

Selection table U_c

System configuration	Earthing of neutral	Earth fault factor k	U_c phase arrester	U_c neutral arrester
<p>Three wire non-earthed (insulated, open)</p>	ineffectively	$\sqrt{3} = 1.732$	$U_c \geq U_s$	$U_c \geq \frac{U_s}{\sqrt{3}}$
<p>Earth fault compensation (Petersen coil)</p>	ineffectively	$\sqrt{3} = 1.732$	$U_c \geq U_s$	$U_c \geq \frac{U_s}{\sqrt{3}}$
<p>Earth fault compensation (Petersen coil) with automatic earth fault clearing</p>	ineffectively	$\sqrt{3} = 1.732$	$U_c \geq \frac{U_s}{T}$	$U_c \geq \frac{U_s}{T \times \sqrt{3}}$
<p>Low impedance earthing (direct)</p>	effectively	1.4	$U_c \geq \frac{1.05 \times U_s}{\sqrt{3}}$	$U_c \geq 0.3 \times U_s$ for the unearthed transformers in the system
<p>Low impedance earthing (inductive)</p>	effectively	1.4	$U_c \geq \frac{1.05 \times U_s}{\sqrt{3}}$	$U_c \geq 0.3 \times U_s$
<p>Low impedance earthing (resistive)</p>	effectively	1.4	$U_c \geq \frac{1.05 \times U_s}{\sqrt{3}}$	$U_c \geq 0.3 \times U_s$
<p>Four-wire multi-earthed-wye</p>	effectively	1.25	$U_c \geq \frac{1.25 \times U_s}{\sqrt{3}}$	n.a.
<p>Delta connection</p>	n.a.	$\sqrt{3} = 1.732$	$U_c \geq U_s$	n.a.

As a rule, 10% as safety margin should be added to the calculated value for U_c and then the next higher value from the data sheet chosen.

The APPLICATION NOTES (AN) are intended to be used in conjunction with the

APPLICATION GUIDELINES

Overvoltage protection

Metal-oxide surge arresters in medium-voltage systems.

Each APPLICATION NOTE gives in a concentrated form additional and more detailed information for the selection and application of MO surge arresters in general or for a specific equipment.

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