# WM Series Comparison Chart

| WM20 | WM30 | WM40 |
|------|------|------|
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## Main Similarities

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| 1/4 DIN (96 x 96mm), modular devices with measurement precision of 0.2% (voltage, current) and Class 0.5S (active energy) |
| All three devices measure most of the relevant variables (with a few exceptions listed below). |
| The four quadrants of energy metering: +kWh, -kWh, +kvar, -kvar |
| They all have the same voltage and current input ratings, as well as the same agency approvals and environmental specifications |
| Optical port and new functionality will be added to WM30 in late 2017 / early 2018 |
| Supported by **Universal Configuration Software** and **VMUC data logger** platform |

## Main Differences

| | Power Analyzer | Power Quality Analyzers | |
|---|---|---|---|
| | | *If a customer needs a DIN rail meter or transducer, look at the EM24, CPT-DIN or EM27xx platforms* | |
| **The Applications** | If a precise energy meter is needed for metering or submetering applications with output and communication options that are listed above, the WM20 with expansion modules is the answer. | If a customer needs a front panel mounted energy meter with either analog output or Ethernet I/P communication, we recommend the WM30 with appropriate modules. | If a customer needs a meter with imbedded data logging, or with pulse inputs or with advanced power quality measurements such as TDD or K factor, we recommend the WM40 with correct modules. |
| **The Function** | Panel mountable, 1/4 DIN energy meter with instantaneous variables measurements, alarm outputs and most popular communication options. | Same as WM20 plus more comprehensive display, options for analog output and higher level communication protocol. | Same as WM20 and 30 plus options for imbedded data logging, external pulse counting and more advanced power quality measurements |
| | Data logging can be done by external VMUC data logger only. | | Option for internal data logging of instantaneous variables and load profile with time stamping. |
| **The Display** | Simplified 3 x 4 for instantaneous variables, 1 x 8.2 energy counter | 4x 4 for instantaneous variables, 1 x 8.2 energy counter, and analog indicator | |
| | White backlit LCD | White backlit LCD | White or blue backlit LCD |
| | kwh LED | kWh and alarm(s) LEDs | kWh, alarm(s) and analog indication LEDs |
| | Simplified interface with four buttons | 8 Buttons interface | |
| | Manual scrolling between pages of information or rotating pages function) | Manual scrolling between pages of information | |
| **The Modularity** | Can have up to two of the following expansion modules connected: | Can have up to three of the following expansion modules connected: | |
| | MOO2 - Dual transistor output | Same as WM20 plus: | Same as WM20 and WM30 plus: |
| | MOR2 - Dual EM relay output | MOA2 - Dual 0-20mA output | MFI6R4 - six pulse inputs, four relay outputs |
| | MC485232 - Modbus RTU, RS485/232 | MOV2 - Dual 0-10VDC output | MFI6O6 - six pulse inputs, six transistor outputs |
| | MCETH - Modbus TCP/IP, Modbus over Ethernet | MCEIP - Ethernet I/P | MATP - temperature plus process signal measurement |
| | MCBACMS - BACnet MS/TP over RS485 | | MATPN - temperature, process signal and neutral current measurements |
| | MCBACIP - BACnet IP over Ethernet | | Most of the modules are also available with M suffix, which adds internal data logging |
| | MCPB - Profibus TP over RS485 | | |
| **The Measurements** | Single phase variables: VLL, VLN, AL, , VA, W, var, PF, THD V L-L, THD V L-N, THD A | Same as WM20 | Same as WM20 and WM30 |
| | System variables: V L-L, V L-N, A, VA, W, var, Hz, PF, calculated neutral current, phase sequence | Same as WM20 | Same as WM20 and WM30, plus option for measured neutral current, process signal and temperature. |
| | Average and max calculation of active, reactive and apparent power only. | Same as WM20 plus average and maximum of all other instantaneous variables. | Same as WM20 and WM30 plus mininum values of single and system variables |
| | Current and voltage THD (up to 32nd harmonic) | Same as WM20 | same as WM20 and WM30 plus TDD and K-factor |
| | Energy measurements (imported/exported): Total kWh and kvarh; partial kWh and kvarh (only via serial communication) | Same as WM20 plus partial energy counters are also available on the display. | Same as WM20 and WM30 plus support for time based tariffs (24 additional energy counter) and three pulse counters |