

**LAMPIRAN A DATA SIMULASI 12S8P**

Current(A)	Voltage(V)	Load Force/Torque(Nm)	Pin	Pout
0	0	-2,76008	101,1621	0
1,221414	122,1414	-2,09444	76,7651	149,1852
0,808059	80,80595	2,788803	102,215	65,29601
0,674718	67,47177	-1,089	39,91397	45,5244
0,618515	61,85149	-4,30804	157,8978	38,25607
0,629854	62,98543	-13,694	501,9095	39,67164
1,110883	111,0883	-12,6096	462,1658	123,4061
1,009217	100,9217	-8,49463	311,3445	101,8518
0,979005	97,90053	1,174662	43,0536	95,84514
0,896679	89,66791	-10,3696	380,0644	80,40333
0,810858	81,08576	-17,6333	646,2924	65,74901
0,807505	80,75046	-13,4735	493,8291	65,20637
1,048461	104,8461	-11,2961	414,0227	109,9271
1,027162	102,7162	-2,40135	88,01416	105,5062
0,842153	84,21528	0,293293	10,74977	70,92214
0,657219	65,72185	-0,49494	18,14033	43,19362
0,627382	62,73815	-4,81986	176,6569	39,36076
0,633002	63,30015	-13,9423	511,0114	40,06909
1,118881	111,8881	-14,9355	547,4163	125,1895
1,057882	105,7882	-6,37416	233,625	111,9114
0,950511	95,05109	-4,43116	162,4105	90,34709
0,892456	89,24562	-7,36422	269,9128	79,64781
0,82522	82,52196	-13,9715	512,0805	68,09874
0,800155	80,01546	-13,6727	501,129	64,02474
1,068047	106,8047	-11,782	431,8338	114,0724
1,014442	101,4442	0,552119	20,23621	102,9093
0,817478	81,74775	-0,38862	14,2436	66,82695
0,642411	64,24115	-4,29892	157,5637	41,26925
0,622885	62,28853	-7,05826	258,6986	38,79861
0,700279	70,02793	-10,2924	377,2349	49,0391
1,091653	109,1653	-13,4297	492,2258	119,1706
1,066974	106,6974	-7,38792	270,7814	113,8433
0,95187	95,18704	-5,31168	194,6833	90,60573
0,886242	88,6242	-7,90693	289,804	78,54249
0,825125	82,51253	-12,1039	443,6298	68,08317
0,813758	81,37575	-13,9828	512,496	66,22013

1,055989	105,5989	-11,0934	406,5957	111,5113
,02987	102,987	-0,4692	17,19693	106,0633
0,793219	79,32195	4,383638	160,6687	62,91972
0,642641	64,26411	-1,52475	55,88514	41,29876
0,628002	62,80018	-9,47173	347,1572	39,43863
0,73227	73,227	-15,5538	570,0775	53,62193
1,066368	106,6368	-14,2909	523,7906	113,7141
1,027159	102,7159	-7,75173	284,1157	105,5056
0,963877	96,38772	-11,8136	432,99	92,90593
0,868856	86,88563	-9,68538	354,9879	75,49114
0,80209	80,20905	-8,42001	308,6095	64,33491
0,919794	91,9794	-10,9985	403,1154	84,60209
1,011213	101,1213	-11,0464	404,8723	102,2552
1,025935	102,5935	0,678511	24,86871	105,2542
0,775866	77,58661	1,892348	69,35818	60,19682
0,644262	64,4262	-1,54632	56,6754	41,50735
0,629888	62,9888	-9,09372	333,3024	39,67589
0,759298	75,92978	-13,6231	499,3139	57,65332
1,066468	106,6468	-14,68	538,0509	113,7354
1,033678	103,3678	-5,60465	205,4213	106,8491
0,942786	94,27856	-4,88495	179,0428	88,88447
0,862096	86,20964	-9,21864	337,8808	74,32101
0,826947	82,69471	-14,8321	543,6254	68,38416
0,917557	91,75566	-12,8278	470,1642	84,191
1,015658	101,5658	-10,4224	382,0008	103,1561

### LAMPIRAN B DATA SIMULASI 15S8P

Current(A)	Voltage(V)	Load Force/Torque(Nm)	Pin	Pout
0	0	-2,76008	289,0345	0
6,562091	65,62091	-10,1156	1059,306	430,6104
10,58418	105,8418	-15,9016	1665,209	1120,248
12,97969	129,7969	-24,8851	2605,964	1684,724
14,53937	145,3937	-33,0013	3455,884	2113,933
15,63329	156,3329	-32,3973	3392,637	2443,998
16,49251	164,9251	-33,2168	3478,458	2720,029
17,15927	171,5927	-47,0321	4925,191	2944,405
19,03178	190,3178	-45,3803	4752,212	3622,086
19,79463	197,9463	-55,6183	5824,334	3918,275
20,3838	203,838	-42,1752	4416,575	4154,992
19,94938	199,4938	-31,033	3249,764	3979,777
19,42724	194,2724	-23,9015	2502,957	3774,178
17,7221	177,221	-28,1324	2946,016	3140,73
16,59205	165,9205	-36,7691	3850,447	2752,96
17,10297	171,0297	-33,3705	3494,552	2925,115
17,49725	174,9725	-31,442	3292,594	3061,537
17,86387	178,6387	-36,5531	3827,827	3191,18
17,94479	179,4479	-48,5933	5088,676	3220,156
19,59358	195,9358	-52,5571	5503,768	3839,085
20,03554	200,3554	-40,7077	4262,896	4014,228
19,78554	197,8554	-28,592	2994,151	3914,676
19,30756	193,0756	-27,6411	2894,568	3727,819
17,64086	176,4086	-21,5823	2260,095	3111,999
16,2627	162,627	-39,85	4173,078	2644,755
17,04001	170,4001	-33,5368	3511,965	2903,619
17,36335	173,6335	-32,4147	3394,461	3014,858
17,7834	177,834	-37,3768	3914,093	3162,493
17,93025	179,3025	-49,5708	5191,041	3214,939
19,56076	195,6076	-52,7181	5520,624	3826,232
20,0173	200,173	-41,3521	4330,382	4006,924
19,80325	198,0325	-29,4942	3088,623	3921,687
19,29372	192,9372	-22,3312	2338,513	3722,477
17,64633	176,4633	-26,6558	2791,392	3113,928
16,35549	163,5549	-35,9249	3762,049	2675,019
16,95715	169,5715	-32,1551	3367,273	2875,451

17,38623	173,8623	-31,3211	3279,941	3022,811
17,85414	178,5414	-43,8492	4591,882	3187,702
17,99372	179,9372	-42,7479	4476,547	3237,738
19,36758	193,6758	-54,5679	5714,333	3751,033
20,09497	200,9497	-41,1685	4311,158	4038,077
19,74572	197,4572	-30,2081	3163,39	3898,934
19,28411	192,8411	-23,1559	2424,877	3718,769
17,62697	176,2697	-27,4154	2870,934	3107,101
16,37494	163,7494	-36,2699	3798,176	2681,386
16,93544	169,3544	-33,0816	3464,292	2868,092
17,37622	173,7622	-31,2841	3276,063	3019,33
17,77638	177,7638	-36,4889	3821,113	3159,996
17,9192	179,192	-48,554	5084,559	3210,977
19,56194	195,6194	-52,4777	5495,449	3826,695
20,01363	200,1363	-40,6648	4258,409	4005,456
19,76972	197,6972	-28,5705	2991,898	3908,418
19,29598	192,9598	-27,633	2893,717	3723,349
17,63213	176,3213	-21,5846	2260,337	3108,921
16,26149	162,6149	-39,852	4173,288	2644,36
17,03952	170,3952	-33,542	3512,509	2903,451
17,36313	173,6313	-32,4218	3395,206	3014,784
17,78317	177,8317	-37,3851	3914,961	3162,413
17,93202	179,3202	-49,577	5191,691	3215,573
19,56146	195,6146	-52,7195	5520,777	3826,509
20,01785	200,1785	-41,3522	4330,389	4007,145

### LAMPIRAN C DATA SIMULASI 18S10P

Current(A)	Voltage(V)	Load Force/Torque(Nm)	Pin	Pout
0	0	-2,01747	211,2688	0
1,98225	198,225	-31,0844	3255,151	392,9315
1,053863	105,3863	-63,4843	6648,06	111,0626
1,2643	126,43	-90,0662	9431,707	159,8454
1,915423	191,5423	-94,1052	9854,678	366,8844
2,547213	254,7213	-55,1161	5771,748	648,8295
2,711593	271,1593	-12,9802	1359,284	735,2737
2,585223	258,5223	33,92675	3552,801	668,3378
2,465461	246,5461	72,00101	7539,928	607,8496
1,774231	177,4231	78,84435	8256,561	314,7895
0,397352	39,73524	50,56733	5295,399	15,78889
1,516683	151,6683	21,31421	2232,019	230,0327
2,111139	211,1139	-11,0721	1159,464	445,6907
3,255233	325,5233	-17,4685	1829,3	1059,654
3,13431	313,431	-9,88926	1035,601	982,3901
2,902372	290,2372	-3,89882	408,2831	842,3765
1,858597	185,8597	-18,9035	1979,569	345,4382
1,178057	117,8057	-50,3093	5268,381	138,7818
1,195647	119,5647	-80,4128	8420,805	142,9572
2,005726	200,5726	-89,6039	9383,3	402,2937
2,612493	261,2493	-51,6589	5409,712	682,5122
2,733255	273,3255	-12,7777	1338,081	747,0684
2,582458	258,2458	30,45215	3188,942	666,9087
2,492989	249,2989	66,1816	6930,521	621,4992
1,804566	180,4566	70,28802	7360,545	325,6457
0,351712	35,17116	39,5123	4137,719	12,3701
1,543778	154,3778	11,44628	1198,652	238,3252
2,142741	214,2741	-17,7062	1854,193	459,1339
3,222544	322,2544	-18,3642	1923,091	1038,479
3,042058	304,2058	-8,36194	875,66	925,4118
2,899046	289,9046	1,614788	169,1002	840,4468
1,882541	188,2541	-9,8243	1028,798	354,3961
1,254301	125,4301	-40,0756	4196,707	157,3272
1,147432	114,7432	-72,2667	7567,746	131,6599
2,059532	205,9532	-84,9569	8896,668	424,1672
2,635355	263,5355	-48,7786	5108,085	694,5094
2,743755	274,3755	-12,7963	1340,023	752,8189

2,59735	259,735	27,64903	2895,399	674,6225
2,493261	249,3261	61,53973	6444,426	621,6352
1,817168	181,7168	63,23002	6621,432	330,2099
0,326597	32,65966	30,24552	3167,304	10,66653
1,567814	156,7814	3,588156	375,7508	245,8042
2,185444	218,5444	-23,1001	2419,041	477,6164
3,179538	317,9538	-19,2531	2016,176	1010,946
2,964616	296,4616	-6,75995	707,9007	878,8946
2,89317	289,317	6,102998	639,1045	837,043
1,907697	190,7697	-2,4143	252,8248	363,9308
1,302118	130,2118	-31,1081	3257,632	169,5512
1,11601	111,601	-65,4949	6858,613	124,5479
2,092541	209,2541	-81,1031	8493,097	437,8729
2,644095	264,4095	-46,4352	4862,679	699,1238
2,757994	275,7994	-12,6738	1327,196	760,6534
2,61991	261,991	25,2399	2643,116	686,3929
2,481256	248,1256	57,31245	6001,745	615,6631
1,823995	182,3995	57,30535	6001,002	332,6958
0,309347	30,93468	22,55035	2361,467	9,569542
1,578832	157,8832	-2,88376	301,9865	249,2711
2,228407	222,8407	-27,2311	2851,639	496,58
3,158837	315,8837	-19,9527	2089,439	997,8249
2,918695	291,8695	-5,63556	590,1549	851,8781
2,888019	288,8019	9,738379	1019,801	834,0656