

# WM Series Comparison Chart



## Main Similarities

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
Universal Configuration Software and VMUC data logger compatibility

## Main Differences

	Power Analyzer	Power Quality Analyzers	
<b>The Applications</b>	<i>If a customer needs a DIN rail meter or transducer, look at the EM24, CPT-DIN or EM27xx platforms</i>		
<b>The Function</b>	If a precise energy meter is needed for metering or submetering applications with output and communication options that are listed below, the WM20 with expansion modules is the answer.	If a customer needs a front panel mounted energy meter with either analog output or Ethernet/IP 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.
<b>The Display</b>	Simplified 3 x 4 for instantaneous variables, 1 x 8.2 energy counter White backlit LCD kWh LED Simplified interface with four buttons Manual or automatic scrolling between measurement pages.	4x 4 for instantaneous variables, 1 x 8.2 energy counter, and analog indicator White or blue backlit LCD kWh and alarm(s) LEDs kWh, alarm(s) and analog indication LEDs Eight button touch pad interface Manual scrolling between measurement pages.	
<b>The Modularity</b>	Can have up to two of the following expansion modules connected: MOO2 - Dual transistor output MOR2 - Dual EM relay output MC485232 - Modbus RTU, RS485/232 MCETH - Modbus TCP/IP, Modbus over Ethernet MCBACMS - BACnet MS/TP over RS485 MCBACIP - BACnet IP over Ethernet MCPB - Profibus DP/V0	Can have up to three of the following expansion modules connected: Same as WM20 plus: MOA2 - Dual 0-20mA output MOV2 - Dual 0-10VDC output MCEIP - Ethernet/IP Same as WM20 and WM30 plus: MFI6R4 - six pulse inputs, four relay outputs MFI6O6 - six pulse inputs, six transistor outputs MATP - temperature plus process signal measurement MATPN - temperature, process signal and neutral current measurements Most of the modules are also available with M suffix, which adds internal data logging	
<b>The Measurements</b>	Single phase variables: VLL, VLN, AL, VA, W, var, PF, THD V L-L, THD V L-N, THD A System variables: V L-L, V L-N, A, VA, W, var, Hz, PF, calculated neutral current, phase sequence Average and max calculation of active, reactive and apparent power only. Current and voltage THD (up to 32nd harmonic) Energy measurements (imported/exported): Total kWh and kvarh; partial kWh and kvarh (only via serial communication)	Same as WM20 Same as WM20 Same as WM20 plus average and maximum of all other instantaneous variables. Same as WM20 Same as WM20 and WM30 plus minimum and maximum average values Same as WM20 and WM30 plus TDD and K-factor Same as WM20 and WM30 plus support for time based tariffs (24 additional energy counters) and three pulse counters	