

Device for contactless measurement of a hydrogenerator rotor temperature comprises a lens, two pulse generators, a first frequency divider, four AND elements, three digital comparators, a position sensor, a position setting unit, a clock distributor, two registers, a digital adder, two triggers, a speed setting unit, an indicator, n mirrors, n lenses, an array of n separate infrared sensors, a switch, a buffer register, a first counter, two controlled amplifiers, a video control unit, a step-variable voltage generator, a memory unit, an analog-to-digital converter, an interface unit, a differentiating element, a NOT element. Behind the lens, n mirrors are mounted on an optical bar such that their planes form a 45° angle with the principal optical axis, and n lenses and n separate infrared sensors are installed on the same optical axis as the mirrors, respectively. Output of the first frequency divider is connected to inputs of the buffer register, of the first counter, and to a first input of the video control unit, a second and a third inputs of which are connected to outputs of the first and the second controlled amplifiers, first inputs of which are connected to output of the step-variable voltage generator, and second inputs are connected, respectively, to a first and a second outputs of the memory unit, an input digital bus of which is connected to an output digital bus of the first counter. Fourth input of the video control unit together with a first input of the analog-to-digital converter are connected to output of the switch, an input digital bus of which is connected to an output digital bus of the buffer register, an input digital bus of which is connected to outputs of the array of n separate infrared sensors. Output digital bus of the analog-to-digital converter is connected via the interface unit into computer circuits. Output digital bus of the position setting unit is connected to a first input digital bus of the first digital comparator, a second input digital bus of which together with input digital buses of the first and the second registers are connected to an output digital bus of the position sensor. Output of the first digital comparator is connected to a first input of the first AND element, a second input of which is connected to a first output of the second trigger, and output is connected to a first input of the first trigger, a second input of which is connected to a second output of the second trigger. Second input digital bus of the second digital comparator is connected to an output digital bus of the speed setting unit, and a first input digital bus is connected to an output digital bus of the digital adder, a first and a second input digital buses of which are connected, respectively, to output digital buses of the first and the second registers, inputs of which are connected, respectively, to a first and a second outputs of the clock distributor, a third output of which is connected to a second input of the second trigger. Output of the first trigger is connected to a first input of the second AND element, a second input of which is connected to output of the first pulse generator, and output is connected to inputs of the first frequency divider, of the step-variable voltage generator, and of the switch. Output digital buses of the first and the second registers are connected, respectively, to a first and a second input digital buses of the third digital comparator, output of which is connected to a first input of the third AND element, a second input of which is connected to output of the second digital comparator, and output is connected to a first input of the second trigger. Output of the second AND element is connected to a second input of the analog-to-digital converter. Output of the first digital comparator is connected to input of the differentiating element, output of which is connected to a second input of the clock distributor and to input of the NOT element, output of which is connected to a first input of the fourth AND element, a second input of which is connected to output of the second pulse generator, and output is connected to a first input of the clock distributor. Fourth digital comparator, a third register, a second frequency divider, a second counter, and a decoder are introduced into the device. Output digital bus of the position sensor is connected to a first input digital bus of the fourth digital comparator and to an input digital bus of the third register, an output digital bus of which is connected to a second input digital bus of the fourth digital comparator, output of which is connected to a second input of the third register and to input of the second frequency divider, output of which is connected to a second input of the second counter, a first input of which together with a first input of the third register are connected to output of the first digital comparator. Output digital bus of the second counter is connected to an input digital bus of the decoder, an output digital bus of which is connected to an input digital bus of the indicator.

