

The structure of the universal micromodule of the integrating scanning frequency converter

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The structure of the universal micromodule, which is the base for a variety of electrical circuits of the integrating scanning frequency converter (ISFC), is offered. The universal micromodule performed of frameless operational amplifiers and other individually attached components can create a number of secondary resistive sensors with an output frequency signal. This is provided by a certain set of elements arranged in the housing of the universal micromodule, and the communication between the elements of its structure. A generalized block diagram of the ISFC is presented, and its component units are described. The structure of the developed universal ISFC module is shown. The schemes of inclusion, conversion functions, and output characteristics of the converter, which can be realized on the basis of the universal ISFC micromodule, are given. The results of the ISFC computer schematic modeling are presented. The work of the device is explained by the formulas and graphs of dependences of the output signal frequency of the measured parameters, and illustrated by the timing diagrams. The recommendations for the creating of the secondary converter sensors of physical quantities (temperature, pressure, force, acceleration, humidity, etc.) with the use of the ISFC universal micromodule are given.