Flow chart selection of MO surge arresters for medium-voltage 3-phase a.c. systems

System preconditions, information needed

- Highest system voltage $U_s$
- Earth fault factor $k$
- TOV requirements
- Ambient temperature
- Lightning activity
- Energy or charge requirements
- Maximum voltage for equipment $U_m$

1. Selection of active part
   - a) Continuous operating voltage $U_c$
   - b) Rated voltage $U_r$
   - c) Nominal discharge current $I_n$
   - d) Charge and thermal rating $Q_{rs}$, $W_{th}$, $Q_{th}$
   - e) Check lightning impulse protection level $U_{pl}$ and withstand voltage $LIWV$

   Active part selected

2. Selection of arrester housing
   - f) Creepage distance
   - g) Flashover distance
   - h) Consider short circuit rating $I_s$
   - i) Consider mechanical loads

   Arrester selected

Comments

- See AN 1.2
- $U_r = 1.25 \times U_c$, fixed ratio, see also data sheets.
- $I_n = 10 \text{ kA}$ for all MO arresters, except for station class SH (POLiM-H..N): $I_n = 20 \text{ kA}$.
- Generally not critical in medium voltage distribution systems.
- See Application Guidelines section 3.
- Generally not critical. Only to be considered if installed in altitudes above 1800 m.
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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