Lab results P10

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Test 1 : Open-Circuit Test (no load test)



Figure 1 : Design in Matlab Simulink

Table 1 : Open-Circuit Test (no load test)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Vac | V1 | I1 | V2 |  |
| 30 | 30 | 17.62 | 59.24 | 0.506 |
| 60 | 60 | 35.69 | 118.29 | 0.507 |
| 90 | 90 | 55.13 | 177.58 | 0.506 |
| 120 | 120 | 73.945 | 236.33 | 0.507 |
| 150 | 150 | 92.65 | 296.01 | 0.506 |
| 180 | 180 | 111.40 | 355.221 | 0.506 |
| 210 | 210 | 130.29 | 414.30 | 0.506 |
| 240 | 240 | 148.48 | 473.40 | 0.507 |

TEST 2: Short-Circuit Test (full load test)



Figure 2 : Design in Matlab Simulink

Table 2 : Short-Circuit Test (full load test)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Vac | V1 | I1 | I2 | K = |
| 0.5 | 0.5 | 15.225 | 7.68 | 0.5044 |
| 1.0 | 1.0 | 30.40 | 15.29 | 0.5029 |
| 1.5 | 1.5 | 45.70 | 20.88 | 0.4568 |
| 2.0 | 2.0 | 60.84 | 30.43 | 0.5001 |
| 2.5 | 2.5 | 76.12 | 38.11 | 0.5006 |
| 3.0 | 3.0 | 91.01 | 45.53 | 0.5002 |
| 3.5 | 3.5 | 107.02 | 53.267 | 0.4977 |
| 4.0 | 4.0 | 128.6 | 60.99 | 0.4742 |

TEST 3: Load Test



Figure 3 : Design in Matlab Simulink

Table 3 : load test

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| V1 | V2 | I1 | I2 |  |
| 240 | 452.20 | 97.80 | 452.20 | 1 |
| 240 | 473.40 | 146.60 | 3.818 | 124 |
| 240 | 473.50 | 146.40 | 1.909 | 248 |
| 240 | 473.10 | 146.30 | 1.273 | 372 |
| 240 | 473.00 | 146.10 | 0.954 | 496 |
| 240 | 473.40 | 146.20 | 0.764 | 620 |
| 240 | 473.10 | 146.40 | 0.636 | 744 |
| 240 | 473.40 | 146.30 | 0.546 | 868 |

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