АПАРАТНО-ПРОГРАМНА РЕАЛІЗАЦІЯ КОМП'ЮТЕРИЗОВАНОГО ВИМІРЮВАЧА КОНЦЕНТРАЦІЙ ВУГЛЕЦЮ ДЛЯ АГРАРНИХ ТА ВУГЛЕВИДОБУВНИХ ПІДПРИЄМСТВ

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Abstract. Possible direction of the efficiency and information content improving of the carbon oxides concentrations measurement for agricultural and coal enterprises has been founded. Generalized operation algorithm of the hardware and software of the CO and CO 2 concentrations model sample meter has been developed. Researches by the transformation characteristics definition of the system measuring channels have been carried out by mathematical modeling means. The boundary value of the standard deviation error of the transformation characteristic approximation of the CO measuring channel doesn't exceed ±10 % in the variation range from 60 to 4000 ppm. The boundary value of the standard deviation error of the transformation characteristic approximation of the CO 2 measuring channel doesn't exceed ±0,5 % in the variation range from 400 to 10000 ppm. A component base of the hardware functional block of the test microprocessor meter has been selected. The software component of the measuring system for digital information processing has been implemented. Program block of the test meter is designed by high-level programming language and it is adaptive. The integration of the hardware and software components allows to automatically on-line meter operate. Also developed computerized measuring system has functions of the local and remote display of the measurement results, as well as creating a data base of the observation results.

Keywords: *computerized meter, carbon oxides, hardware, software, approximation error, operation algorithm.*