CARLO GAVAZZI
Automation Components

WM40 96
WM30 96

Smart Power Quality Analyzer

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Controls

Communication Capabilities

Space Optimization

Inventory Reduction

Application Durability

WM40-96

WM40-96 is the result of a synthesis of the latest in today's cutting edge technology, providing many distinctive features which offer unparalleled benefits to the user.

Most applications require a meter, whereas WM40-96 and WM30-96 are meters for most applications:

- Complex cost and power analysis
- Cost and power quality analysis
- Advanced energy and power analysis for power generation and solar applications

Smart Power Quality analyzers

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Carlo Gavazzi has improved its range of modular power analyzers by introducing the WM40-96 and WM30-96 Series Smart Power Analyzer. These instruments are the result of over ten years experience in designing, manufacturing and selling Power analysers and Energy Meters.
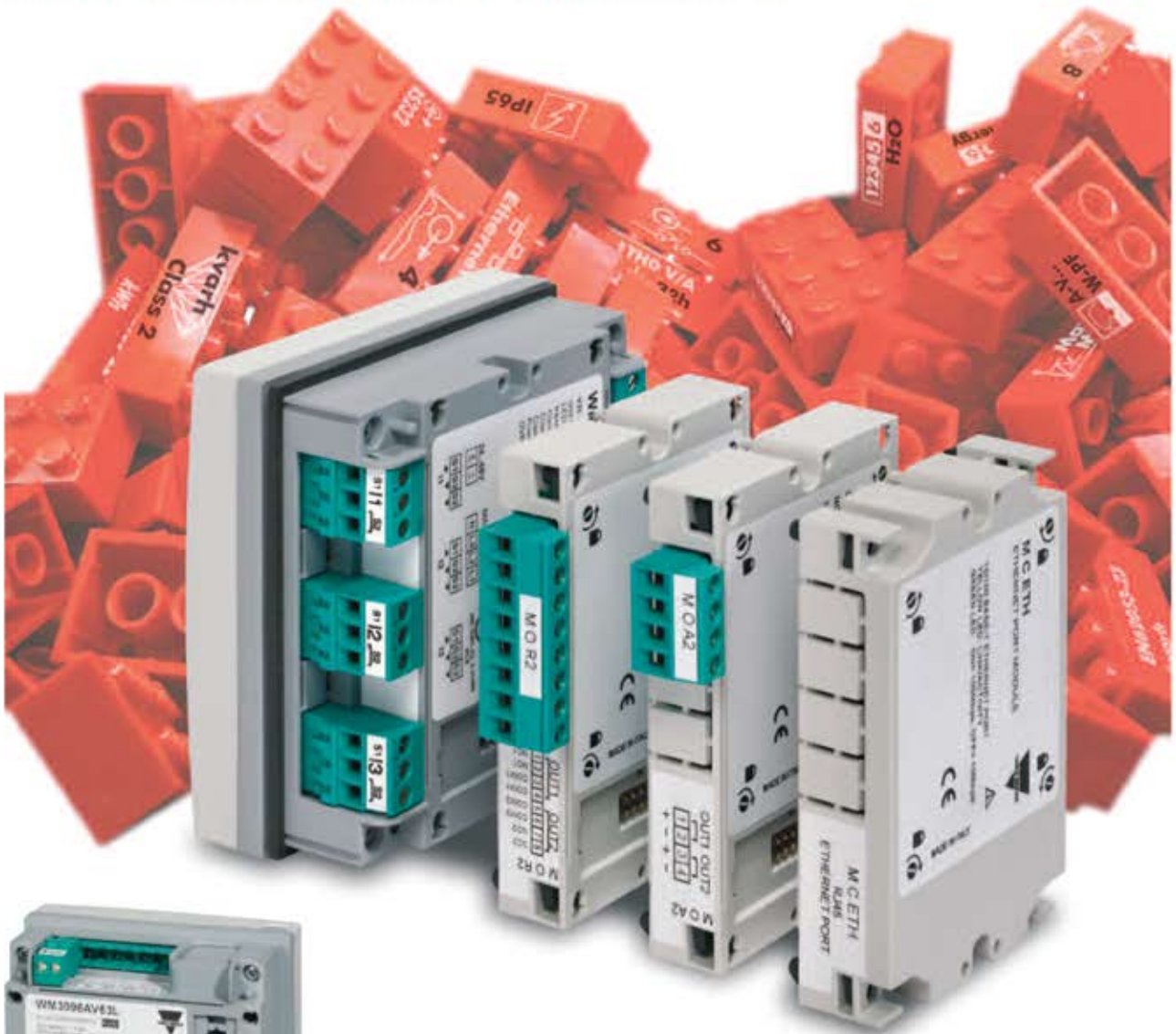
WM30-96

WM30-96 is an innovative device providing, with its distinguishing features and smart functions, application-oriented solutions to the user.

- Cost allocation
- Cost control
- Complex cost allocation

Make your own instrument: build up its features!

- The use of the latest in component technology offers the benefit of 70% less behind panel space when compared to most products available on the market.
- The development of flat "plug and play" modules based on a sandwich concept provides better space utilization, adding all the benefits of a modular analyzer being easily and quickly adaptable to both the measurement and control needs of the application.
- Easy and safe connection among the optional modules.

The modules advantages simplifies the mounting procedure

- LED's to check the status of the communication port.
- Anti-tamper feature, all the module can be sealed to the box.

- Detachable connectors for a simplified wiring.

Advantages

WM30/40-96 Display and Touch Pad

- All necessary information is available at a glance on the home screen, which is configurable by the user.
- Actual power vs. installed power is available all the time to have immediate evidence of a power overload condition.
- High energy metering resolution together with ten digits total energy counting, providing the ideal solution for medium and high voltage applications.
- An innovative front touchpad is a significant improvement over the commonly used membrane push buttons. It allow the user to easily enter into one of the four main variable areas: energy metering, variable reading, power and harmonic analysis.

WM40-96 Optical Port and Meters

- An ANSI type 2 optical port is available as a standard on the front, allowing to communicate with a PC or a laptop in easy and fast way.
- Simple connection with the unit without opening the panel door in order to read or modify its programming parameters or to download the stored data and information.
- The level of each single phase displayed variable is immediately evident by the bar-graphs which, by means of 3-colour LED's, provide an intuitive picture of the variable values compared with programmable full-scale.
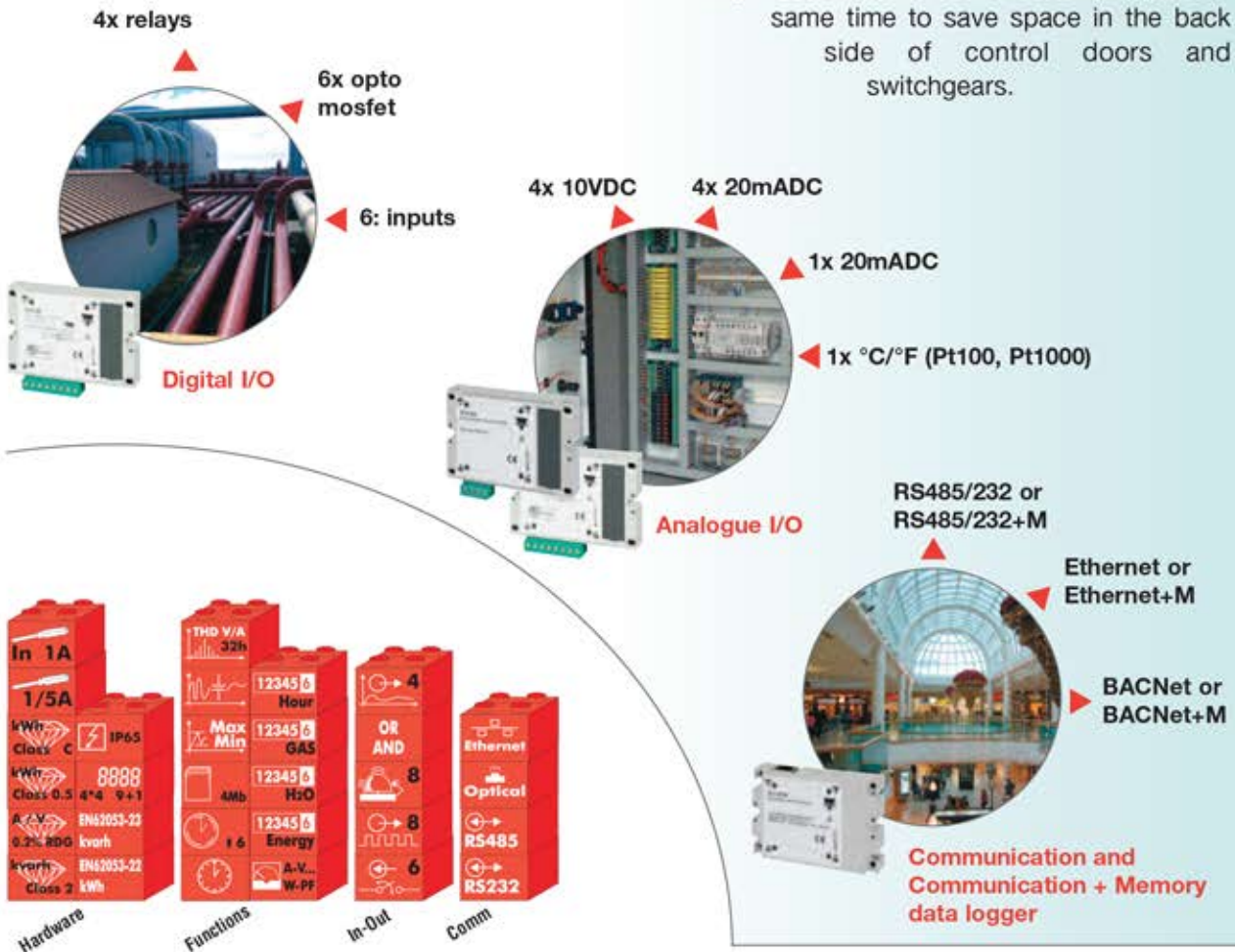
Advanced display backlight

- The white backlight and wide viewing angle assure good visibility of the data.
- 3 possible backlight selection (white and blue colours or no backlight).
- White and blue alternating backlight to let the alarm be visible for away from the instrument.

WM40-96 Some Features

- Energy measurements according to EN62053-22 (class 0.5) and ANSI C12.20, CA 0.5, ANSI C12.1 (revenue grade)
- Accuracy ±0.2% RDG (current/voltage)
- System variables: V_{LL}, V_{LN}, A, VA, W, var, PF, Hz, Phase sequence, asymmetry, loss
- Single phase variables: V_{LL}, V_{LN}, AL, An (calculated), VA, W, var, PF
- 4Mb memory for data event stamping and load profiling (optional)
- Freely configurable virtual alarms with OR/AND logic (optional)
- Modbus RTU (available also via ANSI type 2 optical port), Modbus TCP and BACnet-IP ports (optional)
- Universal power supply

WM40-96 Modules advantages: with its innovative basic unit and plug in modules, WM40-96 can adapt itself to any possible application need, allowing at the same time to save space in the back side of control doors and switchgears.

4x relays

6x opto mosfet

6: inputs

Digital I/O

4x 10VDC

4x 20mADC

1x 20mADC

1x °C/°F (Pt100, Pt1000)

Analogue I/O

RS485/232 or RS485/232+M

Ethernet or Ethernet+M

BACNet or BACNet+M

Communication and Communication + Memory data logger

In 1A
1/5A
kWh Class C
kWh Class 0.5
A-V 0.2% RDG
kvarh Class 2

IP65
8888
EN62053-22 kvarh
EN62053-22 kWh

Hardware

THD V/A 32h
123456 Hour
Max Min
123456 GAS
4Mb
123456 H2O
t 6
123456 Energy
A-V... W-PF

Functions

OR AND
4
8
8
6

In-Out

Ethernet
Optical
RS485
RS232

Comm

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WM30-96 Some Features

- Energy measurements according to EN62053-22 (class 0.5) and ANSI C12.20, CA 0.5, ANSI C12.1 (revenue grade)
- Accuracy ±0.2% RDG (current/voltage)
- System variables: V_{LL}, V_{LN}, A, VA, W, var, PF, Hz, Phase sequence, asymmetry, loss
- Single phase variables: V_{LL}, V_{LN}, AL, An (calculated), VA, W, var, PF
- Harmonic analysis (FFT) up to the 32 harmonic.
- Application adaptable display and programming procedure (Easy prog. function)
- Modbus RTU, Modbus TCP and BACnet-IP ports (optional)
- Universal power supply

WM30-96 Modules advantages: thanks to its plug in modules that can be easily added to the streamlined modules basic unit to exactly fit the customer requirements, WM30-96 becomes an extremely flexible solution that can be used in a countless numbers of applications.

2x relays

2x opto mosfet

Digital Outputs

2x 10VDC

2x 20mADC

Analogue Outs

RS485/232

Ethernet

BACNet

Communication

Hardware

Functions

In-Out
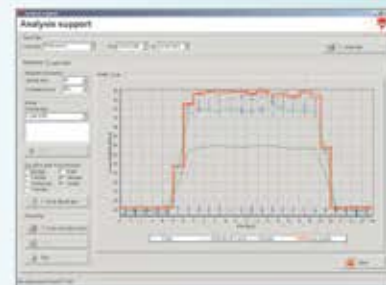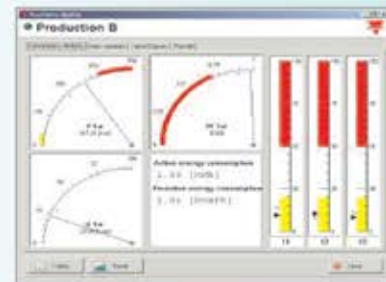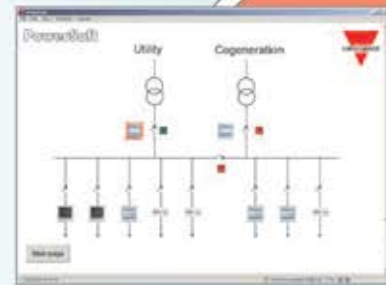
Comm

PowerSoft

PowerSoft Energy Management software offers more power and functionality to the WM40-96 and WM30-96, providing the application with the following features:

- **Interactive synoptic:** showing the exact position and the purpose of the meters in the installation.
- **Real time measurements:** displaying the basic variables such as analogue and bargraph type indications.
- **Trends:** displaying the selected variables by comparing them to another one, to further understand their behaviour over time.
- **Cost management:** estimating your energy consumption costs over a time period and by tariff.
- **Statistical analysis:** providing a very powerful statistical analysis tool of your power and energy usage, which lets you negotiate a better utility rate.
- **Alarms and events:** all variables and events can be time stamped.
- **Internet connectivity:** providing the main variables via integration to a web server. This can send out warning emails as any alarm condition occurs.

The accessories that complete the WM40-96 solutions

OPTOUSB1

OPTOUSB1 is the ANSI type 2 probe to interface WM40-96 optical port utilizing infra-red light. Connected to a PC through its USB standard "A" plug (USB1.1 and USB 2.0 compliant) it permits galvanic isolated communication to WM40, for reading or programming parameters through the dedicated software Wm40Soft, maintaining at the same time on IP65 front. Virtual serial port drivers are included for operating systems up to Windows 7.

Function and Features

Compare and refine your choice

The main differences between the two analysers

Function and Features	WM40	WM30
Class 0.5 (kWh) according to EN62053-22	●	●
Class C (kWh) according to EN50470-3	●	●
Class 2 (kvarh) according to EN62053-23	●	●
Energy measurements acc. to ANSI C12.20, CA 0.5, ANSI C12.1 (revenue grade)	●	●
Accuracy ±0.2% RDG (current/voltage)	●	●
Instantaneous variables readout: 4x4 DGT	●	●
Energies readout: 9+1 DGT	●	●
System variables: VLL, VLN, A, VA, W, var, PF, Hz, phase-sequence, asymmetry and loss	●	●
Single phase variables: VLL, VLN, AL, An (calculated) VA, W, var, PF	●	●
Average and max values of all the system and single-phase variables	●	●
Average, min and max values of all the system and single-phase variables	●	
Direct neutral current measurement (on request)	●	
Four quadrant energy measurements	●	
Total harmonic distortion (THD) and total demand distortion (TDD) calculation	●	
Gas, cold water, hot water, remote heating measurements (on request)	●	
K-factor (North America) and factor K (Europe) calculation	●	
Harmonic analysis (FFT) up to the 32nd h. with harmonics source detection	●	●
Run hours counter (8+2 DGT)	●	●
Real time clock function	●	●
Application adaptable display and programming procedure (Easyprog function)	●	●
Universal power supply (19 to 60VAC, 21.6 to 60VDC and 90 to 265VAC/VDC)	●	●
RS232 or RS485 port	●	●
MODBUS TCP/IP Ethernet port	●	●
BACnet-IP over Ethernet port	●	●
Data stamping of up to 10,000 events	●	
Optical front communication port (ANSI type 2)	●	
Programming software	●	
AND/OR logic on virtual alarm	●	
Digital inputs	6	
Static outputs	8	
Relay outputs	6	2
Freely configurable virtual alarms	16	4
Analogue outputs (+20mA, +10VDC)	4	2

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8028175 BRO WM30/VWM40-96 ENG 05/10
Specifications are subject to change without notice. Pictures are just an example.

CARLO GAVAZZI
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Further information on
www.gavazziautomation.com - www.carlogavazzi.com

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