

Conext™ Gateway

Modbus Interface Specification (503)

Conext™ Gateway

990-6271B

Jun 4, 2020



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Contact Information

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Revision History

Rev	Date	Description of Change
A	Feb 13, 2020	v1.06 Firmware Release
B	Jun 4, 2020	v1.07 Firmware Release

Document Applicability

This Modbus map applies to the following products:

Product ID	Product Description
865-0329	Conext Gateway
865-0330	Insight Home

⚠ WARNING**UNINTENDED OPERATION**

The use of this product with Modbus communications requires expertise in the design, operation, and programming of the device. Only qualified personnel should program, install, alter, and commission this product. Unless specified, information on safety, specifications, installation and operation is as shown in the primary documentation received with the product. Qualified personnel must be familiar with that information before proceeding. When writing values to the device, you must ensure other persons are not working with the device.

Failure to follow these instructions can result in death or serious injury, and/or equipment damage.

⚠ WARNING**LOSS OF CONTROL**

Do not assign the same address to two Modbus devices. The entire serial bus may behave unexpectedly if the master device cannot communicate with all the slave devices on the bus.

Failure to follow these instructions can result in death or serious injury, and/or equipment damage.

Overview

This document describes the structure of the Modbus register address map, which is used to configure, control, and monitor the device. Use this document in conjunction with the device Owner's Guide. The information in this document is intended for use only by qualified personnel who have a detailed technical understanding of the Modbus protocol. The Modbus map is divided into rows of Modbus registers. Each row indicates the Modbus register address, its name, data type, access type, units, scale, offset, and applicable notes as required. External Modbus master devices, such as the Schneider Electric M340 PLC, can read and write the Modbus registers to configure, control, or monitor the device remotely.

Writing Modbus Registers

Modbus does not provide an error response when data written to a Modbus register is out of range or invalid. To confirm that a Modbus register is correctly written, you should read it back and compare it with the expected value. For descriptions of settings and their valid values, refer to the product's Owner's Guide.

Supported Modbus Data Types

Data Type	Description
uint16	unsigned 16-bit integer [0,65535]
sint16	signed 16-bit integer [-32768,32767]
uint32	unsigned 32-bit integer [0,4294967295]
sint32	signed 32-bit integer [-2147483648,2147483647]
str<nn>	packed 8-bit character string, where <nn> is the length of characters in the string. Two characters are packed into each Modbus register. Example: str20 = 20-character string (packed into 10 Modbus registers) str16 = 16-character string (packed into 8 Modbus registers)

Modbus Device Addressing

The Modbus slave address registers are automatically assigned on a first come, first served basis. The first detected device is assigned to the start of the address range. Subsequently added devices are assigned the next available address in the range.

Once assigned, the modbus slave address is associated to the serial number of the device, ensuring the consistency of the modbus address for the lifetime of the installation.

If Modbus slave addresses need to be changed, the Conext Gateway can be reset to its factory defaults and devices added one by one to establish the desired modbus address mapping.

ModbusTCP port	503
Modbus Slave Address Range	1

Modbus Register Addressing

The Register Number is the 1-based register identifier. Some 3rd party Modbus tools require 1-based register addressing.

The Register Address is the zero-based register address representing the register address as it is transmitted on-the-wire inside the Modbus data frame.

Modbus Error Response

The Modbus Server will respond with a 02 ILLEGAL DATA ADDRESS error if an attempt is made to read/write registers which don't exist or if a request is made to read only part of a 32-bit register. This error will also be thrown if a read/write address range contains a data point which does not exist, or if the read/write address range starts or ends halfway through a 32-bit word.

A blank row in the Modbus Register map indicates a boundary between sets of contiguous registers. Multi-register reads/writes across these boundaries will result in a 02 ILLEGAL DATA ADDRESS error

Modbus Cybersecurity Considerations

WARNING

CYBERSECURITY RISK: POTENTIAL COMPROMISE OF SYSTEM AVAILABILITY, INTEGRITY, AND CONFIDENTIALITY

Always secure the Local Area Network on which the Conext Gateway is connected. Modbus TCP must NEVER be routed over a public network. Use cybersecurity best practices to help prevent unauthorized access.

Failure to follow these instructions can result in unintended access to sensitive or secure customer data, permanent loss of data, and equipment damage.

Modbus TCP is a legacy protocol in widespread use within the Solar industry. It is appreciated by system operators due to its simplicity and ease of use in control and monitoring applications. However, Modbus TCP is an insecure protocol which does not provide any data security, encryption, or authentication.

Anyone with access to the local area network on which the Conext Gateway is connected can monitor and control the power conversion devices attached to the Conext Gateway.

Modbus TCP should only be used on trusted, private, and highly secure local area networks for local control and monitoring applications only. Failure to properly secure the Local Area Network on which the Conext Gateway is connected can allow a remote attacker to compromise your power system installation.

1 Register Map for Conext™ Gateway

Reg. No.	Reg. Addr.	Name	Type	R/W	Units	Scale	Offset	Notes
1	0x0000	Device Name	str16	r				
9	0x0008	reserved	uint16	r				
10	0x0009	reserved	uint16	r				
11	0x000A	FGA Number	str16	r				
31	0x001E	Firmware Version	str20	r				
41	0x0028	Modbus Address	uint16	r		1.0	0.0	
42	0x0029	reserved	uint16	r				
43	0x002A	reserved	uint16	r				
44	0x002B	Hardware Serial Number	str16	r				
59	0x003A	UTC Time	uint32	r		1.0	0.0	
61	0x003C	Time Zone	uint16	r		1.0	0.0	See section 2.1
62	0x003D	Maintenance Status	uint16	r		1.0	0.0	
63	0x003E	reserved	uint16	r				
64	0x003F	reserved	uint16	r				
65	0x0040	Bit mask of system status	uint16	r		1.0	0.0	See section 2.2
66	0x0041	System Wide Number of Active Faults	uint16	r		1.0	0.0	
67	0x0042	Generator State	uint16	r		1.0	0.0	0=Off 1=On
68	0x0043	System Wide Number of Active Warnings	uint16	r		1.0	0.0	
69	0x0044	PV Harvest Power	uint32	r	W	1.0	0.0	
71	0x0046	DC Charging Power	uint32	r	W	1.0	0.0	
73	0x0048	DC Charging Current	uint32	r	A	0.001	0.0	
75	0x004A	DC Inverting Power	uint32	r	W	1.0	0.0	
77	0x004C	Grid Voltage	uint32	r	V	0.001	0.0	
79	0x004E	Grid Frequency	uint32	r	Hz	0.01	0.0	
81	0x0050	Grid Input Power (APP)	uint32	r	VA	1.0	0.0	
83	0x0052	Grid Input Power	uint32	r	W	1.0	0.0	
85	0x0054	Grid Input Current	uint32	r	A	0.001	0.0	
87	0x0056	Grid Output Power (APP)	uint32	r	VA	1.0	0.0	
89	0x0058	Grid Output Power	uint32	r	W	1.0	0.0	
91	0x005A	Sell Current	uint32	r	A	0.001	0.0	

Reg. No.	Reg. Addr.	Name	Type	R/W	Units	Scale	Offset	Notes
93	0x005C	AC Generator Power	uint32	r	W	1.0	0.0	
95	0x005E	Load Power (In/Out)	sint32	r	W	1.0	0.0	
97	0x0060	Load Output Power	uint32	r	W	1.0	0.0	
99	0x0062	Load In Power	uint32	r	W	1.0	0.0	
101	0x0064	Load Power (APP)	sint32	r	VA	1.0	0.0	
103	0x0066	Load Power	sint32	r	W	1.0	0.0	
105	0x0068	Load Voltage	uint32	r	V	0.001	0.0	
107	0x006A	Load Frequency	uint32	r	Hz	0.01	0.0	
109	0x006C	Load Current	sint32	r	A	0.001	0.0	
111	0x006E	XW Grid Power	sint32	r	W	1.0	0.0	
113	0x0070	XW Grid Voltage	uint32	r	V	0.001	0.0	
115	0x0072	XW Grid Frequency	uint32	r	Hz	0.01	0.0	
117	0x0074	XW Generator Power	uint32	r	W	1.0	0.0	
119	0x0076	XW Generator Voltage	uint32	r	V	0.001	0.0	
121	0x0078	XW Generator Frequency	uint32	r	Hz	0.01	0.0	
123	0x007A	XW Load Power	uint32	r	W	1.0	0.0	
125	0x007C	XW Load Voltage	uint32	r	V	0.001	0.0	
127	0x007E	XW Load Frequency	uint32	r	Hz	0.01	0.0	
129	0x0080	XW Battery Current	sint32	r	A	0.001	0.0	
131	0x0082	CSW AC1 Power	uint32	r	W	1.0	0.0	
133	0x0084	CSW AC1 Voltage	uint32	r	V	0.001	0.0	
135	0x0086	CSW AC1 Frequency	uint32	r	Hz	0.01	0.0	
137	0x0088	CSW AC Out Power	sint32	r	W	1.0	0.0	
139	0x008A	CSW AC Out Voltage	uint32	r	V	0.001	0.0	
141	0x008C	CSW AC Out Frequency	uint32	r	Hz	0.01	0.0	
143	0x008E	CSW DC Current net	sint32	r	A	0.001	0.0	
145	0x0090	MPPT PV Power	uint32	r	W	1.0	0.0	
147	0x0092	MPPT Battery Current	uint32	r	A	0.001	0.0	
149	0x0094	MPPT Battery Power	uint32	r	W	1.0	0.0	
151	0x0096	GT PV Power	uint32	r	W	1.0	0.0	
153	0x0098	GT Grid Power	uint32	r	W	1.0	0.0	
155	0x009A	GT Grid Voltage	uint32	r	V	0.001	0.0	
157	0x009C	Battery Voltage	uint32	r	V	0.001	0.0	
159	0x009E	Battery Temperature	uint32	r	degC	0.01	-273.0	
161	0x00A0	DC Input Energy This Hour from battery	uint32	r	kWh	0.001	0.0	
163	0x00A2	DC Input Active Timer This Hour from battery	uint32	r	s	1.0	0.0	

Reg. No.	Reg. Addr.	Name	Type	R/W	Units	Scale	Offset	Notes
165	0x00A4	DC Input Energy Today from battery	uint32	r	kWh	0.001	0.0	
167	0x00A6	DC Input Active Timer Today from battery	uint32	r	s	1.0	0.0	
169	0x00A8	DC Input Energy This Week from battery	uint32	r	kWh	0.001	0.0	
171	0x00AA	DC Input Active Timer This Week from battery	uint32	r	s	1.0	0.0	
173	0x00AC	DC Input Energy This Month from battery	uint32	r	kWh	0.001	0.0	
175	0x00AE	DC Input Active Timer This Month from battery	uint32	r	s	1.0	0.0	
177	0x00B0	DC Input Energy This Year from battery	uint32	r	kWh	0.001	0.0	
179	0x00B2	DC Input Active Timer This Year from battery	uint32	r	s	1.0	0.0	
181	0x00B4	DC Input Energy Lifetime from battery	uint32	r	kWh	0.001	0.0	
183	0x00B6	DC Input Active Timer Lifetime from battery	uint32	r	s	1.0	0.0	
185	0x00B8	DC Output Energy This Hour to battery	uint32	r	kWh	0.001	0.0	
187	0x00BA	DC Output Active Timer This Hour to battery	uint32	r	s	1.0	0.0	
189	0x00BC	DC Output Energy Today to battery	uint32	r	kWh	0.001	0.0	
191	0x00BE	DC Output Active Timer Today to battery	uint32	r	s	1.0	0.0	
193	0x00C0	DC Output Energy This Week to battery	uint32	r	kWh	0.001	0.0	
195	0x00C2	DC Output Active Timer This Week to battery	uint32	r	s	1.0	0.0	
197	0x00C4	DC Output Energy This Month to battery	uint32	r	kWh	0.001	0.0	
199	0x00C6	DC Output Active Timer This Month to battery	uint32	r	s	1.0	0.0	
201	0x00C8	DC Output Energy This Year to battery	uint32	r	kWh	0.001	0.0	
203	0x00CA	DC Output Active Timer This Year to battery	uint32	r	s	1.0	0.0	
205	0x00CC	DC Output Energy Lifetime to battery	uint32	r	kWh	0.001	0.0	

Reg. No.	Reg. Addr.	Name	Type	R/W	Units	Scale	Offset	Notes
207	0x00CE	DC Output Active Timer Lifetime to battery	uint32	r	s	1.0	0.0	
209	0x00D0	GRID Input Energy This Hour	uint32	r	kWh	0.001	0.0	
211	0x00D2	GRID Input Active Timer This Hour	uint32	r	s	1.0	0.0	
213	0x00D4	GRID Input Energy Today	uint32	r	kWh	0.001	0.0	
215	0x00D6	GRID Input Active Timer Today	uint32	r	s	1.0	0.0	
217	0x00D8	GRID Input Energy This Week	uint32	r	kWh	0.001	0.0	
219	0x00DA	GRID Input Active Timer This Week	uint32	r	s	1.0	0.0	
221	0x00DC	GRID Input Energy This Month	uint32	r	kWh	0.001	0.0	
223	0x00DE	GRID Input Active Timer This Month	uint32	r	s	1.0	0.0	
225	0x00E0	GRID Input Energy This Year	uint32	r	kWh	0.001	0.0	
227	0x00E2	GRID Input Active Timer This Year	uint32	r	s	1.0	0.0	
229	0x00E4	GRID Input Energy Lifetime	uint32	r	kWh	0.001	0.0	
231	0x00E6	GRID Input Active Timer Lifetime	uint32	r	s	1.0	0.0	
233	0x00E8	GRID Output Energy This Hour	uint32	r	kWh	0.001	0.0	
235	0x00EA	GRID Output Active Timer This Hour	uint32	r	s	1.0	0.0	
237	0x00EC	GRID Output Energy Today	uint32	r	kWh	0.001	0.0	
239	0x00EE	GRID Output Active Timer Today	uint32	r	s	1.0	0.0	
241	0x00F0	GRID Output Energy This Week	uint32	r	kWh	0.001	0.0	
243	0x00F2	GRID Output Active Timer This Week	uint32	r	s	1.0	0.0	
245	0x00F4	GRID Output Energy This Month	uint32	r	kWh	0.001	0.0	
247	0x00F6	GRID Output Active Timer This Month	uint32	r	s	1.0	0.0	

Reg. No.	Reg. Addr.	Name	Type	R/W	Units	Scale	Offset	Notes
249	0x00F8	GRID Output Energy This Year	uint32	r	kWh	0.001	0.0	
251	0x00FA	GRID Output Active Timer This Year	uint32	r	s	1.0	0.0	
253	0x00FC	GRID Output Energy Lifetime	uint32	r	kWh	0.001	0.0	
255	0x00FE	GRID Output Active Timer Lifetime	uint32	r	s	1.0	0.0	
257	0x0100	AC Load Energy This Hour	uint32	r	kWh	0.001	0.0	
259	0x0102	AC Load Active Timer This Hour	uint32	r	s	1.0	0.0	
261	0x0104	AC Load Energy Today	uint32	r	kWh	0.001	0.0	
263	0x0106	AC Load Active Timer Today	uint32	r	s	1.0	0.0	
265	0x0108	AC Load Energy This Week	uint32	r	kWh	0.001	0.0	
267	0x010A	AC Load Active Timer This Week	uint32	r	s	1.0	0.0	
269	0x010C	AC Load Energy This Month	uint32	r	kWh	0.001	0.0	
271	0x010E	AC Load Active Timer This Month	uint32	r	s	1.0	0.0	
273	0x0110	AC Load Energy This Year	uint32	r	kWh	0.001	0.0	
275	0x0112	AC Load Active Timer This Year	uint32	r	s	1.0	0.0	
277	0x0114	AC Load Energy Lifetime	uint32	r	kWh	0.001	0.0	
279	0x0116	AC Load Active Timer Lifetime	uint32	r	s	1.0	0.0	
281	0x0118	GEN Input Energy This Hour	uint32	r	kWh	0.001	0.0	
283	0x011A	GEN Input Active Timer This Hour	uint32	r	s	1.0	0.0	
285	0x011C	GEN Input Energy Today	uint32	r	kWh	0.001	0.0	
287	0x011E	GEN Input Active Timer Today	uint32	r	s	1.0	0.0	
289	0x0120	GEN Input Energy This Week	uint32	r	kWh	0.001	0.0	

Reg. No.	Reg. Addr.	Name	Type	R/W	Units	Scale	Offset	Notes
291	0x0122	GEN Input Active Timer This Week	uint32	r	s	1.0	0.0	
293	0x0124	GEN Input Energy This Month	uint32	r	kWh	0.001	0.0	
295	0x0126	GEN Input Active Timer This Month	uint32	r	s	1.0	0.0	
297	0x0128	GEN Input Energy This Year	uint32	r	kWh	0.001	0.0	
299	0x012A	GEN Input Active Timer This Year	uint32	r	s	1.0	0.0	
301	0x012C	GEN Input Energy Lifetime	uint32	r	kWh	0.001	0.0	
303	0x012E	GEN Input Active Timer Lifetime	uint32	r	s	1.0	0.0	
305	0x0130	PV Input Energy This Hour	uint32	r	kWh	0.001	0.0	
307	0x0132	PV Input Active Timer This Hour	uint32	r	s	1.0	0.0	
309	0x0134	PV Input Energy Today	uint32	r	kWh	0.001	0.0	
311	0x0136	PV Input Active Timer Today	uint32	r	s	1.0	0.0	
313	0x0138	PV Input Energy This Week	uint32	r	kWh	0.001	0.0	
315	0x013A	PV Input Active Timer This Week	uint32	r	s	1.0	0.0	
317	0x013C	PV Input Energy This Month	uint32	r	kWh	0.001	0.0	
319	0x013E	PV Input Active Timer This Month	uint32	r	s	1.0	0.0	
321	0x0140	PV Input Energy This Year	uint32	r	kWh	0.001	0.0	
323	0x0142	PV Input Active Timer This Year	uint32	r	s	1.0	0.0	
325	0x0144	PV Input Energy Lifetime	uint32	r	kWh	0.001	0.0	
327	0x0146	PV Input Active Timer Lifetime	uint32	r	s	1.0	0.0	
329	0x0148	Generator Current Line 1	uint32	r	A	0.001	0.0	
331	0x014A	Generator Current Line 2	uint32	r	A	0.001	0.0	
333	0x014C	Load Current Line 1	uint32	r	A	0.001	0.0	

Reg. No.	Reg. Addr.	Name	Type	R/W	Units	Scale	Offset	Notes
335	0x014E	Load Current Line 2	uint32	r	A	0.001	0.0	
337	0x0150	Grid Input Current Line 1	uint32	r	A	0.001	0.0	
339	0x0152	Grid Input Current Line 2	uint32	r	A	0.001	0.0	
341	0x0154	Grid Output Current Line 1	uint32	r	A	0.001	0.0	
343	0x0156	Grid Output Current Line 2	uint32	r	A	0.001	0.0	
345	0x0158	Battery Power Net	sint32	r	W	1.0	0.0	
347	0x015A	Last Full Charge	uint32	r		1.0	0.0	
349	0x015C	Generator Voltage	uint32	r	V	0.001	0.0	
351	0x015E	Generator Frequency	uint32	r	Hz	0.01	0.0	
353	0x0160	Total Generator Current	uint32	r	A	0.001	0.0	
355	0x0162	PV Voltage	uint32	r	V	0.001	0.0	
357	0x0164	Total PV Current	uint32	r	A	0.001	0.0	
359	0x0166	Grid Output Current	uint32	r	A	0.001	0.0	
361	0x0168	Grid-Tie to Load Power	uint32	r	W	1.0	0.0	
363	0x016A	Grid-Tie to Load Energy This Hour	uint32	r	kWh	0.001	0.0	
365	0x016C	Grid-Tie to Load Energy Today	uint32	r	kWh	0.001	0.0	
367	0x016E	Grid-Tie to Load Energy This Week	uint32	r	kWh	0.001	0.0	
369	0x0170	Grid-Tie to Load Energy This Month	uint32	r	kWh	0.001	0.0	
371	0x0172	Grid-Tie to Load Energy This Year	uint32	r	kWh	0.001	0.0	
373	0x0174	Grid-Tie to Load Energy Lifetime	uint32	r	kWh	0.001	0.0	
375	0x0176	Grid-Tie to Load Active This Hour	uint32	r	s	1.0	0.0	
377	0x0178	Grid-Tie to Load Active Today	uint32	r	s	1.0	0.0	
379	0x017A	Grid-Tie to Load Active This Week	uint32	r	s	1.0	0.0	
381	0x017C	Grid-Tie to Load Active This Month	uint32	r	s	1.0	0.0	
383	0x017E	Grid-Tie to Load Active This Year	uint32	r	s	1.0	0.0	
385	0x0180	Grid-Tie to Load Active Lifetime	uint32	r	s	1.0	0.0	

Reg. No.	Reg. Addr.	Name	Type	R/W	Units	Scale	Offset	Notes
387	0x0182	Grid-Tie to Grid Power	uint32	r	W	1.0	0.0	
389	0x0184	Grid-Tie to Grid Energy This Hour	uint32	r	kWh	0.001	0.0	
391	0x0186	Grid-Tie to Grid Energy Today	uint32	r	kWh	0.001	0.0	
393	0x0188	Grid-Tie to Grid Energy This Week	uint32	r	kWh	0.001	0.0	
395	0x018A	Grid-Tie to Grid Energy This Month	uint32	r	kWh	0.001	0.0	
397	0x018C	Grid-Tie to Grid Energy This Year	uint32	r	kWh	0.001	0.0	
399	0x018E	Grid-Tie to Grid Energy Lifetime	uint32	r	kWh	0.001	0.0	
401	0x0190	Grid-Tie to Grid Active This Hour	uint32	r	s	1.0	0.0	
403	0x0192	Grid-Tie to Grid Active Today	uint32	r	s	1.0	0.0	
405	0x0194	Grid-Tie to Grid Active This Week	uint32	r	s	1.0	0.0	
407	0x0196	Grid-Tie to Grid Active This Month	uint32	r	s	1.0	0.0	
409	0x0198	Grid-Tie to Grid Active This Year	uint32	r	s	1.0	0.0	
411	0x019A	Grid-Tie to Grid Active Lifetime	uint32	r	s	1.0	0.0	
513	0x0200	Battery Bank 1 Voltage	uint32	r	V	0.001	0.0	
515	0x0202	Battery Bank 1 Current	sint32	r	A	0.001	0.0	
517	0x0204	Battery Bank 1 Temperature	uint32	r	degC	0.01	-273.0	
519	0x0206	Battery Bank 1 Charging Current	uint32	r	A	0.001	0.0	
521	0x0208	Battery Bank 1 Charging Power	uint32	r	W	1.0	0.0	
523	0x020A	Battery Bank 1 Inverting Current	uint32	r	A	0.001	0.0	
525	0x020C	Battery Bank 1 Inverting Power	uint32	r	W	1.0	0.0	
527	0x020E	Battery Bank 2 Voltage	uint32	r	V	0.001	0.0	
529	0x0210	Battery Bank 2 Current	sint32	r	A	0.001	0.0	
531	0x0212	Battery Bank 2 Temperature	uint32	r	degC	0.01	-273.0	

Reg. No.	Reg. Addr.	Name	Type	R/W	Units	Scale	Offset	Notes
533	0x0214	Battery Bank 2 Charging Current	uint32	r	A	0.001	0.0	
535	0x0216	Battery Bank 2 Charging Power	uint32	r	W	1.0	0.0	
537	0x0218	Battery Bank 2 Inverting Current	uint32	r	A	0.001	0.0	
539	0x021A	Battery Bank 2 Inverting Power	uint32	r	W	1.0	0.0	
541	0x021C	Battery Bank 3 Voltage	uint32	r	V	0.001	0.0	
543	0x021E	Battery Bank 3 Current	sint32	r	A	0.001	0.0	
545	0x0220	Battery Bank 3 Temperature	uint32	r	degC	0.01	-273.0	
547	0x0222	Battery Bank 3 Charging Current	uint32	r	A	0.001	0.0	
549	0x0224	Battery Bank 3 Charging Power	uint32	r	W	1.0	0.0	
551	0x0226	Battery Bank 3 Inverting Current	uint32	r	A	0.001	0.0	
553	0x0228	Battery Bank 3 Inverting Power	uint32	r	W	1.0	0.0	
555	0x022A	Battery Bank 4 Voltage	uint32	r	V	0.001	0.0	
557	0x022C	Battery Bank 4 Current	sint32	r	A	0.001	0.0	
559	0x022E	Battery Bank 4 Temperature	uint32	r	degC	0.01	-273.0	
561	0x0230	Battery Bank 4 Charging Current	uint32	r	A	0.001	0.0	
563	0x0232	Battery Bank 4 Charging Power	uint32	r	W	1.0	0.0	
565	0x0234	Battery Bank 4 Inverting Current	uint32	r	A	0.001	0.0	
567	0x0236	Battery Bank 4 Inverting Power	uint32	r	W	1.0	0.0	
569	0x0238	Battery Bank 5 Voltage	uint32	r	V	0.001	0.0	
571	0x023A	Battery Bank 5 Current	sint32	r	A	0.001	0.0	
573	0x023C	Battery Bank 5 Temperature	uint32	r	degC	0.01	-273.0	
575	0x023E	Battery Bank 5 Charging Current	uint32	r	A	0.001	0.0	
577	0x0240	Battery Bank 5 Charging Power	uint32	r	W	1.0	0.0	
579	0x0242	Battery Bank 5 Inverting Current	uint32	r	A	0.001	0.0	

Reg. No.	Reg. Addr.	Name	Type	R/W	Units	Scale	Offset	Notes
581	0x0244	Battery Bank 5 Inverting Power	uint32	r	W	1.0	0.0	
641	0x0280	Battery Bank 1 Charging Energy This Hour	uint32	r	kWh	0.001	0.0	
643	0x0282	Battery Bank 1 Charging Energy Today	uint32	r	kWh	0.001	0.0	
645	0x0284	Battery Bank 1 Charging Energy This Week	uint32	r	kWh	0.001	0.0	
647	0x0286	Battery Bank 1 Charging Energy This Month	uint32	r	kWh	0.001	0.0	
649	0x0288	Battery Bank 1 Charging Energy This Year	uint32	r	kWh	0.001	0.0	
651	0x028A	Battery Bank 1 Charging Energy Lifetime	uint32	r	kWh	0.001	0.0	
653	0x028C	Battery Bank 1 Charging Active This Hour	uint32	r	s	1.0	0.0	
655	0x028E	Battery Bank 1 Charging Active Today	uint32	r	s	1.0	0.0	
657	0x0290	Battery Bank 1 Charging Active This Week	uint32	r	s	1.0	0.0	
659	0x0292	Battery Bank 1 Charging Active This Month	uint32	r	s	1.0	0.0	
661	0x0294	Battery Bank 1 Charging Active This Year	uint32	r	s	1.0	0.0	
663	0x0296	Battery Bank 1 Charging Active Lifetime	uint32	r	s	1.0	0.0	
665	0x0298	Battery Bank 1 Inverting Energy This Hour	uint32	r	kWh	0.001	0.0	
667	0x029A	Battery Bank 1 Inverting Energy Today	uint32	r	kWh	0.001	0.0	

Reg. No.	Reg. Addr.	Name	Type	R/W	Units	Scale	Offset	Notes
669	0x029C	Battery Bank 1 Inverting Energy This Week	uint32	r	kWh	0.001	0.0	
671	0x029E	Battery Bank 1 Inverting Energy This Month	uint32	r	kWh	0.001	0.0	
673	0x02A0	Battery Bank 1 Inverting Energy This Year	uint32	r	kWh	0.001	0.0	
675	0x02A2	Battery Bank 1 Inverting Energy Lifetime	uint32	r	kWh	0.001	0.0	
677	0x02A4	Battery Bank 1 Inverting Active This Hour	uint32	r	s	1.0	0.0	
679	0x02A6	Battery Bank 1 Inverting Active Today	uint32	r	s	1.0	0.0	
681	0x02A8	Battery Bank 1 Inverting Active This Week	uint32	r	s	1.0	0.0	
683	0x02AA	Battery Bank 1 Inverting Active This Month	uint32	r	s	1.0	0.0	
685	0x02AC	Battery Bank 1 Inverting Active This Year	uint32	r	s	1.0	0.0	
687	0x02AE	Battery Bank 1 Inverting Active Lifetime	uint32	r	s	1.0	0.0	
689	0x02B0	Battery Bank 2 Charging Energy This Hour	uint32	r	kWh	0.001	0.0	
691	0x02B2	Battery Bank 2 Charging Energy Today	uint32	r	kWh	0.001	0.0	
693	0x02B4	Battery Bank 2 Charging Energy This Week	uint32	r	kWh	0.001	0.0	
695	0x02B6	Battery Bank 2 Charging Energy This Month	uint32	r	kWh	0.001	0.0	
697	0x02B8	Battery Bank 2 Charging Energy This Year	uint32	r	kWh	0.001	0.0	

Reg. No.	Reg. Addr.	Name	Type	R/W	Units	Scale	Offset	Notes
699	0x02BA	Battery Bank 2 Charging Energy Lifetime	uint32	r	kWh	0.001	0.0	
701	0x02BC	Battery Bank 2 Charging Active This Hour	uint32	r	s	1.0	0.0	
703	0x02BE	Battery Bank 2 Charging Active Today	uint32	r	s	1.0	0.0	
705	0x02C0	Battery Bank 2 Charging Active This Week	uint32	r	s	1.0	0.0	
707	0x02C2	Battery Bank 2 Charging Active This Month	uint32	r	s	1.0	0.0	
709	0x02C4	Battery Bank 2 Charging Active This Year	uint32	r	s	1.0	0.0	
711	0x02C6	Battery Bank 2 Charging Active Lifetime	uint32	r	s	1.0	0.0	
713	0x02C8	Battery Bank 2 Inverting Energy This Hour	uint32	r	kWh	0.001	0.0	
715	0x02CA	Battery Bank 2 Inverting Energy Today	uint32	r	kWh	0.001	0.0	
717	0x02CC	Battery Bank 2 Inverting Energy This Week	uint32	r	kWh	0.001	0.0	
719	0x02CE	Battery Bank 2 Inverting Energy This Month	uint32	r	kWh	0.001	0.0	
721	0x02D0	Battery Bank 2 Inverting Energy This Year	uint32	r	kWh	0.001	0.0	
723	0x02D2	Battery Bank 2 Inverting Energy Lifetime	uint32	r	kWh	0.001	0.0	
725	0x02D4	Battery Bank 2 Inverting Active This Hour	uint32	r	s	1.0	0.0	
727	0x02D6	Battery Bank 2 Inverting Active Today	uint32	r	s	1.0	0.0	

Reg. No.	Reg. Addr.	Name	Type	R/W	Units	Scale	Offset	Notes
729	0x02D8	Battery Bank 2 Inverting Active This Week	uint32	r	s	1.0	0.0	
731	0x02DA	Battery Bank 2 Inverting Active This Month	uint32	r	s	1.0	0.0	
733	0x02DC	Battery Bank 2 Inverting Active This Year	uint32	r	s	1.0	0.0	
735	0x02DE	Battery Bank 2 Inverting Active Lifetime	uint32	r	s	1.0	0.0	
737	0x02E0	Battery Bank 3 Charging Energy This Hour	uint32	r	kWh	0.001	0.0	
739	0x02E2	Battery Bank 3 Charging Energy Today	uint32	r	kWh	0.001	0.0	
741	0x02E4	Battery Bank 3 Charging Energy This Week	uint32	r	kWh	0.001	0.0	
743	0x02E6	Battery Bank 3 Charging Energy This Month	uint32	r	kWh	0.001	0.0	
745	0x02E8	Battery Bank 3 Charging Energy This Year	uint32	r	kWh	0.001	0.0	
747	0x02EA	Battery Bank 3 Charging Energy Lifetime	uint32	r	kWh	0.001	0.0	
749	0x02EC	Battery Bank 3 Charging Active This Hour	uint32	r	s	1.0	0.0	
751	0x02EE	Battery Bank 3 Charging Active Today	uint32	r	s	1.0	0.0	
753	0x02F0	Battery Bank 3 Charging Active This Week	uint32	r	s	1.0	0.0	
755	0x02F2	Battery Bank 3 Charging Active This Month	uint32	r	s	1.0	0.0	
757	0x02F4	Battery Bank 3 Charging Active This Year	uint32	r	s	1.0	0.0	

Reg. No.	Reg. Addr.	Name	Type	R/W	Units	Scale	Offset	Notes
759	0x02F6	Battery Bank 3 Charging Active Lifetime	uint32	r	s	1.0	0.0	
761	0x02F8	Battery Bank 3 Inverting Energy This Hour	uint32	r	kWh	0.001	0.0	
763	0x02FA	Battery Bank 3 Inverting Energy Today	uint32	r	kWh	0.001	0.0	
765	0x02FC	Battery Bank 3 Inverting Energy This Week	uint32	r	kWh	0.001	0.0	
767	0x02FE	Battery Bank 3 Inverting Energy This Month	uint32	r	kWh	0.001	0.0	
769	0x0300	Battery Bank 3 Inverting Energy This Year	uint32	r	kWh	0.001	0.0	
771	0x0302	Battery Bank 3 Inverting Energy Lifetime	uint32	r	kWh	0.001	0.0	
773	0x0304	Battery Bank 3 Inverting Active This Hour	uint32	r	s	1.0	0.0	
775	0x0306	Battery Bank 3 Inverting Active Today	uint32	r	s	1.0	0.0	
777	0x0308	Battery Bank 3 Inverting Active This Week	uint32	r	s	1.0	0.0	
779	0x030A	Battery Bank 3 Inverting Active This Month	uint32	r	s	1.0	0.0	
781	0x030C	Battery Bank 3 Inverting Active This Year	uint32	r	s	1.0	0.0	
783	0x030E	Battery Bank 3 Inverting Active Lifetime	uint32	r	s	1.0	0.0	
785	0x0310	Battery Bank 4 Charging Energy This Hour	uint32	r	kWh	0.001	0.0	
787	0x0312	Battery Bank 4 Charging Energy Today	uint32	r	kWh	0.001	0.0	

Reg. No.	Reg. Addr.	Name	Type	R/W	Units	Scale	Offset	Notes
789	0x0314	Battery Bank 4 Charging Energy This Week	uint32	r	kWh	0.001	0.0	
791	0x0316	Battery Bank 4 Charging Energy This Month	uint32	r	kWh	0.001	0.0	
793	0x0318	Battery Bank 4 Charging Energy This Year	uint32	r	kWh	0.001	0.0	
795	0x031A	Battery Bank 4 Charging Energy Lifetime	uint32	r	kWh	0.001	0.0	
797	0x031C	Battery Bank 4 Charging Active This Hour	uint32	r	s	1.0	0.0	
799	0x031E	Battery Bank 4 Charging Active Today	uint32	r	s	1.0	0.0	
801	0x0320	Battery Bank 4 Charging Active This Week	uint32	r	s	1.0	0.0	
803	0x0322	Battery Bank 4 Charging Active This Month	uint32	r	s	1.0	0.0	
805	0x0324	Battery Bank 4 Charging Active This Year	uint32	r	s	1.0	0.0	
807	0x0326	Battery Bank 4 Charging Active Lifetime	uint32	r	s	1.0	0.0	
809	0x0328	Battery Bank 4 Inverting Energy This Hour	uint32	r	kWh	0.001	0.0	
811	0x032A	Battery Bank 4 Inverting Energy Today	uint32	r	kWh	0.001	0.0	
813	0x032C	Battery Bank 4 Inverting Energy This Week	uint32	r	kWh	0.001	0.0	
815	0x032E	Battery Bank 4 Inverting Energy This Month	uint32	r	kWh	0.001	0.0	

Reg. No.	Reg. Addr.	Name	Type	R/W	Units	Scale	Offset	Notes
817	0x0330	Battery Bank 4 Inverting Energy This Year	uint32	r	kWh	0.001	0.0	
819	0x0332	Battery Bank 4 Inverting Energy Lifetime	uint32	r	kWh	0.001	0.0	
821	0x0334	Battery Bank 4 Inverting Active This Hour	uint32	r	s	1.0	0.0	
823	0x0336	Battery Bank 4 Inverting Active Today	uint32	r	s	1.0	0.0	
825	0x0338	Battery Bank 4 Inverting Active This Week	uint32	r	s	1.0	0.0	
827	0x033A	Battery Bank 4 Inverting Active This Month	uint32	r	s	1.0	0.0	
829	0x033C	Battery Bank 4 Inverting Active This Year	uint32	r	s	1.0	0.0	
831	0x033E	Battery Bank 4 Inverting Active Lifetime	uint32	r	s	1.0	0.0	
833	0x0340	Battery Bank 5 Charging Energy This Hour	uint32	r	kWh	0.001	0.0	
835	0x0342	Battery Bank 5 Charging Energy Today	uint32	r	kWh	0.001	0.0	
837	0x0344	Battery Bank 5 Charging Energy This Week	uint32	r	kWh	0.001	0.0	
839	0x0346	Battery Bank 5 Charging Energy This Month	uint32	r	kWh	0.001	0.0	
841	0x0348	Battery Bank 5 Charging Energy This Year	uint32	r	kWh	0.001	0.0	
843	0x034A	Battery Bank 5 Charging Energy Lifetime	uint32	r	kWh	0.001	0.0	
845	0x034C	Battery Bank 5 Charging Active This Hour	uint32	r	s	1.0	0.0	

Reg. No.	Reg. Addr.	Name	Type	R/W	Units	Scale	Offset	Notes
847	0x034E	Battery Bank 5 Charging Active Today	uint32	r	s	1.0	0.0	
849	0x0350	Battery Bank 5 Charging Active This Week	uint32	r	s	1.0	0.0	
851	0x0352	Battery Bank 5 Charging Active This Month	uint32	r	s	1.0	0.0	
853	0x0354	Battery Bank 5 Charging Active This Year	uint32	r	s	1.0	0.0	
855	0x0356	Battery Bank 5 Charging Active Lifetime	uint32	r	s	1.0	0.0	
857	0x0358	Battery Bank 5 Inverting Energy This Hour	uint32	r	kWh	0.001	0.0	
859	0x035A	Battery Bank 5 Inverting Energy Today	uint32	r	kWh	0.001	0.0	
861	0x035C	Battery Bank 5 Inverting Energy This Week	uint32	r	kWh	0.001	0.0	
863	0x035E	Battery Bank 5 Inverting Energy This Month	uint32	r	kWh	0.001	0.0	
865	0x0360	Battery Bank 5 Inverting Energy This Year	uint32	r	kWh	0.001	0.0	
867	0x0362	Battery Bank 5 Inverting Energy Lifetime	uint32	r	kWh	0.001	0.0	
869	0x0364	Battery Bank 5 Inverting Active This Hour	uint32	r	s	1.0	0.0	
871	0x0366	Battery Bank 5 Inverting Active Today	uint32	r	s	1.0	0.0	
873	0x0368	Battery Bank 5 Inverting Active This Week	uint32	r	s	1.0	0.0	
875	0x036A	Battery Bank 5 Inverting Active This Month	uint32	r	s	1.0	0.0	

Reg. No.	Reg. Addr.	Name	Type	R/W	Units	Scale	Offset	Notes
877	0x036C	Battery Bank 5 Inverting Active This Year	uint32	r	s	1.0	0.0	
879	0x036E	Battery Bank 5 Inverting Active Lifetime	uint32	r	s	1.0	0.0	
897	0x0380	ComBox Mode	uint32	r		1.0	0.0	0=Stand-alone 1=Multicluster Master 2=Multicluster Slave
899	0x0382	External Contactor Status	uint32	r		1.0	0.0	0=CLOSE 1=OPEN
901	0x0384	Weather Station Irradiance	sint32	r	W/Sq-m	1.0	0.0	
903	0x0386	Weather Station Temperature	sint32	r	degC	0.1	0.0	
905	0x0388	Weather Sation Operting Mode	uint32	r		1.0	0.0	1=Normal Mode 2=Service Mode 3=Calibration Mode 4=Factory Mode 5=Error mode
907	0x038A	Solar Inverter (Load Side) Curtailment Status	uint32	r		1.0	0.0	0=Off 1=On
909	0x038C	Solar Inverter (Load Side) Output Power	uint32	r	W	1.0	0.0	
911	0x038E	Solar Inverter (Load Side) Frequency	uint32	r	Hz	0.01	0.0	
913	0x0390	INV LOAD Output Energy This Hour	uint32	r	kWh	0.001	0.0	
915	0x0392	INV LOAD Output Energy Today	uint32	r	kWh	0.001	0.0	
917	0x0394	INV LOAD Output Energy This Week	uint32	r	kWh	0.001	0.0	
919	0x0396	INV LOAD Output Energy This Month	uint32	r	kWh	0.001	0.0	
921	0x0398	INV LOAD Output Energy This Year	uint32	r	kWh	0.001	0.0	
923	0x039A	INV LOAD Output Energy Lifetime	uint32	r	kWh	0.001	0.0	

Reg. No.	Reg. Addr.	Name	Type	R/W	Units	Scale	Offset	Notes
925	0x039C	INV LOAD Output Active This Hour	uint32	r	s	1.0	0.0	
927	0x039E	INV LOAD Output Active Today	uint32	r	s	1.0	0.0	
929	0x03A0	INV LOAD Output Active This Week	uint32	r	s	1.0	0.0	
931	0x03A2	INV LOAD Output Active This Month	uint32	r	s	1.0	0.0	
933	0x03A4	INV LOAD Output Active This Year	uint32	r	s	1.0	0.0	
935	0x03A6	INV LOAD Output Active Lifetime	uint32	r	s	1.0	0.0	
937	0x03A8	Grid Voltage Line 1	uint32	r	V	0.001	0.0	
939	0x03AA	Grid Current Line 1	sint32	r	A	0.001	0.0	
941	0x03AC	Grid Voltage Line 2	uint32	r	V	0.001	0.0	
943	0x03AE	Grid Current Line 2	sint32	r	A	0.001	0.0	
945	0x03B0	Grid Voltage Line 3	uint32	r	V	0.001	0.0	
947	0x03B2	Grid Current Line 3	sint32	r	A	0.001	0.0	
949	0x03B4	Generator Running Since	uint32	r	s	1.0	0.0	This is a timestamp in seconds with POSIX format.
951	0x03B6	Generator Voltage Line1	uint32	r	V	0.001	0.0	
953	0x03B8	Generator Voltage Line 2	uint32	r	V	0.001	0.0	
955	0x03BA	Generator Voltage Line 3	uint32	r	V	0.001	0.0	
957	0x03BC	Generator Current Line 3	uint32	r	A	0.001	0.0	
959	0x03BE	Load Voltage Line 1	uint32	r	V	0.001	0.0	
961	0x03C0	Load Voltage Line 2	uint32	r	V	0.001	0.0	
963	0x03C2	Load Voltage Line 3	uint32	r	V	0.001	0.0	
965	0x03C4	Load Current Line 3	uint32	r	A	0.001	0.0	
967	0x03C6	Battery Bank1 Power	sint32	r	W	1.0	0.0	
969	0x03C8	Battery Bank1 SOC	uint32	r	%	1.0	0.0	
971	0x03CA	Battery Bank 1 Capacity Remaining	uint32	r	Ah	1.0	0.0	
973	0x03CC	Battery Bank 1 Time Until Recharge	uint32	r	s	1.0	0.0	

Reg. No.	Reg. Addr.	Name	Type	R/W	Units	Scale	Offset	Notes
975	0x03CE	Battery Bank 1 Last Recharge Time	uint32	r		1.0	0.0	This is a timestamp in seconds with POSIX format.
977	0x03D0	Battery Bank 2 Power	sint32	r	W	1.0	0.0	
979	0x03D2	Battery Bank 2 SOC	uint32	r	%	1.0	0.0	
981	0x03D4	Battery Bank 2 Capacity Remaining	uint32	r	Ah	1.0	0.0	
983	0x03D6	Battery Bank 2 Time Until Recharge	uint32	r	s	1.0	0.0	
985	0x03D8	Battery Bank 2 Last Recharge Time	uint32	r		1.0	0.0	This is a timestamp in seconds with POSIX format.
987	0x03DA	Battery Bank 3 Power	sint32	r	W	1.0	0.0	
989	0x03DC	Battery Bank 3 SOC	uint32	r	%	1.0	0.0	
991	0x03DE	Battery Bank 3 Capacity Remaining	uint32	r	Ah	1.0	0.0	
993	0x03E0	Battery Bank 3 Time Until Recharge	uint32	r	s	1.0	0.0	
995	0x03E2	Battery Bank 3 Last Recharge Time	uint32	r		1.0	0.0	This is a timestamp in seconds with POSIX format.
997	0x03E4	Battery Bank 4 Power	sint32	r	W	1.0	0.0	
999	0x03E6	Battery Bank 4 SOC	uint32	r	%	1.0	0.0	
1001	0x03E8	Battery Bank 4 Capacity Remaining	uint32	r	Ah	1.0	0.0	
1003	0x03EA	Battery Bank 4 Time Until Recharge	uint32	r	s	1.0	0.0	
1005	0x03EC	Battery Bank 4 Last Recharge Time	uint32	r		1.0	0.0	This is a timestamp in seconds with POSIX format.
1007	0x03EE	Battery Bank 5 power	sint32	r	W	1.0	0.0	
1009	0x03F0	Battery Bank 5 SOC	uint32	r	%	1.0	0.0	
1011	0x03F2	Battery Bank 5 Capacity Remaining	uint32	r	Ah	1.0	0.0	
1013	0x03F4	Battery Bank 5 Time Until Recharge	uint32	r	s	1.0	0.0	

Reg. No.	Reg. Addr.	Name	Type	R/W	Units	Scale	Offset	Notes
1015	0x03F6	Battery Bank 5 Last Recharge Time	uint32	r		1.0	0.0	This is a timestamp in seconds with POSIX format.
1017	0x03F8	Grid Net Power	sint32	r	W	1.0	0.0	
1019	0x03FA	PV Total Power	uint32	r	W	1.0	0.0	
1021	0x03FC	Battery Bank Total Inverting Power	uint32	r	W	1.0	0.0	
1023	0x03FE	Battery Bank Total Charging Power	uint32	r	W	1.0	0.0	
1025	0x0400	reserved	uint16	r				
1026	0x0401	reserved	uint16	r				
1027	0x0402	INV LOAD Voltage Line 1	uint32	r	V	0.001	0.0	
1029	0x0404	INV LOAD Current Line 1	uint32	r	A	0.001	0.0	
1031	0x0406	INV LOAD Voltage Line 2	uint32	r	V	0.001	0.0	
1033	0x0408	INV LOAD Current Line 2	uint32	r	A	0.001	0.0	
1035	0x040A	INV LOAD Voltage Line 3	uint32	r	V	0.001	0.0	
1037	0x040C	INV LOAD Current Line 3	uint32	r	A	0.001	0.0	
1039	0x040E	PV Total Power Max	uint32	r	W	1.0	0.0	
1041	0x0410	Load Power Max	uint32	r	W	1.0	0.0	
1043	0x0412	PV Total Energy This Hour	uint32	r	kWh	0.001	0.0	
1045	0x0414	PV Total Energy Today	uint32	r	kWh	0.001	0.0	
1047	0x0416	PV Total Energy This Week	uint32	r	kWh	0.001	0.0	
1049	0x0418	PV Total Energy This Month	uint32	r	kWh	0.001	0.0	
1051	0x041A	PV Total Energy This Year	uint32	r	kWh	0.001	0.0	
1053	0x041C	PV Total Energy Lifetime	uint32	r	kWh	0.001	0.0	
1055	0x041E	Battery Bank1 SOH	uint32	r	%	1.0	0.0	
1057	0x0420	Battery Bank 2 SOH	uint32	r	%	1.0	0.0	
1059	0x0422	Battery Bank 3 SOH	uint32	r	%	1.0	0.0	
1061	0x0424	Battery Bank 4 SOH	uint32	r	%	1.0	0.0	
1063	0x0426	Battery Bank 5 SOH	uint32	r	%	1.0	0.0	

Reg. No.	Reg. Addr.	Name	Type	R/W	Units	Scale	Offset	Notes
1065	0x0428	PV Total Active This Hour	uint32	r	kWh	0.001	0.0	
1067	0x042A	PV Total Active Today	uint32	r	kWh	0.001	0.0	
1069	0x042C	PV Total Active This Week	uint32	r	kWh	0.001	0.0	
1071	0x042E	PV Total Active This Month	uint32	r	kWh	0.001	0.0	
1073	0x0430	PV Total Active This Year	uint32	r	kWh	0.001	0.0	
1075	0x0432	PV Total Active Lifetime	uint32	r	kWh	0.001	0.0	

2 Data Point Enumerations

2.1 Valid Time Zone Settings

Available time zones are:

0=International-Date-Line-West
 1=Midway-Island
 2=Hawaiian
 3=Alaska
 4=Pacific-Time_US_Canada_Tijuana
 5=Mountain-Time_US_Canada
 6=Chihuahua_Mazatlan
 7=Arizona
 8=Central-Time_US_Canada
 9=Saskatchewan
 10=Guadalajara_Mexico-City_Monterrey
 11=Central_America
 12=Eastern-Time_US_Canada
 13=Indiana-East
 14=Bogota
 15=Lima
 16=Quito
 17=Atlantic-Time_Canada
 18=Caracas
 19=LaPaz
 20=Santiago
 21=Georgetown
 22=Newfoundland_Labrador
 23=Brasilia

24=Buenos_Aires
25=Greenland-Nuuk
26=Greenland-Qaanaaq
27=Mid-Atlantic
28=Azores
29=Cape-Verde-Islands
30=Edinburgh-London
31=Dublin
32=Lisbon
33=Casablanca_Monrovia
34=Belgrade_Bratislava_Budapest_Ljubljana_Prague
35=Sarajevo_Skopje_Warsaw_Zagreb
36=Brussels_Copenhagen_Madrid_Paris
37=Amsterdam_Berlin_Bern_Rome_Stockholm_Vienna
38=West-Central-Africa
39=Bucharest
40=Cairo
41=Helsinki_Kiev_Riga_Sofia_Tallinn_Vilnius
42=Athens_Istanbul
43=Jerusalem
44=Harare
45=Pretoria
46=Minsk
47=Kuwait_Riyadh_Baghdad
48=Nairobi
49=Tehran
50=Moscow_St.Petersburg
51=Volgograd
52=Abu-Dhabi_Muscat
53=Yerevan
54=Tbilisi
55=Baku
56=Kabul
57=Islamabad_Karachi
58=Tashkent
59=Chennai_Kolkata_Mumbai_New-Delhi
60=Sri-Jayawardenepura
61=Kathmandu
62=Astana_Almaty
63=Dhaka
64=Yekaterinburg
65=Yangon_Rangoon
66=Novosibirsk
67=Bangkok_Hanoi
68=Jakarta

69=Krasnoyarsk
70=Beijing_Chongqing_Hong-Kong-SAR_Urumqi
71=Kuala-Lumpur
72=Singapore
73=Taipei
74=Perth
75=Ulaanbaatar
76=Irkutsk
77=Seoul
78=Osaka_Sapporo_Tokyo
79=Yakutsk
80=Darwin
81=Adelaide
82=Canberra_Melbourne_Sydney_Hobart
83=Brisbane
84=Vladivostok
85=Guam
86=Port-Moresby
87=Magadan
88=Solomon-Islands
89=New-Caledonia
90=Fiji-Islands
91=Kamchatka
92=Marshall-Islands
93=Auckland_Wellington
94=Nukualofa
95=Samoa

2.2 System Power Flow

This bitmap shows the direction of power flow within the system. Multiple bits may be set concurrently. The Bitfield definitions are:

bit0=Grid to Load
bit1=Gen to Load
bit2=Reserved
bit3=Batt to Grid
bit4=Grid to Batt
bit5=Gen to Batt
bit6=PV to Batt
bit7=PV to Grid
bit8=Batt to Load