Shihlin Electric SL3 Series AC Drives Harmonics Report

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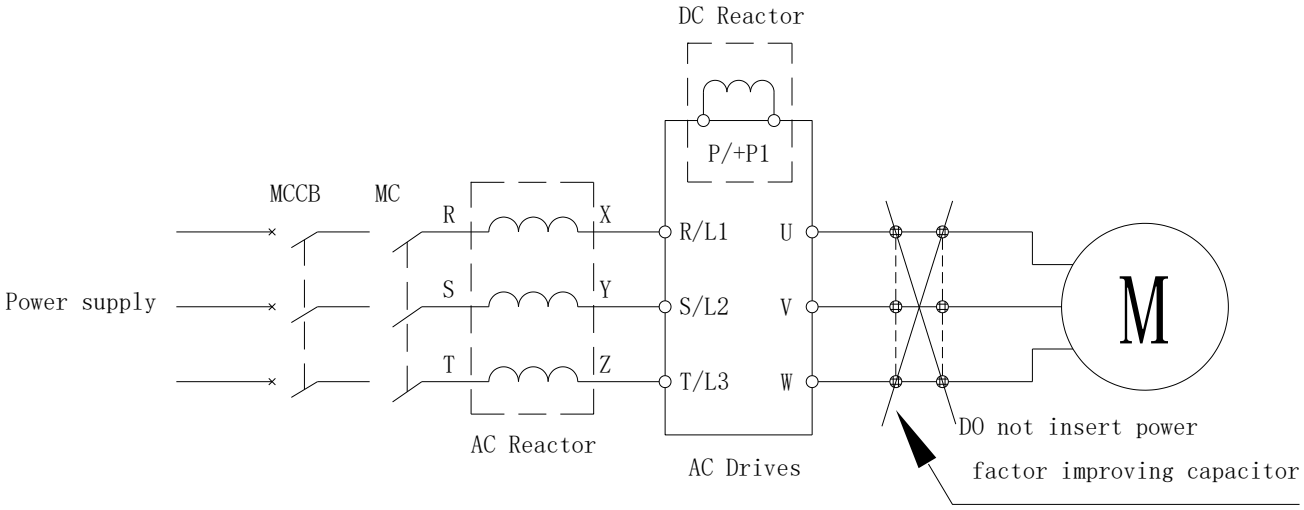
1. Harmonic suppression method

Power harmonics are generated by the rectifier parts of the AC Drives, which will affect both the power supply equipment and the power factor correction capacitor. To suppress harmonics and improve power factor, AC reactor (FA-ACL series) is added on the input side of the SL3 Series AC Drives.



2. Harmonic ratio

Reactor status	5th	7th	11th	13th	17th	19th	23th	25th	THDi
Without reactor	70.9	45.2	8.9	6.8	3.9	3.1	2.3	1.6	85.9
AC	36.6	14.4	7.9	3.4	3.3	1.2	1.2	0.8	40.9

Note 1. The above table shows the value of each harmonic when the fundamental-wave current is 100% in this two wiring conditions: no reactor, only AC reactor is installed.

2. THDi may vary slightly, depending on the installation conditions and environment (e.g., cable, motor).

3. Outgoing harmonic current

Model name	Output capacity	Output current	Fundamental wave current	Outgoing harmonic current converted from 6.6 kV (mA) (Without reactor, 100% operation rate)								
	(kVA)	(A)	converted from 6.6 kV (mA)	5th	7th	11th	13th	17th	19th	23th	25th	THDi
SL3-021-0.4K	1	2.7	164	116	74	15	11	6	5	4	3	141
SL3-021-0.75K	1.5	4.5	273	193	123	24	18	11	9	6	4	234
SL3-021-1.5K	2.5	8	485	344	219	43	33	19	15	11	8	416
SL3-021-2.2K	4.2	11	667	473	301	60	45	26	21	15	11	573
SL3-043-0.4K	1	1.5	91	64	41	8	6	4	3	2	1	78
SL3-043-0.75K	2	2.6	158	112	71	14	11	6	5	4	3	135
SL3-043-1.5K	3	4.2	255	181	115	23	17	10	8	6	4	219
SL3-043-2.2K	4.6	6	364	258	164	33	25	14	11	8	6	312