



ANSI / IEEE 519

CURRENT REQUIREMENTS

Current distortion limits for general distribution systems (120 V through 69000 V)

Maximum harmonic current distortion in percent of IL						
Individual harmonic order (odd harmonics)						
Isc / IL	< 11	11 ≤ h < 17	17 ≤ h < 23	23 ≤ h < 35	35 ≤ h	TDD
< 20 *	4,0	2,0	1,5	0,6	0,3	5,0
20 < 50	7,0	3,5	2,5	1,0	0,5	8,0
50 < 100	10,0	4,5	4,0	1,5	0,7	12,0
100 < 1000	12,0	5,5	5,0	2,0	1,0	15,0
> 1000	15,0	7,0	6,0	2,5	1,4	20,0

Notes: TDD: total demand distortion in percent of IL (maximum harmonic current distortion)

Isc: maximum short circuit current @ PCC

IL: maximum demand load current (fundamental frequency component) @ PCC

PCC: point of common coupling

Even harmonics are limited to 25% of the odd harmonic limits above.

Current distortions that result in a dc offset, e.g. half-wave converters, are not allowed

*All power generation equipment is limited to these values of current distortion, regardless of actual ISC/IL (ISC = maximum short-circuit current at PCC; IL = maximum demand load current, fundamental frequency component, at PCC)

VOLTAGE REQUIREMENTS

Low voltage system classification distortion limits

	Special applications *	General system	Dedicated system **
Notch depth	10%	20%	50%
TDD (voltage)	3%	5%	10%
Notch area (An) ***	16400	22800	36500

Notes: * Special applications include hospitals and airports

** Dedicated systems is exclusively dedicated to converter loads

*** In volt-microseconds at rated voltage and current

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