



MODBUS REGISTER MAP

QE-CURRENT-485



REMARKS:

- Modbus connections: A+ and B-;
- 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: If the first DIP is enabled, settings are taken from the DIP switch. If the first DIP is disabled, all settings come 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**

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	Modbus Address
Machine Id	Machine ID	unsigned short	R	15 or 25	40001
Hardware/Firmware Version	Hardware (MSB) and Firmware (LSB) Revision	unsigned short	R		40002
Address	Modbus address	unsigned short	R/W	1	40003
Delay	Machine answer delay (in characters)	unsigned short	R/W	1	40004
Baudrate	0 → 1200 1 → 2400 2 → 4800 3 → 9600 4 → 19200 5 → 38400 6 → 57600 7 → 115200	unsigned short	R/W	3	40005
Parity	Not used (always none)	unsigned short	R/W	0	40006
Flag Measurement	Bit 0: Ah Saving 0 → Ah disabled 1 → Ah enabled Bit 1..2: Measurement Channel 0 → Input 1A/5A 1 → Input 20 mA/100 mA 2 → Input 1 V 3 → Input 10 V Bit 3: RTD measurement 0 → 2 wire RTD 1 → 3 wire RTD Bit 4: Output Type 0 → Voltage 0-10 V 1 → Current 0-20 mA Bit 5..6: Output measurement retransmitted 0 → IRMS 1 → IAC 2 → IDC 3 → Temperature Bit 7: FFT representation 0 → Absolute 1 → Relative to the I 1 value Bit 8: THD calculation 0 → Only AC components 1 → Including DC components Bit 9..10: Temperature sensor 0 → PT100 1 → NTC 10 KΩ 2 → NTC 100 KΩ 3 → NTC Steinhart-Hart Bit 11..12: Measurement Format (Reg. 40148-40320) 0 → Float (LSW First) 1 → Float (MSW First) 2 → Hundredth (Float * 100) (LSW First) 3 → Hundredth (Float * 100 SW) (MSW First) Bit 13: Integrator condition 0 → Integrator disabled 1 → Integrator enabled (Rogowski input) Bit 14: Output switch initial condition 0 → Closed initial condition 1 → Open initial condition Bit 15: Measurement filtering 0 → Filter disabled 1 → Filter enabled	unsigned short	R/W	16408 (Ah Disabled, Input 1a 5a, Rtd 3 W, Current 0..20mA, I Rms Out, FFT Representation Absolute, Only Ac Components, Pt100, Float Type, Integrator Disabled, Open Init Cond, Filter disabled)	40007

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Register Name	Comment	Register Type	R/W	Default Value	Modbus Address
Led Settings	Set the yellow led (COMM LED) according to the corresponding bit set: Bit: 0 → Fail Eeprom 1 → Input Under-range 2 → Input Over-range 3 → Output Under-range 4 → Output Over-range 5 → RTD Out of the range 6 → RTD Third Wire error	unsigned short	R/W	RTD Third Wire error	40008
Transducer Ratio	If Input 1A/5A, 20mA/100 mA → Current transformer ratio M/N (Ex: TA ratio = 600:5 → transducer ratio = 120; TA ratio = 1000:1 → transducer ratio = 1000) If Input 1V, 10V → 1/Sensitivity [V/A] (Ex: Sensitivity = 100mV/1KA → transducer ratio = 10000; Sensitivity = 4V/400A → transducer ratio = 100)	float (LSW first)	R/W	1	40009
Minimum Current Ripple	Minimum threshold under which the instrument reads 0 independent from the input value	float (LSW first)	R/W	0	40011
Dc Filter	Number of tenth seconds for I RMS value in DC	unsigned short	R/W	10	40013
Ac Filter	Number of zero crossings for I RMS value in AC	unsigned short	R/W	50	40014
Seconds For Mean Rms	Register in seconds (0..30) for RMS average	unsigned short	R/W	0	40015
Seconds For Max Rms	Seconds 1..30 for MAX RMS value. If the register is 0, then the absolute MAX RMS is given	unsigned short	R/W	0	40016
Seconds For Min Rms	Seconds 1..30 for min RMS value. If the register is 0, then the absolute min RMS is given	unsigned short	R/W	0	40017
Seconds For Mean Dc	Register in seconds (0..30) for DC average	unsigned short	R/W	0	40018
Seconds For Max Dc	Seconds 1..30 for MAX DC value. If the register is 0, then the absolute MAX DC is given	unsigned short	R/W	0	40019
Seconds For Min Dc	Seconds 1..30 for min DC value. If the register is 0, then the absolute min DC is given	unsigned short	R/W	0	40020
Seconds For Mean Ac	Register in seconds (0..30) for AC average	unsigned short	R/W	0	40021
Seconds For Max Ac	Seconds 1..30 for MAX AC value. If the register is 0, then the absolute MAX AC is given	unsigned short	R/W	0	40022
Seconds For Min Ac	Seconds 1..30 for min AC value. If the register is 0, then the absolute min AC is given	unsigned short	R/W	0	40023
Alarm Register Start Address	Float value Starting address for alarm (40149 I RMS, 40151 I DC, 40153 I AC, ecc)	unsigned short	R/W	40149	40024
I Start	Current (in A)/temperature (in °C) (see Flag Measurement) which corresponds to Out start	float (LSW first)	R/W	0	40025
Out Start	Output value (in mV o in uA) of the chosen output corresponding to I start	unsigned short	R/W	4000	40027
I Stop	Current (in A)/temperature (in °C) (see Flag Measurement) which corresponds to Out stop	float (LSW first)	R/W	5	40029
Out Stop	Output value (in mV o in uA) of the chosen output corresponding to I stop	unsigned short	R/W	20000	40031
Steinhart Hart A	Coeff Steinhart-Hart A	float (LSW first)	R/W	0	40033
Steinhart Hart B	Coeff Steinhart-Hart B	float (LSW first)	R/W	0	40035
Steinhart Hart C	Coeff Steinhart-Hart C	float (LSW first)	R/W	0	40037
Alarm Trip Value	Alarm Threshold	float (LSW first)	R/W	0	40039
Alarm Hysteresis	Alarm Hysteresis	float (LSW first)	R/W	1	40041
Status	bit 0: flash settings error; Bit 1: flash calibration error; bit 2: Current Over Range; bit 3: Current Under Range; Bit 4: don't care; Bit 5: RTD Open or broken; bit 6: Current Zero crossing detecting; Bit 7: Switch open; Bit 8: RTD third wire error (Resistance > 20 Ω); Bit 9: RTD out of the range (-200 °C .. + 600 °C) bit 10: Ah storing error; Bit 11: Analog Output over range; bit 12: don't care; Bit 13: Alarm detection; bit 14: Analog Output under range; Bit 15: don't care;	unsigned short	R		40147
V I Out	Voltage or current output (in mV o mA)	signed short	R		40148
I Rms	RMS Value [A]	float (LSW first)	R		40149
I Dc	DC value [A]	float (LSW first)	R		40151
I Ac	AC value [A]	float (LSW first)	R		40153
Frequency	Frequency [Hz]	float (LSW first)	R		40155
Crest Factor	Crest Factor	float (LSW first)	R		40157
Thd	Total Harmonic Distortion	float (LSW first)	R		40159





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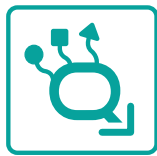
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Register Name	Comment	Register Type	R/W	Default Value	Modbus Address
I 0 Rms	DC Harmonic	float (LSW first)	R		40161
I 1 Rms	1st Harmonic	float (LSW first)	R		40163
I 2 Rms	2nd Harmonic	float (LSW first)	R		40165
I 3 Rms	3rd Harmonic	float (LSW first)	R		40167
I 4 Rms	4th Harmonic	float (LSW first)	R		40169
I 5 Rms	5th Harmonic	float (LSW first)	R		40171
I 6 Rms	6th Harmonic	float (LSW first)	R		40173
I 7 Rms	7th Harmonic	float (LSW first)	R		40175
I 8 Rms	8th Harmonic	float (LSW first)	R		40177
I 9 Rms	9th Harmonic	float (LSW first)	R		40179
I 10 Rms	10th Harmonic	float (LSW first)	R		40181
I 11 Rms	11th Harmonic	float (LSW first)	R		40183
I 12 Rms	12th Harmonic	float (LSW first)	R		40185
I 13 Rms	13th Harmonic	float (LSW first)	R		40187
I 14 Rms	14th Harmonic	float (LSW first)	R		40189
I 15 Rms	15th Harmonic	float (LSW first)	R		40191
I 16 Rms	16th Harmonic	float (LSW first)	R		40193
I 17 Rms	17th Harmonic	float (LSW first)	R		40195
I 18 Rms	18th Harmonic	float (LSW first)	R		40197
I 19 Rms	19th Harmonic	float (LSW first)	R		40199
I 20 Rms	20th Harmonic	float (LSW first)	R		40201
I 21 Rms	21st Harmonic	float (LSW first)	R		40203
I 22 Rms	22nd Harmonic	float (LSW first)	R		40205
I 23 Rms	23rd Harmonic	float (LSW first)	R		40207
I 24 Rms	24th Harmonic	float (LSW first)	R		40209
I 25 Rms	25th Harmonic	float (LSW first)	R		40211
I 26 Rms	26th Harmonic	float (LSW first)	R		40213
I 27 Rms	27th Harmonic	float (LSW first)	R		40215
I 28 Rms	28th Harmonic	float (LSW first)	R		40217
I 29 Rms	29th Harmonic	float (LSW first)	R		40219
I 30 Rms	30th Harmonic	float (LSW first)	R		40221
I 31 Rms	31st Harmonic	float (LSW first)	R		40223
I 32 Rms	32nd Harmonic	float (LSW first)	R		40225
I 33 Rms	33rd Harmonic	float (LSW first)	R		40227
I 34 Rms	34th Harmonic	float (LSW first)	R		40229
I 35 Rms	35th Harmonic	float (LSW first)	R		40231
I 36 Rms	36th Harmonic	float (LSW first)	R		40233
I 37 Rms	37th Harmonic	float (LSW first)	R		40235
I 38 Rms	38th Harmonic	float (LSW first)	R		40237
I 39 Rms	39th Harmonic	float (LSW first)	R		40239
I 40 Rms	40th Harmonic	float (LSW first)	R		40241
I 41 Rms	41st Harmonic	float (LSW first)	R		40243
I 42 Rms	42nd Harmonic	float (LSW first)	R		40245
I 43 Rms	43rd Harmonic	float (LSW first)	R		40247
I 44 Rms	44th Harmonic	float (LSW first)	R		40249
I 45 Rms	45th Harmonic	float (LSW first)	R		40251
I 46 Rms	46th Harmonic	float (LSW first)	R		40253
I 47 Rms	47th Harmonic	float (LSW first)	R		40255
I 48 Rms	48th Harmonic	float (LSW first)	R		40257
I 49 Rms	49th Harmonic	float (LSW first)	R		40259
I 50 Rms	50th Harmonic	float (LSW first)	R		40261
I 51 Rms	51st Harmonic	float (LSW first)	R		40263
I 52 Rms	52nd Harmonic	float (LSW first)	R		40265
I 53 Rms	53rd Harmonic	float (LSW first)	R		40267
I 54 Rms	54th Harmonic	float (LSW first)	R		40269
I 55 Rms	55th Harmonic	float (LSW first)	R		40271
I 56 Rms	56th Harmonic	float (LSW first)	R		40273
I 57 Rms	57th Harmonic	float (LSW first)	R		40275
I 58 Rms	58th Harmonic	float (LSW first)	R		40277
I 59 Rms	59th Harmonic	float (LSW first)	R		40279
I 60 Rms	60th Harmonic	float (LSW first)	R		40281
I 61 Rms	61st Harmonic	float (LSW first)	R		40283
I 62 Rms	62nd Harmonic	float (LSW first)	R		40285

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Register Name	Comment	Register Type	R/W	Default Value	Modbus Address
I 63 Rms	63rd Harmonic	float (LSW first)	R		40287
Internal Temperature	Internal Temperature [°C]	float (LSW first)	R		40289
Rtd Temperature	RTD Temperature [°C]	float (LSW first)	R		40291
Rtd Resistance	RTD Resistance [Ω]	float (LSW first)	R		40293
Rtd 3rd Wire Resistance	Third wire Resistance [Ω]	float (LSW first)	R		40295
Ntc Resistance	NTC parallel resistance [Ω]	float (LSW first)	R		40297
I Rms Mean	RMS average [A] over "seconds for mean RMS"	float (LSW first)	R		40299
I Rms Max	MAX RMS [A] over last "seconds for MAX RMS"	float (LSW first)	R		40301
I Rms Min	Min RMS [A] over last "seconds for min RMS"	float (LSW first)	R		40303
I Dc Mean	DC average [A] over "seconds for mean DC"	float (LSW first)	R		40305
I Dc Max	MAX DC [A] over last "seconds for MAX DC"	float (LSW first)	R		40307
I Dc Min	min DC [A] over last "seconds for min DC"	float (LSW first)	R		40309
I Ac Mean	AC average [A] over "seconds for mean AC"	float (LSW first)	R		40311
I Ac Max	MAX AC [A] over last "seconds for MAX AC"	float (LSW first)	R		40313
I Ac Min	min AC [A] over last "seconds for min AC"	float (LSW first)	R		40315
Ah I Rms	Overall Ah for RMS value. Resettable via Command. Optionally storable in flash	float (LSW first)	R		40317
Ah I Dc	Overall Ah for DC value. Resettable via Command. Optionally storable in flash	float (LSW first)	R		40319
Ah I Ac	Overall Ah for AC value. Resettable via Command. Optionally storable in flash	float (LSW first)	R		40321
I Peak	Current peak	float (LSW first)	R/W		40325
Command	Flash settings save command = 0xC1C0; Reset command = 0xC1A0; Load Ah command = 0xBABA (Ah to load must be written in Command_aux); Load Positive Ah command = 0xBABB (positive Ah to load must be written in Command_aux); Load Negative Ah command = 0xBABC (negative Ah to load must be written in Command_aux); Close Switch command = 0xDAAA; Open Switch command = 0xDAAB;	unsigned short	R/W		40328
Command Aux	Auxiliary parameter command	float (LSW first)	R/W		40329

