits	Directive 2006/95/EC
Equipment safety	
Safety requirements for electrical equipment for measurement, regulation, control and laboratory use – Part 1: General requirements	IEC/EN 61010-1
Part 2-030: Particular requirements for testing and measuring circuits	IEC/EN 61010-2-030
Noise immunity	
Class A: Industrial environment	IEC/EN 61326-1
Electrostatic discharge	IEC/EN 61000-4-2
Voltage dips	IEC/EN 61000-4-11
Emissions	
Class B: Residential environment	IEC/EN 61326-1
RFI Field Strength 30 – 1,000 MHz	IEC/CISPR11/EN 55011
Radiated interference voltage 0.15 – 30 MHz	IEC/CISPR11/EN 55011
Safety	
Europe	CE labelling
Firmware	
Firmware update	Update via GridVis® software. Firmware download (free of charge) from the website: http://www.janitza.com/downloads/



Fig.: Residual current transformer for the acquisition of residual currents. Different configurations and sizes allow use in almost all applications (see chapter 06, current / voltage transformers and sensors).

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

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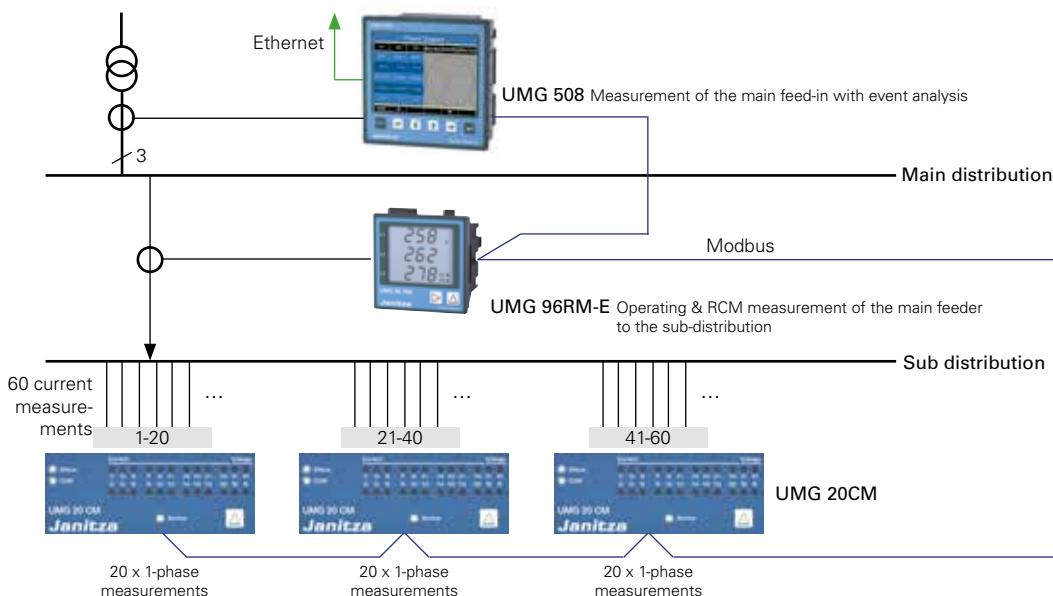


Fig.: Extremely compact solution for complete monitoring via three levels with leading-edge master-slave communication architecture