Smart Energy & Power Quality Solutions

|      | _      | C  | _     | 0 111   | 0 1 11  |
|------|--------|----|-------|---------|---------|
| mart | Energy | Č۷ | Power | Quality | Solutio |

| UNIVERSAL MEASURING INSTRUMENTS |
|---------------------------------|
|---------------------------------|

Use in three-phase 4-conductor systems with grounded

Use in three-phase 3-conductor systems ungrounded up to max.

Memory size / recording duration (according to factory setting)

APPs: Measured value monitor, EN 50160 & IEC 61000-2-4 Watchdog

GridVis® software for energy management and network analysis



UMG 96-S2

230 / 400 V AC

90 - 265 V AC; 90 - 250 V DC

8 kHz

16 / 16

1. – 15.

0.2%; 0.2%

0.5S (.../5 A)

GridVis®-Essential



UMG 96RM (UL certified)

277 / 480 V AC

480 V AC

21.33/25.6 kHz

10 / 12

4 3 4 4 4

1. – 40.

. . . . . .

0.2%; 0.2%

0.5S (.../5 A)

4 - (3)\*3 4 (3) 6 2 (5)\*3 6 (5)\*

• - • •

Comparator

GridVis®-Essential

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- •/• - •/

- - 2\*4 - 2\*4

- - 2 -

90 - 277 V AC; 90 - 250 V DC\*



347 / 600 V AC (UL)\*13 347 / 600 V AC (UL)

417 / 720 V AC (IEC)\*13 417 / 720 V AC (IEC)

90 - 277 V AC; 90 - 250 V DC\*1

UMG 96-PA (UL certified)

• / •

8.13 kHz

10 / 12

3\*7

1. – 40.

-

0.2%; 0.2%

0.2S (.../5 A)

Comparator

GridVis®-Essential

-

•

8 MB / approx. 3 months 64 MB / partition A:

(MID+ load profile: approx. 45 months, part.

approx. 24 months) B: approx. 20 months

P M E CBM PN G 96-PA 96-PA-MID+ PQ-L PQ-L-LP PQ-L-IT



600 V AC

2

1

Essential

0

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•

13,67 kHz 13,97 kHz

10 / 12

3\*7 3\*7 4 3\*7 3\*7

1. - 65.

0.2%; 0.2%

0.2S\*17

Comparator

GridVis®-Essential

•

Class S\*14



UMG 509-PRO (UL certified)

347 / 600 V AC (UL)

417 / 720 V AC (IEC)

600 V AC

20 kHz

10 / 12

1. - 63.

> 50 µs

0.1%; 0.2%

Class S

0.2S (.../5 A)

256 MB /

approx. 95.95 months

Jasic® (7 Prg.)

GridVis®-Essential



| -   |
|---|
| UMG 512-PRO (UL certified                   |
| 5217011                                     |
| 347 / 600 V AC (UL)<br>417 / 720 V AC (IEC) |

600 V AC 95 - 240 V AC; 80 - 300 V DC\*1

1. – 63.

> 39 µs

0.1%; 0.1%

Class A

0.2S (.../5 A)

256 MB /

approx. 3.11 months

Jasic® (7 Prg.)

GridVis®-Essential

95 - 240 V AC; 80 - 300 V DC\*1 25.6 kHz 10 / 12

> GridVis® Cloud gives you access to a stand-alone energy monitoring portal for analyzing your energy consumption costs. Standard dashboards and preconfigured analysis options provide a quick overview of all of your company's consumption levels via PC or tablet, from anywhere, at anytime. Energy costs and carbon footprints can be calculated and displayed automatically.



# GridVis®

measurement.

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 data exports, standard-compliant reports or a report editor, which allow you to evaluate and document data. This makes GridVis®, which is available in 4 versions, perfect for setting up monitoring systems for energy management, power quality monitoring and residual current

**OVERVIEW OF GridVis® EDITIONS** 

Software as a service (SaaS) - - - •

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More info at: www.gridvis.com

SYSTEM FUNCTIONS

Device configuration

Server-based service

User administration

Alarm management

Monitoring of the device

Software-based measu-

Customized dashboards

Hierarchy management

Customized list function

Energy & measured value

Event & transient analysis

**REPORTS & EXPORTS** 

RCM (Residual Current

Basic package

Power Quality

Energy monitoring

**Energy management** 

Customized reports

(CSV & MSCONS)

Data export (MSCONS)

Modbus devices from

third-party suppliers

CONNECTIVITY

Data import

REST API

OPC UA client

Monitoring)

red value recording

Database (MvSQL, MSSQL)

TLS encryption

communication

Key figures

Automation

E-mail dispatch

VISUALIZATION

Static dashboards

Sankey diagram

analysis

GridVis® Essentials is a free entry-level version, offering all of the basic functions for setting up and configuring your measurement device. GridVis® Standard offers everything you need for ISO 50001 certified energy management, plus lots of other functions to simplify your life. GridVis® Expert offers the full range of functions from our power grid monitoring software.



SHORT PRODUCT OVERVIEW

Part number

Quadrants

neutral conductor up to max.

Sampling frequency 50/60 Hz

Current measuring channels

Residual current inputs

Harmonics current V / A

Short / long-term flicker

Short-term interruptions

Thermistor input

Unbalance

Transients

Accuracy V; A

IEC 61000-4-30

Digital inputs

Analog output

Integrated logic

GridVis® items

RS-232

RS-485

M-Bus

Ethernet

OPC UA

BACnet IP

Modbus RTU

Modbus gateway

Profibus DP V0

USB

Web server / Email

Fault recorder function Peak load optimisation

D-Sub 9 plug (Profibus)

Modbus TCP/IP, Modbus RTU over Ethernet

Active energy class

Digital / pulse output

Memory for min. / max. values

Three conductor / four conductor (L-N, L-L)

Meter reading cycle as per PTB-A 50.7

Effective value from periods (50/60 Hz)

Distortion factor THD-U / THD-I in %



































# LOAD MANAGEMENT SOLUTIONS Load management for the energy and mobility transition

Modern load management is becoming increasingly important in the context of the energy and mobility transition. Intelligent load management facilitates the avoidance of production downtimes, the development of energy strategies and the reduction of costs.

## Load management engineering

Janitza electronics supports you from the analysis of your system environment to the integration of a modern load management approach. Let us assist you in optimizing your systems to achieve your energy goals. With our cross-manufacturer networking, we can integrate your existing production environment and ensure transparency.

## Your advantages at a glance:

- Optimize your energy supply
- Detect and reduce peak loads
- One overarching system for all applications
- A uniform data basis for cost analysis
- Future-proof thanks to a wide range of expansion options

### Your savings potential in figures:

- Reduction of expensive peak loads by up to 40%
- Reduction of charging costs for
- electric cars by up to 50%
- Increase the efficiency of your PV system in conjunction with an electric storage unit by up to 100%



| USB USB (Profibus) D-Sub 9 plug (Profibus) M-Bus Ethernet Modbus RTU Modbus gateway Profibus DPV0 Modbus TCP/IP, Modbus TCP/IP, Modbus TCP/IP, Modbus TCP/IP SNMP SNMP SNMP SNMP SNMP SNMP SNMP SNM  | Janitza®                              | danitza da S   |                                  | &                                | 221 - American                          | 20 Control of the Con |                             | &                               | & <b>(</b>                       | &                              | [2]5<br>[2]5<br>[2]05<br>[2]05<br>[3] | & <b>[</b> ]                               |                                   |
|--|---------------------------------------|--|----------------------------------|----------------------------------|---|--|-----------------------------|---------------------------------|----------------------------------|--------------------------------|---------------------------------------|--|-----------------------------------|
| The content of the    | Туре                                  | UMG 103-CBM (UL certified)   | UMG 20CM                         | Module 20CM-CT6                  |   | UMG 605-PRO (UL certified)   | UMG 801 (UL certified)      | Module 800-CT8-A (UL certified) | Module 800-CT8-LP (UL certified) | Module 800-DI14 (UL certified) |                                       | UMG 806 modules<br>806-EC1 806-ED1 806-EI1 |                                   |
| Section   Sect   | Part number                           | 5228001  | 1401625                          | 20CM-C                           | <b>3 604-P</b> 5216202 5216201          | <b>3 605-P</b>   | 5231003                     | 800-CT<br>5231230               | <b>6231234</b>                   | <b>e 800-D</b>                 | UMG 8                                 | 1402016<br>1402019<br>1402020              |                                   |
| Second    | neutral conductor up to max.          | 277 V / 480 V AC   | 230 / 400 V AC                   | Current measurement only         |   |  | 480 / 830 V AC (IEC)        | Current measurement only        | Current measurement only         | Digital inputs only            |                                       | 9<br>-                                     |                                   |
| Control   Cont   | Supply voltage                        | -  | 90 – 276 V AC; 90 – 276 V DC     | <b>S</b>                         | 95 – 240 V AC; 135 – 340 V DC*1         | 95 – 240 V AC; 135 – 340V DC*1   | 24 V DC, PELV               | via basic device                | via basic device                 | via basic device               | 80 – 270 V AC; 80 – 270 V DC          | 00<br>Se                                   |                                   |
| Part      |                                       | 4  | 4                                |                                  | 4                                       | 4  | 4                           | 4                               | 4                                |                                | 4                                     | <u> </u>                                   |                                   |
| Mail residency of PET ACCOUNTS   10   10   10   10   10   10   10   1  |                                       | 5.4 kHz  | 20 kHz                           | 60 kHz                           | 20 kHz                                  | 20 kHz   | 51.2 kHz (V) / 25.6 kHz (A) | 8.33 kHz                        | 8.33 kHz                         |                                | 8 kHz                                 | 0  |                                   |
| Second contract   Second con   | Meter reading cycle as per PTB-A 50.7 |  | -                                | -                                |   |  | -                           |                                 |                                  |                                | -                                     | Š  |                                   |
| Control processes   1  |                                       | 10 / 12  |                                  |                                  | 10 / 12                                 | 10 / 12  |                             | 10 / 12                         | 10 / 12                          |                                | 10 / 12                               |  |                                   |
| The content of the    | ·                                     | -  |                                  |                                  |   | -  | 4*4                         | 2.00/                           | 0.00/                            |                                | 1                                     | 4+12                                       | • : Included                      |
| The content of the    | -                                     | , and the second |                                  | 6–96 (max. 16 modules)***        | 4                                       | 4  | 8                           | 8-80 (max. 10 modules)          | 8–80 (max. 10 modules)           |                                | 4                                     | 4.12                                       | - : Not included                  |
| Second State   Companies   C   | ·                                     |  | 0                                | 1 – 63                           | 1 – 40                                  | 1 -63  | 7                           | 1 3 5 15                        | 1 3 5 15                         |                                | 1 _ 31                                |  |                                   |
| Control   Cont   |                                       |  | . 55.                            |                                  |   | •  | •                           |                                 |                                  |                                | •                                     |  |                                   |
| Second continue of the conti   |                                       | -  |                                  | · -                              | •                                       | •  | •                           | •                               | ,                                |                                | •                                     |  |                                   |
| Secretary   Secr   | Short / long-term flicker             | -  | <u> </u>                         | -                                | -                                       | •  | •                           |                                 |                                  |                                | -                                     |  | ·                                 |
| Part      |                                       |  | <u>.</u>                         | -                                | > 50 µs                                 | > 50 µs  | •                           |                                 |                                  |                                | -                                     |  |                                   |
| Section   Sect   | ·                                     |  |                                  |                                  |   |  | •                           | 0.50/                           | 0.00/                            |                                | - 0.00/                               |  | a) 5 digital outputs              |
| Active energy offices    1   |                                       | 0.2%; 0.5%   | 1%; 1%                           | -; 0.5%                          | 0.2%; 0.25%                             | 0.2%; 0.25%  | 0.2%; 0.2%                  | 0.5%                            | 0.2%                             |                                | 0.2%; 0.2%                            |  | 3 digital inputs                  |
| Affirm and regive details    SSE_CS   1  | IEC 61000-4-30                        |  | -                                | -                                |   | 9  |                             |                                 |                                  |                                |                                       |  |                                   |
| Popular   Popu   |                                       | 0.5S (/5 A)  | 1                                | 2                                | 0.5S (/5 A)                             | 0.5S (/5 A)  | 0.2S (/5 A)                 | 0.5S (/5 A)                     | 0.5S (/333 mV)                   |                                | 0.5S (/5 A)                           |  |                                   |
| Among or min. Frank values  A MB / approx. 2 months  A MB / approx. 2 m |                                       |  | 0                                |                                  | 2                                       | 2  | 4                           |                                 |                                  | 14                             | -                                     | 4  | *5 2 pulse outputs                |
| Moretry for min. Fase. values  |                                       |  | -                                | -                                | 2                                       |  | 4                           |                                 |                                  |                                | ا ا ا ا ا ا ا ا ا ا ا ا ا ا ا ا ا ا ا | 2 2  | *6 SNMP for internal              |
| Memory size / Incording distration   200cts      |                                       |  | <b>U</b>                         |                                  |   | **   |                             | *9                              | *9                               | *9                             | <u> </u>                              |  |                                   |
| Comparation      | ·                                     |  |                                  | Only via UMG 20CM                | 128 MB / approx. 47.97 months           | 2 128 MB / approx. 2.37 months   | 4 GB / no factory setting   |                                 |                                  |                                | (1)                                   |  |                                   |
| ### Affect Assembled   Section   Sec |                                       |  | •                                |                                  |   | <u>o</u>   | •                           | *9                              | *9                               | *9                             |                                       | •  | measurement channel               |
| APPs Measured value monitor, EN 50100 & EC 61000 2 4 Weichtedge   Fault recorded fruit of formation   Fault recorded fruit of fault of f   | Integrated logic                      | Comparator   | Current limit values per channel | Current limit values per channel | Jasic® (7 Prg.)                         | Jasic® (7 Prg.)  | -                           |                                 |                                  |                                |                                       |  | *8 MID certified                  |
| Fault recorder function   Peak load and primitives from the confident function   Peak load and primitives and the confident function   Peak load and primi   |                                       |  | <u>-</u>                         | 5                                |   |  | <u>\$</u>                   | _                               | _                                |                                |                                       | •/-  | *9 On the basic device            |
| Peak load optimisation   GridVis   Essential   GridVis   Essenti   | -                                     |  | 2                                | No.                              | (C)                                     | 8  | 2                           | <u>5</u>                        |                                  | ò l                            | -                                     | <b>E</b>                                   | *10 To query the slave devices    |
| GridVis* Essential Frame of the energy management and network analysis GridVis* Essential Frame of the energy management and network analysis GridVis* Essential Frame of the energy management and network analysis GridVis* Essential Frame of the energy management and network analysis GridVis* Essential Frame of the energy management and network analysis GridVis* Essential Frame of the energy management and network analysis GridVis* Essential Frame of the energy management and network analysis GridVis* Essential Frame of the energy management and network analysis GridVis* Essential Frame of the energy management and network analysis GridVis* Essential Frame of the energy management and network analysis GridVis* Essential Frame of the energy management and network analysis GridVis* Essential Frame of the energy management and network analysis GridVis* Essential Frame of the energy management and network analysis GridVis* Essential Frame of the energy management and network analysis GridVis* Essential Frame of the energy management and network analysis GridVis* Essential Frame of the energy management and network analysis GridVis* Essential Frame of the energy management and network analysis GridVis* Essential Frame of the energy management and network analysis GridVis* Essential Frame of the energy management and network analysis GridVis* Essential Frame of the energy management and network analysis GridVis* Essential Frame of the energy management and network analysis GridVis* Essential Frame of the energy management and network analysis frame of the ene |                                       |  | <u> </u>                         | (7)                              | <del>-</del> -                          | (C)  | <u>-</u>                    | ω                               | 7                                | (7)                            | -                                     | 5  | *11 Combined function:            |
| Second Company of the Company of t   | ·                                     | -<br>GridVis®-Essential  | GridVis®-Essential               | GridVis®-Essential               | 9                                       | (i)  | GridVis®-Essential          | GridVis®-Essential              | GridVis®-Essential               | GridVis®-Essential             | GridVis®-Essential                    | GridVis®-Essential                         |                                   |
| RS-282 RS-485 USB  |                                       | 1  | 1                                | <b>D</b> 1                       | 1                                       | <u>g</u> 1   | 1                           | 5 1                             | 1                                | 1                              | 1                                     | 0  |                                   |
| USB   Shup (Profibus S)    |                                       | <u></u>  | 3                                | -<br>-                           | ·                                       | · ·  | -                           | 9                               | 9                                | e l                            | <u>-</u>                              | 0  |                                   |
| Class As works, fixen no. 2   Clas   | Ο                                     | ·  | <u>ာ</u>                         | Only via UMG 20CM                | •                                       | ÷ .  | ž ·                         | *9                              | *9                               | *9                             | 5                                     | <u>o</u>                                   |                                   |
| M-Bus   Filter   Filtred   Filter   Fi   |                                       | -  | <u>ٿ</u>                         | <u>.</u>                         | g                                       |  | •                           | ,                               | <u> </u>                         | <u>.</u>                       | -                                     | 5  |                                   |
| ## 15 Partition A: approx. 106 mont between the most of the most o |                                       | -  | <u>e</u>                         | <u> </u>                         | [ · · · · · · · · · · · · · · · · · · · | <u>`</u>   |                             | =                               |                                  | <u> </u>                       | <u>e</u>                              | S  |                                   |
| Modbus RTU  Modbus gateway  Profibus DPVO  Modbus TCP/IP, Modbus RTU over Ethernet  SNMP  OPC UA  BACnet IP  Bach or back of the first interest of the fir |                                       | <u>.                                      </u>   | <u>.</u>                         | .0                               | <u> </u>                                | e  | 2                           | *9                              | *9                               | *9                             | <u>-</u>                              | <u>.</u>                                   |                                   |
| Modbus gateway   Profibus DP V0   Standard   Profibus DP V0   Profibus D   |                                       |  |                                  | 97                               | $\overline{\checkmark}$                 | <u>.</u>   | •                           | *9                              | *9                               | *9                             | e                                     | X  | partition B: approx. 26 month     |
| Profibus DP V0  Modbus TCP/IP, Modbus RTU over Ethernet SNMP  OPC UA  BACRet IP  Backet IP  Descriptions  Profibus DP V0  Modbus TCP/IP, Modbus RTU over Ethernet SNMP  OP UA  BACRet IP  Descriptions  Profibus DP V0  Modbus TCP/IP, Modbus RTU over Ethernet SNMP  OP UA  BACRet IP  Descriptions  Profibus DP V0  Modbus TCP/IP, Modbus RTU over Ethernet SNMP  OP UA  BACRet IP  Descriptions  Profibus DP V0  Modbus TCP/IP  No Modbus TCP/IP  Modb |                                       | d)   | <u></u>                          | 10                               | •                                       | <u>£</u>   | •*10                        | ba                              | <u>o</u>                         | <u>o</u>                       | <del>*</del>                          | •  | *16 approx. 2 months              |
| SNMP  OPC UA  BAChnet IP  BACH | Profibus DP V0 <u>σ</u>               | <del> </del>   | -                                | ×                                | <u></u>                                 | •  |                             | X                               | ×                                | ×                              | >                                     | <u>a</u>                                   | *17 The following applies to item |
| SNMP OPC UA  BACnet IP Braffinot  OPC UA  O |                                       | <u>5</u>   | -                                | -                                | 5                                       | σ  | Modbus TCP/IP               | *9                              | *9                               | *9                             | Ť.                                    | <u> </u>                                   | and 0,5S for Rogowski coils       |
| BACnet IP  Profit not profit not profit not not not not not not not not not no   |                                       | Ω.   |                                  | 3                                | : <u></u>                               | •  | 3                           | <u>.</u>                        | <u> </u>                         | <u> </u>                       | <u> </u>                              | <u>ŏ</u> •                                 |                                   |
| Operating manuals and the Modb   |                                       |  |                                  | ¥ ·                              |   | 2  |                             | <b>5</b>                        | *9                               | 79                             | 9                                     | 2  |                                   |
| address lists.   |                                       | X  | Ę –                              | <u> </u>                         | .2                                      | <u> </u>   | Š .                         | 5                               | Ĭ                                | ĕ ——————————                   | Ę –                                   |  | operating manuals and the Modb    |
|  | 110,000                               |  |                                  | _                                |   |  |                             |                                 |                                  |                                |                                       |  | address lists.                    |

- lot included
- ther voltages are also available
- ossible combinations of puts and outputs: 5 digital outputs 2 digital outputs and 3 digital inputs
- ombined function: ptional analog / temperature /
- pulse outputs
- rofinet communication only /ith module + 1 current
- easurement channel
- IID certified
- n the basic device
- query the slave devices
- ombined function: ptionally operating or esidual current
- hese are 4...20 mA signal inputs
- 9 / 500 V AC for MID+ models
- em no. 5236021 and 5236025 lass S ex works, item no. 5236001 d 5236005 Class S can be ctivated subsequently
- artition A: approx. 106 months, artition B: approx. 26 months
- pprox. 2 months
- ne following applies to item no. 2.36.006: Class 0.5S (... A/333 mV) nd 0,5S for Rogowski coils

ent: For detailed technical inforn, please refer to the respective ing manuals and the Modbus