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**Estimate of thyristor's operating conditions of valve converter with electronic commutator for overheard power transmission lines conductors de-icing.**

The circuit of valve converter with electronic commutator is proposed. It consists of three-phase bridge rectifier and semiconductor commutator. It's shown that the application of converter with electronic commutator gives the opportunity to organize the simultaneous ice melting on three phase wires. This innovating equipment produces all versions of ice melting loops without using of mechanical switches. At the article the principle of new converter operation is considered, so as the estimation of converter thyristor's thermal conditions and ice melting duty cycle time is done.

*Key words: rectifier, power pulse, power losses, ice melting, melting loop, thyristor, electronic commutator.*

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