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At present, the introduction of digital computer networks operating at IEC 61850 at power facilities is hampered by high capital costs and the lack of experience in setting up and operating of such networks, especially in distribution electrical networks. The possibility of using of the EtherCAT technology group in the construction of digital computer networks using network redundancy and hardware time synchronization is considered. In the laboratory of JSC «STC UPS», a model of an emergency automation device was created using this technology.

*Keywords: relay protection, emergency automatics, digital substation, IEC 61850.*