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INTERNATIONAL ELECTROTECHNICAL COMMISSION

COMMISSION ÉLECTROTECHNIQUE INTERNATIONALE

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IEC 60034-18-41
Amendment 1 to Edition 1.0 2019-06

ROTATING ELECTRICAL MACHINES –

Part 18-41: Partial discharge free electrical insulation systems (Type I) used in rotating electrical machines fed from voltage converters – Qualification and quality control tests

IEC 60034-18-41
Amendement 1 à l'Édition 1.0 2019-06

MACHINES ÉLECTRIQUES TOURNANTES –

Partie 18-41: Systèmes d'isolation électrique sans décharge partielle (Type I) utilisés dans des machines électriques tournantes alimentées par des convertisseurs de tension – Essais de qualification et de contrôle qualité

CORRIGENDUM 1

Corrections to the French version appear after the English text.

Les corrections à la version française sont données après le texte anglais.

12.2 Routine withstand voltage test

Replace the text of the third paragraph with the following new text:

During the routine testing of quantity produced machines up to 200 kW (or kVA) and rated for U_N ≤ 1 kV, the 1 min test may be replaced by a test of 1 s (see IEC 60034-1) at 120 % of the test voltage specified in Table D.1, for example S – (manufacturer specified): (TVF · $2U_N$ + 1 kV) · 1,2.

Table D.1 – Withstand test voltages according to IVIC for Type I insulation systems

Replace the table with the following new table:

	Maximum allowable peak to peak operating voltages in units of U_N[a]		Maximum allowable enhancement ratio for the phase to ground peak to peak voltage	TVF	Examples of routine phase to ground test voltages for a machine with U_N = 500 V tested at 50/60 Hz according to IEC 60034-1 (kV r.m.s.)	
IVIC	Phase to phase	Phase to ground U_{IVIC} / U_N			Converter-fed (IVIC specified)	Line fed[b]
None (line)	2,8	1,6				2
A – Benign	3,0	2,1	1,3	0,7	2,0	2
B – Moderate	4,1	2,8	1,7	1,0	2,0	2
C – Severe	5,4	3,8	2,3	1,3	2,3	2

IEC 60034-18-41:2014-03/AMD1:2019-06/COR1:2020-12 (en-fr)

Documents
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D – Extreme	6,7	4,7	2,9	1,7	2,7	2
S (manufacturer specified)	X	Y	$\frac{Y\sqrt{3}}{2\sqrt{2}}$	$\frac{Y}{2\sqrt{2}}$	TVF · $2U_N$ + 1 kV	2

- [a] These voltages are calculated using the formulae described in Clause B.5. The factor of 1,1 for the variation of the line voltage is not included.
- [b] The voltage in this column is the test voltage specified in IEC 60034-1 for U_N = 500 V.

NOTE 1 Enhancement ratio is the maximum allowable phase to ground peak to peak voltage under converter-fed operation U_{IVIC} divided by the phase to ground peak to peak voltage under line operation $U_N/\sqrt{3} \cdot 2/\sqrt{2}$.

NOTE 2 The values X and Y = U_{IVIC} / U_N are independent and are chosen by the manufacturer.

NOTE 3 S is defined in Clause C.2.

NOTE 4 The test voltage is defined only by the maximum allowable peak to peak voltage at the motor terminals in operation. Other differences in the voltage waveform in operation are not taken into consideration.

NOTE 5 The equations in the line of IVIC “S” apply to the other IVICs A, B, C, D as well.

Documents
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