

# Water Detect click

PID: MIKROE-2786

## Avoid plumbing and water leakage disasters

**Water Detect click** is used for detecting water and other electroconductive liquids. If the detection area is wet the output of [Microchip's MCP606](#) CMOS op-amp will go positive, signaling the presence of liquid.

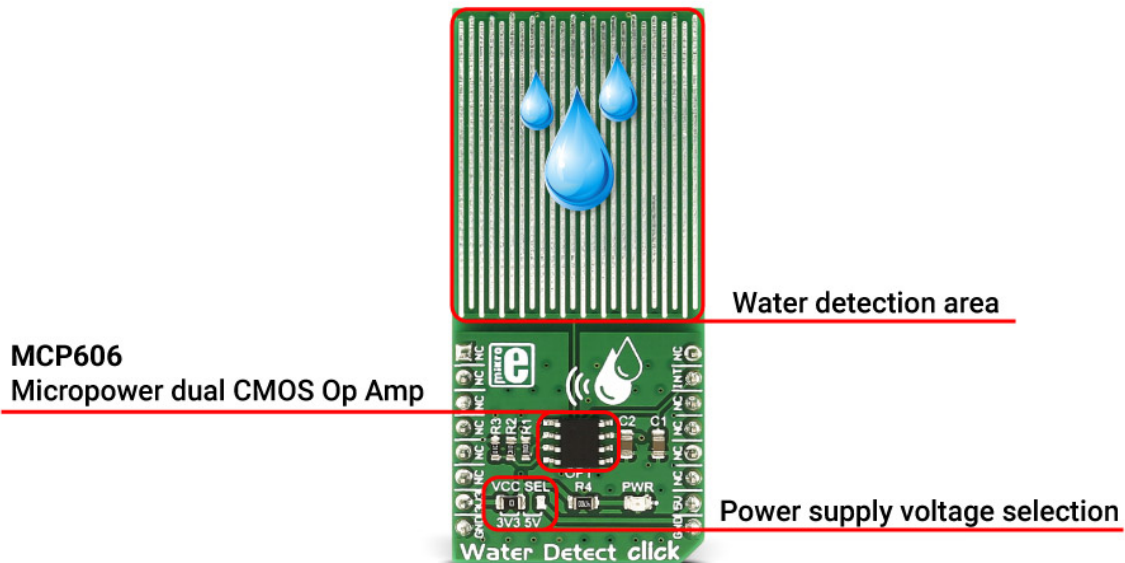
Water Detect click can be used as a household flood alarm sensor, rain detector for smart buildings or for water tanks that act as a limit switch for a pump.



## How the click works

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Water Detect click works by comparing the voltage of two resistor dividers using the MCP606 comparator. The resistor divider (made of R2 and R3) is used as a voltage reference.



The MCP606 functions as a comparator on this click board™.

The second divider is made of resistor R1 and the sensory area. When the sensory area is dry, its resistance is near infinite, and the voltage applied to the inverting terminal of the comparator equals VCC.

Since the voltage of the reference divider connected to the non-inverting input is  $VCC/2$ , the output of the comparator is at zero voltage. Once the liquid is present at the sensory area, its resistance drops and pulls the voltage on the inverting input of the comparator toward zero volts. Once this voltage falls below  $VCC/2$ , the comparator output swings toward VCC signaling the presence of liquid. The comparator output is tied to the INT pin on the mikroBUS™ header.

The water detection area is actually made of exposed conducting wires - simple but effective technology.

# Specifications

<b>Type</b>	Various
<b>Applications</b>	Household flood alarm sensor, rain detector for smart buildings or water tank fill sensor, automated watering systems, etc.
<b>On-board modules</b>	Water detection area, MCP606 comparator
<b>Interface</b>	GPIO
<b>Input Voltage</b>	3.3V or 5V
<b>Click board size</b>	L (57.15 x 25.4 mm)

# Pinout diagram

This table shows how the pinout on **Water Detect click** corresponds to the pinout on the mikroBUS™ socket (the latter shown in the two middle columns).

Notes	Pin					Pin	Notes
	NC	1	AN	PWM	16	NC	
	NC	2	RST	INT	15	<b>INT</b>	MCP606 output (water detect)
	NC	3	CS	TX	14	NC	
	NC	4	SCK	RX	13	NC	

	NC	5	MISO	SCL	12	NC	
	NC	6	MOSI	SDA	11	NC	
Power supply	<b>+3.3V</b>	7	3.3V	5V	10	<b>+5V</b>	Power supply
Ground	<b>GND</b>	8	GND	GND	9	<b>GND</b>	Ground

## Jumpers and settings

Designator	Name	Default Position	Default Option	Description
VCC SEL	VCC SEL	Left	3.3V	Power Supply Voltage Selection between 3.3V/5V, left position 3.3V, right position 5V