Register table

Register address	R/W	default	Description
1000	R/W		Actual configured amps value (from reg 2002 to 80A)
1001	R		Actual amps value output
1002	R		Vehicle state: 1: ready 2: EV is present 3: charging 4: charging with ventilation 5: failure (e.g. diode check, RCD failure)
1003	R		6 / 13 / 20 / 32 / 63 / 80 A Maximum current limitation according to a cable based on PP resistor detection
1004	R/W		**bit0:** turn off charging now **bit1**: run selftest and RCD test procedure (approx 30s) **bit2:** clear RCD error **bit3 - bit15:** not used
1005	R		Firmware revision
1006	R		EVSE state 1: steady 12V 2: PWM is being generated (only if 1000 >= 6) 3: OFF, steady 12V
1007	R		EVSE status and fails **bit0**: relay on/off **bit1**: diode check fail **bit2**: vent required fail **bit3**: waiting for pilot release (error recovery delay) **bit4**: RCD check error **bit5**: **bit6-bit15**: reserved
1008	R		Error timeout if > 0 then waiting for automatic clear
1009	R		Selftest timeout if > 0 then waiting for a selftest to complete
1010	R		Reserved, debug
...			...
2000	R/W	32	**Default amps value** after boot (max 80A, min 6A)

Register address	R/W	default	Description
2001	R/W	0	**Function of PROG PIN 4 + 5, slave address** (default 0: current limit or boost functions available) 0: analog inputs enabled > 0: MODBUS communication enabled This value also means the slave address.
2002	R/W	5	Minimum amps value, allowed 0 - 13 if set to 0 the EVSE will completely stop charging during analog input mode (2003 = 0) and AN = 0V
2003	R/W	1	**Analog input config:** 0: analog input current regulation, input 0 - 5V corresponds to the range: minimum amps --> default amps note that there is a weak pullup resistor enabled for this input (no input connected --> 5V) 1: each blink 1 amp step (default), starts from 0 2: each blink 2 amps step, starts from 0 3: each blink 3 amps step, starts from 0 ..... 10: each blink 10 amps step, starts from 0 11: mapping table: registers 2010 - 2017 1x blink = value from 2010 2x blink = value from 2011 ...
2004	R/W	0	Amps settings after power on (applies only to a changes made by the button), whether to save amps settings to eeprom each time it changes or not 0 - do not save amps value (default) 1 - save amps value to register 2000 every time it changes

Register address	R/W	default	Description
2005	R/W	1	**bit0**: Enable button for current change (no sense when 2003 = 0) 0: disabled 1: enabled (default) **bit1**: Stop charging when button pressed 0: disabled (default) 1: enabled charging will automatically start after you manually unplug and plug the cable to the vehicle **bit2:** Pilot ready state LED 0: blinks once (default) 1: is always ON **bit3:** enable charging on vehicle status D (ventilation required) 0: vehicle status D charging is disabled 1: vehicle status D charging is enabled (default) **bit4:** enable RCD feedback on MCLR pin (pin 4) 0: disabled, no RCD connected (default) 1: enabled **bit5**: auto clear RCD error 0: disabled (default, power cycle needed) 1: enabled (clear RCD error after <30s min timeout) **bit6: AN pullup (rev16 and later)** 0: AN internal pull-up enabled (default) 1: AN internal pull-up disabled **bit7: PWM debug bit (rev17 and later)** 0: PWM debug disabled (default) 1: PWM debug enable **bit8: error LED routing to AN out (rev17 and later)** 0: disabled (default) 1: enabled **bit9: pilot auto recover delay (rev17 and later)** 0: disabled 1: enabled (default) **bit10-11**: reserved **bit12**: enable startup delay **bit13**: disable EVSE after charge (write 8192) **bit14**: disable EVSE (write 16384) **bit15:** enable bootloader mode (write 32768) **NOTE:** if both bit0 and bit1 are enabled then “interrupt charging” will have higher priority, when charging
2006	R/W	0	RFU: Current sharing mode is active (two or more EVSEs connected to a single breaker) 0 - charging current is half of the default current amps > 0: this amps value will be used

Register address	R/W	default	Description
2007	R/W	0	PP detection 0: PP detection enabled (default) value > 0: detection disabled, fixed PP limit entered [A]
2008	R/W		reserved
2009	R		Bootloader firmware revision
2010	R/W	6	Amps value 1
2011	R/W	10	Amps value 2
2012	R/W	16	Amps value 3
2013	R/W	25	Amps value 4
2014	R/W	32	Amps value 5
2015	R/W	48	Amps value 6
2016	R/W	63	Amps value 7
2017	R/W	80	Amps value 8

Register addresses are in decimal format!

NOTE#1: By default MODBUS is NOT enabled, so the original analog input switches can be used (current limit and current boost functions). MODBUS can be enabled by pulling AN input down to GND while booting (= when you power the device up) at least 5 times within 3 seconds seconds (button activated). This will change register 2001 to the value 1, but it will not save the value permanently. Value will be saved after first successful R/W operation over MODBUS (register number >=2000).

NOTE#2: You can restore default settings of all registers by saving a value 65535 to the register 2010

NOTE#3: Only functions 03 (Read Holding Registers) and 16 (Preset Multiple Registers) are implemented. For more details please check: http://www.simplymodbus.ca/FAQ.htm

RFU: reserved for future use

EVSE selftest:

1) turn on +12V (0 seconds)
2) turn on PWM generation, 5th second
3) enable 220R pp resistor (max 32A, 50% duty cycle), 10th second
4) turn on contactor (15th second)
5) RCD test procedure (if configured, 20th second, performs 500ms pulse on TEST-IN)
6) selftest finished after 30 seconds

Selftest counter (reg 1009)	Relay out	RCD test out	PP 220ohm	Action

300	off	off	off	Steady +12V CP signal
250	off	off	off	PWM 1kHz start, default duty cycle
200	off	off	**ON**	PWM duty cycle change to 50%
150	**ON**	off	ON	Relay activation
100-95	ON	**ON**	ON	Test output RCD enabled ~500ms
0	off	off	off	Steady +12V CP signal

NOTE: if equipped with RCD sensor, the test must finish with RCD error (LED blinks six times). RCD error must be cleared manually or by timeout (depending on config)