

## Application Note AN-009 **GX14C, GX200C, and GX23C** **Pickup Voltage, Dropout Voltage, and Coil Current** **vs. Temperature**

Since Gigavac contactors are operated by a coil that changes resistance with temperature, Pick-up Voltage and Drop Out Voltage will decrease at temperatures below 25C and increase at temperatures above 25C. Coil current will be higher at lower temperatures and lower at higher temperatures. Figures 1 through 4 shows the Pickup and Dropout Voltages and Inrush and Coil Currents over the temperature range while Table 1 presents the data numerically.

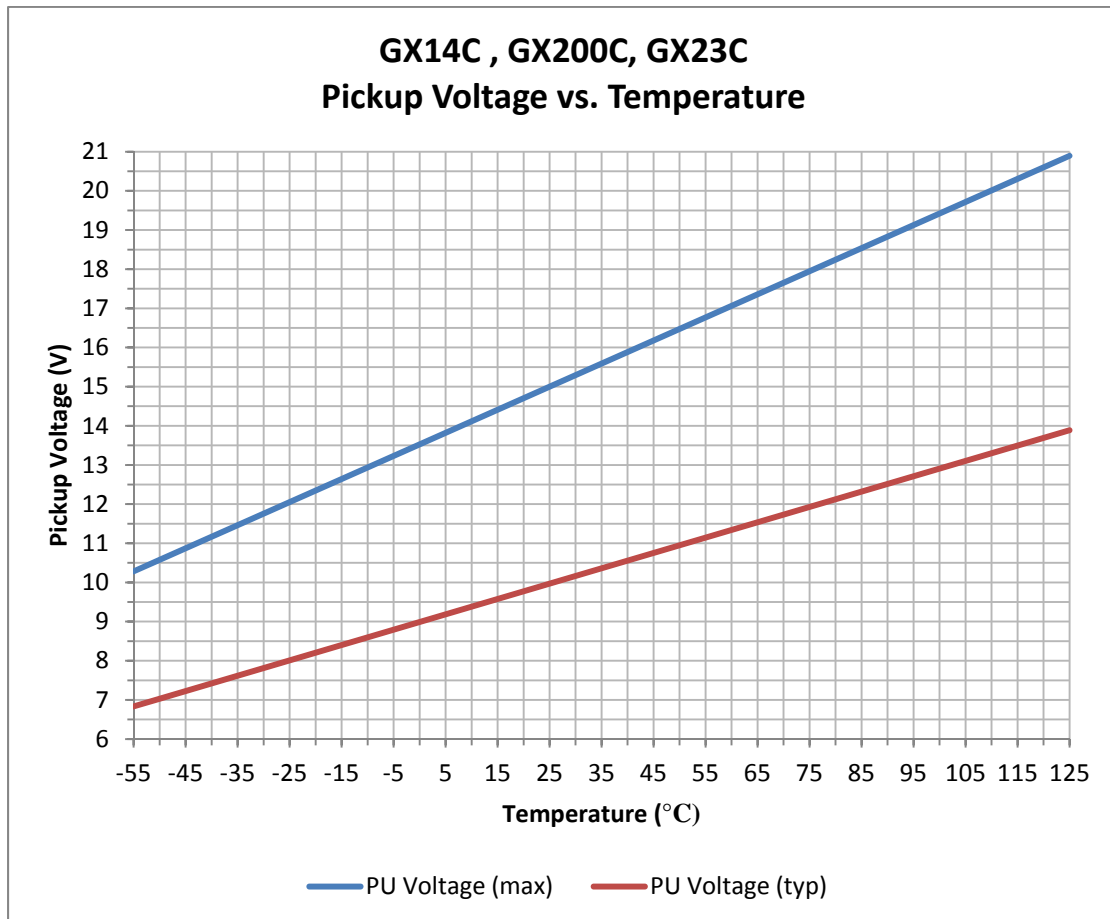


Figure 1.

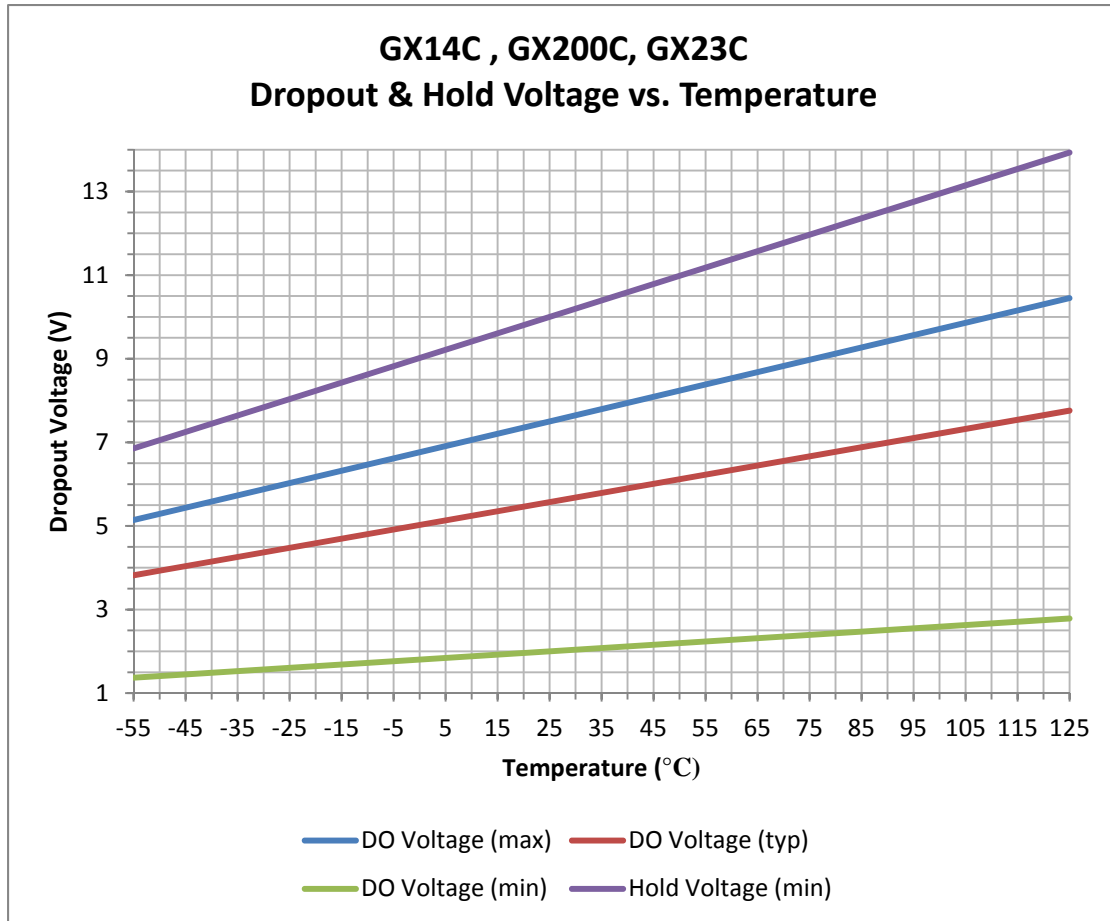


Figure 2.

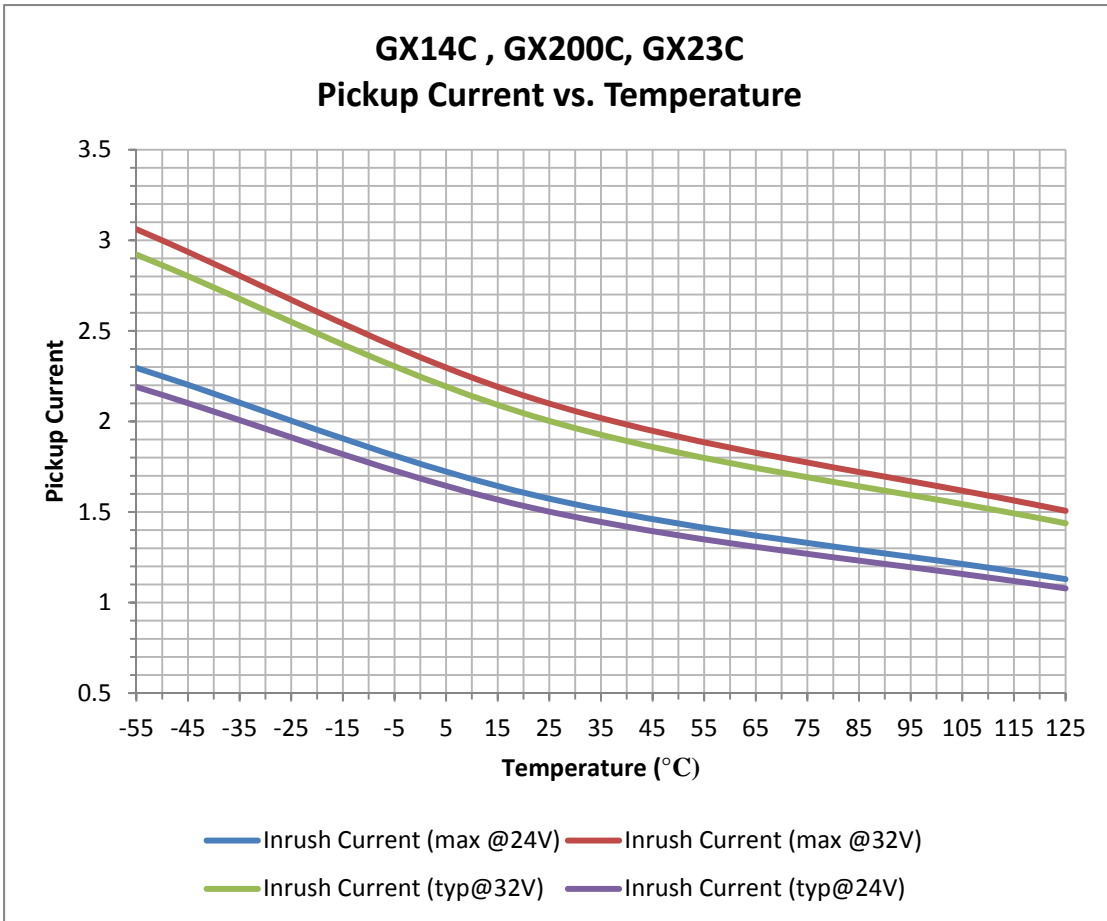


Figure 3.

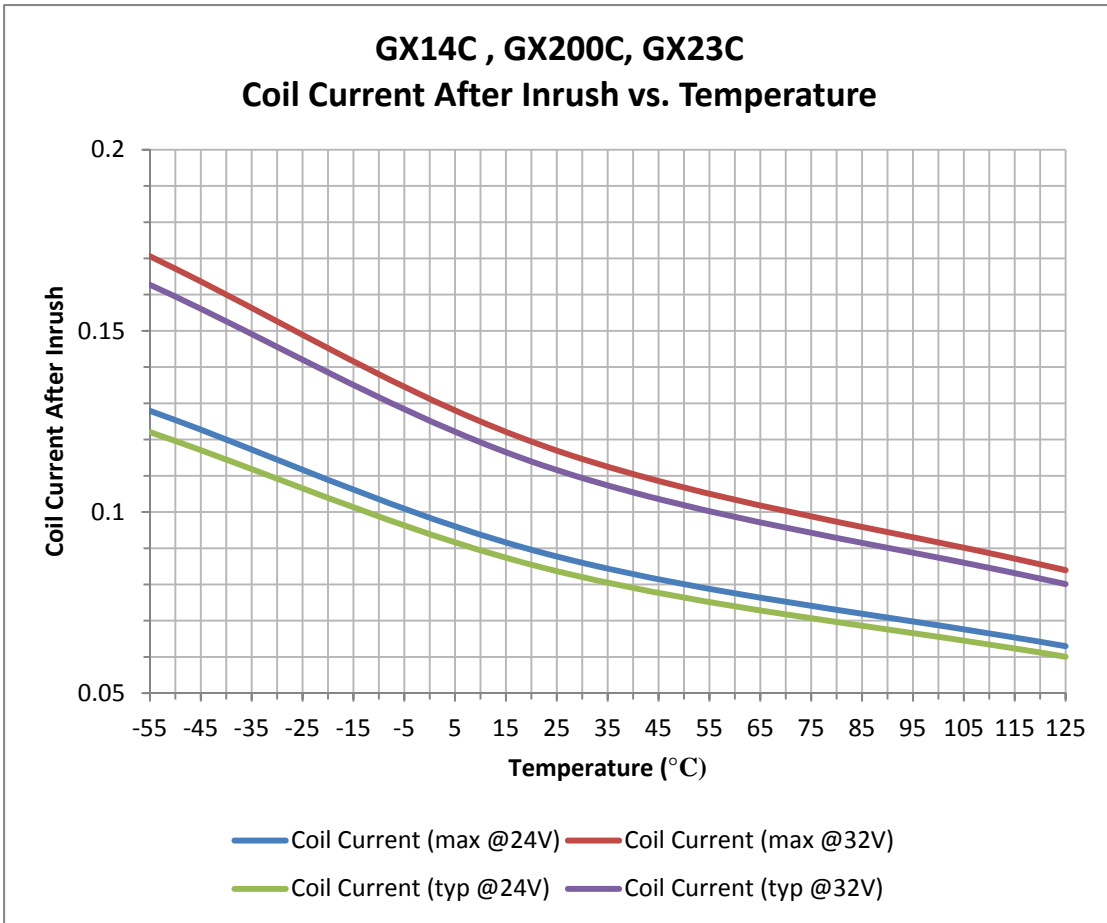


Figure 4.

Table 1

Temp. °C	GX14C, GX200C, & GX23C														
	Pick up Voltage		Drop out Voltage			Hold Voltage	Inrush Current					Coil Current			
	Typ	Max	Min	Typ	Max	Min	@24Vdc		@32 Vdc			@24Vdc		@32 Vdc	
	Typ	Max	Min	Typ	Max	Min	Max	Typ	Max	Typ	Max	Typ	Max	Typ	
-55	6.84	10.28	1.37	3.82	5.14	6.86	2.30	2.19	3.06	2.92	0.128	0.122	0.171	0.163	
-50	7.03	10.58	1.41	3.93	5.29	7.05	2.23	2.13	2.98	2.84	0.124	0.119	0.166	0.158	
-45	7.23	10.87	1.45	4.04	5.44	7.25	2.17	2.07	2.89	2.76	0.121	0.115	0.161	0.154	
-40	7.42	11.17	1.49	4.15	5.58	7.45	2.11	2.02	2.82	2.69	0.118	0.112	0.157	0.150	
-35	7.62	11.46	1.53	4.26	5.73	7.64	2.06	1.97	2.75	2.62	0.115	0.110	0.153	0.146	
-30	7.81	11.76	1.57	4.37	5.88	7.84	2.01	1.92	2.68	2.55	0.112	0.107	0.149	0.142	
-25	8.01	12.05	1.61	4.48	6.03	8.04	1.96	1.87	2.61	2.49	0.109	0.104	0.146	0.139	
-20	8.21	12.35	1.65	4.58	6.17	8.23	1.91	1.82	2.55	2.43	0.107	0.102	0.142	0.136	
-15	8.40	12.64	1.69	4.69	6.32	8.43	1.87	1.78	2.49	2.38	0.104	0.099	0.139	0.132	
-10	8.60	12.94	1.72	4.80	6.47	8.62	1.82	1.74	2.43	2.32	0.102	0.097	0.136	0.129	
-5	8.79	13.23	1.76	4.91	6.62	8.82	1.78	1.70	2.38	2.27	0.099	0.095	0.133	0.126	
0	8.99	13.53	1.80	5.02	6.76	9.02	1.75	1.67	2.33	2.22	0.097	0.093	0.130	0.124	
5	9.19	13.82	1.84	5.13	6.91	9.21	1.71	1.63	2.28	2.17	0.095	0.091	0.127	0.121	
10	9.38	14.12	1.88	5.24	7.06	9.41	1.67	1.60	2.23	2.13	0.093	0.089	0.124	0.119	
15	9.58	14.41	1.92	5.35	7.21	9.61	1.64	1.56	2.18	2.08	0.091	0.087	0.122	0.116	
20	9.77	14.71	1.96	5.46	7.35	9.80	1.61	1.53	2.14	2.04	0.089	0.085	0.119	0.114	
25	9.97	15.00	2.00	5.57	7.50	10.00	1.57	1.50	2.10	2.00	0.088	0.084	0.117	0.112	
30	10.17	15.29	2.04	5.68	7.65	10.20	1.54	1.47	2.06	1.96	0.086	0.082	0.115	0.109	
35	10.36	15.59	2.08	5.79	7.79	10.39	1.51	1.45	2.02	1.93	0.084	0.081	0.113	0.107	
40	10.56	15.88	2.12	5.90	7.94	10.59	1.49	1.42	1.98	1.89	0.083	0.079	0.110	0.105	
45	10.75	16.18	2.16	6.01	8.09	10.79	1.46	1.39	1.95	1.86	0.081	0.078	0.108	0.103	
50	10.95	16.47	2.20	6.12	8.24	10.98	1.43	1.37	1.91	1.82	0.080	0.076	0.106	0.102	
55	11.15	16.77	2.24	6.23	8.38	11.18	1.41	1.34	1.88	1.79	0.078	0.075	0.105	0.100	
60	11.34	17.06	2.28	6.34	8.53	11.38	1.38	1.32	1.84	1.76	0.077	0.074	0.103	0.098	
65	11.54	17.36	2.31	6.45	8.68	11.57	1.36	1.30	1.81	1.73	0.076	0.072	0.101	0.096	
70	11.73	17.65	2.35	6.56	8.83	11.77	1.34	1.28	1.78	1.70	0.075	0.071	0.099	0.095	
75	11.93	17.95	2.39	6.66	8.97	11.97	1.32	1.26	1.75	1.67	0.073	0.070	0.098	0.093	
80	12.13	18.24	2.43	6.77	9.12	12.16	1.29	1.23	1.73	1.65	0.072	0.069	0.096	0.092	
85	12.32	18.54	2.47	6.88	9.27	12.36	1.27	1.22	1.70	1.62	0.071	0.068	0.095	0.090	
90	12.52	18.83	2.51	6.99	9.42	12.55	1.25	1.20	1.67	1.60	0.070	0.067	0.093	0.089	
95	12.71	19.13	2.55	7.10	9.56	12.75	1.23	1.18	1.65	1.57	0.069	0.066	0.092	0.088	
100	12.91	19.42	2.59	7.21	9.71	12.95	1.22	1.16	1.62	1.55	0.068	0.065	0.090	0.086	
105	13.10	19.72	2.63	7.32	9.86	13.14	1.20	1.14	1.60	1.52	0.067	0.064	0.089	0.085	
110	13.30	20.01	2.67	7.43	10.01	13.34	1.18	1.13	1.57	1.50	0.066	0.063	0.088	0.084	
115	13.50	20.31	2.71	7.54	10.15	13.54	1.16	1.11	1.55	1.48	0.065	0.062	0.086	0.082	
120	13.69	20.60	2.75	7.65	10.30	13.73	1.15	1.09	1.53	1.46	0.064	0.061	0.085	0.081	
125	13.89	20.90	2.79	7.76	10.45	13.93	1.13	1.08	1.51	1.44	0.063	0.060	0.084	0.080	

If you have any questions you can always call us at 805-684-8401.