,,P Controller (Root Locus)[400],351,180,859,178,872,177,892,182,880,179,886,176,851,177,853,173,855,170,829,164,959,178,833,174,546,153,917,192,806,176,884,170,839,177,887,173,865,169,858,171,850,190,855,186,876,172,850,163,939,140,842,158,932,170,836,173,838,160,1118,180,860,160,1103,159,934,193,806,156,1115,106,29,96,1242,156,758,4,112,1248,171,869,168,842,189,810,109,989,164,937,164,972,178,810,157,971,192,824,161,919,158,963,150,21,1250,188,801,161,1118,159,1021,178,943,163,789,193,760,191,175,12,33,,,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,,,PI Controller (root Locus)[400],174,174,346,338,490,341,496,340,339,483,337,495,344,336,477,328,468,336,480,332,477,324,491,318,478,314,474,336,339,467,314,479,372,444,374,438,327,466,332,439,508,286,456,312,460,309,426,525,285,442,366,440,305,509,292,437,522,361,116,16,22,1369,427,499,319,345,432,458,374,306,458,515,338,307,422,420,52,16,22,31,45,99,994,1650,502,597,453,320,484,335,490,325,463,334,469,343,340,464,330,472,332,486,338,431,454,330,489,337,325,439,463,364,387,518,333,310,480,309,294,, 400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,,,,PID Controller (Root Locus)[400],183,183,179,179,349,173,608,175,760,123,767,176,642,177,508,172,613,175,598,177,594,170,787,161,614,163,617,169,604,162,537,169,624,157,769,173,589,167,600,161,672,168,426,148,701,170,700,189,691,167,661,158,582,194,577,168,801,191,358,4,22,23,33,65,1754,184,1448,169,679,159,452,181,472,166,739,175,547,176,595,171,659,174,756,171,612,168,612,173,670,170,607,161,593,168,593,194,642,172,612,191,572,170,463,161,805,177,734,191,588,35,18,21,32,36,500,1414,174,1375,187,729,,,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,,,,P Controller (Ziegler Nichols)[400],182,182,181,183,186,180,182,148,140,186,181,179,177,179,173,179,171,187,174,176,184,184,172,179,169,181,180,180,182,175,164,193,170,175,172,176,178,177,194,93,4,33,179,178,171,166,167,172,164,164,182,166,173,165,150,166,163,190,121,18,165,193,163,172,195,161,163,159,136,163,163,162,189,160,174,190,137,2,3,2,161,167,171,163,166,173,166,190,167,161,192,169,169,168,163,157,149,169,21,3,2,3,111,185,182,176,160,175,172,173,175,154,174,174,173,169,172,167,171,165,,,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,,,PI Controller (Ziegler Nichols)[400],186,182,178,344,333,345,193,342,349,501,354,347,494,348,339,503,329,431,338,457,322,503,334,487,346,329,488,340,491,349,315,486,346,487,342,476,342,337,483,345,482,381,328,474,348,458,375,319,478,377,325,493,357,470,323,450,375,475,365,322,465,366,459,370,235,12,16,16,16,18,40,872,573,927,750,638,603,495,508,504,477,479,356,476,339,472,342,469,328,536,317,347,484,335,481,271,493,347,487,335,375,453,340,488,333,488,340,334,466,341,514,326,452,47,9,367,573,453,462,168,,,,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,,,PID Controller (Ziegler Nichols)[400],180,338,338,343,337,471,334,493,347,349,494,340,351,499,353,325,460,307,443,445,317,458,257,449,488,307,521,311,473,331,464,301,477,464,327,467,331,461,330,521,318,466,306,480,328,454,362,518,104,392,465,468,464,216,552,222,13,18,123,1287,471,639,518,331,493,355,351,489,341,300,501,354,495,360,347,486,346,483,344,336,487,328,518,323,317,434,9,14,18,759,841,624,493,473,311,486,335,433,494,313,485,323,453,310,487,70,10,522,747,433,473,480,431,179,558,473,330,470,323,432,,,,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,,,P Controller (Cohen Coon)[400],186,189,188,187,185,194,180,182,186,179,180,184,186,184,178,166,121,181,177,182,186,178,170,185,172,194,170,186,181,181,186,182,191,188,186,183,188,205,173,171,181,187,188,175,173,188,168,177,197,176,174,23,4,3,3,3,74,181,182,189,182,181,184,182,184,182,178,186,172,178,182,188,168,184,167,169,107,179,178,178,171,192,175,180,179,177,172,177,194,174,174,174,176,180,177,195,168,197,174,171,192,168,134,3,3,3,3,4,51,152,180,187,178,180,178,175,183,177,183,155,176,173,186,181,182,,,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,,,PI - Cohen-Coon (400),190,518,184,644,185,656,183,667,187,524,190,643,186,637,183,501,336,494,183,658,173,604,175,666,178,636,167,633,183,650,187,478,345,522,110,807,179,492,180,625,180,608,194,622,178,550,10,25,41,74,2064,143,526,183,655,184,512,370,352,523,186,627,180,633,190,593,186,637,150,572,364,351,496,347,336,544,181,636,171,609,174,708,175,505,346,138,17,33,939,1065,187,482,357,334,326,637,166,645,177,579,188,631,181,575,350,356,498,341,509,197,600,177,605,186,626,94,14,34,39,64,389,2327,193,352,352,511,185,626,26,649,526,181,,,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,,,PID Controller (Cohen Coon)[400],190,527,357,362,362,512,367,353,367,308,510,353,502,371,354,510,339,345,496,341,354,491,350,326,513,335,503,345,345,504,335,349,499,349,330,515,349,499,331,343,482,344,532,170,497,342,487,374,332,491,383,340,22,811,348,557,319,471,385,325,488,19,14,921,496,488,344,486,336,341,469,384,477,332,484,322,493,79,13,21,635,1049,364,676,171,492,372,460,360,520,361,322,503,375,330,514,340,362,453,352,373,478,346,505,234,494,333,509,190,11,90,1054,508,497,348,484,357,316,520,346,492,331,,,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,,,P Controller (AMIGO)[400],186,183,183,183,179,177,175,177,175,178,177,179,179,175,184,176,174,181,167,183,174,181,159,131,178,168,174,178,173,179,170,165,173,172,174,178,170,173,163,164,142,165,165,168,187,105,183,163,166,182,166,160,167,165,163,187,179,160,128,4,3,157,188,162,166,186,161,176,167,153,19,2,115,168,164,188,162,162,187,160,159,159,161,185,156,182,64,2,2,3,3,10,172,178,179,176,176,174,180,168,174,177,164,172,167,97,174,168,182,171,161,172,174,177,173,170,168,167,173,167,167,166,171,,,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,,,PI Controller (AMIGO)[400],181,177,177,177,177,174,177,173,177,178,177,176,177,175,172,178,331,348,340,316,323,335,333,297,310,360,284,344,305,328,333,320,327,323,322,323,335,371,326,329,377,315,331,193,287,12,10,9,22,477,501,479,483,478,466,427,492,454,456,468,486,508,449,484,465,484,455,476,489,482,493,333,483,340,479,327,487,346,491,326,468,368,271,463,489,332,528,324,309,8,8,451,450,495,465,30,8,291,467,471,463,434,498,243,477,492,466,436,447,516,481,471,478,471,469,454,491,462,475,254,8,,,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,,,PID Controller (AMIGO)[400],180,350,348,194,494,493,340,332,496,348,506,336,346,496,359,334,460,329,444,335,439,478,345,458,351,451,367,304,477,336,464,301,469,463,338,473,337,483,332,520,326,326,455,322,467,330,529,336,360,470,328,516,335,319,473,364,480,328,537,309,327,287,13,145,920,620,470,360,472,314,536,323,184,172,695,487,485,320,450,364,451,319,439,418,371,452,368,303,8,14,21,830,966,461,453,460,453,525,319,446,313,463,296,404,457,542,327,304,511,332,444,361,433,169,15,11,21,29,66,1186,1051,762,493,,,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,,,,,PI Controller (Root Locus)[Variable],,,183,354,340,500,350,344,489,345,341,503,357,621,643,513,632,629,614,500,613,627,622,642,2133,2471,2642,3375,2870,3281,2890,3322,2829,3221,2778,2879,2889,3024,2914,1346,3904,3538,3224,2891,3345,3009,1985,1593,1582,1200,1595,1385,1414,1312,1436,873,1744,929,735,612,578,598,590,490,699,600,668,464,2191,2306,2471,2467,2928,2472,2419,2673,2739,2397,2549,1505,733,608,583,668,584,601,574,147,25,33,75,96,2074,4398,3169,2251,1814,1834,1772,1061,2363,442,184,508,182,180,182,177,177,175,318,173,1596,1680,1736,1898,1745,1743,1811,1893,1745,,400,400,400,400,400,400,400,400,400,400,600,600,600,600,600,600,600,600,600,600,600,3000,3000,3000,3000,3000,3000,3000,3000,3000,3000,3000,3000,3000,3000,3000,3000,3000,3000,3000,3000,3000,3000,1400,1400,1400,1400,1400,1400,1400,1400,1400,1400,1400,600,600,600,600,600,600,600,600,600,600,600,2600,2600,2600,2600,2600,2600,2600,2600,2600,2600,2600,600,600,600,600,600,600,600,600,600,600,600,1800,1800,1800,1800,1800,1800,1800,1800,1800,1800,1800,200,200,200,200,200,200,200,200,200,200,200,1800,1800,1800,1800,1800,1800,1800,1800,1800,1800,,,PID Controller (Ziegler-Nichols)[Variable],,106,357,356,335,362,501,353,348,406,404,530,478,648,512,666,526,634,524,662,503,642,664,2072,2144,1723,1259,1133,3534,1588,4294,3563,3494,3674,3167,3082,3034,2649,3505,3121,3039,3212,3104,2869,3295,2366,2156,1796,1683,1455,1553,1466,1374,1383,1279,1502,886,894,639,607,626,563,751,598,678,463,638,1616,2272,1907,1901,2693,2654,2651,360,118,147,192,3314,4271,2884,2155,1497,1140,782,771,639,640,634,1284,1488,1625,1778,1761,1658,1772,1874,1893,1716,1753,924,465,520,174,385,175,180,181,181,172,175,1302,1346,743,57,84,1130,3672,1836,810,,400,400,400,400,400,400,400,400,400,400,600,600,600,600,600,600,600,600,600,600,600,3000,3000,3000,3000,3000,3000,3000,3000,3000,3000,3000,3000,3000,3000,3000,3000,3000,3000,3000,3000,3000,3000,1400,1400,1400,1400,1400,1400,1400,1400,1400,1400,1400,600,600,600,600,600,600,600,600,600,600,600,2600,2600,2600,2600,2600,2600,2600,2600,2600,2600,2600,600,600,600,600,600,600,600,600,600,600,600,1800,1800,1800,1800,1800,1800,1800,1800,1800,1800,1800,200,200,200,200,200,200,200,200,200,200,200,1800,1800,1800,1800,1800,1800,1800,1800,1800,1800,,,PID Controller (AMIGO)[Variable],,191,187,357,354,363,517,210,519,368,360,550,534,534,663,517,635,490,599,645,593,609,586,1868,1742,2819,2719,2904,2855,2926,2800,2892,3100,2727,3072,3062,2763,3099,2950,3231,3083,3095,3069,2997,2916,2379,2027,1910,1536,1595,1372,1401,1484,1350,1435,1385,1091,696,828,572,618,625,630,614,639,458,686,911,2231,2535,2734,2257,2319,2498,1477,118,933,4525,3072,2188,1450,1247,818,798,630,582,610,615,404,1270,1640,1689,1673,1767,1903,1699,1824,1865,1533,1927,1009,628,361,178,171,175,335,170,193,176,187,962,44,170,2835,2449,60,87,126,491,,400,400,400,400,400,400,400,400,400,400,600,600,600,600,600,600,600,600,600,600,600,3000,3000,3000,3000,3000,3000,3000,3000,3000,3000,3000,3000,3000,3000,3000,3000,3000,3000,3000,3000,3000,3000,1400,1400,1400,1400,1400,1400,1400,1400,1400,1400,1400,600,600,600,600,600,600,600,600,600,600,600,2600,2600,2600,2600,2600,2600,2600,2600,2600,2600,2600,600,600,600,600,600,600,600,600,600,600,600,1800,1800,1800,1800,1800,1800,1800,1800,1800,1800,1800,200,200,200,200,200,200,200,200,200,200,200,1800,1800,1800,1800,1800,1800,1800,1800,1800,1800,,,OnOff Controller (400),,334,7043,204,6360,203,6352,198,6365,195,6363,205,6355,205,6340,209,6348,205,6370,194,6359,203,6358,207,6356,201,6360,205,6355,205,6356,200,6370,200,6353,200,6347,205,6349,200,6350,204,6350,126,6386,204,6359,202,6352,197,6342,197,6360,186,6352,198,6359,203,6358,184,6366,200,6354,194,6369,202,6360,205,6349,200,6347,201,6345,203,6347,173,6362,204,6338,199,6367,205,6347,203,6354,198,6370,205,6344,203,6343,203,6338,197,6357,201,6351,198,6348,202,6347,206,6360,125,6402,203,6337,196,6349,204,6352,206,6330,203,6353,204,6356,206,6350,203,6356,194,,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,400,,,OnOff Controller,315,10035,193,6393,198,6354,200,6271,195,6481,201,6392,181,6411,181,6389,199,6378,193,6379,198,6393,201,6379,193,6370,190,6370,202,6363,192,6371,189,6382,192,6371,191,6381,187,6376,198,6365,196,6359,200,6362,203,6366,202,6359,205,6356,197,6355,202,6355,202,6357,205,6353,204,6371,202,6359,202,6374,196,6317,196,6395,206,6360,197,6359,190,6388,191,6339,210,6358,205,6365,205,6373,204,6354,204,6365,189,6385,201,6352,198,6343,202,6361,180,6376,198,6362,197,6361,199,6362,206,186,9471,206,191,9460,203,6350,194,5700,245,6967,194,6369,207,6359,193,,400,400,400,400,400,400,400,400,400,400,400,600,600,600,600,600,600,600,600,600,600,600,3000,3000,3000,3000,3000,3000,3000,3000,3000,3000,3000,3000,3000,3000,3000,3000,3000,3000,3000,3000,3000,3000,1400,1400,1400,1400,1400,1400,1400,1400,1400,1400,1400,600,600,600,600,600,600,600,600,600,600,600,2600,2600,2600,2600,2600,2600,2600,2600,2600,2600,2600,600,600,600,600,600,600,600,600,600,600,600,1800,1800,1800,1800,1800,1800,1800,1800,1800,1800,1800,200,200,200,200,200,200,200,200,200,200,200,1800,1800,1800,1800,1800,1800,1800,1800,1800,1800,1800,