



# Modbus Registers Map

# QA-POWER-M

Register Name	Comment	Register Type	R/W	Default Value	Range	Modbus Address
<b>Machine ID</b>	Machine ID (1)	Unsigned short	R	3		<b>40001</b>
<b>FW version</b>	Firmware version (0)	Unsigned short	R			<b>40002</b>
<b>STATUS</b>	Status : bit 0 = fail global, bit 1 = alarm, bit 2 = overrange, bit 3 = underrange, bit 4 = ?, bit 5=dout status, bit 6 = fail hw, bit 7=fail log, bit 8=fail rtc, bit 9=fail eeprom	Unsigned short	R/W		0...65535	<b>40005</b>
<b>Output Value</b>	mV or uA	Unsigned short	R/W		0...20000	<b>40006</b>
<b>Digital Output</b>	bit 0=disabled/enabled	Unsigned short	R/W	0		<b>40007</b>
<b>Dip switch status</b>	bit 0-7=dip switch status, pos 1=bit 7,..., pos 8=bit 0	Unsigned short	R/W			<b>40008</b>
<b>Vrms</b>	Voltage measurement rms (V)	Float (MSW)	R/W		0...10000	<b>40009</b> <b>40010</b>
<b>Irms</b>	Current measurement rms (mA)	Float (MSW)	R/W		0...14000	<b>40011</b> <b>40012</b>
<b>P</b>	Active Power Measurement (W)	Float (MSW)	R			<b>40013</b> <b>40014</b>
<b>Q</b>	Reactive Power Measurement (VAR)	Float (MSW)	R			<b>40015</b> <b>40016</b>
<b>S</b>	Apparent Power Measurement (VA)	Float (MSW)	R			<b>40017</b> <b>40018</b>
<b>Cosφ</b>	Cosφ Measurement	Float (MSW)	R		0...1	<b>40019</b> <b>40020</b>
<b>Frequency</b>	Frequency Measurement (Hz)	Float (MSW)	R			<b>40021</b> <b>40022</b>
<b>THD</b>	THD Measurement	Float (MSW)	R			<b>40023</b> <b>40024</b>
<b>Energy</b>	Totale Energy Measurement (Wh)	Float (MSW)	R/W			<b>40025</b> <b>40026</b>
<b>Energy positive</b>	Only positive Energy Measurement (Wh)	Float (MSW)	R/W			<b>40027</b> <b>40028</b>
<b>Energy negative</b>	Only negative Energy Measurement (Wh)	Float (MSW)	R/W			<b>40029</b> <b>40030</b>
<b>V peak</b>	Instantaneous Voltage Peak (V)	Float (MSW)	R/W			<b>40031</b> <b>40032</b>
<b>I peak</b>	Instantaneous Current Peak (mA)	Float (MSW)	R/W			<b>40033</b> <b>40034</b>
<b>V MAX</b>	Max RMS Voltage (V)	Float (MSW)	R/W			<b>40035</b> <b>40036</b>
<b>V min</b>	Min RMS Voltage (V)	Float (MSW)	R/W			<b>40037</b> <b>40038</b>
<b>I MAX</b>	Max RMS Current (mA)	Float (MSW)	R/W			<b>40039</b> <b>40040</b>
<b>I min</b>	Min RMS Current (mA)	Float (MSW)	R/W			<b>40041</b> <b>40042</b>
<b>P MAX</b>	Max RMS Active Power (W)	Float (MSW)	R/W			<b>40043</b> <b>40044</b>
<b>P min</b>	Min RMS Active Power (W)	Float (MSW)	R/W			<b>40045</b> <b>40046</b>
<b>Q MAX</b>	Max Reactive Power (VAR)	Float (MSW)	R/W			<b>40047</b> <b>40048</b>
<b>Q min</b>	Min Reactive Power (VAR)	Float (MSW)	R/W			<b>40049</b> <b>40050</b>
<b>S MAX</b>	Max Apparent Power (VA)	Float (MSW)	R/W			<b>40051</b> <b>40052</b>
<b>S min</b>	Min Apparent Power (VA)	Float (MSW)	R/W			<b>40053</b> <b>40054</b>
<b>Cosφ MAX</b>	Max Cosφ	Float (MSW)	R/W			<b>40055</b> <b>40056</b>



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Register Name	Comment	Register Type	R/W	Default Value	Range	Modbus Address
<b>Cosp min</b>	Min Cosp	Float (MSW )	R/W			40057
						40058
<b>Frequency MAX</b>	Max Frequency (Hz)	Float (MSW )	R/W			40059
						40060
<b>Frequency min</b>	Min Frequency (Hz)	Float (MSW )	R/W			40061
						40062
<b>THD MAX</b>	Max THD	Float (MSW )	R/W			40063
						40064
<b>THD min</b>	Min THD	Float (MSW )	R/W			40065
						40066
<b>Vavg</b>	V average (V)	Float (MSW )	R			40067
<b>Iavg</b>	I average (mA)	Float (MSW )	R			40068
						40069
<b>Totalizer</b>	Total Pulse Dout	UINT 32 (MSW)	R			40070
						40071
<b>data L</b>	Calibration data L	UINT 16	R			40072
<b>data M</b>	Calibration data M	UINT 16	R			40073
<b>data H</b>	Calibration data H	UINT 16	R			40074
<b>Output Analog mode</b>	bit 0=Voltage/Current, bit 1-4=input Vrms,Irms, Active Power, Reactive Power, Apparent Power, cos (Φ), Frequency, bit 5 = fail ur, bit 6 = fail or, bit 7 = fail hw, bit 8 = fail log, bit 9 = fail rtc, bit 10 = fail eeprom, bit 11 = fail alarm, bit 12-13 = 1 threshold over/1threshold under/2thresholds external/2 thresholds internal , bit 14= Manual mode	UINT 16	R/W	0		40075
<b>Current Ratio</b>	Current Ratio	Float (MSW )	R/W	1		40101
						40102
<b>Output Analog Input Begin Scale</b>	Output Analog Input Begin Scale	Float (MSW )	R/W	0		40103
						40104
<b>Output Analog Input End Scale</b>	Output Analog Input End Scale	Float (MSW )	R/W	300		40105
						40106
<b>Output Analog Begin Scale</b>	Output Analog Begin Scale	UINT 16	R/w	0		40107
<b>Output Analog End Scale</b>	Output Analog End Scale	UINT 16	R/W	10		40108
<b>Delta ENERGY</b>	Delta Energy (Wh) per pulse (50ms)	Float (MSW )	R/W	10		40109
						40110
<b>Digital Output</b>	bit 0=default value, bit 1 = fail ur, bit 2 = fail or, bit 3 = fail hw, bit 4 = fail log, bit 5 = fail rtc, bit 6 = fail eeprom, bit 7 = fail alarm, bit 8-9 = manual/pulse/fail, bit 10=low/high	UINT 16	R/W	0		40111
<b>ALARM LOW</b>	Alarm Low Trip value	Float (MSW )	R/W	0		40112
						40113
<b>ALARM HIGH</b>	Alarm High Trip value	Float (MSW )	R/W	0		40114
						40115
<b>ALARM HYSTERESIS</b>	Alarm Hysteresis value	Float (MSW )	R/W	0		40116
						40117
<b>Modbus Address + Parity + StopBits</b>	MSB modbus address, bit 0-1 = parity none/odd/even, bit 2=stop bits 1/2	UINT 16	R/W	260		40118
<b>Modbus Baudrate</b>	value 0=1200,1=2400,2=4800,3=9600,4=19200,5=38400,6=57600,7=115200	UINT 16	R/W	5		40119
<b>Log Mode</b>	bit 0=disabled/enabled	UINT 16	R/W	0		40120
<b>Log Sample time</b>	Log sample time (s)	UINT 16	R/W	0		40121
<b>Log name</b>	Log name (15caratteri MAX)	UINT 16	R/W			40122
<b>Log name</b>	Log name (15caratteri MAX)	UINT 16	R/W			40123
<b>Log name</b>	Log name (15caratteri MAX)	UINT 16	R/W			40124
<b>Log name</b>	Log name (15caratteri MAX)	UINT 16	R/W			40125
<b>Log name</b>	Log name (15caratteri MAX)	UINT 16	R/W			40126
<b>Log name</b>	Log name (15caratteri MAX)	UINT 16	R/W			40127
<b>Log name</b>	Log name (15caratteri MAX)	UINT 16	R/W			40128
<b>Log name</b>	Log name (15caratteri MAX)	UINT 16	R/W			40129
<b>Log name</b>	Log name (15caratteri MAX)	UINT 16	R/W			40130
<b>RMS Filter</b>	Coeff. Filter RMS (0.99990 – 0.99999)	Float (MSW )	R/W	0,99990		40131
						40132
<b>Average measurement filter</b>	Average measurement filter (0.99990 – 0.99999)	Float (MSW )	R/W	0,9990		40133
						40134





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Register Name	Comment	Register Type	R/W	Default Value	Range	Modbus Address
<b>Cut off Voltage</b>	Cut off Voltage (V)	Float (MSW)	R/W	0		40135
						40136
<b>Cut off Current</b>	Cut off Current (mA)	Float (MSW)	R/W	0		40137
						40138
<b>Cut off P</b>	Cut off P (W)	Float (MSW)	R/W	0		40139
						40140
<b>Vrms SW</b>	Vrms (V)	Float (LSW)	R			40201
						40202
<b>Irms SW</b>	Irms (mA)	Float (LSW)	R			40203
						40204
<b>P SW</b>	Active Power (W)	Float (LSW)	R			40205
						40206
<b>Q SW</b>	Reactive Power (VAR)	Float (LSW)	R			40207
						40208
<b>S SW</b>	Apparent Power (VA)	Float (LSW)	R			40209
						40210
<b>Cosφ SW</b>	Cosφ	Float (LSW)	R			40211
						40212
<b>Frequency SW</b>	Frequency (Hz)	Float (LSW)	R			40213
						40214
<b>THD SW</b>	THD	Float (LSW)	R			40215
						40216
<b>TOTAL ENERGY SW</b>	Total Energy (Wh)	Float (LSW)	R/W			40217
						40218
<b>Positive Energy SW</b>	Positive Energy (Wh)	Float (LSW)	R/W			40219
						40220
<b>Negative Energy SW</b>	Negative Energy (Wh)	Float (LSW)	R/W			40221
						40222
<b>Vpeak SW</b>	Vpk (V)	Float (LSW)	R/W			40223
						40224
<b>Ipeak SW</b>	Ipk (mA)	Float (LSW)	R/W			40225
						40226
<b>Vrms MAX SW</b>	Vrms MAX (V)	Float (LSW)	R/W			40227
						40228
<b>Vrms min SW</b>	Vrms MIN (V)	Float (LSW)	R/W			40229
						40230
<b>Irms MAX SW</b>	Irms MAX (A)	Float (LSW)	R/W			40231
						40232
<b>Irms min SW</b>	Irms MIN (mA)	Float (LSW)	R/W			40233
						40234
<b>P MAX SW</b>	Active Power MAX (W)	Float (LSW)	R/W			40235
						40236
<b>P min SW</b>	Active Power MIN (W)	Float (LSW)	R/W			40237
						40238
<b>Q MAX SW</b>	Reactive Power MAX (VAR)	Float (LSW)	R/W			40239
						40240
<b>Q min SW</b>	Reactive Power MIN (VAR)	Float (LSW)	R/W			40241
						40242
<b>S MAX SW</b>	Apparent Power MAX (VA)	Float (LSW)	R/W			40243
						40244
<b>S min SW</b>	Apparent Power MIN (VA)	Float (LSW)	R/W			40245
						40246
<b>Cosφ MAX SW</b>	Cosφ MAX	Float (LSW)	R/W			40247
						40248
<b>Cosφ min SW</b>	Cosφ min	Float (LSW)	R/W			40249
						40250
<b>Frequency MAX SW</b>	Frequency MAX (Hz)	Float (LSW)	R/W			40251
						40252
<b>Frequency MIN SW</b>	Frequency MIN (Hz)	Float (LSW)	R/W			40253
						40254

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Register Name	Comment	Register Type	R/W	Default Value	Range	Modbus Address
<b>THD MAX SW</b>	THD MAX	Float (LSW)	R/W			40255
						40256
<b>THD min SW</b>	THD MIN	Float (LSW)	R/W			40257
						40258
<b>Vrms x 100</b>	Vrms (V) x 100	SIGNED LONG(MSW)	R			40301
						40302
<b>Irms x 100</b>	Irms (mA) x 100	SIGNED LONG(MSW)	R			40303
						40304
<b>P x 100</b>	Active Power (W) x 100	SIGNED LONG(MSW)	R			40305
						40306
<b>Q x 100</b>	Reactive Power (VAR) x 100	SIGNED LONG(MSW)	R			40307
						40308
<b>S x 100</b>	Apparent Power (VA) x 100	SIGNED LONG(MSW)	R			40309
						40310
<b>Cosp x 100</b>	Cosp x 100	SIGNED LONG(MSW)	R			40311
						40312
<b>Frequency x 100</b>	Frequency (Hz) x 100	SIGNED LONG(MSW)	R			40313
						40314
<b>THD x 100</b>	THD x 100	SIGNED LONG(MSW)	R			40315
						40316
<b>ENERGY x 100</b>	Energy (Wh) x 100	SIGNED LONG(MSW)	R/W			40317
						40318
<b>Positive Energy x 100</b>	Positive Energy (Wh) x 100	SIGNED LONG(MSW)	R/W			40319
						40320
<b>Negative Energy x 100</b>	Negative Energy (Wh) x 100	SIGNED LONG(MSW)	R/W			40321
						40322
<b>V peak x 100</b>	Vpk (V) x 100	SIGNED LONG(MSW)	R/W			40323
						40324
<b>I peak x 100</b>	Ipk (mA) x 100	SIGNED LONG(MSW)	R/W			40325
						40326
<b>Vrms MAX x 100</b>	Vrms MAX (V) x 100	SIGNED LONG(MSW)	R/W			40327
						40328
<b>Vrms min x 100</b>	Vrms MIN (V) x 100	SIGNED LONG(MSW)	R/W			40329
						40330
<b>Irms MAX x 100</b>	Irms MAX (mA) x 100	SIGNED LONG(MSW)	R/W			40331
						40332
<b>Irms min x 100</b>	Irms MIN (mA) x 100	SIGNED LONG(MSW)	R/W			40333
						40334
<b>P MAX x 100</b>	Active Power MAX (W) x 100	SIGNED LONG(MSW)	R/W			40335
						40336
<b>P min x 100</b>	Active Power MIN (W) x 100	SIGNED LONG(MSW)	R/W			40337
						40338
<b>Q MAX x 100</b>	Reactive Power MAX (VAR) x 100	SIGNED LONG(MSW)	R/W			40339
						40340
<b>Q min x 100</b>	Reactive Power MIN (VAR) x 100	SIGNED LONG(MSW)	R/W			40341
						40342
<b>S MAX x 100</b>	Apparent Power MAX (VA) x 100	SIGNED LONG(MSW)	R/W			40343
						40344
<b>S min x 100</b>	Apparent Power MIN (VA) x 100	SIGNED LONG(MSW)	R/W			40345
						40346
<b>Cosp MAX x 100</b>	Cosp MAX x 100	SIGNED LONG(MSW)	R/W			40347
						40348
<b>Cosp min x 100</b>	Cosp MIN x 100	SIGNED LONG(MSW)	R/W			40349
						40350
<b>Frequency MAX x 100</b>	Frequency MAX (Hz) x 100	SIGNED LONG(MSW)	R/W			40351
						40352
<b>Frequency min x 100</b>	Frequency MIN (Hz) x 100	SIGNED LONG(MSW)	R/W			40353
						40354



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Register Name	Comment	Register Type	R/W	Default Value	Range	Modbus Address
THD MAX x 100	THD MAX x 100	SIGNED LONG(MSW)	R/W			40355
						40356
THD min x 100	THD MIN x 100	SIGNED LONG(MSW)	R/W			40357
						40358
RTC YEAR	RTC : year (2000-2099)	UINT16	R/W			41001
RTC MONTH	RTC : month (1-12)	UINT16	R/W			41002
RTC DAY	RTC : day month (1-31)	UINT16	R/W			41003
RTC HOUR	RTC : hour (0-23)	UINT16	R/W			41004
RTC MINUTE	RTC : minute (0-59)	UINT16	R/W			41005
RTC SEC	RTC : second (0-59)	UINT16	R/W			41006

**REMARKS:**

- Modbus connections: A+ and B- as per Modbus RTU standards;
- Modbus Register reference: with reference to the logical address, for ex. 40010, corresponds to physical address n°9 as per Modbus RTU standard;
- Dip Switch Settings: the setting is not enabled if the first sixth dip-switches are set to 000000, the rest of dip-switch are disabled. All settings coming from EEPROM.
- Modbus functions supported: 3 (Read multiple registers), 6 (Write single), 16 (Write multiple).
- **Any changes made by dip-switch required to switch off the power supply**

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