

LAMPIRAN A HASIL PERHITUNGAN

A. Pembebanan

Perhitungan Daya Aktif (P) dan Persentase Pembebanan (%Load)

1. Januari

$$\text{Daya Aktif (P)} = 31,15 \text{ kV} \times 610 \text{ A} \times 0,83 = 15,77 \text{ MW}$$

$$\%Load = \frac{15,77}{80} \times 100\% = 19,71 \%$$

2. Februari

$$\text{Daya Aktif (P)} = 31,05 \text{ kV} \times 579 \text{ A} \times 0,791 = 14,22 \text{ MW}$$

$$\%Load = \frac{14,22}{80} \times 100\% = 17,78 \%$$

3. Maret

$$\text{Daya Aktif (P)} = 30,79 \text{ kV} \times 531 \text{ A} \times 0,85 = 13,89 \text{ MW}$$

$$\%Load = \frac{13,89}{80} \times 100\% = 17,37 \%$$

4. April

$$\text{Daya Aktif (P)} = 30,44 \text{ kV} \times 551 \text{ A} \times 0,819 = 13,74 \text{ MW}$$

$$\%Load = \frac{13,74}{80} \times 100\% = 17,17 \%$$

5. Mei

$$\text{Daya Aktif (P)} = 31,11 \text{ kV} \times 612 \text{ A} \times 0,801 = 15,25 \text{ MW}$$

$$\%Load = \frac{15,25}{80} \times 100\% = 19,06 \%$$

6. Juni

$$\text{Daya Aktif (P)} = 30,66 \text{ kV} \times 525 \text{ A} \times 0,88 = 14,16 \text{ MW}$$

$$\%Load = \frac{14,16}{80} \times 100\% = 17,71 \%$$

7. Juli

$$\text{Daya Aktif (P)} = 32,52 \text{ kV} \times 710 \text{ A} \times 0,92 = 21,24 \text{ MW}$$

$$\%Load = \frac{21,24}{80} \times 100\% = 26,55 \%$$

8. Agustus

$$\text{Daya Aktif (P)} = 29,66 \text{ kV} \times 517 \text{ A} \times 0,852 = 13,06 \text{ MW}$$

$$\%Load = \frac{13,06}{80} \times 100\% = 16,33 \%$$

9. September

$$\text{Daya Aktif (P)} = 32,43 \text{ kV} \times 633 \text{ A} \times 0,92 = 18,88 \text{ MW}$$

$$\%Load = \frac{18,88}{80} \times 100\% = 23,60 \%$$

10. Oktober

$$\text{Daya Aktif (P)} = 32,3 \text{ kV} \times 633 \text{ A} \times 0,92 = 12,25 \text{ MW}$$

$$\%Load = \frac{12,25}{80} \times 100\% = 15,31 \%$$

11. November

$$\text{Daya Aktif (P)} = 29,38 \text{ kV} \times 506 \text{ A} \times 0,861 = 12,79 \text{ MW}$$

$$\%Load = \frac{12,79}{80} \times 100\% = 15,99 \%$$

12. Desember

$$\text{Daya Aktif (P)} = 23,65 \text{ kV} \times 448 \text{ A} \times 0,852 = 9,52 \text{ MW}$$

$$\%Load = \frac{13,06}{80} \times 100\% = 11,90 \%$$

B. Tegangan Tembus

Perhitungan Rata-rata Tegangan Tembus

$$1. \quad \overline{BDV}1 = \frac{(79,8+81,3+77,9+72,1+75,6+75,6)kV}{6} = 77,03 \text{ kV}$$

$$2. \quad \overline{BDV}2 = \frac{(81,3+77,9+72,1+75,6+75,6)kV}{5} = 76,48 \text{ kV}$$

C. Perhitungan Kadar Air

$$1. \quad 16 \text{ ppm} = \frac{16}{10000} = 0,0016\%$$

D. DGA

Perhitungan FDGA

$$FDGA = \frac{\sum_{i=1}^7 ni * pi}{\sum_{i=1}^7 pi}$$

$$FDGA = \frac{(H2x2) + (CH4x2) + (C2H6x3) + (C2H4x3) + (COx1) + (CO2x1) + (C2H2x5)}{H2+CH4+C2H6+C2H4+CO+CO2+C2H2}$$

$$FDGA = \frac{(1x2) + (1x2) + (1x3) + (1x2) + (1x1) + (1x1) + (1x5)}{2 + 2 + 3 + 3 + 1 + 1 + 5}$$

$$FDGA = 1.00$$

E. Polarity Index

Perhitungan PI:

1. Konfigurasi Test Primer (HV) to Ground

$$PI = \frac{2,45 \text{ G}\Omega}{1,91 \text{ G}\Omega} = 1,28$$

2. Konfigurasi Test Sekunder (LV) to Ground

$$PI = \frac{2,09 \text{ G}\Omega}{1,22 \text{ G}\Omega} = 1,72$$

3. Konfigurasi Primer (HV) to Sekunder (LV)

$$PI = \frac{2,04 \text{ G}\Omega}{2,88 \text{ G}\Omega} = 1,41$$

F. Resistansi Belitan

Perhitungan Deviasi Resistansi

1. Tap 1 (Primer)

- Deviasi Fasa R

$$\left| \frac{454,49 \text{ m}\Omega - 531,75 \text{ m}\Omega}{531,75} \right| \times 100\% = 0,08 \%$$

- Deviasi Fasa S

$$\left| \frac{453,84 \text{ m}\Omega - 530,99 \text{ m}\Omega}{530,75 \text{ m}\Omega} \right| \times 100\% = 0,06\%$$

- Deviasi Fasa T

$$\left| \frac{536,26 \text{ m}\Omega - 458,34 \text{ m}\Omega}{536,26 \text{ m}\Omega} \right| \times 100\% = 0,1\%$$

2. Tap 2 (Primer)

- Deviasi Fasa R

$$\left| \frac{531,75 \text{ m}\Omega - 454,49 \text{ m}\Omega}{531,75 \text{ m}\Omega} \right| \times 100\% = 0,08\%$$

- Deviasi Fasa S

$$\left| \frac{445,13 \text{ m}\Omega - 520,8 \text{ m}\Omega}{520,8 \text{ m}\Omega} \right| \times 100\% = 0,09\%$$

- Deviasi Fasa T

$$\left| \frac{525,2 \text{ m}\Omega - 448,89 \text{ m}\Omega}{525,2 \text{ m}\Omega} \right| \times 100\% = 0,08\%$$

3. Tap 3 (Primer)

- Deviasi Fasa R

$$\left| \frac{514,24 \text{ m}\Omega - 439,52 \text{ m}\Omega}{514,24 \text{ m}\Omega} \right| \times 100\% = 0,1\%$$

- Deviasi Fasa S

$$\left| \frac{510,18 \text{ m}\Omega - 436,05 \text{ m}\Omega}{510,18 \text{ m}\Omega} \right| \times 100\% = 0,07 \%$$

- Deviasi Fasa T

$$\left| \frac{514,86 \text{ m}\Omega - 440,05 \text{ m}\Omega}{514,86 \text{ m}\Omega} \right| \times 100\% = 0,09 \%$$

4. Tap 4 (Primer)

- Deviasi Fasa R

$$\left| \frac{500,65\text{m}\Omega - 427,91\text{m}\Omega}{500,65\text{m}\Omega} \right| \times 100\% = 0,1\%$$

- Devisiasi Fasa S

$$\left| \frac{499,92\text{m}\Omega - 417,94\text{m}\Omega}{499,92\text{m}\Omega} \right| \times 100\% = 0,09\%$$

- Devisiasi Fasa T

$$\left| \frac{504,64\text{m}\Omega - 431,31\text{m}\Omega}{504,64\text{m}\Omega} \right| \times 100\% = 0,08\%$$

5. Tap 5 (Primer)

- Deviasi Fasa R

$$\left| \frac{490,37\text{m}\Omega - 419,12\text{m}\Omega}{490,37\text{m}\Omega} \right| \times 100\% = 0,05\%$$

- Devisiasi Fasa S

$$\left| \frac{489,001\text{m}\Omega - 422,863\text{m}\Omega}{489,001\text{m}\Omega} \right| \times 100\% = 0,09\%$$

- Devisiasi Fasa T

$$\left| \frac{494,74\text{m}\Omega - 422,32\text{m}\Omega}{494,74\text{m}\Omega} \right| \times 100\% = 0,074\%$$

6. Tap 6 (Primer)

- Deviasi Fasa R

$$\left| \frac{479,16\text{m}\Omega - 409,53\text{m}\Omega}{479,16\text{m}\Omega} \right| \times 100\% = 0,078\%$$

- Devisiasi Fasa S

$$\left| \frac{479,487\text{m}\Omega - 409,818\text{m}\Omega}{479,487\text{m}\Omega} \right| \times 100\% = 0,092\%$$

- Devisiasi Fasa T

$$\left| \frac{483,208\text{m}\Omega - 412,998\text{m}\Omega}{483,208\text{m}\Omega} \right| \times 100\% = 0,091\%$$

7. Tap 7 (Primer)

- Deviasi Fasa R

$$\left| \frac{468,634\text{m}\Omega - 400,542\text{m}\Omega}{468,634\text{m}\Omega} \right| \times 100\% = 0,072\%$$

- Devisiasi Fasa S

$$\left| \frac{468,402\text{m}\Omega - 400,343\text{m}\Omega}{468,402\text{m}\Omega} \right| \times 100\% = 0,077\%$$

- Devisiasi Fasa T

$$\left| \frac{471,769 \text{ m}\Omega - 403,221 \text{ m}\Omega}{471,769 \text{ m}\Omega} \right| \times 100\% = 0,040\%$$

8. Tap 8 (Primer)

- Deviasi Fasa R

$$\left| \frac{459,335 \text{ m}\Omega - 392,594 \text{ m}\Omega}{459,335 \text{ m}\Omega} \right| \times 100\% = 0,082\%$$

- Devisiasi Fasa S

$$\left| \frac{457,788 \text{ m}\Omega - 391,272 \text{ m}\Omega}{457,788 \text{ m}\Omega} \right| \times 100\% = 0,083\%$$

- Devisiasi Fasa T

$$\left| \frac{462,629 \text{ m}\Omega - 395,409 \text{ m}\Omega}{462,629 \text{ m}\Omega} \right| \times 100\% = 0,066\%$$

9. Tap 9 (Primer)

- Deviasi Fasa R

$$\left| \frac{448,274 \text{ m}\Omega - 383,141 \text{ m}\Omega}{448,274 \text{ m}\Omega} \right| \times 100\% = 0,081\%$$

- Devisiasi Fasa S

$$\left| \frac{447,332 \text{ m}\Omega - 382,335 \text{ m}\Omega}{447,332 \text{ m}\Omega} \right| \times 100\% = 0,082\%$$

- Devisiasi Fasa T

$$\left| \frac{451,227 \text{ m}\Omega - 385,665 \text{ m}\Omega}{451,227 \text{ m}\Omega} \right| \times 100\% = 0,07\%$$

10. Tap 10 (Primer)

- Deviasi Fasa R

$$\left| \frac{435,743 \text{ m}\Omega - 372,43 \text{ m}\Omega}{435,743 \text{ m}\Omega} \right| \times 100\% = 0,079\%$$

- Devisiasi Fasa S

$$\left| \frac{435,66 \text{ m}\Omega - 372,359 \text{ m}\Omega}{435,66 \text{ m}\Omega} \right| \times 100\% = 0,068\%$$

- Devisiasi Fasa T

$$\left| \frac{437,782 \text{ m}\Omega - 374,173 \text{ m}\Omega}{437,782 \text{ m}\Omega} \right| \times 100\% = 0,083\%$$

11. Tap 11 (Primer)

- Deviasi Fasa R

$$\left| \frac{450,919 \text{ m}\Omega - 385,401 \text{ m}\Omega}{450,919 \text{ m}\Omega} \right| \times 100\% = 0,096\%$$

- Devisiasi Fasa S

$$\left| \frac{449,053 \text{ m}\Omega - 383,806 \text{ m}\Omega}{449,053 \text{ m}\Omega} \right| \times 100\% = 0,073\%$$

- Devisiasi Fasa T

$$\left| \frac{452,166 \text{ m}\Omega - 386,466 \text{ m}\Omega}{452,166 \text{ m}\Omega} \right| \times 100\% = 0,046\%$$

12. Tap 12 (Primer)

- Deviasi Fasa R

$$\left| \frac{439,175 \text{ m}\Omega - 375,363 \text{ m}\Omega}{439,175 \text{ m}\Omega} \right| \times 100\% = 0,089\%$$

- Devisiasi Fasa S

$$\left| \frac{438,814 \text{ m}\Omega - 375,055 \text{ m}\Omega}{438,814 \text{ m}\Omega} \right| \times 100\% = 0,075\%$$

- Devisiasi Fasa T

$$\left| \frac{441,364 \text{ m}\Omega - 377,234 \text{ m}\Omega}{441,364 \text{ m}\Omega} \right| \times 100\% = 0,065\%$$

13. Tap 13 (Primer)

- Deviasi Fasa R

$$\left| \frac{429,859 \text{ m}\Omega - 367,401 \text{ m}\Omega}{429,859 \text{ m}\Omega} \right| \times 100\% = 0,095\%$$

- Devisiasi Fasa S

$$\left| \frac{428,41 \text{ m}\Omega - 366,163 \text{ m}\Omega}{428,41 \text{ m}\Omega} \right| \times 100\% = 0,06\%$$

- Devisiasi Fasa T

$$\left| \frac{430,995 \text{ m}\Omega - 368,372 \text{ m}\Omega}{430,995 \text{ m}\Omega} \right| \times 100\% = 0,088\%$$

14. Tap 14 (Primer)

- Deviasi Fasa R

$$\left| \frac{419,099 \text{ m}\Omega - 358,204 \text{ m}\Omega}{419,099 \text{ m}\Omega} \right| \times 100\% = 0,098\%$$

- Devisiasi Fasa S

$$\left| \frac{417,873 \text{ m}\Omega - 357,156 \text{ m}\Omega}{417,873 \text{ m}\Omega} \right| \times 100\% = 0,091\%$$

- Devisiasi Fasa T

$$\left| \frac{421,935 \text{ m}\Omega - 360,629 \text{ m}\Omega}{421,935 \text{ m}\Omega} \right| \times 100\% = 0,057\%$$

15. Tap 15 (Primer)

- Deviasi Fasa R

$$\left| \frac{409,566 \text{ m}\Omega - 350,057 \text{ m}\Omega}{409,566 \text{ m}\Omega} \right| \times 100\% = 0,072\%$$

- Deviasi Fasa S

$$\left| \frac{407,528 \text{ m}\Omega - 348,315 \text{ m}\Omega}{407,528 \text{ m}\Omega} \right| \times 100\% = 0,077\%$$

- Deviasi Fasa T

$$\left| \frac{410,76 \text{ m}\Omega - 351,077 \text{ m}\Omega}{410,76 \text{ m}\Omega} \right| \times 100\% = 0,067\%$$

16. Tap 16 (Primer)

- Deviasi Fasa R

$$\left| \frac{398,343 \text{ m}\Omega - 340,464 \text{ m}\Omega}{398,343 \text{ m}\Omega} \right| \times 100\% = 0,083\%$$

- Deviasi Fasa S

$$\left| \frac{397,029 \text{ m}\Omega - 339,341 \text{ m}\Omega}{397,029 \text{ m}\Omega} \right| \times 100\% = 0,080\%$$

- Deviasi Fasa T

$$\left| \frac{399,518 \text{ m}\Omega - 341,469 \text{ m}\Omega}{399,518 \text{ m}\Omega} \right| \times 100\% = 0,069\%$$

17. Tap 17 (Primer)

- Deviasi Fasa R

$$\left| \frac{388,364 \text{ m}\Omega - 331,935 \text{ m}\Omega}{388,364 \text{ m}\Omega} \right| \times 100\% = 0,091\%$$

- Deviasi Fasa S

$$\left| \frac{386,476 \text{ m}\Omega - 330,321 \text{ m}\Omega}{386,476 \text{ m}\Omega} \right| \times 100\% = 0,063\%$$

- Deviasi Fasa T

$$\left| \frac{388,663 \text{ m}\Omega - 332,191 \text{ m}\Omega}{388,663 \text{ m}\Omega} \right| \times 100\% = 0,095\%$$

18. Tap 18 (Primer)

- Deviasi Fasa R

$$\left| \frac{377,415 \text{ m}\Omega - 322,577 \text{ m}\Omega}{377,415 \text{ m}\Omega} \right| \times 100\% = 0,089\%$$

- Deviasi Fasa S

$$\left| \frac{375,709 \text{ m}\Omega - 321,119 \text{ m}\Omega}{375,709 \text{ m}\Omega} \right| \times 100\% = 0,092\%$$

- Deviasi Fasa T

$$\left| \frac{378,689 \text{ m}\Omega - 323,666 \text{ m}\Omega}{378,689 \text{ m}\Omega} \right| \times 100\% = 0,072\%$$

19. Tap 19 (Primer)

- Deviasi Fasa R

$$\left| \frac{367,728 \text{ m}\Omega - 314,297 \text{ m}\Omega}{367,728 \text{ m}\Omega} \right| \times 100\% = 0,069\%$$

- Deviasi Fasa S

$$\left| \frac{365,362 \text{ m}\Omega - 312,275 \text{ m}\Omega}{365,362 \text{ m}\Omega} \right| \times 100\% = 0,084 \%$$

- Deviasi Fasa T

$$\left| \frac{367,505 \text{ m}\Omega - 314,107 \text{ m}\Omega}{367,505 \text{ m}\Omega} \right| \times 100\% = 0,059\%$$

20. Tap 1 (Sekunder)

- Deviasi Fasa R

$$\left| \frac{30,05 \text{ m}\Omega - 23,684 \text{ m}\Omega}{30,05 \text{ m}\Omega} \right| \times 100\% = 0,062\%$$

- Deviasi Fasa S

$$\left| \frac{30,042 \text{ m}\Omega - 25,677 \text{ m}\Omega}{30,042 \text{ m}\Omega} \right| \times 100\% = 0,081\%$$

- Deviasi Fasa T

$$\left| \frac{30,018 \text{ m}\Omega - 25,657 \text{ m}\Omega}{30,018 \text{ m}\Omega} \right| \times 100\% = 0,091\%$$

G. Perhitungan Turn Ratio

1. Tap 1

- Deviasi Fasa R

$$\left| \frac{3,1897 - 3,1978}{3,1897} \right| \times 100\% = 0,25 \%$$

- Deviasi Fasa S

$$\left| \frac{3,1897 - 3,1962}{3,1897} \right| \times 100\% = 0,20 \%$$

- Deviasi Fasa T

$$\left| \frac{3,1897 - 3,1962}{3,1897} \right| \times 100\% = 0,20 \%$$

2. Tap 2

- Deviasi Fasa R

$$\left| \frac{3,1408 - 3,1487}{3,1408} \right| \times 100\% = 0,25 \%$$

- Deviasi Fasa S

$$\left| \frac{3,1408 - 3,1471}{3,1408} \right| \times 100\% = 0,20 \%$$

- Deviasiasi Fasa T

$$\left| \frac{3,1408 - 3,1487}{3,1408} \right| \times 100\% = 0,25\%$$
3. Tap 3(Primer)
- Deviasi Fasa R

$$\left| \frac{3,0918 - 3,1002}{3,0918} \right| \times 100\% = 0,27\%$$
 - Deviasiasi Fasa S

$$\left| \frac{3,0918 - 3,0989}{3,0918} \right| \times 100\% = 0,23\%$$
 - Deviasiasi Fasa T

$$\left| \frac{3,0918 - 3,0989}{3,0918} \right| \times 100\% = 0,23\%$$
4. Tap 4
- Deviasi Fasa R

$$\left| \frac{3,0429 - 3,0507}{3,0429} \right| \times 100\% = 0,26\%$$
 - Deviasiasi Fasa S

$$\left| \frac{3,0429 - 3,0494}{3,0429} \right| \times 100\% = 0,21\%$$
 - Deviasiasi Fasa T

$$\left| \frac{3,0429 - 3,0497}{3,0429} \right| \times 100\% = 0,22\%$$
5. Tap 5 (Primer)
- Deviasi Fasa R

$$\left| \frac{2,994 - 3,0021}{2,994} \right| \times 100\% = 0,27\%$$
 - Deviasiasi Fasa S

$$\left| \frac{2,994 - 3,0006}{2,994} \right| \times 100\% = 0,22\%$$
 - Deviasiasi Fasa T

$$\left| \frac{2,994 - 3,0009}{2,994} \right| \times 100\% = 0,23\%$$
6. Tap 6 (Primer)
- Deviasi Fasa R

$$\left| \frac{2,9432 - 2,9532}{2,9432} \right| \times 100\% = 0,34\%$$
 - Deviasiasi Fasa S

$$\left| \frac{2,9432 - 2,9523}{2,9432} \right| \times 100\% = 0,31\%$$

- Devisiasi Fasa T

$$\left| \frac{2,9432 - 2,9523}{2,9432} \right| \times 100\% = 0,31\%$$

7. Tap 7 (Primer)

- Deviasi Fasa R

$$\left| \frac{2,8961 - 2,9043}{2,8961} \right| \times 100\% = 0,28\%$$

- Devisiasi Fasa S

$$\left| \frac{2,8961 - 2,9029}{2,8961} \right| \times 100\% = 0,23\%$$

- Devisiasi Fasa T

$$\left| \frac{2,8961 - 2,9032}{2,8961} \right| \times 100\% = 0,25\%$$

8. Tap 8 (Primer)

- Deviasi Fasa R

$$\left| \frac{2,8472 - 2,8556}{2,8472} \right| \times 100\% = 0,3\%$$

- Devisiasi Fasa S

$$\left| \frac{2,8472 - 2,854}{2,8472} \right| \times 100\% = 0,24\%$$

- Devisiasi Fasa T

$$\left| \frac{2,8472 - 2,8543}{2,8472} \right| \times 100\% = 0,25\%$$

9. Tap 9 (Primer)

- Deviasi Fasa R

$$\left| \frac{2,7982 - 2,8062}{2,7982} \right| \times 100\% = 0,29\%$$

- Devisiasi Fasa S

$$\left| \frac{2,7982 - 2,8054}{2,7982} \right| \times 100\% = 0,26\%$$

- Devisiasi Fasa T

$$\left| \frac{2,7982 - 2,8054}{2,7982} \right| \times 100\% = 0,26\%$$

10. Tap 10 (Primer)

- Deviasi Fasa R

$$\left| \frac{2,7493 - 2,7572}{2,7493} \right| \times 100\% = 0,29\%$$

- Devisiasi Fasa S

$$\left| \frac{2,7493 - 2,756}{2,7493} \right| \times 100\% = 0,24\%$$

- Devisiasi Fasa T

$$\left| \frac{2,7493 - 2,7561}{2,7493} \right| \times 100\% = 0,25\%$$

11. Tap 11 (Primer)

- Deviasi Fasa R

$$\left| \frac{2,7003 - 2,7085}{2,7003} \right| \times 100\% = 0,3\%$$

- Devisiasi Fasa S

$$\left| \frac{2,7003 - 2,7076}{2,7003} \right| \times 100\% = 0,27\%$$

- Devisiasi Fasa T

$$\left| \frac{2,7003 - 2,7078}{2,7003} \right| \times 100\% = 0,28\%$$

12. Tap 12 (Primer)

- Deviasi Fasa R

$$\left| \frac{2,6514 - 2,6594}{2,6514} \right| \times 100\% = 0,3\%$$

- Devisiasi Fasa S

$$\left| \frac{2,6514 - 2,658}{2,6514} \right| \times 100\% = 0,25\%$$

- Devisiasi Fasa T

$$\left| \frac{2,6514 - 2,6582}{2,6514} \right| \times 100\% = 0,26\%$$

13. Tap 13 (Primer)

- Deviasi Fasa R

$$\left| \frac{2,6025 - 2,6101}{2,6025} \right| \times 100\% = 0,29\%$$

- Devisiasi Fasa S

$$\left| \frac{2,6025 - 2,6092}{2,6025} \right| \times 100\% = 0,26\%$$

- Devisiasi Fasa T

$$\left| \frac{2,6025 - 2,6093}{2,6025} \right| \times 100\% = 0,26\%$$

14. Tap 14 (Primer)
- Deviasi Fasa R

$$\left| \frac{2,5535 - 2,5614}{2,5535} \right| \times 100\% = 0,31\%$$
 - Deviasi Fasa S

$$\left| \frac{2,5535 - 2,5602}{2,5535} \right| \times 100\% = 0,26\%$$
 - Deviasi Fasa T

$$\left| \frac{2,5535 - 2,5603}{2,5535} \right| \times 100\% = 0,27\%$$
15. Tap 15 (Primer)
- Deviasi Fasa R

$$\left| \frac{2,5046 - 2,5122}{2,5046} \right| \times 100\% = 0,3\%$$
 - Deviasi Fasa S

$$\left| \frac{2,5046 - 2,5112}{2,5046} \right| \times 100\% = 0,26\%$$
 - Deviasi Fasa T

$$\left| \frac{2,5046 - 2,5111}{2,5046} \right| \times 100\% = 0,26\%$$
16. Tap 16 (Primer)
- Deviasi Fasa R

$$\left| \frac{2,4557 - 2,463}{2,4557} \right| \times 100\% = 0,30\%$$
 - Deviasi Fasa S

$$\left| \frac{2,4557 - 2,462}{2,4557} \right| \times 100\% = 0,26\%$$
 - Deviasi Fasa T

$$\left| \frac{2,4557 - 2,4628}{2,4557} \right| \times 100\% = 0,29\%$$
17. Tap 17 (Primer)
- Deviasi Fasa R

$$\left| \frac{2,4067 - 2,4145}{2,4067} \right| \times 100\% = 0,32\%$$
 - Deviasi Fasa S

$$\left| \frac{2,4067 - 2,4132}{2,4067} \right| \times 100\% = 0,27\%$$
 - Deviasi Fasa T

$$\left| \frac{2,4067 - 2,4134}{2,4067} \right| \times 100\% = 0,28\%$$

18. Tap 18 (Primer)

- Deviasi Fasa R

$$\left| \frac{2,3578 - 2,3652}{2,3578} \right| \times 100\% = 0,31\%$$

- Devisiasi Fasa S

$$\left| \frac{2,3578 - 2,3641}{2,3578} \right| \times 100\% = 0,27\%$$

- Devisiasi Fasa T

$$\left| \frac{2,3578 - 2,3643}{2,3578} \right| \times 100\% = 0,28\%$$

19. Tap 19 (Primer)

- Deviasi Fasa R

$$\left| \frac{2,3089 - 2,3197}{2,3089} \right| \times 100\% = 0,47\%$$

- Devisiasi Fasa S

$$\left| \frac{2,3089 - 2,3162}{2,3089} \right| \times 100\% = 0,32\%$$

- Devisiasi Fasa T

$$\left| \frac{2,3089 - 2,3172}{2,3089} \right| \times 100\% = 0,36\%$$

H. Kalkulasi Faktor Historis

$$NH = \frac{NA \text{ Total}}{Bobot \text{ Total}}$$

$$NH = \frac{61}{18}$$

$$NH = 3,38$$

I. Kalkulasi Faktor Kondisi

$$NK = \frac{NA \text{ Total}}{Bobot \text{ Total}}$$

$$NK = \frac{67}{18}$$

$$NK = 3,72$$

J. Kalkulasi Akhir Health Index

$$HI = (0,4 \times NH) + (0,6 \times NK)$$

$$HI = (0,4 \times 3,33) + (0,6 \times 3,72)$$

$$HI = 3,56$$

LAMPIRAN B DATA TEKNIS PENELITIAN

Lampiran ini merupakan pengumpulan data teknis pada BAB III Metodologi Penelitian sebagai informasi awal terhadap penelitian yang dilakukan dalam menganalisis parameter-parameter HI.

Tabel B-1 Spesifikasi Alat Baur Oil Tester DTA

<i>Input Voltage</i>	90 to 264 V
<i>Rated Power</i>	Max 70 VA
<i>Ambient Temperature</i>	-10 °C to + 55°C
<i>Weight</i>	39 kg
<i>Test Standard</i>	IEC 60156



Gambar B-1 Wujud Alat Baur Oil Tester DTA

Tabel B-2 Spesifikasi GE Kelman Transport X

<i>Input Voltage</i>	90 to 264 V
<i>Rated Power</i>	Max 60 VA
<i>Ambient Temperature</i>	-10 °C to + 55°C
<i>Weight</i>	11 kg
<i>Diagnostic base</i>	Rogers'Ratio, Duval's Triangle, Japanese Extra, dan Key's Gas.



Gambar B-2 Wujud Alat GE Kelman Transport X

Tabel B-3 Spesifikasi Fluke 1555

<i>Selectable Test</i>	50 V, 100 V, 250 V, 1 kV, dan 10 kV
<i>Resistance Measurement</i>	Max 2 T Ohm
<i>Ambient Temperature</i>	-10 °C to + 55°C
<i>Weight</i>	3 kg



Gambar B-3 Wujud Alat Fluke 155

Tabel B-4 Spesifikasi Huazheng HZ-3320D

Rate Current	10mA to 20 A
Data base	Dapat menyimpan 100 set data
Akurasi	0.2% ± 0.4 μΩ
Resolusi Minimum	0.1 μΩ
Volume	420 mm x 320 mm x 200 mm
Berat bersih	13.8 kg

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Gambar B-4 Wujud Alat Huazheng HZ-3320D

Tabel B-4 Spesifikasi Omicron CPC 100

Rate Voltage	2000 V
Rate Current	800 A
Rate frekuensi	15 Hz to 400 Hz

Berat bersih	29 kg
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Gambar B-4 Wujud Alat Huazheng HZ-3320D

Tabel B-5 Posisi dan *Level Energi* Tap Transformator AV 08 MTS 2 PT KDL

Tap	VOLTAGE (V)	ARUS (R)
1	174003	265.4
2	171336	269.6
3	168669	273.8
4	166002	288.2
5	163335	282.8
6	260668	287.5
7	158001	282.3
8	155334	297.3
9	152667	302.5
10	150000	307.9
11	147333	313.5
12	144666	319.3
13	141999	325.3
14	139332	331.5
15	136665	338.0
16	133998	344.7
17	131331	351.7
18	128664	359.0
19	125997	366.6



Gambar B-5 Name Plate Transformator AV 08