

# Technote 105 – AcquiSuite+ A8814 Register Map

## Purpose

This document contains the Modbus registers available to poll via the A8814 Modbus/TCP gateway feature.

## Functions & Register Map

Allowed Modbus function codes:

0x03: Read Holding Register(s)

0x06: Preset Single Register

0x11: Report Slave ID

## Data points (all read-only)

offset	point	type	desc	comments
0	40001	INT32	MSW kWh Energy net (del - rec)	kWh * 10, eg 1234 = 123.4kwh (kWh values can not be cleared)
1	40002	-	LSW	
2	40003	UINT32	MSW kWh Energy total (del - rec)	kWh * 10, eg 1234 = 123.4kwh
3	40004	-	LSW	
4	40005	UINT32	MSW kWh Energy Delivered	kWh * 10, eg 1234 = 123.4kwh
5	40006	-	LSW	
6	40007	UINT32	MSW kWh Energy Received	kWh * 10, eg 1234 = 123.4kwh
7	40008	-	LSW	
8	40009	UINT32	MSW kVARh Reactive Energy Delivered	kWh * 10, eg 1234 = 123.4kvarh
9	40010	-	LSW	
10	40011	UINT32	MSW kVARh Reactive Energy Received	kWh * 10, eg 1234 = 123.4kvarh
11	40012	-	LSW	
12	40013	float32	MSW kWh Energy net (del - rec)	(kWh values can not be cleared)
13	40014	-	LSW	
14	40015	float32	MSW kWh Energy total (del + rec)	
15	40016	-	LSW	
16	40017	float32	MSW kWh Energy Delivered	
17	40018	-	LSW	
18	40019	float32	MSW kWh Energy Received	
19	40020	-	LSW	
20	40021	float32	MSW kVARh Reactive Energy Delivered	
21	40022	-	LSW	
22	40023	float32	MSW kVARh Reactive Energy Received	
23	40024	-	LSW	
24	40025	float32	MSW kW power average, total of 3 phases	(write zero to clear)
25	40026	-	LSW	
26	40027	float32	MSW kW power instantaneous, total of 3 phases	
27	40028	-	LSW	
28	40029	float32	MSW kVA apparent power instantaneous, total of 3 phases	
29	40030	-	LSW	
30	40031	float32	MSW kVAR Reactive power instantaneous, total of 3 phases	
31	40032	-	LSW	
32	40033	float32	MSW Voltage L-N average of 3 phases	
33	40034	-	LSW	
34	40035	float32	MSW Voltage L-L average of 3 phases	
35	40036	-	LSW	
36	40037	float32	MSW Current average of 3 phases	
37	40038	-	LSW	
38	40039	float32	MSW Power Factor average of 3 phases	

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39	40040	-	LSW		
40	40041	float32	MSW	Frequency	
41	40042	-	LSW		
42	40043	float32	MSW	Voltage per phase A-N	
43	40044	-	LSW		
44	40045	float32	MSW	Voltage per phase B-N	
45	40046	-	LSW		
46	40047	float32	MSW	Voltage per phase C-N	
47	40048	-	LSW		
48	40049	float32	MSW	Voltage per phase A-B	
49	40050	-	LSW		
50	40051	float32	MSW	Voltage per phase B-C	
51	40052	-	LSW		
52	40053	float32	MSW	Voltage per phase C-A	
53	40054	-	LSW		
54	40055	float32	MSW	Current phase A	
55	40056	-	LSW		
56	40057	float32	MSW	Current phase B	
57	40058	-	LSW		
58	40059	float32	MSW	Current phase C	
59	40060	-	LSW		
60	40061	float32	MSW	kW Power phase A	
61	40062	-	LSW		
62	40063	float32	MSW	kW Power phase B	
63	40064	-	LSW		
64	40065	float32	MSW	kW Power phase C	
65	40066	-	LSW		
66	40067	float32	MSW	Power Factor phase A	
67	40068	-	LSW		
68	40069	float32	MSW	Power Factor phase B	
69	40070	-	LSW		
70	40071	float32	MSW	Power Factor phase C	
71	40072	-	LSW		
72	40073	float32	MSW	Resettable kWh Energy net (del - rec)	(kWh values CAN be cleared)
73	40074	-	LSW		
74	40075	float32	MSW	Resettable kWh Energy total (del + rec)	
75	40076	-	LSW		
76	40077	float32	MSW	Resettable kWh Energy Delivered	
77	40078	-	LSW		
78	40079	float32	MSW	Resettable kWh Energy Received	
79	40080	-	LSW		
80	40081	INT32	MSW	Resettable kWh Energy net (del - rec)	kWh * 10, eg 1234 = 123.4kwh (kWh values CAN be cleared)
81	40082	-	LSW		
82	40083	UINT32	MSW	Resettable kWh Energy total (del + rec)	kWh * 10, eg 1234 = 123.4kwh
83	40084	-	LSW		
84	40085	UINT32	MSW	Resettable kWh Energy Delivered	kWh * 10, eg 1234 = 123.4kwh
85	40086	-	LSW		
86	40087	UINT32	MSW	Resettable kWh Energy Received	kWh * 10, eg 1234 = 123.4kwh
87	40088	-	LSW		

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System information points: (read only, read/write, or write only, o as noted)

offset	point	type	rw/nv	desc
1000	41001	UINT16	ro/nv	Serial Number (bytes 1,2)
1001	41002	UINT16	ro/nv	Serial Number (bytes 3,4)
1002	41003	UINT16	ro/nv	Serial Number (bytes 5,6)
1003	41004	UINT16	ro	firmware version major
1004	41005	UINT16	ro	firmware version minor
1005	41006	UINT16	ro/nv	mfg date MSW
1006	41007	UINT16	ro/nv	mfg date LSW
1007	41008	UINT16	ro	up time (seconds) MSW
1008	41009	UINT16	ro	up time (seconds) LSW
1009	41010	UINT16	rw/nv	Our modbus address (1-247 & 250)
1010	41011	UINT16	ro/nv	Hardware Version (0x8814)
1011	41012	UINT16	ro/nv	PCB Rev (0=rev A, etc) (low byte Part Rev, high byte = pcb rev)
1012	41013	UINT16	rw/nv	CT Type: 0x01=1V, 0x02=0.333V (note, only one bit may be set)
1013	41014	UINT16		reserved
1014	41015	UINT16	rw/nv	Num CTs: 1,2,3
1015	41016	UINT16		reserved
1016	41017	UINT16		reserved
1017	41018	UINT16	ro	pcb temperature monitor. scale: x100
1018	41019	UINT16	ro	5V internal power supply voltage monitor. scale: x100
1019	41020	UINT16	rw/nv	RS485 baud rate. 2=9600, 3=19200, 4=38400, 5=57600, 6=115200
1020	41021	UINT16	ro	reason for reboot. 0x01=POR, 0x02=EXTR 0x04=WDTR 0x08=BODR, 0x4000=ASSERT, 0x8000=WDTOF
1021	41022	UINT16	ro	reserved
1022	41023	UINT16	ro	Frequency (autodetected) value is either 50 or 60
1023	41024	UINT16	rw/nv	CT size (in amps) allowed Range 20 to 6000
1024	41025	UINT16	ro	Modbus Map version
1025	41026	UINT16	ro	Internal 1.65v rev x 1000. e.g. 1650 = 1.650v
1026	41027	UINT16	rw/nv	CT A Invert: 0=normal, 1=invert
1027	41028	UINT16	rw/nv	CT B Invert: 0=normal, 1=invert
1028	41029	UINT16	rw/nv	CT C Invert: 0=normal, 1=invert
1029	41030	UINT16	rw/nv	CT calibration available / enabled. 0x01=Calibration Enabled, 0x02=Calibration Present
1030	41031	UINT16	ro/nv	Calibrated CT ModelSeries (0=unknown, 1=sentran 4LSF, 0-255 allowed)
1031	41032	UINT16	ro/nv	Calibrated CT Size (in AMPS)
1032	41033	UINT16	ro/nv	Date of calibration MSW (meter or ct, whichever was last)
1033	41034	UINT16	ro/nv	Date of calibration LSW
1034	41035	UINT16	ro/nv	Calibrated CT output type 0x01=1V, 0x02=0.333V (note, only one bit will be set, only 8 bits allowed)
1035	41036	UINT16	wo	Write 0xC1EA to zero the resettable energy delivered and received registers (note: writing this register issues a command only, value is not stored)

Rev	Date	Author	Description of Changes
1	08/30/2018	LEP	Initial document
2	12/04/2018	SLD	Updates to register descriptions and reserved registers