

Power Electronics Laboratory
Experiment 4

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PART B

Parameter	Load voltage (V) Ideal case	Load voltage (V) With source inductance	Load voltage (V) With source inductance and freewheeling diode
Firing angle (Degree)	30	30	30
Average load voltage (V)	183.9	183.8	183.8
Average load current (A)	8.32	8.316	8.31
Input rms current (A)	9.98	9.94	9.948
Fundamental input current	13.86	13.84	13.84
Distortion factor	0.9998	0.99983	0.9998
THD (%)	19.59%	18.07%	18.15%
DPF	0.867	0.867	0.867
PF	0.867	0.867	0.867
P1 (W)	2202.248	2202.2498	2202.24
Q1 (VAR)			
S1 (VA)			

$\text{THD}^2 + 1$