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# KHT 6000 Series

**Voltage Probe Calibration Generators**  
Pulse & DC, +500 V to +6000 V, 1 V steps

Datasheet



## About the KHT 6000 Probe Series

The calibration generators KHT6000D are used for HF and DC adjustment of high voltage probes and dividers. The KHT6000C models are for HF adjustment.

In addition to manual operation via control elements on the instrument front end, the KHT6000s can also be operated:

- 1) via PC using the integrated USB interface
- 2) via PC using the integrated GPIB interface - (optional)
- 3) via the Remote Control Unit - (optional)

When operated via USB / GPIB interface, the squarewave voltage, pulse width, repetition frequency (single pulses possible) and DC output voltage can be adjusted.

## Functionality

The function of the device is shown in the schematic diagram.

The KHT6000 calibrator series generates square pulses with a voltage of 500V to 6000V at the output, and a DC voltage (KHT6000D only). The pulses have a steep rising edge with a rise time <math><45\text{ns}</math> (10% to 90%), the duration of the pulses is per default 1 ms. The accuracy of the DC voltage is 0.2%. Pulse voltage, and DC voltage (KHT6000D only), are output separately via 4 mm sockets inside the red probe receptacles. The value of the output voltages, which are adjustable in 1V steps, is displayed digitally. The output voltages can be fully configurable and thus meet the requirements of ISO 9000 ff for complete test equipment monitoring.

Internally a resistor of 200  $\Omega$  is built into the outputs. It serves as short-circuit protection and is normally destroyed in case of a short circuit of the device. It must be replaced afterwards.

The ground connection of a probe or divider must be connected to the ground socket.

The charging voltage can be measured at the BNC socket with an digital voltmeter. The division ratio at the BNC socket is 1000:1. The output is buffered by an operational amplifier. The output current is maximum 10 mA.

## Specifications

	KHT 6000C	KHT 6000D
<b>Electrical Specifications</b>		
Voltage Range <sup>1</sup>	500 V - 6000V (in 1V-steps adjustable)	
Accuracy	$\pm 0.2\%$ (nom. Voltage value) $\pm 0.2\%$ (6kV)	
Separate DC Output	No	Yes
Voltage Display Resolution	1V	
Voltage Display Accuracy	$\pm (0.1\% + 1 \text{ Digit})$	
Rise Time	<math><45\text{ns}</math>	
Overshoot	<math><2\%</math>	
Repetition Time <sup>2</sup>	0 ms - 10 s <sup>1</sup>	
Pulse Width <sup>2</sup>	0.5 ms - 5 ms <sup>1</sup>	
Maximum Load	100 pF	
Trigger Output	5V (50 $\Omega$ ) / 10V (M $\Omega$ )	
Trigger Internal Resistance	50 $\Omega$	
Trigger Pulse Width	10 $\mu\text{s}$	

<b>Mechanical Specifications</b>		
Mains Voltage	90V - 250V AC / 50Hz - 60Hz	
Dimensions (W x H x D)	ca.: 250 mm x 140 mm x 395 mm	ca.: 358 mm x 140 mm x 395 mm
Weight	3200 g	4000 g

This product comes with 2 years warranty.  
Specifications that are not marked as guaranteed are typical.

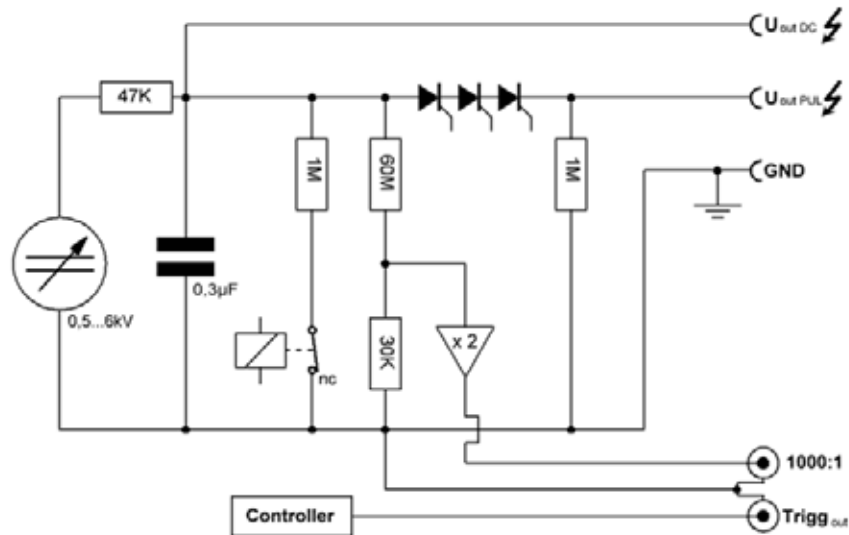
<sup>1</sup> With remote control adjustable in 62.5 mV / 1 Hz / 1 ms steps.

<sup>2</sup> Values are determined with an oscilloscope with an accuracy of  $\pm 2\%$ .

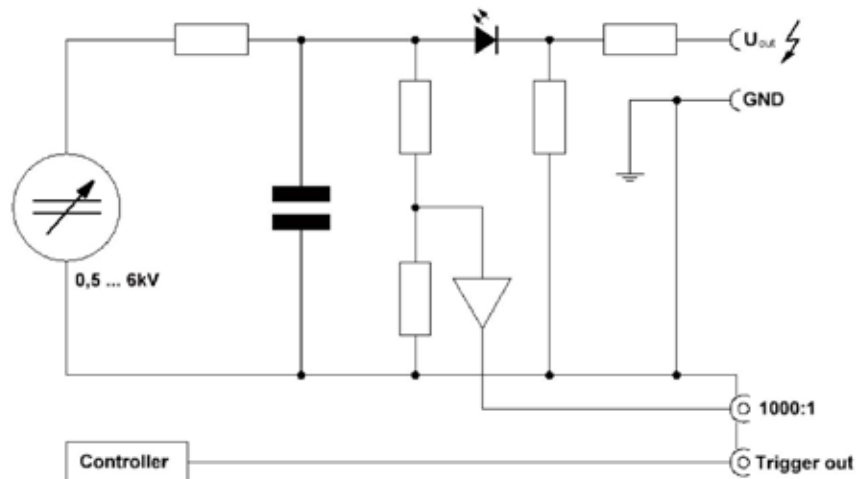
## Environmental Specifications

Altitude	operating	up to 2000 m
	non-operating	up to 15000 m
Temperature Range	operating	+5 °C bis +55 °C
	non-operating	-40 °C to +71 °C
Maximum Relative Humidity	operating	80 % relative humidity for temperatures up to +31 °C, decreasing linearly to 40 % at +45 °C
	non-operating	95 % relative humidity for temperatures up to +40 °C

## Schematic Diagram of the Probe Calibration Generator KHT 6000 D



## Schematic Diagram of the Probe Calibration Generator KHT 6000 C



## Scope of Delivery



The following items are included in the scope of delivery.

Item	Qty	Item	Qty
Calibration Generator KHT 6000 with USB interface	1	Instruction Manual	1
Power Cord	1	Calibration Certificate	1

## Ordering Information

Model	Order No.
KHT 6000C	894-600-000
KHT 6000D	894-600-010

## Options for KHT 6000 Series

Options	Order No.
<b>GPIB (IEEE-488.2) Interface</b>	GPIB-KHT6000
Additional interface for integration of the calibrator into a measurement software or for controlling the calibrator via PC.	---
<b>Remote Control Unit</b>	RCU-KHT6000
Manual control unit for external control of the device; connection to the device via control line and LEMO-Push-Pull connector.	
<b>Interlock</b>	INTERL-KHT6K
Control cable (2m) for connection to a closing contact (protective cover). Connection to the device via LEMO-Push-Pull connector on the back of the device.	
<b>P6015A-KHT6KC</b>	P6015A-KHT6KC
KHT6000C output for Tektronix P6015A  Different output connector for use with Tektronix P6015A instead of PMK PHV4 series (cannot be upgraded)	---
<b>P6015A-KHT6KD</b>	P6015A-KHT6KD
KHT6000D outputs for Tektronix P6015A  Different output connectors for use with Tektronix P6015A instead of PMK PHV4 series (cannot be upgraded)	---



## Manufacturer

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