Janitza®

MODULES FOR THE UMG 800 & UMG 801

Type	UMG 103-CBM [UL certified]	UMG 604-PRO [UL certified]	UMG 605-PRO [UL certified]	UMG 800 [UL certified]	UMG 801 [UL certified]	Module 800-CT8-LP [UL certified]	Module 800-CT8-A [UL certified]	Module 800-CT12-SVD-US [UL certified]	Module 800-CT24 [UL certified]	Module 800-DI14 [UL certified]
Item number	5228901	5216202	5216227	5228001	5231003	5231234	5231230	5231301	5231247	5231214
Use in three-phase 4-conductor systems with grounded neutral conductor up to max.	277 V / 480 V AC	277 / 480 V AC	277 / 480 V AC	277 / 480 V AC	347 / 600 V AC (UL); 480 / 830 V AC (IEC)	Current measurement only	Current measurement only	Current measurement only	Current measurement only	Digital inputs only
Use in three-phase 3-conductor systems ungrounded up to max.	–	480 V AC	480 V AC	480 V AC	690 V AC	–	–	–	–	–
Supply voltage	–	95 – 240 V AC; 135 – 340 V DC[*1]	95 – 240 V AC; 135 – 340 V DC[*1]	24 V DC, PELV	24 V DC, PELV	via basic device	via basic device	via basic device	via basic device	via basic device
Three conductor / four conductor (L-N, L-L)	– / •	• / •	• / •	• / •	–	–	–	–	–	–
Quadrants	4	4	4	4	4	4	4	4	4	–
Sampling frequency 50/60 Hz	5.4 kHz	20 kHz	20 kHz	51.2 kHz	51.2 kHz (V) / 25.6 kHz (A)	8.33 kHz	8.33 kHz	6.8 kHz	8.33 kHz	–
Meter reading cycle as per PTB-A 50.7	–	–	–	–	–	–	–	–	–	–
Effective value from periods (50/60 Hz)	10 / 12	10 / 12	10 / 12	10 / 12	10 / 12	10 / 12	10 / 12	10 / 12	10 / 12	–
Residual current inputs	–	–	–	–	4[*4]	–	–	–	–	–
Current measuring channels	3	4	4	96 (only via modules)	8 (additionally 96 via modules)	8	8	12	24	–
Thermistor input	–	1	1	1	1	–	–	–	–	–
Harmonics current V / A	1st – 40th	1st – 40th	1st – 63rd	1st – 63rd	1st – 127th / 1st – 63rd	1st, 3rd, 5th … 25th	1st, 3rd, 5th … 25th	1st, 3rd, 5th … 15th	1st, 3rd, 5th … 15th	–
Distortion factor THD-U / THD-I in %	•	•	•	only THD-U	•	THD-I only	THD-I only	THD-I only	THD-I only	–
Unbalance	•	•	•	•	•	–	–	–	–	–
Short / long-term flicker	–	–	•	•	•	–	–	–	–	–
Transients	–	> 50 µs	> 50 µs	18 µs (V)	18 µs	–	–	–	–	–
Short-term interruptions	–	•	•	•	•	–	–	–	–	–
Accuracy V; A	0.2%; 0.5%	0.2%; 0.25%	0.2%; 0.25%	0.2%; –	0.2%; 0.2%	–; 0.2%	–; 0.5%	•[*14]; 0.2%	–; 0.2%	–
IEC 61000-4-30	–	–	Class S	Class S	Class S	–	–	0.5S	–	–
Active energy class	0.5S (…/5 A)	0.5S (…/5 A)	0.5S (…/5 A)	–	0.25 (…/5 A)	0.5S (…/333 mV)	0.5S (…/5 A)	0.5S	0.5S (…/333 mV)	–
Digital inputs	2	2	2	4	4	–	–	–	–	14
Digital / pulse output	–	2	2	4	4	–	–	–	–	–
Analog output	–	–	–	–	–	–	–	–	–	–
Memory for min. / max. values	–	•	•	•	•	–	–	–	–	–
Memory size / recording duration (according to factory setting)	4 MB / approx. 3 months	128 MB / approx. 48 months	128 MB / approx. 2.5 months	4 GB / approx. 96 months	4 GB / approx. 96 months	–	–	–	–	–
Clock	•	•	•	•	•	•[*8]	•[*8]	•[*8]	•[*8]	•[*8]
Integrated logic	Comparator	Jasic® (7 prg.)	Jasic® (7 prg.)	Comparator	Comparator	•[*8]	•[*8]	•[*8]	•[*8]	•[*8]
Web server / Email	– / –	• / •[*15]	• / •[*15]	• / –	• / –	•[*8] / –	•[*8] / –	•[*8] / –	•[*8] / –	•[*8] / –
APPs: Measured value monitor, EN 50160 & IEC 61000-2-4	–	•	•	•	•	–	–	–	–	–
Watchdog	–	•	•	•	•	–	–	–	–	–
Fault recorder function	–	•[*2]	•[*2]	•	•	•[*8]	•[*8]	•[*8]	•[*8]	•[*8]
Peak load optimization	–	•	•	•	•	–	–	–	–	–
GridVis® software for energy management & network analysis	GridVis®-Essential	GridVis®-Essential	GridVis®-Essential	GridVis®-Essential	GridVis®-Essential	GridVis®-Essential	GridVis®-Essential	GridVis®-Essential	GridVis®-Essential	GridVis®-Essential
GridVis® Items	1	1	1	0	1	1	1	1.5	3	1
Interfaces										
RS-232	–	•	•	–	–	–	–	–	–	–
RS-485	•	•	•	•	•	•[*9]	•[*9]	•[*9]	•[*9]	•[*9]
USB	–	•	•	–	–	–	–	–	–	–
D-Sub 9 plug (Profibus)	–	•[*2]	•[*2]	–	–	–	–	–	–	–
M-Bus	–	–	–	–	–	–	–	–	–	–
Ethernet	–	–	–	2	2	–	–	–	–	–
Protocols										
Modbus RTU	•	•	•	•[*9]	•	–	–	–	–	–
Modbus Gateway	–	•	•	•	•	–	–	–	–	–
Profibus DP V0	–	•[*2]	•[*2]	–	–	–	–	–	–	–
Modbus TCP/IP, Modbus RTU over Ethernet	–	–	–	Modbus TCP/IP	Modbus TCP/IP	–	–	–	–	–
SNMP	–	–	–	•[*6]	•[*6]	–	–	–	–	–
OPC UA	–	–	–	•	•	–	–	–	–	–
BACnet IP	–	•[*2]	•[*2]	•	•	–	–	–	–	–
Profinet	–	–	–	•[*6]	•[*6]	–	–	–	–	–

Category labels (left-to-right): **Compact energy analyzer** (UMG 103-CBM) · **Functionally expandable network analyzer** (UMG 604-PRO) · **Power quality analyzer (Class S according to IEC 61000-4-30)** (UMG 605-PRO) · **Multifunctional energy analyzer** (UMG 800) · **Modularly expandable network analyzer** (UMG 801) · **Modular expansion for the UMG 800 and the UMG 801** (modules)

• : Included
– : Not included

*1 Other voltages are also available optionally
*2 Option
*3 Possible combinations of inputs and outputs: a) 5 digital outputs b) 2 digital outputs and 3 digital inputs
*4 Combined function: Optional analog / temperature / residual current input
*5 2 pulse outputs
*6 SNMP for internal Profinet communication only
*7 With module + 1 current measuring channel
*8 On the basic device
*9 Additional query of Modbus RS-485 measurement points (server)
*10 These are 4…20 mA signal inputs
*11 289 / 500 V AC for MID+ models
*12 Partition A: approx. 106 months, partition B: approx. 26 months
*13 approx. 2 months
*14 The following applies to part no. 5236006 and 5236026: Class 0.5S (… A/333 mV) and 0.5S for the Rogowski coils (… mV/kA)
*15 Without SSL
*16 Health check with a non-contact voltage measurement
*17 On the 96-RCM-E module

Comment: For detailed technical information, please refer to the respective operating manuals and the Modbus address lists.

GridVis® – POWER GRID MONITORING SOFTWARE

Our scalable GridVis® software brings your energy flows to life, helping you to analyze different parameters and discover potential energy savings. The software also offers various tools, such as the report editor and dashboards, which allow you to easily evaluate and document data. This makes GridVis®, which is available in 4 versions and with a flexible licensing system, perfect for setting up monitoring systems in companies of any size.

GridVis® offers extensive energy and load management functions. Analysis tools, alarms and evaluations also support you in monitoring and analyzing power quality and residual currents. This gives you several key advantages:

- Creates transparency
- Lowers energy costs
- Conforms to ISO 50001 and other standards
- Evaluates CO_2 emissions
- Ensures high availability
- Avoid failures

GridVis® OVERVIEW OF VERSIONS

More information: www.gridvis.com

	GridVis® ESSENTIALS	GridVis® STANDARD	GridVis® EXPERT	GridVis® CLOUD
SYSTEM FUNCTIONS				
Device configuration	•	•	•	–
User management	•	•	•	•
TLS encryption	•	•	•	•
Monitoring of device communication	–	•	•	•
Software-based measured value recording	–	•	•	•
Server-based service	–	•	•	•
Database (MySQL, MSSQL)	–	•	•	•
Automation	–	•	•	•
Key performance indicators	–	•	•	•
Alarm management	–	•	•	•
Email dispatch	–	•	•	•
Software as a Service (SaaS)	–	–	–	•
VISUALIZATION				
Energy and measured value analysis	•	•	•	–
Event & transient analysis	•	•	•	–
Hierarchy management	•	•	•	–
Customized list function	–	•	•	–
Customized dashboards	–	•	•	–
Sankey diagram	–	–	•	–
Static dashboards	–	–	–	•
REPORTS AND EXPORTS				
Basic package	•	•	•	–
RCM (Residual Current Monitoring)	–	•	•	–
Power quality	•	•	•	–
Energy monitoring	–	•	•	•
Energy management	–	•	•	•
Customized reports	–	•	•	–
CONNECTIVITY				
Data import (CSV & MSCONS)	–	•	•	–
REST API	–	–	•	•
Data export (MSCONS)	–	•	•	–
OPC UA Client	–	–	•	–
Third-party Modbus devices	–	–	•	•

BRIEF PRODUCT OVERVIEW

Janitza®

Janitza®

MODULE FOR THE UMG 96-PA & UMG 96-PQ-L

Product comparison

Vertical category labels (left to right):
- **UMG 96-S2** — Energy analyzer with Modbus
- **UMG 96-EL** (UL certified) — Energy analyzer with Ethernet
- **UMG 96RM** — Multifunctional energy analyzer
- **UMG 96-PA & 96-PQ-L** — Modularly expandable network analyzer (MID, meter reading cycle)
- **96-RCM-E module** — Modular expansion for the UMG 96-PA & UMG 96-PQ-L
- **UMG 509-PRO** — Multifunctional power quality analyzer
- **UMG 512-PRO** — Certified power quality analyzer (Class A according to IEC 61000-4-30)

Type	UMG 96-S2	UMG 96-EL (UL cert.)	96RM P	96RM M	96RM E	96RM PN	96-PA (UL cert.)	96-PA-MID+	PQ-L	PQ-L-LP	PQ-L-IT	96-RCM-E (UL cert.)	UMG 509-PRO (UL cert.)	UMG 512-PRO (UL cert.)
Item number	5234002	5235001	5222061	5222064	5222069	5222062	5232001 [1]	5232004	5236021 [1]	5236026 [1]	5236005	5232010	5229001	5217011
Use in three-phase 4-conductor systems with grounded neutral conductor up to max.	230 / 400 V AC	277 / 480 V AC	277 / 480 V AC				347 / 600 V AC (UL) [16]; 417 / 720 V AC (IEC) [16]		347 / 600 V AC (UL); 417 / 720 V AC (IEC)			–	347 / 600 V AC (UL); 417 / 720 V AC (IEC)	347 / 600 V AC (UL); 417 / 720 V AC (IEC)
Use in three-phase 3-conductor systems ungrounded up to max.		480 V AC	480 V AC						600 V AC			–	600 V AC	600 V AC
Supply voltage	90 – 265 V AC; 90 – 250 V DC	90 – 277 V AC; 90 – 250 V DC [1]	90 – 277 V AC; 90 – 250 V DC [1]				90 – 277 V AC; 90 – 250 V DC [1]					–	95 – 240 V AC; 80 – 300 V DC [1]	95 – 240 V AC; 80 – 300 V DC [1]
Three conductor / four conductor (L-N, L-L)			• / •				• / •		• / •			–		
Quadrants	4	4	4				4		4			–		
Sampling frequency 50/60 Hz	8 kHz	21.33/25.6 kHz	21.33/25.6 kHz				8.13 kHz		13.67 kHz		13.97 kHz	–	20 kHz	25.6 kHz
Meter reading cycle as per PTB-A 50.7	–							•				–	–	–
Effective value form periods (50/60 Hz)	16 / 16	10 / 12	10 / 12				10 / 12		10 / 12			–	10 / 12	10 / 12
Residual current inputs	–	–										2	2	–
Current measuring channels	3	3	3	4	3	4	3 [1]		3 [1]	4	3 [1]	1	4	4
Thermistor input	–	–			2 [4]	2 [4]	• [13]		• [13]			1	1	1
Harmonics current V / A	1st – 15th	1st – 40th	1st – 40th				1st – 40th		1st – 65th			–	1st – 63rd	1st – 63rd
Distortion factor THD-U / THD-I in %	•	•	•				•		•			–	•	•
Unbalance	–	–	–				–		• [3]			–	–	•
Short / long-term flicker	–	–	–				–		–			–	–	•
Transients	–	–	–				–		> 50 µs			–	–	> 39 µs
Short-term interruptions	–	–	–		•	•	–		•			–	–	•
Accuracy V; A	0.2%; 0.2%	0.2%; 0.2%	0.2 %; 0.2 %				0.2%; 0.2%		0.2%; 0.2%			–	0.1%; 0.2%	0.1%; 0.1%
IEC 61000-4-30	–	–	–				–		Class S [4]			–	–	Class A
Active energy class	0.5S (.../5 A)	0.5S (.../5 A)					0.25 (.../5 A)		0.25 [5]			–	0.25 (.../5 A)	0.25 (.../5 A)
Digital inputs	–	–	–	4	–	(3) [3]	(3) [3]		3		3	–	2	2
Digital / pulse output	1	–	2	6	2	–	(5) [3]		(5) [3,5]			–	2	2
Analog output	–	–	–	1	–	–	1		1			–	–	–
Memory for min. / max. values	•	•			•		•					–		
Memory size / recording duration (according to factory setting)	–	–	–	–	256 MB [13]	256 MB [13]	8 MB / approx. 3 months (MID+ meter reading cycle: approx. 24 months)		64 MB / Partition A: approx. 45 months, Partition B: approx. 20 months			–	256 MB / approx. 96 months	256 MB / approx. 3 months
Clock	–	•			•		•		•			–	•	•
Integrated logic	–	Comparator			Comparator		Comparator		Comparator			–	Jasic (7 prg.)	Jasic (7 prg.)
Web server / Email	– / –	– / –	– / –	– / –	• / •	• / •	• [13] / –		• [13] / –			• / –	• / • [14]	• / • [19]
APPs: Measured value monitor, EN 50160 & IEC 61000-2-4 Watchdog	–	–	–	–	–	–	–		–			–	•	•
Fault recorder function	–	–	–				–		–			–	–	•
Peak load optimization	–	–	–				–		–			–	•	•
GridVis® software for energy management and network analysis	GridVis®-Essential	GridVis®-Essential	GridVis®-Essential				GridVis®-Essential		GridVis®-Essential			GridVis®-Essential	GridVis®-Essential	GridVis®-Essential
GridVis® items	1	1	1				1		1			0	1	1
Interfaces														
RS-232	–	–	–	–	–	–	–		–			–	–	–
RS-485	•	–	•	•	•	•	•		•			–	•	•
USB	–	–	–	•	•	•	–		–			–	•	•
D-Sub 9 plug (Profibus)	–	–	–	•	–	•	–		–			–	–	–
M-Bus	–	–	–	–	–	•	–		–			–	–	–
Ethernet	–	•	–	–	•	•	• [13]		• [13]		2	–	•	•
Protocols														
Modbus RTU	•	–	•	•	•	•	•		•			–	•	•
Modbus Gateway	–	–	–	•	•	•	–		–			–	•	•
Profibus DP V0	–	–	–	•	–	•	–		–			–	–	–
Modbus TCP/IP, Modbus RTU over Ethernet	–	•	–	–	•	•	• [13]		• [13]		[9]	–	•	•
SNMP	–	–	–	–	–	–	–		–			–	•	•
OPC UA	–	–	–	–	–	• [2]	–		–			–	–	• [2]
BACnet IP	–	–	–	–	–	• [2]	–		–			–	–	• [2]
Profinet	–	–	–	–	–	–	–		–			–	–	–

ABOUT JANITZA

Janitza is a German company that manufactures measurement technology and energy management systems, which help to support effective energy use and save money. As a manufacturer with a global reputation producing network monitoring equipment and energy meters and digital panel meters, the company stands for the highest standards of quality and innovation. The company's portfolio also includes its own in-house software solutions and comprehensive services. The measurement devices, GridVis® software and components combine energy data management, power quality monitoring, load management and residual current monitoring in a shared system environment that is "Made in Germany."

Products are manufactured according to the latest research and with the latest manufacturing technology. Quality management at Janitza is an ongoing corporate task for our management team. Extensive knowhow, expert consultation, and concept development right through to commissioning custom solutions fulfill the wishes and requirements of customers.

www.janitza.com

OUR EXPERTISE – YOUR BENEFITS

- Efficient energy monitoring for identification and reduction of energy consumption
- Contribution to CO_2 neutrality and improvement of the environmental balance sheet
- Compliance with normative requirements such as ISO 50001, Greenhouse Label, LEED certification and other regulatory requirements
- Ensuring high availability of power supply through monitoring and early detection of problems
- Automated data collection to streamline operations and boost competitiveness
- Continuous improvement and innovation in the energy sector through ongoing analysis and implementation of new technologies

CURRENT TRANSFORMERS

The link between energy and measurement technology

Janitza has a broad portfolio of current transformers ranging from operating current transformers and residual current transformers in a wide variety of designs. The range is supplemented by special current transformers such as Rogowski coils or low-power transformers. This ensures the right transformer for every application and installation situation.

Areas of application:
- Conversion of high primary currents into secondary currents .../1 A, .../5 A or 333 mA
- Various CT classes e.g. 1 and 0.5
- Transformers in different sizes for busbar and cable
- Residual current transformers (incl. type A and type B+)
- Wide range of designs for various installation situations e.g. simple retrofit

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Janitza®