

Application Note AN-015

GXNC14C

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.

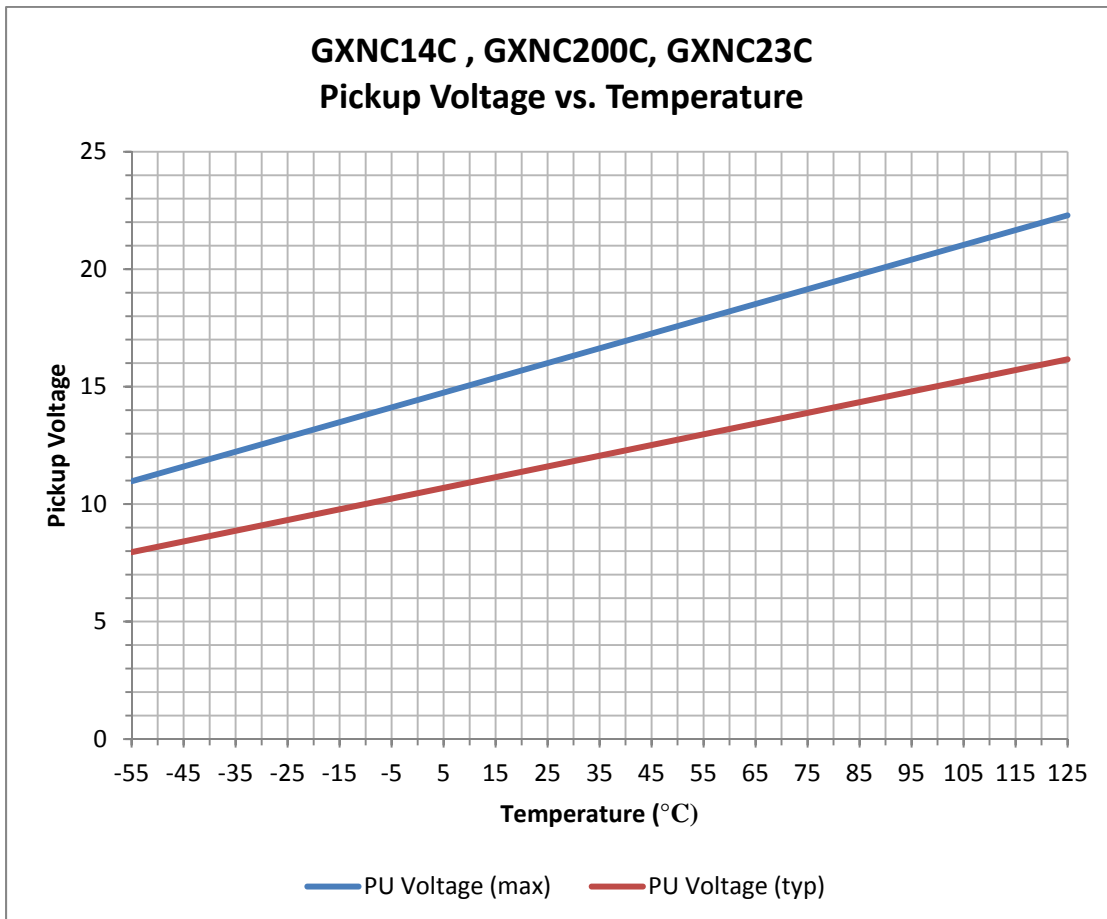


Figure 1.

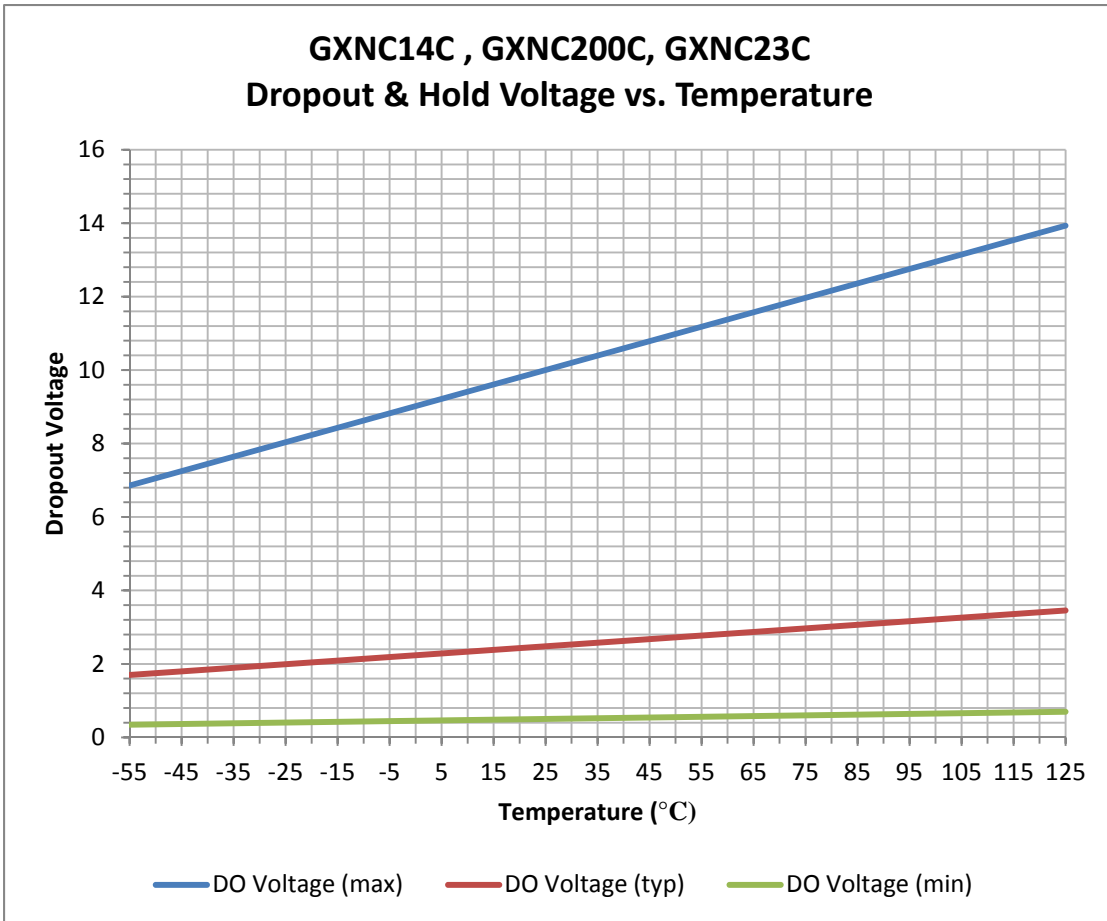


Figure 2.

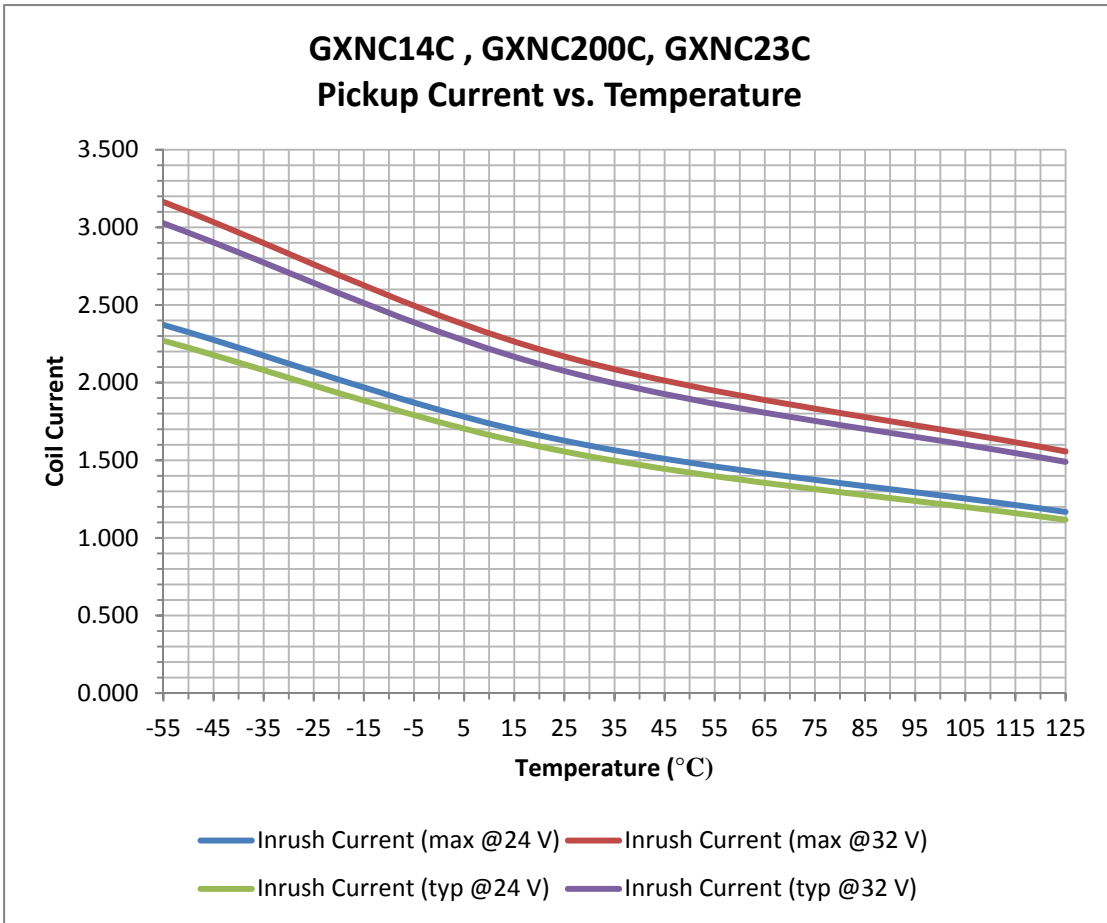


Figure 3.

GXNC14C , GXNC200C, GXNC23C Coil Current After Inrush vs. Temperature

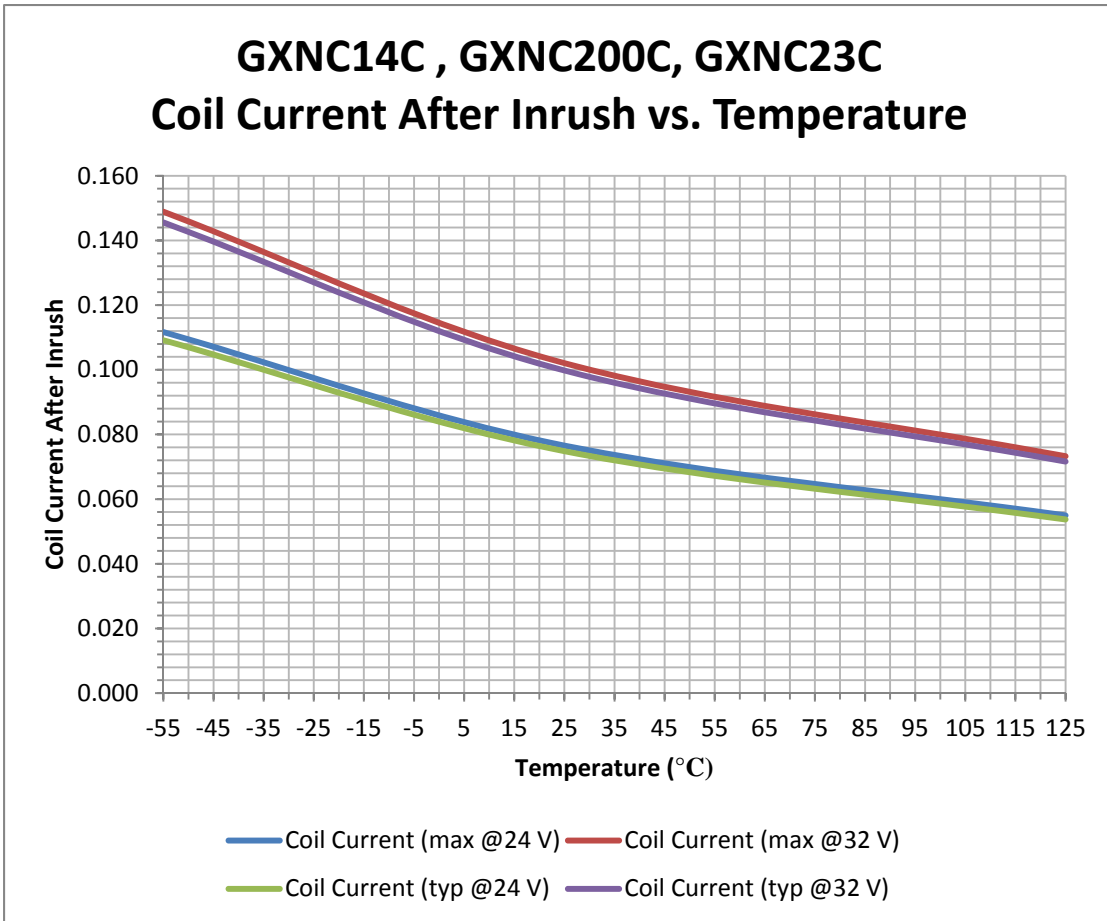


Figure 4.

Table 1

Temp. °C	Pick up Voltage		Drop out Voltage			Coil Current			
	Typ	Max	Min	Typ	Max	@ 12Vdc		@16 Vdc	
						Typ	Max	Typ	Max
-55	7.95	10.97	0.34	1.70	6.86	0.109	0.112	0.146	0.149
-50	8.18	11.28	0.35	1.75	7.05	0.106	0.109	0.141	0.145
-45	8.41	11.60	0.36	1.80	7.25	0.103	0.106	0.138	0.141
-40	8.64	11.91	0.37	1.85	7.45	0.101	0.103	0.134	0.137
-35	8.86	12.23	0.38	1.90	7.64	0.098	0.100	0.131	0.134
-30	9.09	12.54	0.39	1.94	7.84	0.095	0.098	0.127	0.130
-25	9.32	12.86	0.40	1.99	8.04	0.093	0.095	0.124	0.127
-20	9.55	13.17	0.41	2.04	8.23	0.091	0.093	0.121	0.124
-15	9.78	13.48	0.42	2.09	8.43	0.089	0.091	0.118	0.121
-10	10.00	13.80	0.43	2.14	8.62	0.087	0.089	0.116	0.118
-5	10.23	14.11	0.44	2.19	8.82	0.085	0.087	0.113	0.116
0	10.46	14.43	0.45	2.24	9.02	0.083	0.085	0.111	0.113
5	10.69	14.74	0.46	2.29	9.21	0.081	0.083	0.108	0.111
10	10.92	15.06	0.47	2.33	9.41	0.080	0.081	0.106	0.108
15	11.14	15.37	0.48	2.38	9.61	0.078	0.080	0.104	0.106
20	11.37	15.69	0.49	2.43	9.80	0.076	0.078	0.102	0.104
25	11.60	16.00	0.50	2.48	10.00	0.075	0.077	0.100	0.102
30	11.83	16.31	0.51	2.53	10.20	0.073	0.075	0.098	0.100
35	12.06	16.63	0.52	2.58	10.39	0.072	0.074	0.096	0.098
40	12.28	16.94	0.53	2.63	10.59	0.071	0.072	0.094	0.096
45	12.51	17.26	0.54	2.67	10.79	0.069	0.071	0.093	0.095
50	12.74	17.57	0.55	2.72	10.98	0.068	0.070	0.091	0.093
55	12.97	17.89	0.56	2.77	11.18	0.067	0.068	0.089	0.091
60	13.20	18.20	0.57	2.82	11.38	0.066	0.067	0.088	0.090
65	13.42	18.52	0.58	2.87	11.57	0.065	0.066	0.086	0.088
70	13.65	18.83	0.59	2.92	11.77	0.064	0.065	0.085	0.087
75	13.88	19.14	0.60	2.97	11.97	0.063	0.064	0.083	0.085
80	14.11	19.46	0.61	3.02	12.16	0.062	0.063	0.082	0.084
85	14.34	19.77	0.62	3.06	12.36	0.061	0.062	0.081	0.083
90	14.56	20.09	0.63	3.11	12.55	0.060	0.061	0.079	0.081
95	14.79	20.40	0.64	3.16	12.75	0.059	0.060	0.078	0.080
100	15.02	20.72	0.65	3.21	12.95	0.058	0.059	0.077	0.079
105	15.25	21.03	0.66	3.26	13.14	0.057	0.058	0.076	0.078
110	15.47	21.34	0.67	3.31	13.34	0.056	0.057	0.075	0.077
115	15.70	21.66	0.68	3.36	13.54	0.055	0.057	0.074	0.075
120	15.93	21.97	0.69	3.41	13.73	0.054	0.056	0.073	0.074
125	16.16	22.29	0.70	3.45	13.93	0.054	0.055	0.072	0.073

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