595 Southgate Drive
Guelph, Ontario, N1G 3W6
Tel. 519 822 2441

Issued: 2016-03-08
Rev. 2: 2016-03-29

Typical Performance @ 75^0 C of MVDT Transformers, Model Millennium, 4160V Delta - 480 Wye/277V, 60 Hz, Copper Windings

Meets DOE 10 CFR Part 431 - 2016 Energy Efficiency Regulation for MVDT Transformers

kVA	No Load Loss Watts	Load Loss Watts	Impedance	Regulation				% Efficiency at different % of rated load						
				at 35% load		at 100% load								
				pf = 1	pf = 0.8	pf = 1	pf = 0.8	15%	25%	35%	50%	65%	75%	100%
15	115	400	3.2%	0.72%	0.94%	2.06%	2.70%	94.86%	96.55%	97.17%	97.51%	97.55%	97.51%	97.26%
30	180	740	3.2%	0.67%	0.96%	1.92%	2.74%	95.89%	97.21%	97.68%	97.90%	97.89%	97.82%	97.56%
45	215	1150	3.3%	0.69%	0.99%	1.99%	2.83%	96.64%	97.65%	97.99%	98.10%	98.02%	97.93%	97.61%
75	320	1650	4.2%	0.60%	1.23%	1.76%	3.52%	96.99%	97.91%	98.22%	98.33%	98.27%	98.19%	97.92%
112.5	370	2460	4.2%	0.60%	1.23%	1.75%	3.52%	97.61%	98.29%	98.49%	98.52%	98.42%	98.32%	98.02%
150	440	3030	4.5%	0.56%	1.29%	1.65%	3.69%	97.86%	98.46%	98.63%	98.65%	98.55%	98.46%	98.18%
225	580	3870	4.8%	0.48%	1.32%	1.45%	3.81%	98.12%	98.65%	98.81%	98.82%	98.74%	98.66%	98.42%
300	680	4750	4.8%	0.45%	1.31%	1.36%	3.77%	98.33%	98.79%	98.92%	98.93%	98.85%	98.77%	98.54%
500	940	6800	4.8%	0.39%	1.28%	1.19%	3.68%	98.60%	98.99%	99.09%	99.09%	99.01%	98.94%	98.74%
750	1400	7960	5.8%	0.32%	1.44%	1.01%	4.16%	98.65%	99.05%	99.17%	99.21%	99.16%	99.12%	98.97%
1000	1630	10000	5.8%	0.30%	1.44%	0.97%	4.16%	98.81%	99.15%	99.26%	99.28%	99.23%	99.18%	99.04%
1250	1720	12200	5.8%	0.30%	1.43%	0.96%	4.15%	98.97%	99.26%	99.33%	99.33%	99.28%	99.23%	99.08%
1500	1900	14100	5.8%	0.29%	1.43%	0.93%	4.13%	99.05%	99.31%	99.37%	99.37%	99.31%	99.26%	99.11%

595 Southgate Drive
Guelph, Ontario, N1G 3W6
Tel. 519 822 2441

Issued: 2016-03-08
Rev. 2: 2016-03-29

Typical Performance @ 75^0 C of MVDT Transformers, Model Millennium, 4160V Delta - 480 Wye/277V, 60 Hz, Aluminum Windings

Meets DOE 10 CFR Part 431 - 2016 Energy Efficiency Regulation for MVDT Transformers

kVA	No Load Loss Watts	Load Loss Watts	Impedance	Regulation				% Efficiency at different % of rated load						
				at 35% load		at 100% load								
				pf = 1	pf = 0.8	pf = 1	pf = 0.8	15%	25%	35%	50%	65%	75%	100%
15	116	400	3.2%	0.71%	0.94%	2.05%	2.69%	94.82%	96.52%	97.16%	97.50%	97.55%	97.51%	97.27%
30	180	740	3.2%	0.66%	0.96%	1.91%	2.73%	95.89%	97.21%	97.68%	97.90%	97.90%	97.83%	97.57%
45	215	1150	3.3%	0.69%	0.99%	1.98%	2.82%	96.64%	97.66%	97.99%	98.10%	98.03%	97.94%	97.62%
75	250	2030	4.2%	0.73%	1.26%	2.12%	3.59%	97.53%	98.18%	98.35%	98.33%	98.17%	98.04%	97.65%
112.5	380	2420	4.2%	0.58%	1.22%	1.71%	3.50%	97.56%	98.27%	98.48%	98.52%	98.43%	98.34%	98.05%
150	450	3000	4.5%	0.55%	1.28%	1.62%	3.68%	97.82%	98.44%	98.62%	98.65%	98.56%	98.47%	98.19%
225	630	3660	4.8%	0.46%	1.31%	1.37%	3.76%	97.98%	98.58%	98.77%	98.82%	98.76%	98.69%	98.48%
300	770	4350	4.8%	0.41%	1.29%	1.25%	3.71%	98.15%	98.70%	98.88%	98.93%	98.87%	98.81%	98.62%
500	1060	6260	4.8%	0.36%	1.26%	1.10%	3.63%	98.46%	98.91%	99.05%	99.09%	99.04%	98.98%	98.81%
750	1460	7550	5.8%	0.30%	1.42%	0.97%	4.12%	98.60%	99.03%	99.17%	99.21%	99.18%	99.14%	99.01%
1000	1800	9200	5.8%	0.28%	1.42%	0.90%	4.11%	98.71%	99.10%	99.23%	99.28%	99.25%	99.21%	99.09%
1250	1900	11590	5.8%	0.28%	1.42%	0.91%	4.12%	98.89%	99.21%	99.31%	99.33%	99.28%	99.24%	99.11%
1500	2100	13200	5.8%	0.27%	1.42%	0.88%	4.10%	98.97%	99.27%	99.35%	99.37%	99.32%	99.28%	99.15%