



Janitza APPs

Expansions with know-how

Software based expansions for the measurement devices

Modern measurement devices can deliver a lot – and so their operation has become complex. One option for the placement of the controls is on the device itself – using buttons or touch displays. This sets limits on the desire for more compact devices and on the installation situation. An alternative is a notebook, but this is not always at hand when working. In addition when operating without a work station it quickly becomes very tiring holding the notebook with one hand whilst typing with the other.

A third option would be to use compact, control devices that can be used with one hand and which can communicate with the device by cable or by radio thus enhancing the operating level. Until a few years ago these would be costly, device-specific custom solutions. Nowadays, almost everyone has the hardware in their pocket: A smartphone or tablet.

There are numerous apps, which run on both classical PCs and mobile end devices, to choose from

for Janitza devices. These allow the operator to read out, edit and display data, receive alarms or simplify the configuration. Communication is implemented directly with a device or via the GridVis® software, depending on the application. In doing so, the apps can also work as sub-programs that simplify certain working steps.

Advantages

- APPs can be called up via the measurement device homepage
- Web-based data display and configuration
- No software installation required
- Data can also be displayed directly in the browser on mobile devices such as the iPad
- Intuitive use without a great deal of training
- Extremely cost-effective and convenient solution
- User-defined settings enable a low data volume



Janitza APPs – Overview

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Measurement monitor

Item no. 51.00.245 & 51.00.246

Device compatibility

UMG 604 / UMG 605 /
UMG 508 / UMG 509/
UMG 511 / UMG 512
(Item no. 51.00.245)

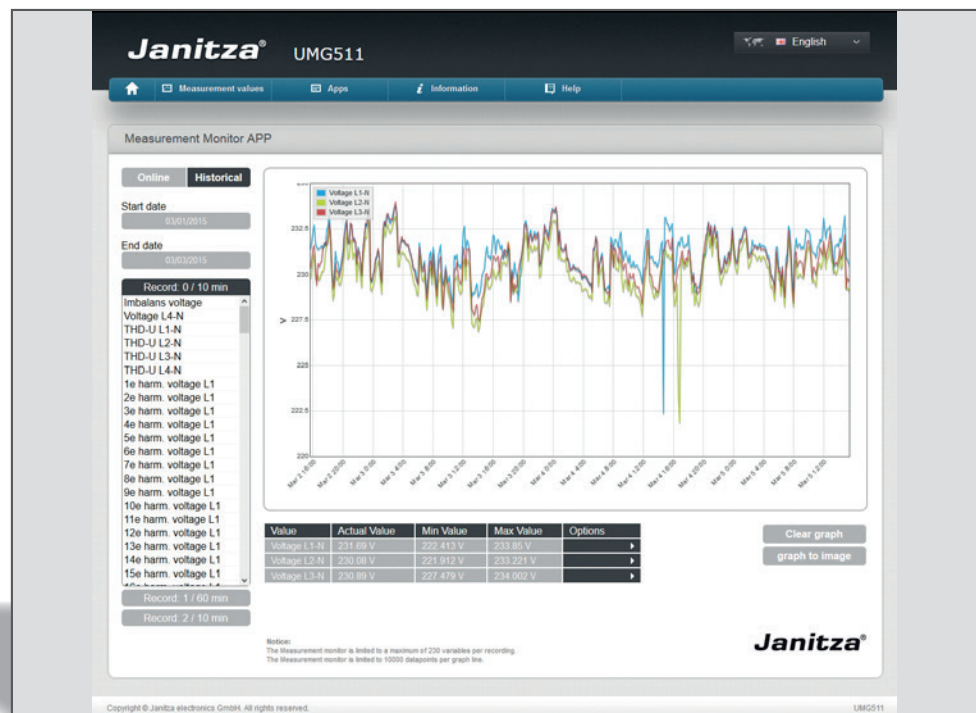
UMG 96RM-E
(Item no. 51.00.246)

Display of current and historical measured values in the form of diagrams on the device's own homepage.

The "Measurement monitor" APP allows you to display current and historical measured values, in the form of diagrams, on the homepage of a Janitza UMG device. User-friendly controls mean you can create diagrams quickly and easily.

- Fully web-based, you only need a web browser
- Can be run on desktops, laptops, tablets etc.
- Access the most important current and historical measured values
- Easy operation with drag & drop
- Up to 6 measured values in a diagram (2Y-axes)
- Up to 60,000 data points in a diagram (10,000 per measured value)

Measurement monitor APP
Graphical representation of
historical measured values





Mini EnMS

Item no. 51.00.266

Device compatibility

UMG 604 / UMG 605 /
UMG 508 / UMG 509
UMG 511 / UMG 512

Display of current and historical measured values in numbers and diagrams from one master device and max. 16 UMGs without memory, on the device's own homepage

With the "Mini EnMS" APP you can set up a small, local, web-based energy management system for a maximum of 16 Janitza devices without memory. Online and historical data from the master and slave devices are displayed via the web-based user interface. The master device also acts as a data collector for the slave devices.

- Optimised for use on desktops, laptops or tablets
- Select measured variables for the master device and slave devices using drag and drop
- Select the desired time window with the integrated calendar function
- The main variables of the Modbus slave are stored and displayed on the "main measurement device"
- No external server or software package needed; just a standard browser will suffice
- Maximum of 16 slaves (UMG 103, UMG 104 or UMG 96RM)
- Memory variable for slave devices
 - Current L1, L2, L3
 - Total effective power
 - Total apparent power
 - Total effective energy
- The master collects the data and presents it on its own device homepage. The APP was developed for small applications where GridVis® is not being used.

APP Mini EnMS
Mini energy management system for display of selected measured variables



Power Quality – Standards and directives

In the European zone, **EN 50160** forms the standard for the quality description for electrical energy supply. In essence, the features of the supply voltage at the point of transfer to the customer in the public low and medium voltage power grids are described under normal operating conditions.

EN 50160 pertains to mains voltage, i.e. the voltage measured at the mains connection point. A voltage distortion in the public network leads to a voltage distortion in the industrial network and for this reason should be continuously monitored.

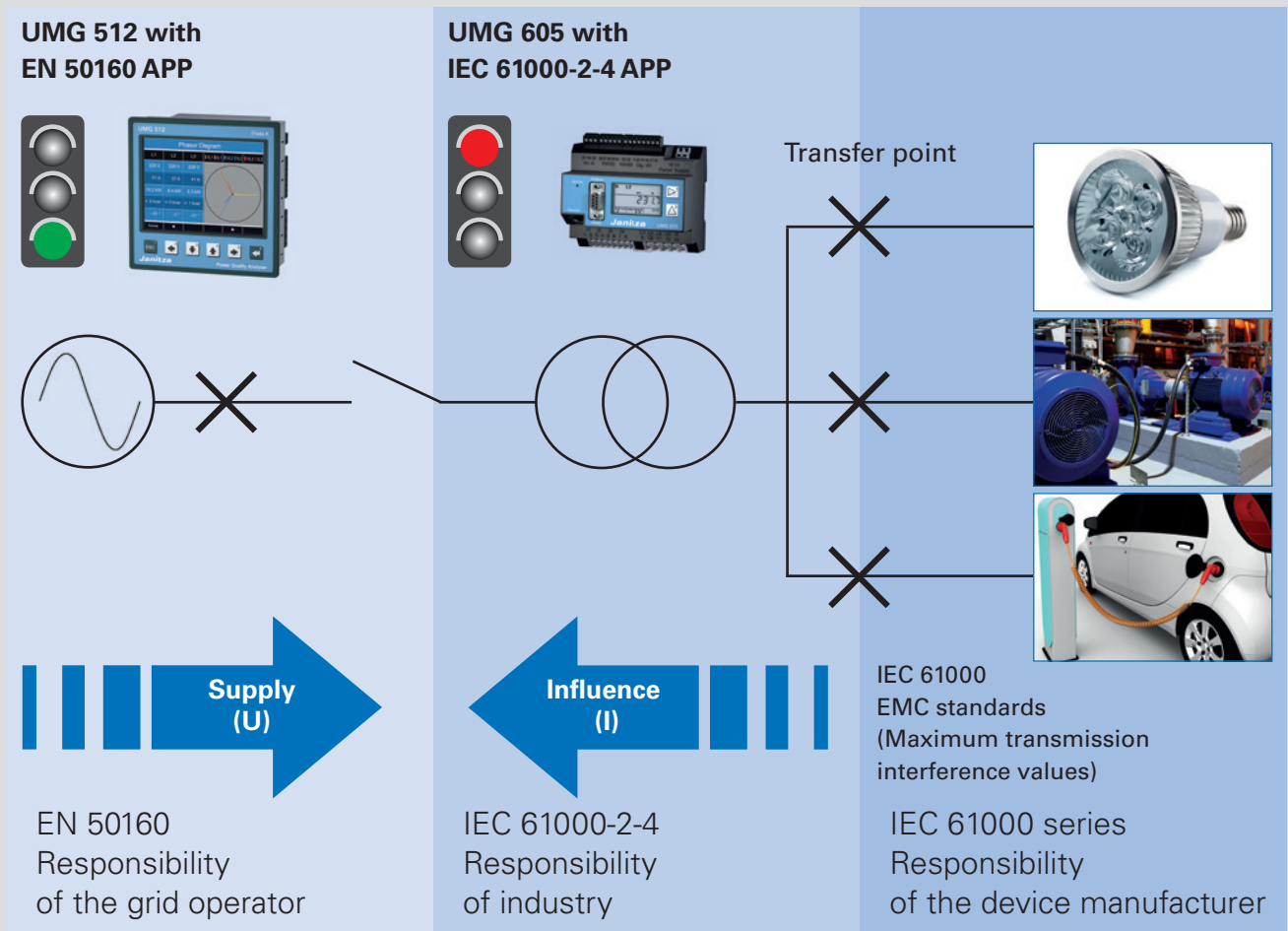
The standard **IEC 61000-2-4** defines numerical limits for industrial and private power distribution systems at rated voltages up to 35 kV. The standard IEC 61000-2-4 should be applied with reference to power quality at all transfer points at the consumer's end. For this reason, the guiding standard is also a standard for many products and machinery construction standards. The voltage distortion

immunity levels that the machines and systems must comply with in industrial enterprises are defined here.

If the level is exceeded, this can result in shutdowns which are not covered by the machine or system supplier's warranty. Therefore, monitoring per IEC 61000-2-4 is advisable.

In new standards such as EN 50600-2-2 for electrical equipment in computer centres, power quality per EN 50160 and IEC 61000-2-4 is required.

The new power quality APPs from Janitza automatically and continuously monitor the power quality per EN 50160 and IEC 61000-2-4. The APP allows an initial overview of specific power quality parameters by means of the integrated measurement device homepage.



The EN 50160 APP for monitoring the power quality in public grids and the IEC 61000-2-4 APP for EMC compatibility in industry provide continuous monitoring of the power quality in accordance with responsibilities.



EN 50160 Watchdog

Item no. 51.00.264

Device compatibility

UMG 605 / UMG 511 / UMG 512

Integrated "Watchdog" function for continuous monitoring of the power quality per EN 50160

The power quality on the supply side should comply with EN 50160. This standard describes various power quality parameters for the distribution of electrical power on public power grids. EN 50160 pertains to mains voltage, i.e. the voltage measured at the mains connection point. With power quality monitoring per EN 50160, all the algorithms (including for 95% and 100% values) are integrated in the measurement device itself.

The auxiliary voltage of the device should be buffered to ensure that power failures can be reliably detected as events.

- Integrated watchdog function
- No need to transmit large volumes of measured data from the measurement device to a host system
- Save on communications costs for applications with remote consumers
- Simple analysis possible thanks to integrated colour display based on a "traffic light" system
- Possible to perform power quality analyses even with no particular knowledge on the topic
- No alarm functionality

APP EN 50160 Watchdog
Power quality monitoring per EN 50160 with traffic-light style indication and specific key variables for the power quality

The screenshot displays the Janitza UMG511 EN50160 Watchdog software interface. At the top, it shows the device name 'Janitza UMG511' and a language dropdown set to 'English'. Below this is a navigation bar with icons for home, measurement values, apps, information, and help. The main content area is titled 'EN50160 Watchdog' and includes a 'Select a Power Quality report from the reportlist' dropdown. The interface is divided into several sections:

- Reports:** A list of reports from 2 March to 12 March, with a traffic light indicator showing green.
- Events:** 0 events.
- Transients:** 0 transients.
- Overview according to EN 50160 over timeperiod:** A table with columns for Variable, Minimum Percentage, and Percentage Inside Standard.
- Individual Harmonics:** A table with columns for Harmonic (L1, L2, L3) and individual harmonic orders (2-25).

Variable	Minimum Percentage	Percentage Inside Standard		
Power frequency 99.5% <small>99.5% of the 10 measured values during 1 week inside ±1% of 50Hz</small>	99.5%	100%		
Power frequency 100% <small>All of the 10 measured values inside ±0.5% of 50Hz</small>	100%	100%		
Supply voltage unbalance <small>95% of the 10 measured values during 1 week inside 0 and 2%</small>	95%	100%		
Supply voltage variations 95% <small>95% of the 10 measured values during 1 week inside ±1.5% of 230 Nominal</small>	95%	L1	L2	L3
		100%	100%	100%
Supply voltage variations 100% <small>All of the 10 measured values during 1 week inside ±1% of 230 Nominal</small>	100%	L1	L2	L3
		100%	100%	100%
Flicker severity <small>95% of the values during 1 week less than or equal to 1</small>	95%	L1	L2	L3
		100%	100%	100%
THD <small>95% of the 10 measured values during 1 week less than or equal to 3%</small>	95%	L1	L2	L3
		100%	100%	100%

Harmonic	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
L1	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
L2	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
L3	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

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IEC 61000-2-4 Watchdog

Item no. 51.00.265

Device compatibility

UMG 605 / UMG 511 / UMG 512

Integrated "Watchdog" function for continuous monitoring of the power quality per IEC 61000-2-4

The standard IEC 61000-2-4 defines numerical limits for industrial and private power distribution systems at rated voltages up to 35 kV. For the consumer, the standard IEC 61000-2-4 should be applied with reference to power quality. Therefore the power quality in all technical systems must be continuously monitored in accordance with IEC 61000-2-4, in order to ensure fault-free operation of the installed system.

The auxiliary voltage of the device should be buffered to ensure that power failures can be reliably detected as events.

- Integrated watchdog function in accordance with standard IEC 61000-2-4
- No need to transmit large volumes of measured data from the measurement device to a host system
- Save on communications costs for applications with remote consumers
- Simple analysis possible thanks to integrated colour display based on a "traffic light" system
- Possible to perform power quality analyses even with no particular knowledge on the topic
- No alarm functionality

APP IEC 61000-2-4 Watchdog
Power quality monitoring per IEC 61000-2-4 with traffic-light style indication and display of specific key variables for the power quality





Multitouch

Item no. 51.00.207

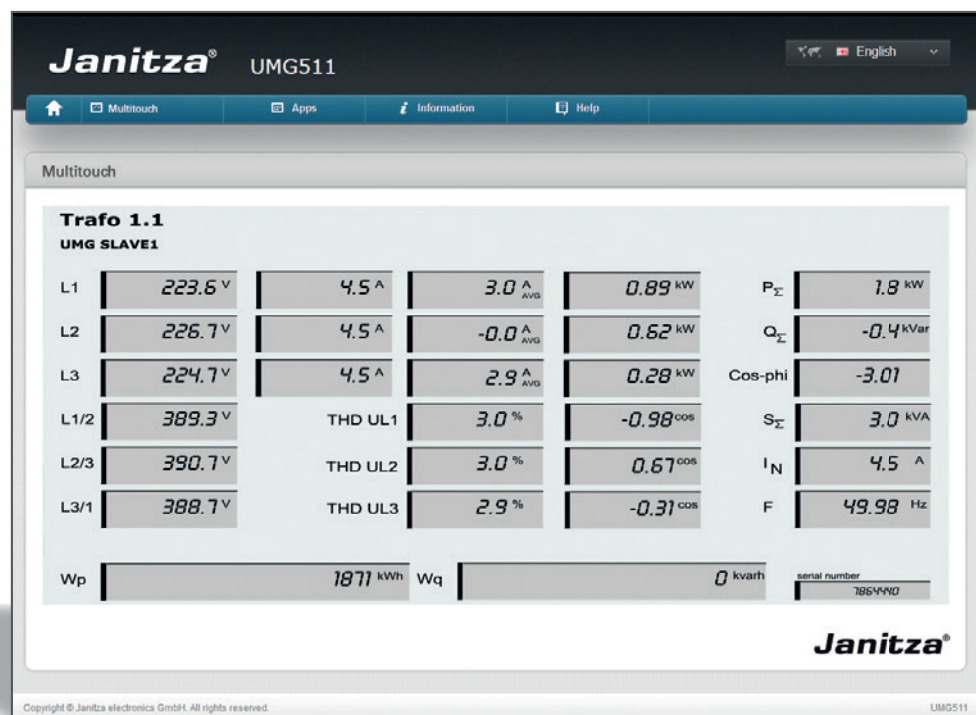
Device compatibility

UMG 604 / UMG 605 /
UMG 508 / UMG 509 /
UMG 511 / UMG 512

Reading out 30 measured values and max. 31 slave devices via RS485

- Reads out 30 measured values (fixed default value) from up to 31 slave devices (configurable) via RS485
- Filing of the measured values in the master in global variables or on BACnet data points
- Display of the measured values is implemented via the JPC35 touch panel or via the device homepage (browser with FLASH plug-in necessary)
- Expansion for live value display
- Integrated BACnet gateway function (option, item no. 52.16.083)
- The BACnet-ID can be changed via the homepage
- Program installs a control program
- Depending on master device (UMG 604, UMG 605, UMG 508, UMG 509, UMG 511, UMG 512), call-up of a corresponding sub-program (slave devices: UMG 103, UMG 104, UMG 604, UMG 605 and UMG 96RM)
- Possible communications fault (RS485-Bus) directly visible via a status display
- The number of devices and device descriptions can be configured via the master devices homepage
- The master device is automatically recognised and entered in the "Device type" field
- The BACnet configuration is likewise implemented via the master device homepage
- Each device can be assigned its own BACnet-ID
- EDE file for the import of the BACnet data points in a BACnet-GLT is included in the scope of deliverables for the APP

APP Multitouch
Overview of the measured values
of each slave device





Push Service

Item no. 51.00.238

Device compatibility

UMG 604 / UMG 605 /
 UMG 508 / UMG 509 /
 UMG 511 / UMG 512

Sending data directly from the measurement device to the energy portal

- Sending data directly from the device to the energy portal (without additional software)
- The delivery of data is implemented via port 80
- Data can be visualised via a web server by means of a web browser
- An APP must be installed on each device
- Only Jasic®-capable devices are supported (UMG 604 / UMG 605 / UMG 508 / UMG 509 / UMG 511 / UMG 512)
- UMG 96 RM-EL with integrated Push App function is supported
- Prodata and UMG 20CM – only via Jasic®-capable devices
- Sending of up to 25 measured values is possible simultaneously
- Delivery of the last mean values from the ring buffer
- APP automatically detects which data in the ring buffer is saved with which averaging time, and presents these for selection
- The measured values to be sent can be selected via the homepage
- Mean values are automatically synchronised to the device time
- The transmission time can be adjusted for the transmission buffer. In the event of the network connection failing, there are no gaps in the data so long as the failure is shorter than the transmission buffer time
- View of a status display on the homepage with the last data transmitted

Push service APP

Status of the measured data transmission: listing of the last values sent

The screenshot shows the Janitza UMG605 web interface. At the top, there is a navigation bar with 'Home', 'Measurement values', 'Apps', 'Information', and 'Help'. Below this is the 'Data Push Service' section, which includes 'Configuration', 'update', and 'Reset configuration' buttons. The main content area displays a table titled 'Last transmitted values' with the following data:

Measurement	timebase	value	Date/Time
Real Energy_L1	900 sec	3720928 Wh	23.Feb 2015 15:15:00
Real Energy_L2	900 sec	3334576 Wh	23.Feb 2015 15:15:00
Real Energy_L3	900 sec	825272 Wh	23.Feb 2015 15:15:00
Real Energy_L4	900 sec	-69683 Wh	23.Feb 2015 15:15:00
Real Energy_SumL1..L3	900 sec	4880768 Wh	23.Feb 2015 15:15:00
Real Energy_Supply_L1	3600 sec	3749824 Wh	23.Feb 2015 15:00:00
Real Energy_Supply_L2	3600 sec	3490104 Wh	23.Feb 2015 15:00:00
Real Energy_Supply_L1..L3	3600 sec	5212096 Wh	23.Feb 2015 15:00:00
Sum_Real Power_L1..L3	900 sec	653 W	23.Feb 2015 15:15:00

At the bottom of the interface, there is a copyright notice: 'Copyright © Janitza electronics GmbH. Alle Rechte vorbehalten.' and the page number 'Seite 5'.



Watchdog

Item no. 51.00.210

Device compatibility

UMG 604 / UMG 605 /
UMG 508 / UMG 509 /
UMG 511 / UMG 512

Expansion for Ethernet monitoring of the measurement device

UMG 604 / UMG 605 / UMG 508 / UMG 509 / UMG 511 / UMG 512

- Up to 40 measurement devices per master can be checked for communications faults
- Synchronous installation on two devices enables expansion to more than 40 devices
- The APP sends an email in the event of a communications failure
- Sending of an uncoded status email* at midnight, whereby the current status will be visualised on the measurement devices' homepage



Fault message

Item no. 51.00.209

Device compatibility

UMG 604 / UMG 605 /
UMG 508 / UMG 509 /
UMG 511 / UMG 512

Configurable Jasic® program for sending fault messages by email

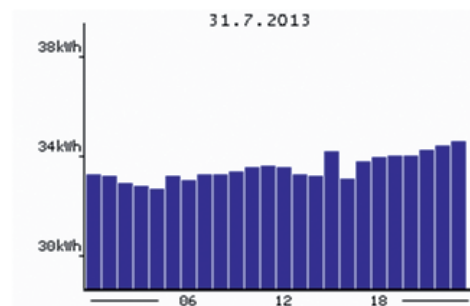
- Depending on configuration, sending of fault messages with the following events:
Total harmonic distortion voltage exceeded, short-term interruption detected, transient detected
- Saving the meter readings for the event and transient messages in the Modbus register
- Option to monitor additional measured values via an interface (not included)
- Emails* with consumption values for day, week and month can be sent (a non-encrypted mail server is required)

APP fault message

Energy report with daily trigger

31.7.2013	0:00	-	0:59	:	33.34kWh
31.7.2013	1:00	-	1:59	:	33.28kWh
31.7.2013	2:00	-	2:59	:	32.99kWh
31.7.2013	3:00	-	3:59	:	32.86kWh
31.7.2013	4:00	-	4:59	:	32.77kWh
31.7.2013	5:00	-	5:59	:	33.25kWh
31.7.2013	6:00	-	6:59	:	33.12kWh
31.7.2013	7:00	-	7:59	:	33.31kWh
31.7.2013	8:00	-	8:59	:	33.31kWh
31.7.2013	9:00	-	9:59	:	33.47kWh
31.7.2013	10:00	-	10:59	:	33.60kWh
31.7.2013	11:00	-	11:59	:	33.70kWh
31.7.2013	12:00	-	12:59	:	33.63kWh
31.7.2013	13:00	-	13:59	:	33.34kWh
31.7.2013	14:00	-	14:59	:	33.25kWh
31.7.2013	15:00	-	15:59	:	34.27kWh
31.7.2013	16:00	-	16:59	:	33.15kWh
31.7.2013	17:00	-	17:59	:	33.86kWh
31.7.2013	18:00	-	18:59	:	34.02kWh
31.7.2013	19:00	-	19:59	:	34.08kWh
31.7.2013	20:00	-	20:59	:	34.08kWh
31.7.2013	21:00	-	21:59	:	34.30kWh
31.7.2013	22:00	-	22:59	:	34.46kWh
31.7.2013	23:00	-	23:59	:	34.66kWh

Total: 806.11kWh



* The UMG range does not support SSL or TSL encryption.



DCF77

Item no. 51.00.212

Device compatibility

UMG 604 / UMG 605 /
UMG 508 / UMG 509 /
UMG 511 / UMG 512

Synchronisation of the device time via a digital input

- Synchronisation of the time always implemented to the full hour (timer necessary with DCF77 receiver)
- Use of this APP necessary if an NTP connection is not possible or not available
- DCF77 signal will not be directly processed
- Evaluation is implemented exclusively via the switch pulse of a DCF77 timer, which is connected to a free digital input
- The switching pulse of a PLC / GLT can be used for synchronisation



Moisture / temperature sensor JFTF-I

Item no. 51.00.209

Device compatibility

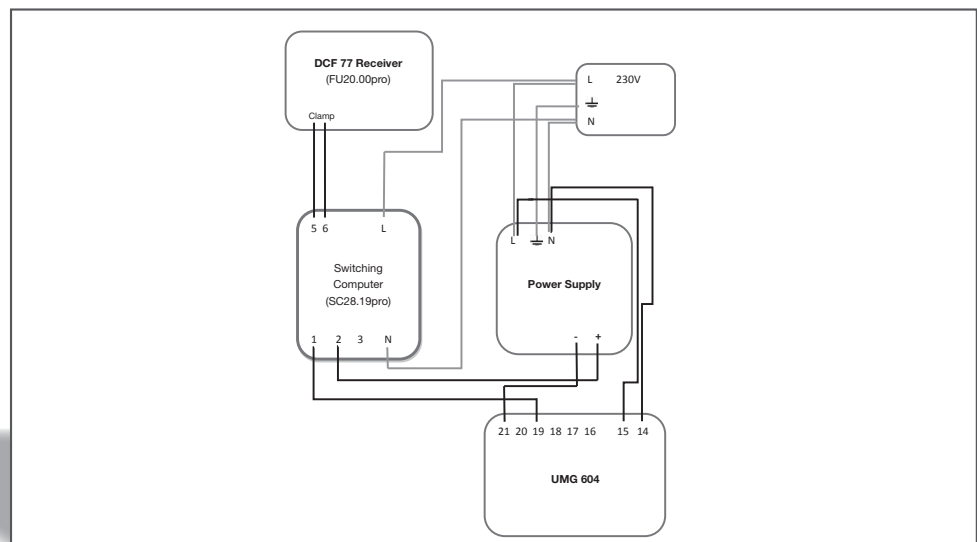
UMG 604 / UMG 605 /
UMG 508 / UMG 509 /
UMG 511 / UMG 512

Processing and recording of up to 8 temperature / moisture sensors possible

- Can process and record the measured values from up to 8 temperature/moisture sensors (item no. 15.06.074)
- In doing so the display of the measured values is implemented via a homepage after installing the APP, or via global variables in the GridVis®
- Measured values can be saved in a second Jasic® program via the graphical programming
- Delivers two analogue 4 - 20 mA output signals, which will be processed by the function module FBM DI8AI8 (item no. 15.06.079)

APP DCF77

Timer connection principle





FBM10 PT1000

Item no. 51.00.211

Device compatibility

UMG 604 / UMG 605 /
UMG 508 / UMG 509 /
UMG 511 / UMG 512

Up to 10 additional thermistor inputs can be implemented via the RS485 interface by means of hardware expansion

- Up to 10 additional thermistor inputs can be implemented via the RS485 interface
- Hardware expansion FBM10 PT1000 – a DIN rail module with 10 PT1000 inputs – necessary for this



MINI-PC remote display

Item no. 51.00.242

Device compatibility

UMG 604 / UMG 605 /
UMG 508 / UMG 509 /
UMG 511 / UMG 512

APP incl. mini-PC for remote display via Ethernet

- The measured values can be displayed on any monitor with an HDMI input and a resolution of 1920 x 1080 pixels (full HD)
- The mini-PC is delivered incl. a backup
- IP address will be preset as a static IP address (information required before shipping: IP address / subnet mask / gateway for the mini-PC, IP address / subnet mask / gateway of the UMG)
- After the APP installation, a configuration page (monitor) can be seen on the measurement devices' homepage
- Changing of the limit value settings as well as the scaling of the axes possible here
- The APP installs a standardised display with power and active energy
- The measured values are updated every 2-5 seconds
- The APP will be delivered, encrypted with the serial number of the device (provision of the serial number necessary)

APP MINI-PC remote display
Remote display with load profile and real energy consumption for the current month and last month in comparison



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