APPLICATION NOTE

Application Note AN-007

GX11C, GX12C, and GX21C
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 3 shows the Pickup and Dropout Voltages and Coil Current over the temperature range while Table 1 presents the data numerically.

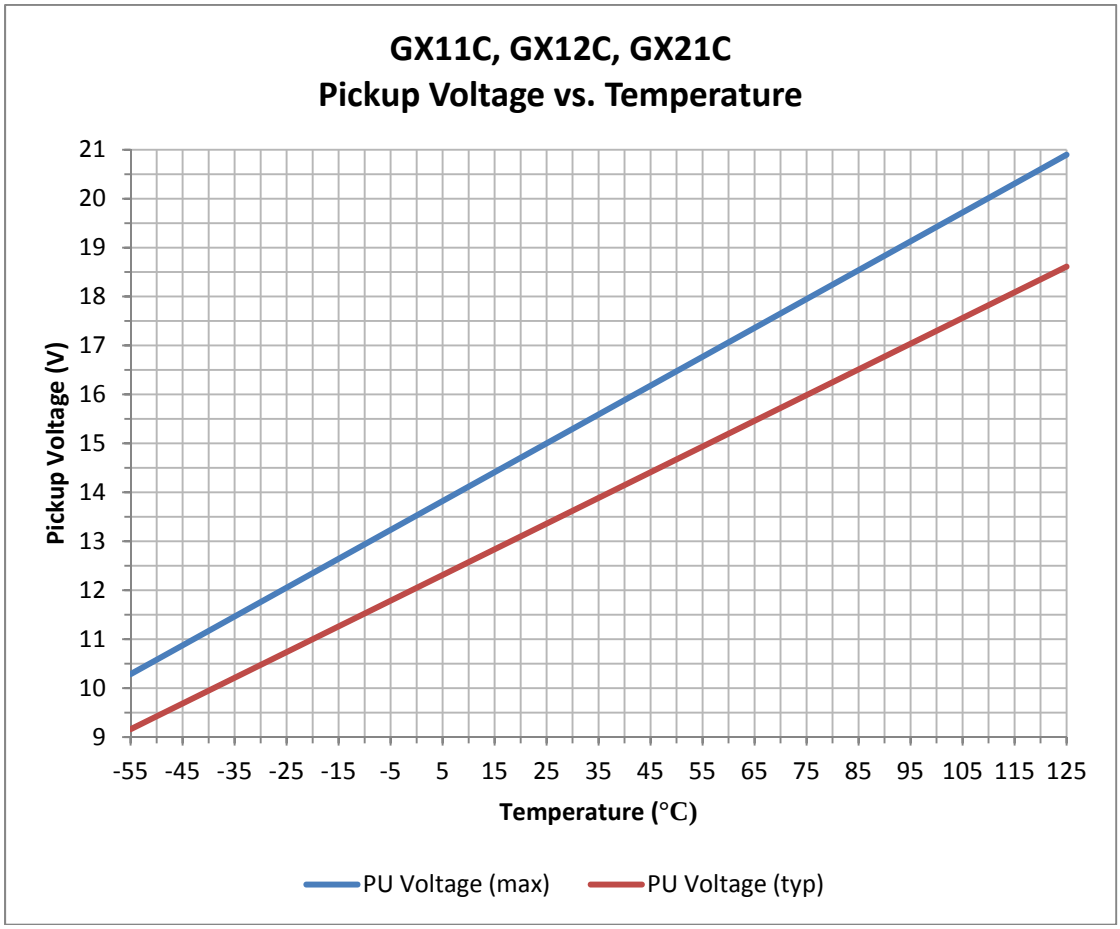

Figure 1.

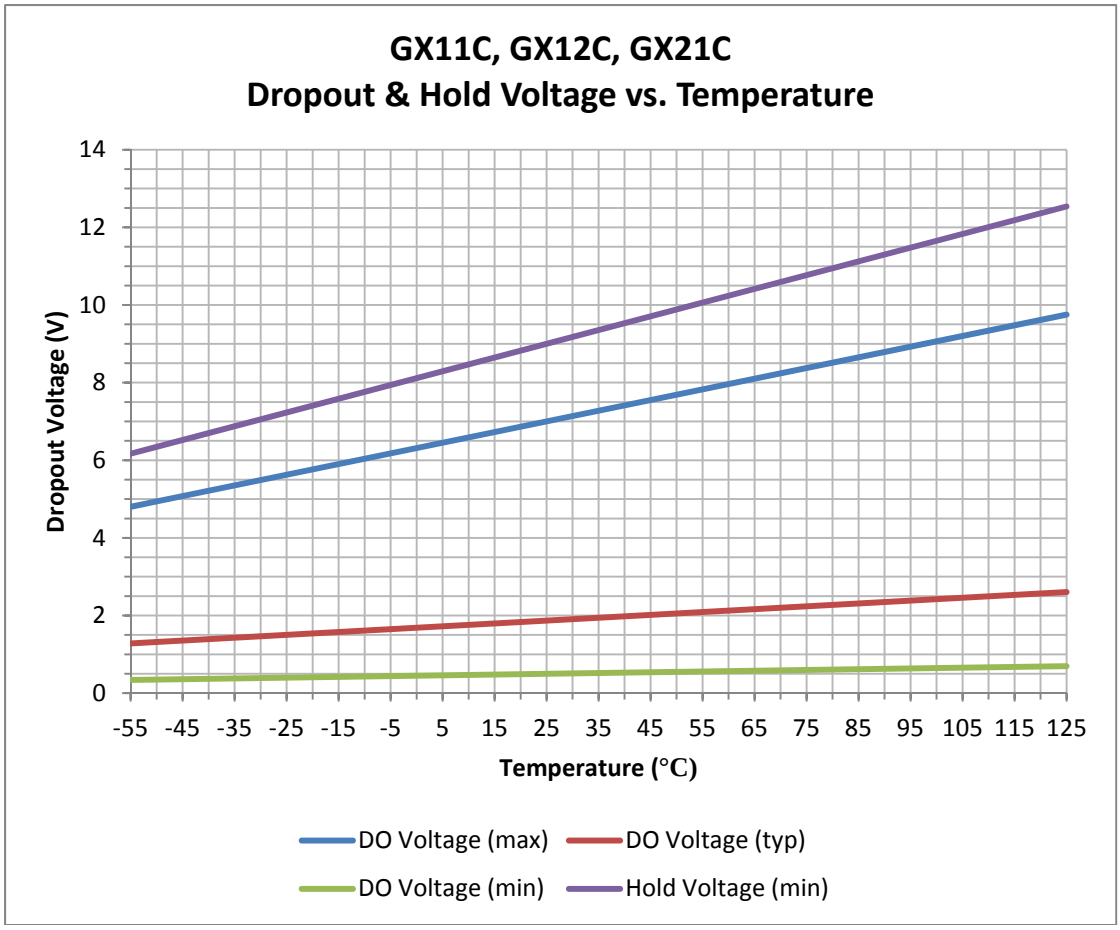
GX11C, GX12C, GX21C
Dropout & Hold Voltage vs. Temperature
Dropout Voltage (V)
14
12
10
8
6
4
2
0
-55 -45 -35 -25 -15 -5 5 15 25 35 45 55 65 75 85 95 105 115 125
Temperature (°C)
DO Voltage (max)
DO Voltage (typ)
DO Voltage (min)
Hold Voltage (min)

Figure 2.

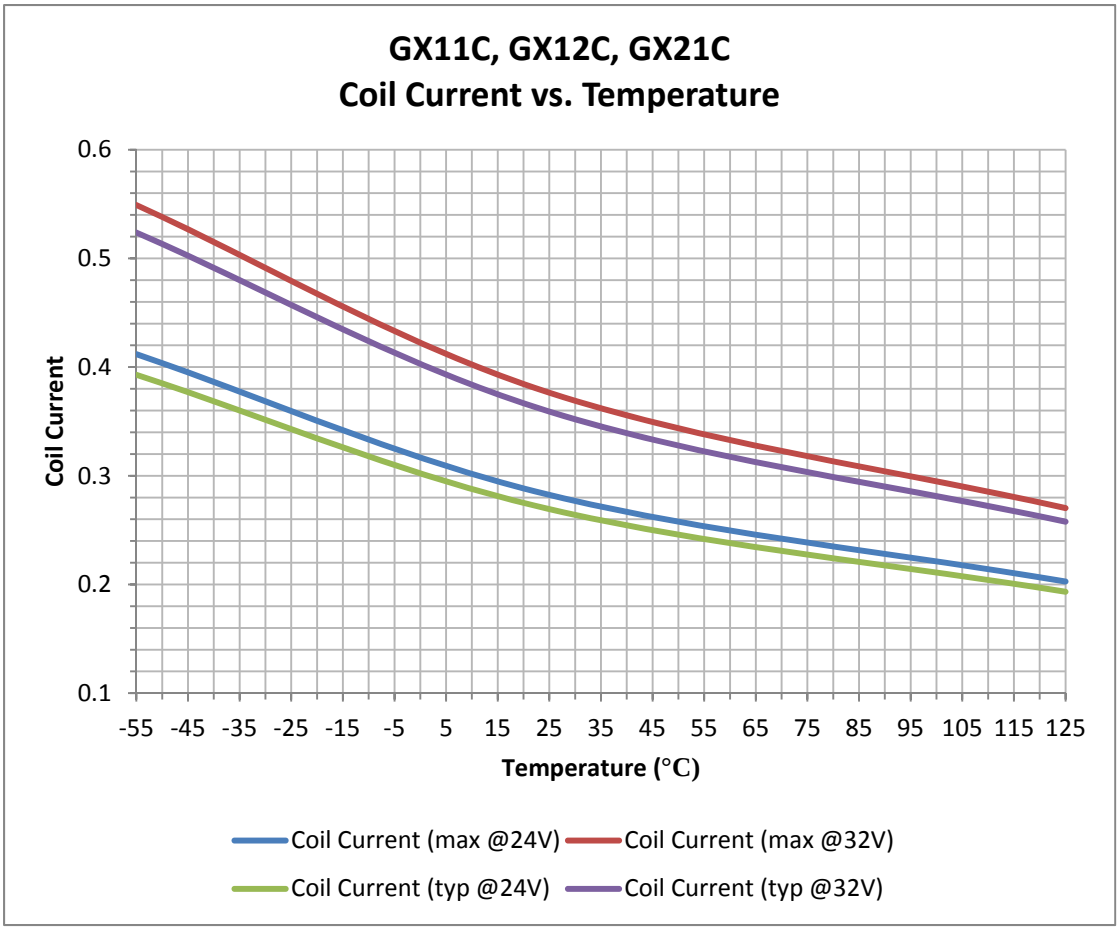
GX11C, GX12C, GX21C
Coil Current vs. Temperature
Coil Current
0.6
0.5
0.4
0.3
0.2
0.1
-55 -45 -35 -25 -15 -5 5 15 25 35 45 55 65 75 85 95 105 115 125
Temperature (°C)
Coil Current (max @24V)
Coil Current (max @32V)
Coil Current (typ @24V)
Coil Current (typ @32V)

Figure 3.

Table 1

Temp.	GX11C, GX12C, & GX21C									
	Pick up Voltage		Drop out Voltage			Hold Voltage	Coil Current			
							@24Vdc		@32 Vdc	
°C	Typ	Max	Min	Typ	Max		Max	Typ	Max	Typ
-55	9.16	10.28	0.34	1.28	4.80	6.17	0.411	0.392	0.548	0.524
-50	9.42	10.58	0.35	1.32	4.94	6.35	0.400	0.381	0.533	0.509
-45	9.68	10.87	0.36	1.36	5.07	6.52	0.389	0.371	0.519	0.495
-40	9.95	11.17	0.37	1.39	5.21	6.70	0.379	0.361	0.505	0.482
-35	10.21	11.46	0.38	1.43	5.35	6.88	0.369	0.352	0.492	0.470
-30	10.47	11.76	0.39	1.47	5.49	7.05	0.360	0.343	0.480	0.458
-25	10.73	12.05	0.40	1.50	5.62	7.23	0.351	0.335	0.468	0.447
-20	11.00	12.35	0.41	1.54	5.76	7.41	0.343	0.327	0.457	0.436
-15	11.26	12.64	0.42	1.58	5.90	7.59	0.335	0.319	0.446	0.426
-10	11.52	12.94	0.43	1.61	6.04	7.76	0.327	0.312	0.436	0.416
-5	11.78	13.23	0.44	1.65	6.17	7.94	0.320	0.305	0.426	0.407
0	12.05	13.53	0.45	1.69	6.31	8.12	0.313	0.298	0.417	0.398
5	12.31	13.82	0.46	1.72	6.45	8.29	0.306	0.292	0.408	0.390
10	12.57	14.12	0.47	1.76	6.59	8.47	0.300	0.286	0.400	0.381
15	12.83	14.41	0.48	1.80	6.72	8.65	0.294	0.280	0.391	0.374
20	13.10	14.71	0.49	1.83	6.86	8.82	0.288	0.274	0.384	0.366
25	13.36	15.00	0.50	1.87	7.00	9.00	0.282	0.269	0.376	0.359
30	13.62	15.29	0.51	1.91	7.14	9.18	0.277	0.264	0.369	0.352
35	13.89	15.59	0.52	1.94	7.28	9.35	0.271	0.259	0.362	0.345
40	14.15	15.88	0.53	1.98	7.41	9.53	0.266	0.254	0.355	0.339
45	14.41	16.18	0.54	2.02	7.55	9.71	0.261	0.249	0.349	0.333
50	14.67	16.47	0.55	2.05	7.69	9.88	0.257	0.245	0.342	0.327
55	14.94	16.77	0.56	2.09	7.83	10.06	0.252	0.241	0.336	0.321
60	15.20	17.06	0.57	2.13	7.96	10.24	0.248	0.236	0.331	0.316
65	15.46	17.36	0.58	2.16	8.10	10.41	0.244	0.232	0.325	0.310
70	15.72	17.65	0.59	2.20	8.24	10.59	0.240	0.229	0.319	0.305
75	15.99	17.95	0.60	2.24	8.38	10.77	0.236	0.225	0.314	0.300
80	16.25	18.24	0.61	2.27	8.51	10.95	0.232	0.221	0.309	0.295
85	16.51	18.54	0.62	2.31	8.65	11.12	0.228	0.218	0.304	0.291
90	16.77	18.83	0.63	2.35	8.79	11.30	0.225	0.214	0.299	0.286
95	17.04	19.13	0.64	2.38	8.93	11.48	0.221	0.211	0.295	0.282
100	17.30	19.42	0.65	2.42	9.06	11.65	0.218	0.208	0.290	0.277
105	17.56	19.72	0.66	2.46	9.20	11.83	0.215	0.205	0.286	0.273
110	17.82	20.01	0.67	2.49	9.34	12.01	0.211	0.202	0.282	0.269
115	18.09	20.31	0.68	2.53	9.48	12.18	0.208	0.199	0.278	0.265
120	18.35	20.60	0.69	2.57	9.61	12.36	0.205	0.196	0.274	0.261
125	18.61	20.90	0.70	2.60	9.75	12.54	0.202	0.193	0.270	0.258

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