

## Harmonic current injection data

The average harmonic injection data collected for WTG [2]–[9], PV [4], [8], [10]–[14], HVDC [4], [8], Battery [15]–[21], SVC [4], [8], [22], STATCOM [4], [23]–[30] and load [31]–[33] are given in Table 2.

Table 2: Average Harmonic Injections for different devices

Order ( $h$ )	WTG $I_h/I_f$ (%)	PV $I_h/I_f$ (%)	HVDC $I_h/I_f$ (%)	Battery $I_h/I_f$ (%)	SVC $I_h/I_f$ (%)	STATCOM $I_h/I_f$ (%)	Load $I_h/I_f$ (%)
2	0.4830	0.1767	0.0167	0.0178	0.0135	0.2732	0.0000
3	0.1743	0.4042	0.1206	0.0992	0.1058	0.1193	2.4232
4	0.2599	0.1177	0.0173	0.0228	0.0196	0.1229	0.0000
5	0.7067	0.3726	0.3794	0.3979	4.6630	0.6747	5.2580
6	0.2387	0.0532	0.0115	0.0601	0.0072	0.0730	0.0000
7	0.3359	0.1744	0.2904	0.1640	1.8510	0.5543	1.3352
8	0.2122	0.0366	0.0066	0.0167	0.0072	0.0449	0.0000
9	0.0336	0.1002	0.0382	0.0910	0.0214	0.0392	0.0000
10	0.0988	0.0469	0.0047	0.0165	0.0072	0.0496	0.0000
11	0.1979	0.1189	0.9748	0.0979	1.0557	0.3998	2.0391
12	0.0587	0.0201	0.0084	0.0067	0.0103	0.0266	0.0000
13	0.2059	0.1127	0.7957	0.1117	0.5873	0.3278	0.9583
14	0.0977	0.0225	0.0059	0.0051	0.0103	0.0194	0.0000
15	0.0390	0.0517	0.0136	0.0775	0.0168	0.0308	0.0000
16	0.0933	0.0137	0.0142	0.0031	0.0103	0.0389	0.0000
17	0.1035	0.0591	0.0760	0.1280	0.4474	0.1773	0.1804
18	0.0494	0.0112	0.0166	0.0102	0.0072	0.0182	0.0000
19	0.0734	0.0627	0.0603	0.1093	0.3113	0.1037	0.1230
20	0.0668	0.0186	0.0060	0.0096	0.0103	0.0199	0.0000
21	0.0253	0.0294	0.0188	0.0998	0.0240	0.0263	0.0388
22	0.0739	0.0127	0.0083	0.0064	0.0103	0.0346	0.0000
23	0.0530	0.0357	0.2288	0.1105	0.2748	0.1025	0.3000
24	0.0507	0.0122	0.0055	0.0130	0.0072	0.0444	0.0000
25	0.0471	0.0515	0.2026	0.1527	0.1827	0.1062	0.1183
26	0.0545	0.0076	0.0035	0.0321	0.0072	0.0377	0.0000
27	0.0180	0.0283	0.0116	0.0914	0.0297	0.0428	0.0000
28	0.0623	0.0185	0.0032	0.0190	0.0072	0.0198	0.0000
29	0.0393	0.0366	0.0495	0.1199	0.2084	0.0944	0.0550
30	0.0328	0.0089	0.0047	0.0098	0.0072	0.0427	0.0000
31	0.0345	0.0510	0.0464	0.1214	0.1124	0.0976	0.0000
32	0.0488	0.0066	0.0069	0.0038	0.0072	0.0202	0.0000
33	0.0210	0.0200	0.0230	0.1155	0.0340	0.0403	0.0000
34	0.0621	0.0064	0.0059	0.0028	0.0103	0.0320	0.0425
35	0.0481	0.0266	0.1323	0.0098	0.0792	0.1819	0.0425
36	0.0719	0.0050	0.0038	0.0033	0.0103	0.0120	0.0000
37	0.0564	0.0292	0.0858	0.0101	0.0918	0.1779	0.0000
38	0.0654	0.0055	0.0051	0.0026	0.0103	0.0175	0.0000
39	0.0332	0.0241	0.0154	0.0094	0.0460	0.0455	0.0000
40	0.0678	0.0057	0.0037	0.0014	0.0103	0.0142	0.0000
41	0.0428	0.0263	0.0108	0.0026	0.0196	0.0136	0.0000
42	0.0053	0.0333	0.0032	0.0013	0.0103	0.0016	0.0000
43	0.0109	0.0209	0.0123	0.0546	0.0196	0.0121	0.0000
44	0.0053	0.0037	0.0032	0.0007	0.0072	0.0020	0.0000
45	0.0053	0.0145	0.0130	0.0011	0.0103	0.0057	0.0000
46	0.0053	0.0238	0.0032	0.0003	0.0103	0.0020	0.0000
47	0.0053	0.0168	0.0119	0.0433	0.0165	0.0080	0.0000

48	0.0053	0.0021	0.0035	0.0012	0.0103	0.0016	0.0000
49	0.0053	0.0199	0.0108	0.0031	0.0165	0.0060	0.0000
50	0.0108	0.0157	0.0034	0.0000	0.0103	0.0020	0.0000
51	0.0021	0.0000	0.0159	0.0000	0.0000	0.0067	0.0000
52	0.0021	0.0000	0.0033	0.0000	0.0067	0.0024	0.0000
53	0.0063	0.0000	0.0146	0.0000	0.0118	0.0106	0.0000
54	0.0008	0.0283	0.0058	0.0000	0.0063	0.0000	0.0000
55	0.0081	0.0000	0.0174	0.0000	0.0108	0.0083	0.0000
56	0.0025	0.0000	0.0066	0.0000	0.0058	0.0033	0.0000
57	0.0021	0.0000	0.0145	0.0000	0.0003	0.0055	0.0000
58	0.0016	0.0221	0.0035	0.0000	0.0055	0.0016	0.0000
59	0.0070	0.0000	0.0104	0.0000	0.0093	0.0016	0.0000
60	0.0004	0.0000	0.0043	0.0000	0.0046	0.0033	0.0000
61	0.0057	0.0000	0.0181	0.0000	0.0088	0.0055	0.0000
62	0.0006	0.0213	0.0061	0.0000	0.0048	0.0024	0.0000
63	0.0012	0.0000	0.0142	0.0000	0.0002	0.0055	0.0000
64	0.0004	0.0000	0.0033	0.0000	0.0043	0.0020	0.0000
65	0.0045	0.0000	0.0085	0.0000	0.0078	0.0058	0.0000
66	0.0007	0.0162	0.0038	0.0000	0.0041	0.0077	0.0000
67	0.0042	0.0000	0.0110	0.0000	0.0073	0.0131	0.0000
68	0.0014	0.0000	0.0024	0.0000	0.0038	0.0110	0.0000
69	0.0011	0.0000	0.0132	0.0000	0.0001	0.0124	0.0000
70	0.0011	0.0151	0.0042	0.0000	0.0036	0.0000	0.0000
71	0.0093	0.0000	0.0111	0.0000	0.0066	0.0422	0.0000
72	0.0017	0.0000	0.0029	0.0000	0.0034	0.0033	0.0000
73	0.0067	0.0000	0.0121	0.0000	0.0064	0.0419	0.0000
74	0.0007	0.0134	0.0026	0.0000	0.0032	0.0069	0.0000
75	0.0021	0.0000	0.0115	0.0000	0.0001	0.0131	0.0000
76	0.0009	0.0000	0.0028	0.0000	0.0032	0.0029	0.0000
77	0.0117	0.0000	0.0111	0.0000	0.0056	0.0087	0.0000
78	0.0015	0.0128	0.0033	0.0000	0.0031	0.0029	0.0000
79	0.0120	0.0000	0.0093	0.0000	0.0053	0.0074	0.0000
80	0.0009	0.0000	0.0034	0.0000	0.0028	0.0012	0.0000
81	0.0016	0.0000	0.0112	0.0000	0.0001	0.0029	0.0000
82	0.0005	0.0115	0.0018	0.0000	0.0027	0.0004	0.0000
83	0.0045	0.0000	0.0100	0.0000	0.0048	0.0012	0.0000
84	0.0009	0.0000	0.0034	0.0000	0.0026	0.0082	0.0000
85	0.0076	0.0000	0.0088	0.0000	0.0046	0.0012	0.0000
86	0.0036	0.0109	0.0020	0.0000	0.0025	0.0045	0.0000
87	0.0012	0.0000	0.0120	0.0000	0.0001	0.0020	0.0000
88	0.0008	0.0000	0.0025	0.0000	0.0021	0.0020	0.0000
89	0.0019	0.0000	0.0078	0.0000	0.0042	0.0000	0.0000
90	0.0005	0.0106	0.0022	0.0000	0.0023	0.0041	0.0000
91	0.0008	0.0000	0.0066	0.0000	0.0040	0.0016	0.0000
92	0.0006	0.0000	0.0021	0.0000	0.0020	0.0033	0.0000
93	0.0008	0.0000	0.0096	0.0000	0.0001	0.0012	0.0000
94	0.0007	0.0102	0.0035	0.0000	0.0021	0.0020	0.0000
95	0.0039	0.0000	0.0061	0.0000	0.0037	0.0004	0.0000
96	0.0015	0.0000	0.0014	0.0000	0.0020	0.0016	0.0000
97	0.0033	0.0000	0.0096	0.0000	0.0035	0.0016	0.0000
98	0.0025	0.0102	0.0024	0.0000	0.0019	0.0000	0.0000
99	0.0032	0.0000	0.0083	0.0000	0.0001	0.0008	0.0000
100	0.0036	0.0000	0.0018	0.0000	0.0018	0.0004	0.0000

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