

## SIGMA S6000 MODBUS Memory Map

Addr	Tag	Description	Parameter	Range	Data type	Read/Write
<b>Measurements</b>						
1	U12	Phase 1-2 Voltage	0 - 32768 VAC	0 - 32768	Word	R
2	U23	Phase 2-3 Voltage	0 - 32768 VAC	0 - 32768	Word	R
3	U31	Phase 3-1 Voltage	0 - 32768 VAC	0 - 32768	Word	R
4	U1N	Phase 1-N Voltage	0 - 32768 VAC	0 - 32768	Word	R
5	U2N	Phase 2-N Voltage	0 - 32768 VAC	0 - 32768	Word	R
6	U3N	Phase 3-N Voltage	0 - 32768 VAC	0 - 32768	Word	R
7	I1	** Phase 1 Current	0 - 3276.8 A	0 - 32768	Word	R
8	I2	** Phase 2 Current	0 - 3276.8 A	0 - 32768	Word	R
9	I3	** Phase 3 Current	0 - 3276.8 A	0 - 32768	Word	R
10	Iactive1	** Phase 1 Active Current	-3276.8 - 3276.8 A	-32768 - 32768	Word	R
11	Iactive2	** Phase 2 Active Current	-3276.8 - 3276.8 A	-32768 - 32768	Word	R
12	Iactive3	** Phase 3 Active Current	-3276.8 - 3276.8 A	-32768 - 32768	Word	R
13	P1	Phase 1 Active Power	-32768 - 32768 kW	-32768 - 32768	Word	R
14	P2	Phase 2 Active Power	-32768 - 32768 kW	-32768 - 32768	Word	R
15	P3	Phase 3 Active Power	-32768 - 32768 kW	-32768 - 32768	Word	R
16	P	Active Power	-32768 - 32768 kW	-32768 - 32768	Word	R
17	Ireactive1	** Phase 1 Reactive Current	-3276.8 - 3276.8 A	-32768 - 32768	Word	R
18	Ireactive2	** Phase 2 Reactive Current	-3276.8 - 3276.8 A	-32768 - 32768	Word	R
19	Ireactive3	** Phase 3 Reactive Current	-3276.8 - 3276.8 A	-32768 - 32768	Word	R
20	Q1	Phase 1 Reactive Power	-32768 - 32768 kVAr	-32768 - 32768	Word	R
21	Q2	Phase 2 Reactive Power	-32768 - 32768 kVAr	-32768 - 32768	Word	R
22	Q3	Phase 3 Reactive Power	-32768 - 32768 kVAr	-32768 - 32768	Word	R
23	Q	Reactive Power	-32768 - 32768 kVAr	-32768 - 32768	Word	R
24	PF1	Phase 1 Power Factor	-1.00 - 1.00	-100 - 100	Word	R
25	PF2	Phase 2 Power Factor	-1.00 - 1.00	-100 - 100	Word	R
26	PF3	Phase 3 Power Factor	-1.00 - 1.00	-100 - 100	Word	R
27	PF	Power Factor	-1.00 - 1.00	-100 - 100	Word	R
28	VA1	Apparent Power 1	0 - 32768 kVA	0 - 32768	Word	R
29	VA2	Apparent Power 2	0 - 32768 kVA	0 - 32768	Word	R
30	VA3	Apparent Power 3	0 - 32768 kVA	0 - 32768	Word	R
31	VA	System Apparent Power	0 - 32768 kVA	0 - 32768	Word	R
32	Freq	Frequency	0 - 999.9 Hz	0 - 9999	Word	R
33	CBClosed	Circuit Breaker Closed	0 - 1	0 - 1	Word	R
<b>Protection Status</b>						
50	SCTrip	Short Circuit Trip	0 - 1	0 - 1	Word	R
51	OCTrip	Over Current Trip	0 - 1	0 - 1	Word	R
52	OLTrip	Over Load Trip	0 - 1	0 - 1	Word	R
53	RPTrip	Reverse Power Trip	0 - 1	0 - 1	Word	R
54	ELTrip	Excitation Loss Trip	0 - 1	0 - 1	Word	R
55	VEUpperTrip	Voltage Establish Upper Trip	0 - 1	0 - 1	Word	R
56	VELowerTrip	Voltage Establish Lower Trip	0 - 1	0 - 1	Word	R
57	FUEUpperTrip	Frequency Establish Upper Trip	0 - 1	0 - 1	Word	R
58	FELowerTrip	Frequency Establish Lower Trip	0 - 1	0 - 1	Word	R
<b>Error Status</b>						
59	CBClosedError	Circuit Breaker Closed Error	0 - 1	0 - 1	Word	R
60	CBTripError	Circuit Breaker Trip Error	0 - 1	0 - 1	Word	R
61	AbnormalTripError	Abnormal Trip Error	0 - 1	0 - 1	Word	R
62						
<b>Fault Status</b>						
69	Powersupply1Fault	Powersupply 1 Fault	0 - 1	0 - 1	Word	R
70	Powersupply2Fault	Powersupply 2 Fault	0 - 1	0 - 1	Word	R
71	CanbusFault	Canbus Fault	0 - 1	0 - 1	Word	R
72	MHFault	Measurehead Fault	0 - 1	0 - 1	Word	R
73						
74	IntSyncFault	Internal Sync Fault	0 - 1	0 - 1	Word	R
75						
76	CTWireFault	CT Wire Fault	0 - 1	0 - 1	Word	R
77						
78						
79						
<b>LED Status</b>						
80	LEDonOffMask	LED On/Off Status	Bit mask	-	Word	R
		Bit 0 = Primary Supply				
		Bit 1 = Backup Supply				
		Bit 2 = SC Protection				
		Bit 3 = OC Protection				
		Bit 4 = OL Protection				
		Bit 5 = RP Protection				
		Bit 6 = EL Protection				
		Bit 7 = VE Protection				
		Bit 8 = Voltage OK				
		Bit 9 = Phase OK				
		Bit 10 = C/B Closed				
		Bit 11 = C/B Trip				
		Bit 12 = NE1				
		Bit 13 = NE2				
		Bit 14 = Alarm				



81	LEDFlashMask	LED Flash Status	Bit mask	-	Word	R
		Bit 0 = Primary Supply				
		Bit 1 = Backup Supply				
		Bit 2 = SC Protection				
		Bit 3 = OC Protection				
		Bit 4 = OL Protection				
		Bit 5 = RP Protection				
		Bit 6 = EL Protection				
		Bit 7 = VE Protection				
		Bit 8 = Voltage OK				
		Bit 9 = Phase OK				
		Bit 10 = C/B Closed				
		Bit 11 = C/B Trip				
		Bit 12 = NE1				
		Bit 13 = NE2				
		Bit 14 = Alarm				
<b>Input Status</b>						
82	InputMask	Input Status	Bit mask	-	Word	R
		Bit 0 = C/B Reset				
		Bit 1 = C/B Closed				
		Bit 2 = NE Reset				
<b>Relay Status</b>						
84	RelayMask	Relay Status	Bit mask	-	Word	R
		Bit 0 = C/B Trip				
		Bit 1 = NE1 Trip				
		Bit 2 = NE2 Trip				
		Bit 3 = Alarm				
<b>Alarm Status</b>						
89	AlarmMask	Alarm Error Status	Bit mask	-	Word	R
		Bit 0 = Primary Supply				
		Bit 1 = Backup Supply				
		Bit 2 = Unused				
		Bit 3 = Measure Head				
		Bit 4 = Unused				
		Bit 5 = Sync. Int. Signal				
		Bit 6 = Unused				
		Bit 7 = Main Loop				
<b>Configuration</b>						
100	SCEnabled	Short-Circuit Protection Enabled	Index	0 - 1	Word	RW
		0 = No				
		1 = Yes				
101	SCLevel	Short-Circuit Protection Level	100 - 400 %	100 - 400	Word	RW
102	SCDelay	Short-Circuit Protection Delay	100 - 1000 ms	100 - 1000	Word	RW
103	PreSCDelay	Pre-Short-Circuit Protection Delay	100 - 1000 ms	100 - 1000	Word	RW
104						
105						
106						
107						
108	OCEnabled	Overcurrent Protection Enabled	Index	0 - 1	Word	RW
		0 = No				
		1 = Yes				
109	OCLevel	Overcurrent Protection Level	50 - 140 %	50 - 140	Word	RW
110	OCDelay	Overcurrent Protection Delay	0.1 - 30.0 s	1 - 300	Word	RW
111	PreOCDelay	Pre-Overcurrent Protection Delay	0.1 - 30.0 s	1 - 300	Word	RW
112						
113						
114						
115						
116	OLEnabled	Overload Protection Enabled	Index	0 - 1	Word	RW
		0 = No				
		1 = Yes				
117	OLLevel	Overload Protection Level	50 - 140 %	50 - 140	Word	RW
118	OLDelay	Overload Protection Delay	2.0 - 20.0 s	20 - 200	Word	RW
119	PreOLDelay	Pre-Overload Protection Delay	2.0 - 20.0 s	20 - 200	Word	RW
120	OLMode	Overload Mode	Index	0 - 1	Word	RW
		0 = Phase				
		1 = Sum				
121						
122						
123						
124						
125	RPEnabled	Reverse Power Protection Enabled	Index	0 - 1	Word	RW
		0 = No				
		1 = Yes				
126	RPLLevel	Reverse Power Protection Level	0 - 20 %	0 - 20	Word	RW
127	RPDelay	Reverse Power Protection Delay	2.0 - 20.0 s	20 - 200	Word	RW
128	PreRPDelay	Pre-Reverse Power Protection Delay	2.0 - 20.0 s	20 - 200	Word	RW
129	RPMMode	Reverse Power Mode	Index	0 - 1	Word	RW
		0 = Phase				
		1 = Sum				
130						
131						
132						



133						
134	ELEnabled	Excitation Loss Protection Enabled	Index	0 - 1	Word	RW
		0 = No				
		1 = Yes				
135	ELLevel	Excitation Loss Protection Level	0 - 150 %	0 - 150	Word	RW
136	ELDelay	Excitation Loss Protection Delay	2.0 - 20.0 s	20 - 200	Word	RW
137	PreELDelay	Pre-Excitation Loss Protection Delay	2.0 - 20.0 s	20 - 200	Word	RW
138	ELMode	Excitation Loss Mode	Index	0 - 1	Word	RW
		0 = Phase				
		1 = Sum				
139						
140						
141						
142						
143	VEEnabled	Volt. Establish. Protection Enabled	Index	0 - 1	Word	RW
		0 = No				
		1 = Yes				
144	VELowLevel	Volt. Establish. Protection Lower Level	50 - 100 %	50 - 100	Word	RW
145	VEUpLevel	Volt. Establish. Protection Upper Level	100 - 150 %	100 - 150	Word	RW
146	VEDelay	Volt. Establish. Protection Delay	1.0 - 30.0 s	10 - 300	Word	RW
147	PreVEDelay	Pre-Volt. Establish. Protection Delay	1.0 - 30.0 s	10 - 300	Word	RW
148	FEEEnabled	Freq. Establish. Protection Enabled	Index	0 - 1	Word	RW
		0 = No				
		1 = Yes				
149	FELowLevel	Freq. Establish. Protection Lower Level	50 - 100 %	50 - 100	Word	RW
150	FEUpLevel	Freq. Establish. Protection Upper Level	100 - 150 %	100 - 150	Word	RW
151	FEDelay	Freq. Establish. Protection Delay	1.0 - 30.0 s	10 - 300	Word	RW
152	PreFEDelay	Pre-Freq. Establish. Protection Delay	1.0 - 30.0 s	10 - 300	Word	RW
153	NE1Enabled	NE1 Load Trip Enabled	Index	0 - 1	Word	RW
		0 = No				
		1 = Yes				
154	NE1Param	NE1 Load Trip Parameter	Index	0 - 2	Word	RW
		0 = Frequency				
		1 = Load				
		2 = Current				
155	NE1Level	NE1 Load Trip Level	20 - 150 %	20 - 150	Word	RW
156	NE1Hyst	NE1 Hysteresis	1 - 100 %	1 - 100	Word	RW
157	NE1Delay	NE1 Load Trip Delay	1.0 - 60.0 s	10 - 600	Word	RW
158	NE1Mode	NE1 Load Trip Mode	Index	0 - 1	Word	RW
		0 = Phase				
		1 = Sum				
159						
160						
161	NE2Enabled	NE2 Load Trip Enabled	Index	0 - 1	Word	RW
		0 = No				
		1 = Yes				
162	NE2Param	NE2 Load Trip Parameter	Index	0 - 2	Word	RW
		0 = Frequency				
		1 = Load				
		2 = Current				
163	NE2Level	NE2 Load Trip Level	20 - 150 %	20 - 150	Word	RW
164	NE2Hyst	NE2 Hysteresis	1 - 100 %	1 - 100	Word	RW
165	NE2Delay	NE2 Load Trip Delay	1.0 - 60.0 s	10 - 600	Word	RW
166	NE2Mode	NE2 Load Trip Mode	Index	0 - 1	Word	RW
		0 = Phase				
		1 = Sum				
167						
168						
169	AlarmRelayProtection	Alarm Relay Protection	Index	0 - 1	Word	RW
170	CBTripContact	C/B Trip Relay Normal State	Index	0 - 1	Word	RW
		0 = Normally Deenergized (ND)				
		1 = Normally Energized (NE)				
171						
172	NE1TripContact	NE1 Relay Normal State	Index	0 - 1	Word	RW
		0 = Normally Deenergized (ND)				
		1 = Normally Energized (NE)				
173	NE1TripLatch	NE1 Relay Latch Function	index	0 - 1	Word	RW
		0 = No Latch				
		1 = Latch				
174						
175	NE2TripContact	NE2 Relay Normal State	Index	0 - 1	Word	RW
		0 = Normally Deenergized (ND)				
		1 = Normally Energized (NE)				
176	NE2TripLatch	NE2 Relay Latch Function	Index	0 - 1	Word	RW
		0 = No Latch				
		1 = Latch				
177						
178	UnloadTrip	Unload Trip Signal	index	0 - 1	Word	RW
		0 = CB Trip Relay				
		1 = Aux I/O 2				
179						
180						
181						



182						
183	Out1Src	Output 1 Source	Index	0 - 31	Word	RW
		0 = U12				
		1 = U23				
		2 = U31				
		3 = U1N				
		4 = U2N				
		5 = U3N				
		6 = I1				
		7 = I2				
		8 = I3				
		9 = Iactive1				
		10 = Iactive2				
		11 = Iactive3				
		12 = P1				
		13 = P2				
		14 = P3				
		15 = P				
		16 = Ireactive1				
		17 = Ireactive2				
		18 = Ireactive3				
		19 = Q1				
		20 = Q2				
		21 = Q3				
		22 = Q				
		23 = PF1				
		24 = PF2				
		25 = PF3				
		26 = PF				
		27 = VA1				
		28 = VA2				
		29 = VA3				
		30 = VA				
		31 = Freq				
184	Out1Signal	Output 1 Signal	Index	0 - 1	Word	RW
		0 = Voltage				
		1 = Current				
185	Out1SrcMin	Output 1 Source Min.	-1000.0 - 1000.0 %	-10000 - 10000	Word	RW
186	Out1SrcMax	Output 1 Source Max.	-1000.0 - 1000.0 %	-10000 - 10000	Word	RW
187	Out1VoltMin	Output 1 Voltage Min.	-10.000 - 10.000 VDC	-10000 - 10000	Word	RW
188	Out1VoltMax	Output 1 Voltage Max.	-10.000 - 10.000 VDC	-10000 - 10000	Word	RW
189	Out1CurMin	Output 1 Current Min.	0.000 - 24.000 mA	0 - 24000	Word	RW
190	Out1CurMax	Output 1 Current Max.	0.000 - 24.000 mA	0 - 24000	Word	RW
191						
192						
193						
194						
195						
196	Out2Src	Output 2 Source	Index	0 - 31	Word	RW
		0 = U12				
		1 = U23				
		2 = U31				
		3 = U1N				
		4 = U2N				
		5 = U3N				
		6 = I1				
		7 = I2				
		8 = I3				
		9 = Iactive1				
		10 = Iactive2				
		11 = Iactive3				
		12 = P1				
		13 = P2				
		14 = P3				
		15 = P				
		16 = Ireactive1				
		17 = Ireactive2				
		18 = Ireactive3				
		19 = Q1				
		20 = Q2				
		21 = Q3				
		22 = Q				
		23 = PF1				
		24 = PF2				
		25 = PF3				
		26 = PF				
		27 = VA1				
		28 = VA2				
		29 = VA3				
		30 = VA				
		31 = Freq				
197	Out2Signal	Output 2 Signal	Index	0 - 1	Word	RW
		0 = Voltage				



		1 = Current				
198	Out2SrcMin	Output 2 Source Min.	-1000.0 - 1000.0 %	-10000 - 10000	Word	RW
199	Out2SrcMax	Output 2 Source Max.	-1000.0 - 1000.0 %	-10000 - 10000	Word	RW
200	Out2VoltMin	Output 2 Voltage Min.	-10.000 - 10.000 VDC	-10000 - 10000	Word	RW
201	Out2VoltMax	Output 2 Voltage Max.	-10.000 - 10.000 VDC	-10000 - 10000	Word	RW
202	Out2CurMin	Output 2 Current Min.	0.000 - 24.000 mA	0 - 24000	Word	RW
203	Out2CurMax	Output 2 Current Max.	0.000 - 24.000 mA	0 - 24000	Word	RW
204						
205						
206						
207						
208						
209	Out3Src	Output 3 Source	Index	0 - 31	Word	RW
		0 = U12				
		1 = U23				
		2 = U31				
		3 = U1N				
		4 = U2N				
		5 = U3N				
		6 = I1				
		7 = I2				
		8 = I3				
		9 = Iactive1				
		10 = Iactive2				
		11 = Iactive3				
		12 = P1				
		13 = P2				
		14 = P3				
		15 = P				
		16 = Ireactive1				
		17 = Ireactive2				
		18 = Ireactive3				
		19 = Q1				
		20 = Q2				
		21 = Q3				
		22 = Q				
		23 = PF1				
		24 = PF2				
		25 = PF3				
		26 = PF				
		27 = VA1				
		28 = VA2				
		29 = VA3				
		30 = VA				
		31 = Freq				
210	Out3Signal	Output 3 Signal	Index	0 - 1	Word	RW
		0 = Voltage				
		1 = Current				
211	Out3SrcMin	Output 3 Source Min.	-1000.0 - 1000.0 %	-10000 - 10000	Word	RW
212	Out3SrcMax	Output 3 Source Max.	-1000.0 - 1000.0 %	-10000 - 10000	Word	RW
213	Out3VoltMin	Output 3 Voltage Min.	-10.000 - 10.000 VDC	-10000 - 10000	Word	RW
214	Out3VoltMax	Output 3 Voltage Max.	-10.000 - 10.000 VDC	-10000 - 10000	Word	RW
215	Out3CurMin	Output 3 Current Min.	0.000 - 24.000 mA	0 - 24000	Word	RW
216	Out3CurMax	Output 3 Current Max.	0.000 - 24.000 mA	0 - 24000	Word	RW
217						
218						
219						
220						
221						
222	NormVoltage	Nominal Voltage	63.0 - 690.0 VAC	630 - 6900	Word	RW
223	PrimVoltage	Primary Voltage	63 - 32000 VAC	63 - 32000	Word	RW
224						
225						
226	RatedFreq	Rated Frequency	35.0 - 500.0 Hz	350 - 5000	Word	RW
227	Neutral	Neutral Connection	Index	0 - 1	Word	RW
		0 = No				
		1 = Yes				
228	LoadCalc	Load Calculation	Index	0 - 1	Word	RW
		0 = Current				
		1 = Load				
229	VoltOKWnd	Voltage OK Window	0 - 20 %	0 - 20	Word	RW
230	CosPhi	CosPhi	0 - 100	0 - 100	Word	RW
231						
232						
233						
234						
235						
236	RS232BaudRate	RS232 Baud Rate	Index	0 - 4	Word	RW
		0 = 1200				
		1 = 2400				
		2 = 4800				
		3 = 9600				
		4 = 19200				



237	RS232Parity	RS232 Parity 0 = None 1 = Even 2 = Odd	Index	0 - 2	Word	RW
238	RS232DataBits	RS232 Data Bits 0 = 7 1 = 8	Index	0 - 1	Word	RW
239	RS232StopBits	RS232 Stop Bits 0 = 1 1 = 2	Index	0 - 1	Word	RW
240						
241						
242						
243						
244						
245	SC	SC indication OC output 0 = OFF 1 = OC 1 2 = OC 2 3 = OC 3 4 = OC 4 5 = OC 5 6 = OC 6		0- 6	Word	RW
246	OC	OC indication OC output 0 = OFF 1 = OC 1 2 = OC 2 3 = OC 3 4 = OC 4 5 = OC 5 6 = OC 6		0- 6	Word	RW
247	OL	OL indication OC output 0 = OFF 1 = OC 1 2 = OC 2 3 = OC 3 4 = OC 4 5 = OC 5 6 = OC 6		0- 6	Word	RW
248	RP	RP indication OC output 0 = OFF 1 = OC 1 2 = OC 2 3 = OC 3 4 = OC 4 5 = OC 5 6 = OC 6		0- 6	Word	RW
249	EL	EL indication OC output 0 = OFF 1 = OC 1 2 = OC 2 3 = OC 3 4 = OC 4 5 = OC 5 6 = OC 6		0- 6	Word	RW
250	VE upper	VE upper indication OC output 0 = OFF 1 = OC 1 2 = OC 2 3 = OC 3 4 = OC 4 5 = OC 5 6 = OC 6		0- 6	Word	RW
251	VE lower	VE lower indication OC output 0 = OFF 1 = OC 1 2 = OC 2 3 = OC 3 4 = OC 4 5 = OC 5 6 = OC 6		0- 6	Word	RW
252	FE upper	FE upper indication OC output 0 = OFF 1 = OC 1 2 = OC 2 3 = OC 3 4 = OC 4 5 = OC 5 6 = OC 6		0- 6	Word	RW
253	FE lower	FE lower indication OC output 0 = OFF 1 = OC 1 2 = OC 2		0- 6	Word	RW



		3 = OC 3				
		4 = OC 4				
		5 = OC 5				
		6 = OC 6				
254	Bus VE upper	Bus VE upper indication OC output		0- 6	Word	RW
		0 = OFF				
		1 = OC 1				
		2 = OC 2				
		3 = OC 3				
		4 = OC 4				
		5 = OC 5				
		6 = OC 6				
255	Bus VE lower	Bus VE lower indication OC output		0- 6	Word	RW
		0 = OFF				
		1 = OC 1				
		2 = OC 2				
		3 = OC 3				
		4 = OC 4				
		5 = OC 5				
		6 = OC 6				
256	Bus FE upper	Bus FE upper indication OC output		0- 6	Word	RW
		0 = OFF				
		1 = OC 1				
		2 = OC 2				
		3 = OC 3				
		4 = OC 4				
		5 = OC 5				
		6 = OC 6				
257	Bus FE lower	Bus FE lower indication OC output		0- 6	Word	RW
		0 = OFF				
		1 = OC 1				
		2 = OC 2				
		3 = OC 3				
		4 = OC 4				
		5 = OC 5				
		6 = OC 6				
258	Bus FD	Bus FD indication OC output		0- 6	Word	RW
		0 = OFF				
		1 = OC 1				
		2 = OC 2				
		3 = OC 3				
		4 = OC 4				
		5 = OC 5				
		6 = OC 6				

\*\* If GenMaxCur is configured > 3000A or CtPrimCurrent is configured > 3000A then there is no decimal on the values. At the same time the parameter range is changed from -3276,8 - 3276.8 A to -32768 - 32768 A.

