

# IEEE Recommended Practice for Electric Power Distribution for Industrial Plants

Sponsor  
**Power Systems Engineering Committee  
of the  
Industrial and Commercial Power Systems Department  
of the  
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*Correction Sheet*

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The following corrections should be made:

Page 174, table 4A-1, the column headings were reversed. The first column heading should be changed from  $X_d$  to  $X_d$ , and the second column heading should be changed from  $X_d$  to  $X_d$ .

Page 175, the first line in the second paragraph in the note after the first equation, the word, “place” should be replaced with “plane.”

Page 402, equation (9), the correct equation should read:

$$\% \text{ power loss approximates } \frac{100}{\text{pf}^2} \quad (9)$$

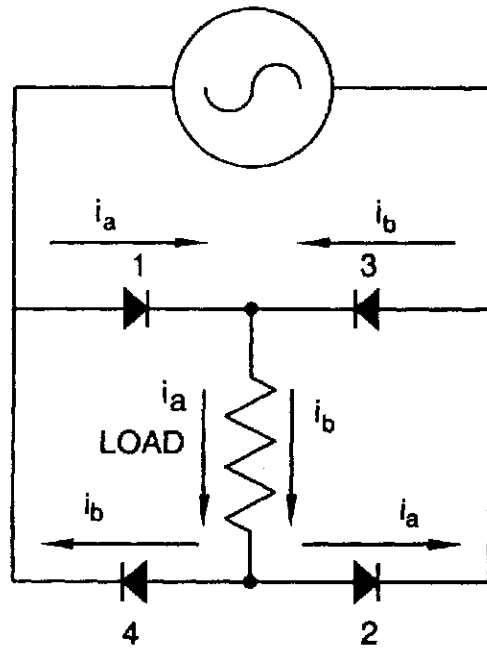
$$\% \text{ loss reduction} = 100 \left[ 1 - \frac{\text{original pf}^2}{\text{improved pf}^2} \right]$$

Page 448, the equation in 9.5.2, should read:

$$\text{df} = \frac{\text{sum of squares of amplitudes of all harmonics}}{\text{square of the fundamental amplitude}}^{1/2} 100\%$$

Page 448, 9.5.3, in the third line,  $180^\circ$  should be replaced with  $360^\circ$ .

Page 450, Figure 9-3(a), should be:





**Table 4A-1—Typical reactance values for induction and synchronous machines, in per unit of machine kVA ratings\***

	$X_d$	$X_d$
Turbine generators <sup>†</sup>		
2 poles	0.09	0.15
4 poles	0.15	0.23
Salient-pole generators with damper windings <sup>†</sup>		
12 poles or less	0.16	0.33
14 poles or less	0.21	0.33
Synchronous motors		
6 poles	0.15	0.23
8–14 poles	0.20	0.30
16 poles or more	0.28	0.40
Synchronous condensers <sup>†</sup>	0.24	0.37
Synchronous converters <sup>†</sup>		
600 V direct current	0.20	—
250 V direct current	0.33	—
Individual large induction motors, usually above 600 V	0.17	—
Smaller motors, usually 600 V and below	See tables 4-1 and 4-2.	

NOTE—Approximate synchronous motor kVA bases can be found from motor horsepower ratings as follows:

0.8 power factor motor—kVA base = hp rating

1.0 power factor motor—kVA base = 0.8 · hp rating

\*Use manufacturer's specified values if available.  
† $X_d$  not normally used in short-circuit calculations.

$$\% \text{ power loss} = \frac{100}{\text{pf}^2} \quad (9)$$

$$\% \text{ loss reduction} = 100 \left[ 1 - \frac{\text{original pf}^2}{\text{improved pf}^2} \right]$$

$i_a$

$i_b$

$i_b$