



## MODBUS REGISTER MAP

## QA-OMNI

## 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

Register Name	Comment	Register Type	R/W	Default Value	Range	Modbus Address
<b>Machine ID</b>	Machine ID	UINT16	R	5		<b>40001</b>
<b>Firmware ID</b>	Firmware ID	UINT16	R	0		<b>40002</b>
<b>Unit ID</b>	Serial number	UINT16	R		0...65535	<b>40003(MSW)</b> <b>40004 (LSW)</b>
<b>Status</b>	Status Register: <b>bit 0</b> = fail global, <b>bit 1</b> = alarm, <b>bit 2</b> = over range, <b>bit 3</b> = under range, <b>bit 4</b> = din status, <b>bit 5</b> =dout status, <b>bit 6</b> = fail hw, <b>bit 7</b> =fail log, <b>bit 8</b> =fail rtc, <b>bit 9</b> =fail eeprom, <b>bit 10</b> =fail sensor	UINT16	R			<b>40005</b>
<b>Input Value</b>	Input Value Normalized	INT16	R		-32768...32767	<b>40006</b>
<b>Totalizer</b>	Totalizer	UINT32 (MSW)	R/W		0...4294967295	<b>40007</b> <b>40008</b>
<b>Output Value</b>	Output Value (mV or uA)	UINT16	R/W		0...65535	<b>40009</b>
<b>Input Value</b>	Input Value	Float (MSW)	R			<b>40010</b> <b>40011</b>
<b>Period</b>	Period (usec)	Float (MSW)	R			<b>40012</b> <b>40013</b>
<b>Frequency</b>	Frequency	Float (MSW)	R			<b>40014</b> <b>40015</b>
<b>Cold Junction Temp</b>	Cold Junction Temperature	Float (MSW)	R			<b>40016</b> <b>40017</b>
<b>TC read</b>	TC uV readed	Float (MSW)	R			<b>40018</b> <b>40019</b>
<b>Digital Output</b>	Digital Output: bit 0= disabled/enabled	UNIT16	R/W			<b>40020</b>
<b>Dip-switch status</b>	DIPSW status : <b>bit 0-7</b> =dip switch status, pos 1=bit 8,..., pos 8=bit 1	UNIT16	R			<b>40021</b>
<b>Third wire resistance</b>	Third wire Resistance Ohm	FLOAT (MSW)	R/W			<b>40022</b> <b>40023</b>
<b>Analog input type</b>	Analog Input type : value 0=Voltage, 1=Current, 2=Potentiometer, 3=Resistor400-2W, 4=Resistor400-3W, 5=Resistor400-4W, 6=Resistor4000-2W, 7=Resistor4000-3W, 8=Resistor4000-4W, 9=NI100-2W, 10=NI100-3W, 11=NI100-4W, 12=PT100-2W, 13=PT100-3W, 14=PT100-4W, 15=PT500-2W, 16=PT500-3W, 17=PT500-4W, 18=PT1000-2W, 19=PT1000-3W, 20=PT1000-4W, 21=TC J, 22=TC K, 23=TC R, 24=TC S, 25=TC T, 26=TC B, 27=TC E, 28=TC N	UNIT16	R/W	0	0...28	<b>40101</b>
<b>Digital Input type</b>	Digital Input Type : 0=Reed, 1=npn 2 fili, 2=npn 12 V (3 fili), 3=pnp 12 V (3 fili), 4=NAMUR, 5=Fotoelettrico, 6=Hall, 7=Ingresso 24 V,8=TTL, 9=Riluttanza variabile)	UNIT16	R/W	0		<b>40102</b>
<b>Temperature mode</b>	Temperature mode : <b>bit 0-1</b> = unit measure °C/°F, <b>bit 7-15</b> analog filter value	UNIT16	R/W	1	MSB: 1...32	<b>40103</b>
<b>Totalizer mode</b>	Totalizer mode : <b>bit 1</b> = rising/falling edge,	UNIT16	R/W	0		<b>40104</b>
<b>Digital Input filter</b>	Digital Input filter : value 0=disabled, n sample average	UNIT16	R/W	0	0...65535	<b>40105</b>
<b>Output Analog mode</b>	Output Analog mode : <b>bit 0</b> =Voltage/Current, <b>bit 1-2</b> =analog input, frequency, period,totalizer, <b>bit 3</b> = fail ur, <b>bit 4</b> = fail or, <b>bit 5</b> = fail hw, <b>bit 6</b> = fail log, <b>bit 7</b> = fail rtc, <b>bit 8</b> = fail eeprom, <b>bit 9</b> = fail alarm, <b>bit 10-11</b> = 1threshold greater/1threshold less/2thresholds external/2thresholds inside, <b>bit 12</b> =Manual mode	UNIT16	R/W	0		<b>40106</b>

**MODBUS REGISTER MAP****QA-OMNI**

Register Name	Comment	Register Type	R/W	Default Value	Range	Modbus Address
<b>Output Analog Input Begin scale</b>	Output Analog Input Begin Scale	FLOAT (MSW)	R/W	0.0		<b>40107</b>
						<b>40108</b>
<b>Output Analog Input End scale</b>	Output Analog Input End Scale	FLOAT (MSW)	R/W	10000.0		<b>40109</b>
						<b>40110</b>
<b>Output Analog Begin scale</b>	Output Analog Begin Scale	UINT16	R/W	0	0...65535	<b>40111</b>
<b>Output Analog End scale</b>	Output Analog End Scale	UINT16	R/W	10000	0...65535	<b>40112</b>
<b>Digital Output</b>	Digital Output : <b>bit 0</b> =default value, <b>bit 1</b> = fail ur, <b>bit 2</b> = fail or, <b>bit 3</b> = fail hw, <b>bit 4</b> = fail log, <b>bit 5</b> = fail rtc, <b>bit 6</b> = fail eeprom, <b>bit 7</b> = fail alarm, <b>bit 8</b> = fail din, <b>bit 9</b> = din/din inv, <b>bit 10</b> =low/high	UINT16	R/W	0		<b>40113</b>
<b>Alarm Low Trip value</b>	Alarm Low trip value	FLOAT (MSW)	R/W	0.0		<b>40114</b>
						<b>40115</b>
<b>Alarm High Trip value</b>	Alarm High trip value	FLOAT (MSW)	R/W	0.0		<b>40116</b>
						<b>40117</b>
<b>Alarm Hysteresis value</b>	Alarm Hysteresys value	FLOAT (MSW)	R/W	0.0		<b>40118</b>
						<b>40119</b>
<b>Modbus Address</b>	Modbus address +parity +stopbits : MSB Modbus address, <b>bit 0-1</b> =parity none/odd/even, <b>bit 2</b> =stop bits 1/2	UINT16	R/W	256		<b>40120</b>
<b>Modbus Baudrate</b>	Modbus Baudrate : value 0=1200, 1=2400, 2=4800, 3=9600, 4=19200, 5=38400, 6=57600, 7=115200	UINT16	R/W	3	0...7	<b>40121</b>
<b>Log mode</b>	Log mode : bit 0=disabled/enabled	UINT16	R/W	0		<b>40122</b>
<b>Log sample time</b>	Log sample time (sec)	UINT16	R/W	1	1...65535	<b>40123</b>
<b>Log name</b>	Log name 15 letters max	UINT16	R/W	0		<b>40124</b>
<b>Log name</b>	Log name 15 letters max	UINT16	R/W	0		<b>40125</b>
<b>Log name</b>	Log name 15 letters max	UINT16	R/W	0		<b>40126</b>
<b>Log name</b>	Log name 15 letters max	UINT16	R/W	0		<b>40127</b>
<b>Log name</b>	Log name 15 letters max	UINT16	R/W	0		<b>40128</b>
<b>Log name</b>	Log name 15 letters max	UINT16	R/W	0		<b>40129</b>
<b>Log name</b>	Log name 15 letters max	UINT16	R/W	0		<b>40130</b>
<b>Log name</b>	Log name 15 letters max	UINT16	R/W	0		<b>40131</b>
<b>RTC Year</b>	RTC Year	UINT16	R/W		2000...2099	<b>41001</b>
<b>RTC Month</b>	RTC Month	UINT16	R/W		1...12	<b>41002</b>
<b>RTC Day</b>	RTC Day	UINT16	R/W		1...31	<b>41003</b>
<b>RTC Hour</b>	RTC Hour	UINT16	R/W		1...23	<b>41004</b>
<b>RTC Minute</b>	RTC Minute	UINT16	R/W		0...59	<b>41005</b>
<b>RTC Second</b>	RTC Second	UINT16	R/W		0...59	<b>41006</b>
<b>Command</b>	Command : value 1=Reset, 2=Save Cfg to EEPROM, 3=Set Factory CFG, 4=Reset Tot., 5=Load Tot.	UINT16	R/W			<b>42001</b>
<b>Command 1</b>	Command parameter 1	UINT16	R/W			<b>42002</b>
<b>Command 2</b>	Command parameter 2	UINT16	R/W			<b>42003</b>

**Upgrade FIRMWARE :**

The QA-TEMP is designed to upgrade the firmware via the USB port using a standard pen drive where the file will be placed.

The firmware will allow you to implement the functionality of the card and correct any anomalies that may occur. In order to upgrade the firmware simply, remove power from the module, insert the pen drive with the file, restore power, at this point the card will automatically discharge the file and update the firmware without altering the configuration loaded during programming.

During the update phase the LED light will be intermittent FAIL.

