Group	Point				Description	PQ Recorder	Boomerang
				0-19	Reserved for legacy products		X
					Individual Binary Inputs		
				20	120V RMS AC Input 1		
				21	120V RMS AC Input 2		
				22-99	Unused		
	Channel 1	**Channel 2**	**Channel 3**	**Channel 4**	**Channel Oriented Binary Inputs**		
1	100	200	300	400	Voltage normal	X	X
	101	201	301	401	Voltage low low	X	X
	102	202	302	402	Voltage low	X	X
	103	203	303	403	Voltage high	X	X
	104	204	304	404	Voltage high high	X	X
	105	205	305	405	Current normal	X	X
	106	206	306	406	Current low low	X	X
	107	207	307	407	Current low	X	X
	108	208	308	408	Current high	X	X
	109	209	309	409	Current high high	X	X
	110	210	310	410	Real power normal	X	X
	111	211	311	411	Real power low low	X	X
	112	212	312	412	Real power low	X	X
	113	213	313	413	Real power high	X	X
	114	214	314	414	Real power high high	X	X
	115	215	315	415	Reactive power normal	X	X
	116	216	316	416	Reactive power low low	X	X
	117	217	317	417	Reactive power low	X	X
	118	218	318	418	Reactive power high	X	X
	119	219	319	419	Reactive power high high	X	X
	120	220	320	420	Apparent power normal	X	X
	121	221	321	421	Apparent power low low	X	X
	122	222	322	422	Apparent power low	X	X
	123	223	323	423	Apparent power high	X	X
	124	224	324	424	Apparent power high high	X	X

Group	Point				Description	PQ Recorder	Boomerang
				0-19	Reserved for legacy products		X
				20-99	Unused		
	Channel 1	**Channel 2**	**Channel 3**	**Channel 4**	**Channel Oriented Binary Input Events**		
2	100	200	300	400	Voltage returned to normal	X	X
	101	201	301	401	Voltage crossed low low threshold	X	X
	102	202	302	402	Voltage crossed low threshold	X	X
	103	203	303	403	Voltage crossed high threshold	X	X
	104	204	304	404	Voltage crossed high high threshold	X	X
	105	205	305	405	Current returned to normal	X	X
	106	206	306	406	Current crossed low low threshold	X	X
	107	207	307	407	Current crossed low threshold	X	X
	108	208	308	408	Current crossed high threshold	X	X
	109	209	309	409	Current crossed high high threshold	X	X
	110	210	310	410	Real power returned to normal	X	X
	111	211	311	411	Real power crossed low low threshold	X	X
	112	212	312	412	Real power crossed low threshold	X	X
	113	213	313	413	Real power crossed high threshold	X	X
	114	214	314	414	Real power crossed high high threshold	X	X
	115	215	315	415	Reactive power returned to normal	X	X
	116	216	316	416	Reactive power crossed low low threshold	X	X
	117	217	317	417	Reactive power crossed low threshold	X	X
	118	218	318	418	Reactive power crossed high threshold	X	X
	119	219	319	419	Reactive power crossed high high threshold	X	X
	120	220	320	420	Apparent power returned to normal	X	X
	121	221	321	421	Apparent power crossed low low threshold	X	X
	122	222	322	422	Apparent power crossed low threshold	X	X
	123	223	323	423	Apparent power crossed high threshold	X	X
	124	224	324	424	Apparent power crossed high high threshold	X	X

Group	Point	Description	PQ Recorder	Boomerang
10	0-19	Unused		
		Individual Binary Outputs (direct write)		
	20	Latching relay 1		
	21	Latching relay 2		
	22-99	Unused		

Group	Point	Description	PQ Recorder	Boomerang
12	0-19	Unused		
		Individual Binary Outputs (select, operate)		
	20	Latching relay 1		
	21	Latching relay 2		
	22-99	Unused		

Group	Point				Description	PQ Recorder	Boomerang
20				0-19	Reserved for legacy products		X
					Individual Binary Counters		
				20	Run time (seconds)	X	X
				21	Received bytes (TCP + UDP)		X
				22	Transmitted bytes (TCP + UDP)		X
				23	Network up time (seconds)		X
				24	120V RMS AC input 1 state changes		
				25	120V RMS AC input 2 state changes		
				26	Relay output 1 state changes		
				27	Relay output 2 state changes		
				28-99	Unused		
	Channel 1	**Channel 2**	**Channel 3**	**Channel 4**	**Channel Oriented Binary Counters**		
	100	200	300	400	Voltage low low events	X	X
	101	201	301	401	Voltage low events	X	X
	102	202	302	402	Voltage high events	X	X
	103	203	303	403	Voltage high high events	X	X
	104	204	304	404	Reserved	X	X
	105	205	305	405	Time voltage low low	X	X
	106	206	306	406	Time voltage low	X	X
	107	207	307	407	Time voltage high	X	X
	108	208	308	408	Time voltage high high	X	X
	109	209	309	409	Time voltage normal	X	X
	110	210	310	410	Current low low events	X	X
	111	211	311	411	Current low events	X	X
	112	212	312	412	Current high events	X	X
	113	213	313	413	Current high high events	X	X
	114	214	314	414	Reserved	X	X
	115	215	315	415	Time current low low	X	X
	116	216	316	416	Time current low	X	X
	117	217	317	417	Time current high	X	X
	118	218	318	418	Time current high high	X	X
	119	219	319	419	Time current normal	X	X
	120	220	320	420	Real power low low events	X	X
	121	221	321	421	Real power low events	X	X
	122	222	322	422	Real power high events	X	X
	123	223	323	423	Real power high high events	X	X
	124	224	324	424	Reserved	X	X
	125	225	325	425	Time real power low low	X	X
	126	226	326	426	Time real power low	X	X
	127	227	327	427	Time real power high	X	X
	128	228	328	428	Time real power high high	X	X
	129	229	329	429	Time real power normal	X	X
	130	230	330	430	Reactive power low low events	X	X
	131	231	331	431	Reactive power low events	X	X
	132	232	332	432	Reactive power high events	X	X
	133	233	333	433	Reactive power high high events	X	X
	134	234	334	434	Reserved		X
	135	235	335	435	Time reactive power low low	X	X
	136	236	336	436	Time reactive power low	X	X
	137	237	337	437	Time reactive power high	X	X
	138	238	338	438	Time reactive power high high	X	X
	139	239	339	439	Time reactive power normal	X	X
	140	240	340	440	Apparent power low low events	X	X
	141	241	341	441	Apparent power low events	X	X
	142	242	342	442	Apparent power high events	X	X
	143	243	343	443	Apparent power high high events	X	X
	144	244	344	444	Reserved		X
	145	245	345	445	Time apparent power low low	X	X
	146	246	346	446	Time apparent power low	X	X
	147	247	347	447	Time apparent power high	X	X
	148	248	348	448	Time apparent power high high	X	X
	149	249	349	449	Time apparent power normal	X	X

Group	Point				Description	PQ Recorder	Boomerang
22				0-19	Reserved for legacy products		X
				20-99	Unused		
	Channel 1	**Channel 2**	**Channel 3**	**Channel 4**	**Channel Oriented Binary Counter Events**		
	100-129	200-229	300-329	400-429	Not implemented		

Group	Point				Description	PQ Recorder	Boomerang
30				0-19	Reserved for legacy products		X
					Individual Analog Inputs		
				20	Firmware version	X	X
				21	Serial number	X	X
				22	Clamp Range	X	
				23-99	Unused		
	Channel 1	**Channel 2**	**Channel 3**	**Channel 4**	**Channel Oriented Analog Inputs**		
	100	200	300	400	RMS voltage (1 second average)	X	X
	101	201	301	401	… (programmable window average)	X	X
	102	202	302	402	… (1 second minimum)	X	X
	103	203	303	403	… (1 second maximum)	X	X
	104	204	304	404	Reserved	X	X
	105	205	305	405	RMS current (1 second average)	X	X
	106	206	306	406	… (programmable window average)	X	X
	107	207	307	407	… (1 second minimum)	X	X
	108	208	308	408	… (1 second maximum)	X	X
	109	209	309	409	Reserved	X	X
	110	210	310	410	Real power (1 second average)	X	X
	111	211	311	411	… (programmable window average)	X	X
	112	212	312	412	… (1 second minimum)	X	X
	113	213	313	413	… (1 second maximum)	X	X
	114	214	314	414	Reserved	X	X
	115	215	315	415	Reactive power (1 second average)	X	X
	116	216	316	416	… (programmable window average)	X	X
	117	217	317	417	… (1 second minimum)	X	
	118	218	318	418	… (1 second maximum)	X	
	119	219	319	419	Reserved	X	
	120	220	320	420	Apparent power (1 second average)	X	X
	121	221	321	421	… (programmable window average)	X	X
	122	222	322	422	… (1 second minimum)	X	
	123	223	323	423	… (1 second maximum)	X	
	124	224	324	424	Reserved	X	
	125	225	325	425	Phase angle (1 second average)	X	
	126	226	326	426	… (programmable window average)	X	
	127	227	327	427	… (1 second minimum)	X	
	128	228	328	428	… (1 second maximum)	X	
	129	229	329	429	Reserved	X	
	130	230	330	430	Power factor (1 second average)	X	
	131	231	331	431	… (programmable window average)	X	
	132	232	332	432	… (1 second minimum)	X	
	133	233	333	433	… (1 second maximum)	X	
	134	234	334	434	Reserved	X	
	135	235	335	435	Displacement power factor (1 second average)	X	
	136	236	336	436	… (programmable window average)	X	
	137	237	337	437	… (1 second minimum)	X	
	138	238	338	438	… (1 second maximum)	X	
	139	239	339	439	Reserved	X	
	140	240	340	440	Voltage THD (1 second average)	X	
	141	241	341	441	… (programmable window average)	X	
	142	242	342	442	Reserved	X	
	143	243	343	443	Reserved	X	
	144	244	344	444	Reserved	X	
	145	245	345	445	Current THD (1 second average)	X	
	146	246	346	446	… (programmable window average)	X	
	147	247	347	447	Reserved	X	
	148	248	348	448	Reserved	X	
	149	249	349	449	Reserved	X	
	150	250	350	450	Frequency (1 second average)	X	
	151	251	351	451	… (programmable window average)	X	
	152	252	352	452	Reserved	X	
	153	253	353	453	Reserved	X	
	154	254	354	454	Reserved	X	
	155	255	355	455	Pst flicker (1 second average)	X	
	156	256	356	456	… (programmable window average)	X	
	157	257	357	457	Reserved	X	
	158	258	358	458	Reserved	X	
	159	259	359	459	Reserved	X	
	160	260	360	460	Plt flicker (1 second average)		
	161	261	361	461	… (programmable window average)		
	162	262	362	462	Reserved		
	163	263	363	463	Reserved		
	164	264	364	464	Reserved		
	165	265	365	465	IFL flicker (1 second average)	X	
	166	266	366	466	… (programmable window average)	X	
	167	267	367	467	Reserved	X	
	168	268	368	468	Reserved	X	
	169	269	369	469	Reserved	X	
	Channel 1	**Channel 2**	**Channel 3**	**Channel 4**			
	10000-10051	20000-20051	30000-30051	40000-40051	52 Harmonic voltage magnitudes	X	
	10052-10103	20052-20103	30052-30103	40052-40103	52 Harmonic voltage phases	X	
	10104-10155	20104-20155	30104-30155	40104-40155	52 Harmonic current magnitudes	X	
	10156-10207	20156-20207	30156-30207	40156-40207	52 Harmonic current phases	X	

Group	Point				Description	PQ Recorder	Boomerang
				0-19	Reserved for legacy products		X
				20-99	Unused		
	Channel 1	**Channel 2**	**Channel 3**	**Channel 4**	**Channel Oriented Analog Input Events**		
	100	200	300	400	Voltage event (1 second average)	X	X
	101	201	301	401	… (programmable window average)	X	
	102	202	302	402	… (1 second minimum)		
	103	203	303	403	… (1 second maximum)		
	104	204	304	404	Reserved		
	105	205	305	405	Current event (1 second average)	X	X
	106	206	306	406	… (programmable window average)	X	
	107	207	307	407	… (1 second minimum)		
	108	208	308	408	… (1 second maximum)		
	109	209	309	409	Reserved		
32	110	210	310	410	Real power event (1 second average)	X	X
	111	211	311	411	… (programmable window average)	X	
	112	212	312	412	… (1 second minimum)		
	113	213	313	413	… (1 second maximum)		
	114	214	314	414	Reserved		
	115	215	315	415	Reactive power event (1 second average)	X	X
	116	216	316	416	… (programmable window average)	X	X
	117	217	317	417	… (1 second minimum)		
	118	218	318	418	… (1 second maximum)		
	119	219	319	419	Reserved		
	120	220	320	420	Apparent power event (1 second average)	X	X
	121	221	321	421	… (programmable window average)	X	X
	122	222	322	422	… (1 second minimum)		
	123	223	323	423	… (1 second maximum)		
	124	224	324	424	Reserved		

Group	Point				Description	PQ Recorder	Boomerang
				0-99	Unused		
	Channel 1	**Channel 2**	**Channel 3**	**Channel 4**	**Deadband (for analog inputs)**		
	100	200	300	400	Voltage event (1 second average)	X	X
	101	201	301	401	… (programmable window average)	X	X
	102	202	302	402	… (1 second minimum)		
	103	203	303	403	… (1 second maximum)		
	104	204	304	404	Reserved		
	105	205	305	405	Current event (1 second average)	X	X
	106	206	306	406	… (programmable window average)	X	X
	107	207	307	407	… (1 second minimum)		
	108	208	308	408	… (1 second maximum)		
	109	209	309	409	Reserved		
34	110	210	310	410	Real power event (1 second average)	X	X
	111	211	311	411	… (programmable window average)	X	X
	112	212	312	412	… (1 second minimum)		
	113	213	313	413	… (1 second maximum)		
	114	214	314	414	Reserved		
	115	215	315	415	Reactive power event (1 second average)	X	X
	116	216	316	416	… (programmable window average)	X	X
	117	217	317	417	… (1 second minimum)		
	118	218	318	418	… (1 second maximum)		
	119	219	319	419	Reserved		
	120	220	320	420	Apparent power event (1 second average)	X	X
	121	221	321	421	… (programmable window average)	X	X
	122	222	322	422	… (1 second minimum)		
	123	223	323	423	… (1 second maximum)		
	124	224	324	424	Reserved		

Group	Point				Description	PQ Recorder	Boomerang
				0-19	Reserved for legacy products		X
					Analog Outputs		
				20	Commit output settings to flash storage		X
				21	Threshold hold off time (seconds)	X	X
				22	Threshold hysteresis	X	X
				23	Current range (0-3)(10A, 100A, 1000A, 5000A)	X	X
				24	Circuit type (0-5) (WYE, Delta3, Delta4, two_el_wye, single_phase, two_el_delta	X	X
				25	Averaging window (secs)	X	X
				26-99	Unused		
	Channel 1	**Channel 2**	**Channel 3**	**Channel 4**	**Channel Oriented Analog Outputs**		
	100	200	300	400	Voltage low low threshold	X	X
	101	201	301	401	Voltage low threshold	X	X
	102	202	302	402	Voltage high threshold	X	X
	103	203	303	403	Voltage high high threshold	X	X
	104	204	304	404	Voltage deadband	X	X
40	105	205	305	405	Current low low threshold	X	X
	106	206	306	406	Current low threshold	X	X
	107	207	307	407	Current high threshold	X	X
	108	208	308	408	Current high high threshold	X	X
	109	209	309	409	Current deadband	X	X
	110	210	310	410	Real power low low threshold	X	X
	111	211	311	411	Real power low threshold	X	X
	112	212	312	412	Real power high threshold	X	X
	113	213	313	413	Real power high high threshold	X	X
	114	214	314	414	Real power deadband	X	X
	115	215	315	415	Reactive power low low threshold	X	X
	116	216	316	416	Reactive power low threshold	X	X
	117	217	317	417	Reactive power high threshold	X	X
	118	218	318	418	Reactive power high high threshold	X	X
	119	219	319	419	Reactive power deadband	X	X
	120	220	320	420	Apparent power low low threshold	X	X
	121	221	321	421	Apparent power low threshold	X	X
	122	222	322	422	Apparent power high threshold	X	X
	123	223	323	423	Apparent power high high threshold	X	X
	124	224	324	424	Apparent power deadband	X	X