MODBUS REGISTER MAP_FW ≥ 37 — QI-POWER-485

ADDRESS LIST BASE 1 (40001)
MICROPROCESSOR'S REGISTERS BASE 0 (0000)
EXAMPLE _ to read register 40003 (address device = 1)
Tx: <01> <03> <00> <02> <00> <01> <25> <CA>

Register Name	Comment	Register Type	R/W	Default Value	Range	Modbus Address
Machine ID	QI-POWER-485 (**7**), QI-POWER-485-LV (**19**), QI-POWER-485-300 (**18**), QI-POWER-485-300-LV (**22**), QI-POWER-485-100 (**48**), QI-POWER-485-100-LV (**49**)	Unsigned short	R			**40001**
Firmware Version	Firmware version	Unsigned short	R	0		**40002**
Address	Modbus address	Unsigned short	R/W	1		**40003**
Delay	Machine answer delay (in characters)	Unsigned short	R/W	1	**1…1000**	**40004**
Baudrate	0=1200, 1=2400, 2=4800, 3=9600, 4=19200, 5=38400,6=57600, 7=115200	Unsigned short	R/W	1	**0…7**	**40005**
Parity	0=NO, 1=ODD, 2=EVEN	Unsigned short	R/W	0	**0…2**	**40006**
DC Filter	Number of tenths of second (1/10) for all RMS calculation in DC	Unsigned short	R/W	10	**1…65535**	**40007**
Flag Measurement	**bit 0** :[0= TRMS value (without sign); 1 = DC_measurement (with sign)]; **bit 1** :[0= Energy storing disable; 1= Energy storing enable]; **bit 2** :[0= Frequency detect on Voltage channel; 1= Frequency detect on Current channel].	Unsigned short	R/W	2		**40008**
TV_Ratio	Voltage trasnformer ratio	Float (LSW first)	R/W	1.0		**40009** **40010**
TA_Ratio	Current transformer ratio	Float (LSW first	R/W	1.0		**40011** **40012**
Current and Power CUT OFF (*)	**LSB: Current cutoff** in steps of 4mA for QI-POWER-485 and QI-POWER-485-LV (**default 0x7D=500mA**), in steps of 40mA for QI-POWER-485-300, QI-POWER-485-300-LV, QI-POWER-485-100 and QI-POWER-485-100-LV (**default 0x4B=3000mA**). **MSB: Power cutoff** in steps of 4W for QI-POWER-485 and QI-POWER-485-LV (**default 0x01=4W**), in steps of 40W for QI-POWER-485-300, QI-POWER-485-300-LV, QI-POWER-485-100 and QI-POWER-485-100-LV (**default 0x01=40W**)	Unsigned short	R/W	See comments in bold		**40013**
# of ZX for VI measurement	Number of ZX for_AC Meas Number of line cycle Zero Crossings for AC measurement RMS.	Unsigned short	R/W	50	**1…65535**	**40014**
STATUS	**bit 0**: flash settings error; **bit 1**: flash calibration error; **bit 2**: Voltage Over Range; **bit 3**: Voltage Under Range; **bit [4:5]** don't care; **bit 6**: Zero crossing detecting; **bit [7:9]** don't care; **bit 10**: Energy storing error; **bit 11**: Energy initialization error; **bit 12**: don't care; **bit 13**: Current Over Range; **bit 14**: Current Under Range; **bit 15**: don't care.	Unsigned short	R	0		**40072**
V RMS	Voltage RMS Measurement (V)	Float (LSW first)	R			**40073** **40074**
I RMS	Current RMS Measurement (Ma)	Float (LSW first)	R			**40075** **40076**
P	Active Power Measurement (W)	Float (LSW first)	R			**40077** **40078**
Q	Reactive Power Measurement (VAR)	Float (LSW first)	R			**40079** **40080**
S	Apparent Power Measurement (VA)	Float (LSW first)	R			**40081** **40082**
Cosφ	Cosφ Measurement	Float (LSW first)	R			**40083** **40084**
Frequency	Frequency Measurement (Hz)	Float (LSW first)	R			**40085** **40086**
THD	THD Measurement	Float (LSW first)	R			**40087** **40088**
Energy	Total Energy Measurement (kWh)	Float (LSW first)	R			**40089** **40090**
Energy positive	Only positive Energy Measurement (kWh)	Float (LSW first)	R			**40091** **40092**
Energy negative	Only negative Energy Measurement (kWh)	Float (LSW first)	R			**40093** **40094**
V peak	Instantaneous Voltage Peak (V)	Float (LSW first)	R/W			**40095** **40096**
I peak	Instantaneous Current Peak (mA)	Float (LSW first)	R/W			**40097** **40098**
V MAX	Max RMS Voltage (V)	Float (LSW first)	R/W			**40099** **40100**
V min	Min RMS Voltage (V)	Float (LSW first)	R/W			**40101** **40102**
I MAX	Max RMS Current (mA)	Float (LSW first)	R/W			**40103** **40104**
I min	Min RMS Current (mA)	Float (LSW first)	R/W			**40105** **40106**

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Register Name	Comment	Register Type	R/W	Default Value	Range	Modbus Address
P MAX	Max RMS Power (W)	Float (LSW first)	R/W			40107 40108
P min	Min RMS Power (W)	Float (LSW first)	R/W			40109 40110
Q MAX	Max Reactive Power (VAR)	Float (LSW first)	R/W			40111 40112
Q min	Min Reactive Power (VAR)	Float (LSW first)	R/W			40113 40114
S MAX	Max Apparent Power (W)	Float (LSW first)	R/W			40115 40116
S min	Min Apparent Power (W)	Float (LSW first)	R/W			40117 40118
Cosφ MAX	Max Cosφ	Float (LSW first)	R/W			40119 40120
Cosφ min	Min Cosφ	Float (LSW first)	R/W			40121 40122
Frequency MAX	Max Frequency (Hz)	Float (LSW first)	R/W			40123 40124
Frequency min	Min Frequency (Hz)	Float (LSW first)	R/W			40125 40126
THD MAX	Max THD	Float (LSW first)	R/W			40127 40128
THD min	Min THD	Float (LSW first)	R/W			40129 40130
STATUS SW	**bit 0**: flash settings error; **bit 1**: flash calibration error; **bit 2**: Voltage Over Range; **bit 3**: Voltage Under Range; **bit [4:5]** don't care; **bit 6**: Zero crossing detecting; **bit [7:9]** don't care; **bit 10**: Energy storing error; **bit 11**: Energy initialization error; **bit 12**: don't care; **bit 13**: Current Over Range; **bit 14**: Current Under Range;**bit 15**: don't care.	Unsigned short	R			40132
V RMS SW	Voltage RMS measurement (V) swapped	Float (MSW first)	R			40133 40134
I RMS SW	Current RMS measurement (mA) swapped	Float (MSW first)	R			40135 40136
P SW	Power measurement (W) swapped	Float (MSW first)	R			40137 40138
Q SW	Reactive Power measurement Q (VAR) swapped	Float (MSW first)	R			40139 40140
S SW	Apparent Power measurement S (VA) swapped	Float (MSW first)	R			40141 40142
Cosφ SW	Cosφ measurement swapped	Float (MSW first)	R			40143 40144
Frequency SW	Frequency measurement (Hz) swapped	Float (MSW first)	R			40145 40146
THD SW	THD swapped	Float (MSW first)	R			40147 40148
Energy SW	Total Energy measurement (kWh) swapped	Float (MSW first)	R			40149 40150
Energy positive SW	Only positive Energy Measurement (kWh) swapped	Float (MSW first)	R			40151 40152
Energy negative SW	Only negative Energy Measurement (kWh) swapped	Float (MSW first)	R			40153 40154
V peak SW	Instantaneous Voltage Peak (V) swapped	Float (MSW first)	R/W			40155 40156
I peak SW	Instantaneous Current Peak (mA) swapped	Float (MSW first)	R/W			40157 40158
V MAX SW	Max RMS Voltage (V) swapped	Float (MSW first)	R/W			40159 40160
V min SW	Min RMS Voltage (V) swapped	Float (MSW first)	R/W			40161 40162
I MAX SW	Max RMS Current (mA) swapped	Float (MSW first)	R/W			40163 40164
I min SW	Min RMS Current (mA) swapped	Float (MSW first)	R/W			40165 40166

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Register Name	Comment	Register Type	R/W	Default Value	Range	Modbus Address
P MAX SW	Max RMS Power (W) swapped	Float (MSW first)	R/W			40167 40168
P min SW	Min RMS Power (W) swapped	Float (MSW first)	R/W			40169 40170
Q MAX SW	Max Reactive Power (VAR) swapped	Float (MSW first)	R/W			40171 40172
Q min SW	Min Reactive Power (VAR) swapped	Float (MSW first)	R/W			40173 40174
S MAX SW	Max Apparent Power (W) swapped	Float (MSW first)	R/W			40175 40176
S min SW	Min Apparent Power (W) swapped	Float (MSW first)	R/W			40177 40178
Cosφ MAX SW	Max Cosφ swapped	Float (MSW first)	R/W			40179 40180
Cosφ min SW	Min Cosφ swapped	Float (MSW first)	R/W			40181 40182
Frequency MAX SW	Max Frequency (Hz) swapped	Float (MSW first)	R/W			40183 40184
Frequency min SW	Min Frequency (Hz) swapped	Float (MSW first)	R/W			40185 40186
THD MAX SW	Max THD swapped	Float (MSW first)	R/W			40187 40188
THD min SW	Min THD swapped	Float (MSW first)	R/W			40189 40190
STATUS 100	**bit 0**: flash settings error; **bit 1**: flash calibration error; **bit 2**: Voltage Over Range; **bit 3**: Voltage Under Range; **bit [4:5]** don't care; **bit 6**: Zero crossing detecting; **bit [7:9]** don't care; **bit 10**: Energy storing error; **bit 11**: Energy initialization error; **bit 12**: don't care; **bit 13**: Current Over Range; **bit 14**: Current Under Range;**bit 15**: don't care.	Unsigned short	R			40192
V RMS 100	Voltage RMS measurement (V/100) in hundredths	Signed long (LSW first)	R			40193 40194
I RMS 100	Current RMS measurement (mA/100) in hundredths	Signed long (LSW first)	R			40195 40196
P 100	Power measurement (W/100) in hundredths	Signed long (LSW first)	R			40197 40198
Q 100	Reactive Power measurement Q (VAR/100) in hundredths	Signed long (LSW first)	R			40199 40200
S 100	Apparent Power measurement S (VA/100) in hundredths	Signed long (LSW first)	R			40201 40202
Cosφ 100	Cosφ measurement in hundredths	Signed long (LSW first)	R			40203 40204
Frequency 100	Frequency measurement (Hz/100) in hundredths	Signed long (LSW first)	R			40205 40206
THD 100	THD in hundredths	Signed long (LSW first)	R			40207 40208
Energy 100	Total Energy measurement (KWh) swapped	Signed long (LSW first)	R			40209 40210
Energy positive 100	Only positive Energy Measurement (kWh/100) in hundredths	Signed long (LSW first)	R			40211 40212
Energy negative 100	Only negative Energy Measurement (kWh/100) in hundredths	Signed long (LSW first)	R			40213 40214
V peak 100	Instantaneous Voltage Peak (V/100) in hundredths	Signed long (LSW first)	R/W			40215 40216
I peak 100	Instantaneous Current Peak (mA/100) in hundredths	Signed long (LSW first)	R/W			40217 40218
V MAX 100	Max RMS Voltage (V/100) in hundredths	Signed long (LSW first)	R/W			40219 40220
V min 100	Min RMS Voltage (V/100) in hundredths	Signed long (LSW first)	R/W			40221 40222
I MAX 100	Max RMS Current (mA/100) in hundredths	Signed long (LSW first)	R/W			40223 40224
I min 100	Min RMS Current (mA/100) in hundredths	Signed long (LSW first)	R/W			40225 40226

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Register Name	Comment	Register Type	R/W	Default Value	Range	Modbus Address
P MAX 100	Max RMS Power (W/100) in hundredths	Signed long (LSW first)	R/W			**40227** **40228**
P min 100	Min RMS Power (W/100) in hundredths	Signed long (LSW first)	R/W			**40229** **40230**
Q MAX 100	Max Reactive Power (VAR/100) in hundredths	Signed long (LSW first)	R/W			**40231** **40232**
Q min 100	Min Reactive Power (VAR/100) in hundredths	Signed long (LSW first)	R/W			**40233** **40234**
S MAX 100	Max Apparent Power (W/100) in hundredths	Signed long (LSW first)	R/W			**40235** **40236**
S min 100	Min Apparent Power (W/100) in hundredths	Signed long (LSW first)	R/W			**40237** **40238**
Cosφ MAX 100	Max Cosφ swapped in hundredths	Signed long (LSW first)	R/W			**40239** **40240**
Cosφ min 100	Min Cosφ swapped in hundredths	Signed long (LSW first)	R/W			**40241** **40242**
Frequency MAX 100	Max Frequency (Hz/100) in hundredths	Signed long (LSW first)	R/W			**40243** **40244**
Frequency min 100	Min Frequency (Hz/100) in hundredths	Signed long (LSW first)	R/W			**40245** **40246**
THD MAX 100	Max THD swapped in hundredths	Signed long (LSW first)	R/W			**40247** **40248**
THD min 100	Min THD swapped in hundredths	Signed long (LSW first)	R/W			**40249** **40250**
Command	**Flash settings save command** = 0xC1C0; **Reset command** = 0xC1A0; **Load Energy command** = 0xBABA (energy to load must be written in Command_aux); **Load Positive Energy command** = 0xBABB (positive energy to load must be written in Command_aux); **Load Negative Energy command** = 0xBABC (negative energy to load must be written in Command_aux).	Unsigned short	R/W	0		**40252**
Command aux	Auxiliary Register for Energy Command (see command register)	Float (LSW first)	R/W	0		**40253** **40254**

(*) The LSB and MSB value (between brackets) written into the register 40013 are the default values for current and power cutoff.
The current cutoff set is equivalent to:

- 4x the value written in the register in case of QI-POWER-485 and QI-POWER-485-LV
- 40x the value written in the register in case of QI-POWER-485-300, QI-POWER-485- 300-LV, QI-POWER-485-100 and QI-POWER-485-100-LV.

Similarly applies for the power cutoff.