

The proposed oil-product quality analyzer can be used at oil refining plants, fuel stations, and in other cases when the analysis of oil-products by their octane or cetane number is required. The analyzer contains an active oscillator with a resistor and capacitor in the time interval setting circuit, a measuring capacitive transducer, a reference capacitive transducer, an adjusting capacitor, an automatic switch, a frequency detector, a variable-gain wide-band amplifier, a reference voltage source, a differential amplifier, an integrator, a high-pass filter, a switching signal amplifier, a synchronous detector, a measuring unit, a control unit, and a switching signal generator. The frequency detector contains a short pulse forming circuit, a univibrator, and a low-pass filter that are connected in series. The control unit contains a unipolar short pulse forming circuit, an inverting pulse frequency doubler, and a time delay unit, which contains a variable pulse length univibrator and a trigger. The proposed analyzer provides the possibility to exclude the effect of the variation of the parameters of the frequency detector, active oscillator, and transducers on accuracy in measuring octane or cetane number of oil-products.