

LAMPIRAN



Lampiran 4.1 Hasil Perhitungan Impedansi pada Penghantar di Tiap Gardu Distribusi

Data penyulang						
Nomor Gardu	Jenis penghantar (km)			Total jarak (km)	Impedansi penghantar total (ohm)	
	A3C(150)	A3C(70)	SKTM		Positif/Negatif	Nol
TB005	3.6	0	0.055	3.655	0.785195+1.1956125705j	1.314035+5.8306125705j
TB007	4.067	0	0.055	4.122	0.8861604+1.3499560705j	1.4836027+6.5862185705j
TB010	4.445	0	0.055	4.5	0.967884+1.4748850705j	1.6208545+7.1978225705j
TB011	4.721	0	0.055	4.776	1.0275552+1.5661030705j	1.7210701+7.6443905705j
TB012	5.293	0	0.055	5.348	1.1512216+1.7551490705j	1.9287633+8.5698865705j
TB043	5.349	0	0.055	5.404	1.1633288+1.7736570705j	1.9490969+8.6604945705j
TB045	5.399	0	0.055	5.454	1.1741388+1.7901820705j	1.9672519+8.7413945705j
TB046	5.777	0.047	0.055	5.879	1.27752+1.9318994705j	2.1331173+9.4302994705j
TB047	5.564	0.271	0.055	5.89	1.3346886+1.9415157705j	2.1921482+9.4540782705j
TB051	6.004	0	0.075	6.079	1.3074398+1.9922482325j	2.1894274+9.7223982325j
TB052	6.253	0	0.055	6.308	1.3587736+2.0724290705j	2.2773393+10.1231665705j
TB053	5.564	0.601	0.055	6.22	1.4867526+2.0593917705j	2.3930522+9.9968292705j
TB054	6.739	0	0.055	6.794	1.4638468+2.2330520705j	2.4538059+10.9095145705j
TB057	5.564	0.915	0.055	6.534	1.6314438+2.1715525705j	2.5842154+10.5132650705j
TB087	6.795	0.113	0.055	6.963	1.5280244+2.2919236705j	2.5429339+11.1859736705j
TB089	7.163	0	0.055	7.218	1.5555156+2.3731840705j	2.6077603+11.5955465705j
TB091	7.214	0	0.055	7.269	1.5665418+2.3900395705j	2.6262784+11.6780645705j
TB092	6.795	0.462	0.055	7.312	1.6888436+2.4165864705j	2.7554051+11.7599739705j

TB093	7.563	0	0.055	7.618	1.6419956+2.5053840705j	2.7530003+12.2427465705j
TB094	8.27	0	0.055	8.325	1.794849+2.7390475705j	3.009712+13.3866725705j
TB095	9.37	0	0.055	9.425	2.032669+3.1025975705j	3.409122+15.1664725705j
TB096	9.553	0	0.055	9.608	2.0722336+3.1630790705j	3.4755693+15.4625665705j
TB097	9.716	0	0.055	9.771	2.1074742+3.2169505705j	3.5347546+15.7263005705j
TB100	9.758	0	0.055	9.813	2.1165546+3.2308315705j	3.5500048+15.7942565705j
TB101	9.833	0	0.055	9.888	2.1327696+3.2556190705j	3.5772373+15.9156065705j
TB104	10.039	0	0.055	10.094	2.1773068+3.3237020705j	3.6520359+16.2489145705j
TB105	10.098	0	0.055	10.153	2.1900626+3.3432015705j	3.6734588+16.3443765705j
TB120	9.955	0.219	0.055	10.229	2.2600612+3.3741668705j	3.7548627+16.4731918705j
TB121	10.039	0.219	0.083	10.341	2.281722+3.4048879973j	3.7888631+16.6120629973j
TB122	10.402	0	0.055	10.457	2.2557874+3.4436735705j	3.7838412+16.8362485705j
TB127	9.638	0	1.855	11.493	2.3156106+3.3814011505j	3.7314328+15.7903261505j
TB128	9.638	0	1.881	11.519	2.3188606+3.3841489111j	3.7346828+15.7930739111j
TB129	9.638	0	2.455	12.093	2.3906106+3.4448110105j	3.8064328+15.8537360105j
TB130	9.638	0	2.655	12.293	2.4156106+3.4659476305j	3.8314328+15.8748726305j
TB140	10.544	0	0.055	10.599	2.2864878+3.4906045705j	3.8354014+17.0660045705j
TB145	10.986	0	0.055	11.041	2.3820482+3.6366855705j	3.9958916+17.7811605705j
TB146	9.993	0	2.714	12.707	2.4997366+3.5895104334j	3.9677083+16.4554979334j
TB147	11.866	0	0.055	11.921	2.5723042+3.9275255705j	4.3154196+19.2050005705j
TB148	11.866	0.482	0.055	12.403	2.7944098+4.0996959705j	4.6088612+19.9977459705j
TB159	12.519	0	0.109	12.628	2.7202328+4.1490489579j	4.5592739+20.2672614579j
TB160	12.579	0	0.055	12.634	2.7264548+4.1631720705j	4.5743099+20.3586345705j
TB161	12.906	0	0.055	12.961	2.7971522+4.2712455705j	4.6930436+20.8877205705j

TB162	12.958	0	0.121	13.079	2.8166446+4.2954066551j	4.7201748+20.9788316551j
TB163	13.012	0.264	0.055	13.331	2.9417206+4.4005793705j	4.8922554+21.4934293705j
TB168	14.206	0	0.055	14.261	3.0782122+4.7008955705j	5.1650736+22.9911205705j
TB169	14.568	0	0.055	14.623	3.1564766+4.8205365705j	5.2965158+23.5768365705j
TB185	14.606	0	0.055	14.661	3.1646922+4.8330955705j	5.3103136+23.6383205705j
TB186	14.606	0.837	0.055	15.498	3.5503818+5.1320719705j	5.8198792+25.0149344705j
TB187	14.606	0.858	0.055	15.519	3.5600586+5.1395731705j	5.832664+25.0494731705j
TB188	14.751	1.099	0.055	15.905	3.7024604+5.2735808705j	6.0320343+25.6804558705j
TB189	15.127	1.099	0.055	16.281	3.7837516+5.3978488705j	6.1685599+26.2888238705j
TB190	14.606	2.058	0.055	16.719	4.1130186+5.5682131705j	6.563224+27.0231131705j
TB191	14.606	4.658	0.055	19.319	5.3110986+6.4969331705j	8.146104+31.2993331705j
TB192	14.606	5.458	0.075	20.139	5.6822386+6.7848068325j	8.635644+32.6172068325j
TB195	14.606	5.858	0.055	20.519	5.8640586+6.9255731705j	8.876664+33.2729731705j
TB200	14.606	6.68	0.055	21.341	6.2428362+7.2191915705j	9.3770976+34.6249165705j



Lampiran 4.2 Hasil Perhitungan Impedansi Ekuivalen Gardu Distribusi

Nomor Gardu	Impedansi ekuivalen (ohm)	
	Positive/Negative	Nol
TB005	0.785195+2.20798250786703j	121.314035+6.84298250786703j
TB007	0.8861604+2.36232600786703j	121.4836027+7.59858850786703j
TB010	0.967884+2.48725500786703j	121.6208545+8.21019250786703j
TB011	1.0275552+2.57847300786703j	121.7210701+8.65676050786703j
TB012	1.1512216+2.76751900786703j	121.9287633+9.58225650786703j
TB043	1.1633288+2.78602700786703j	121.9490969+9.67286450786703j
TB045	1.1741388+2.80255200786703j	121.9672519+9.75376450786703j
TB046	1.27752+2.94426940786703j	122.1331173+10.442669407867j
TB047	1.3346886+2.95388570786703j	122.1921482+10.466448207867j
TB051	1.3074398+3.00461816986703j	122.1894274+10.734768169867j
TB052	1.3587736+3.08479900786703j	122.2773393+11.135536507867j
TB053	1.4867526+3.07176170786703j	122.3930522+11.009199207867j
TB054	1.4638468+3.24542200786703j	122.4538059+11.921884507867j
TB057	1.6314438+3.18392250786703j	122.5842154+11.525635007867j
TB087	1.5280244+3.30429360786703j	122.5429339+12.198343607867j
TB089	1.5555156+3.38555400786703j	122.6077603+12.607916507867j
TB091	1.5665418+3.40240950786703j	122.6262784+12.690434507867j
TB092	1.6888436+3.42895640786703j	122.7554051+12.772343907867j
TB093	1.6419956+3.51775400786703j	122.7530003+13.255116507867j
TB094	1.794849+3.75141750786703j	123.009712+14.399042507867j
TB095	2.032669+4.11496750786703j	123.409122+16.178842507867j

TB096	2.0722336+4.17544900786703j	123.4755693+16.474936507867j
TB097	2.1074742+4.22932050786703j	123.5347546+16.738670507867j
TB100	2.1165546+4.24320150786703j	123.5500048+16.806626507867j
TB101	2.1327696+4.26798900786703j	123.5772373+16.927976507867j
TB104	2.1773068+4.33607200786703j	123.6520359+17.261284507867j
TB105	2.1900626+4.35557150786703j	123.6734588+17.356746507867j
TB120	2.2600612+4.38653680786703j	123.7548627+17.485561807867j
TB121	2.281722+4.41725793466703j	123.7888631+17.624432934667j
TB122	2.2557874+4.45604350786703j	123.7838412+17.848618507867j
TB127	2.3156106+4.39377108786703j	123.7314328+16.802696087867j
TB128	2.3188606+4.39651884846703j	123.7346828+16.805443848467j
TB129	2.3906106+4.45718094786703j	123.8064328+16.866105947867j
TB130	2.4156106+4.47831756786703j	123.8314328+16.887242567867j
TB140	2.2864878+4.50297450786703j	123.8354014+18.078374507867j
TB145	2.3820482+4.64905550786703j	123.9958916+18.793530507867j
TB146	2.4997366+4.60188037076703j	123.9677083+17.467867870767j
TB147	2.5723042+4.93989550786703j	124.3154196+20.217370507867j
TB148	2.7944098+5.11206590786703j	124.6088612+21.010115907867j
TB159	2.7202328+5.16141889526703j	124.5592739+21.279631395267j
TB160	2.7264548+5.17554200786703j	124.5743099+21.371004507867j
TB161	2.7971522+5.28361550786703j	124.6930436+21.900090507867j
TB162	2.8166446+5.30777659246703j	124.7201748+21.991201592467j
TB163	2.9417206+5.41294930786703j	124.8922554+22.505799307867j
TB168	3.0782122+5.71326550786703j	125.1650736+24.003490507867j

TB169	3.1564766+5.83290650786703j	125.2965158+24.589206507867j
TB185	3.1646922+5.84546550786703j	125.3103136+24.650690507867j
TB186	3.5503818+6.14444190786703j	125.8198792+26.027304407867j
TB187	3.5600586+6.15194310786703j	125.832664+26.061843107867j
TB188	3.7024604+6.28595080786703j	126.0320343+26.692825807867j
TB189	3.7837516+6.41021880786703j	126.1685599+27.301193807867j
TB190	4.1130186+6.58058310786703j	126.563224+28.035483107867j
TB191	5.3110986+7.50930310786703j	128.146104+32.311703107867j
TB192	5.6822386+7.79717676986703j	128.635644+33.629576769867j
TB195	5.8640586+7.93794310786703j	128.876664+34.285343107867j
TB200	6.2428362+8.23156150786703j	129.3770976+35.637286507867j

