



# Knowledge Article

THIS INFORMATION PROVIDED BY AUTOMATIONDIRECT.COM TECHNICAL SUPPORT IS PROVIDED "AS IS" WITHOUT A GUARANTEE OF ANY KIND. These documents are provided by our technical support department to assist others. We do not guarantee that the data is suitable for your particular application, nor do we assume any responsibility for them in your application.

**Product Family:** MD Ultrasonic Sensor

**Number:** KB-SEN-001

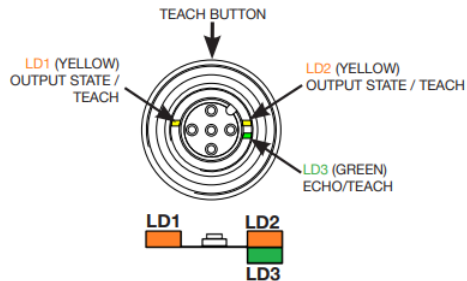
**Subject:** Configure UK1 with 1 Digital Output

**Date Issued:** February 12, 2021

## Part Numbers

UK1A-GN-0A	UK1A-GP-0E	UK1C-GN-1E	UK1D-GN-0A	UK1D-GP-0E	UK1F-GN-1E
UK1A-GN-0E	UK1A-GP-1E	UK1C-GP-0A	UK1D-GN-0E	UK1D-GP-1E	UK1F-GP-0A
UK1A-GN-1E	UK1C-GN-0A	UK1C-GP-0E	UK1D-GN-1E	UK1F-GN-0A	UK1F-GP-0E
UK1A-GP-0A	UK1C-GN-0E	UK1C-GP-1E	UK1D-GP-0A	UK1F-GN-0E	UK1F-GP-1E

## Button and LED locations



The teach button is always "active" meaning you can set P1 and/or P2 any time you momentarily press the button (minus the block feature). There is not a "teach" mode, it is always in teach mode, hence the reason for the Teach Block feature. Once you have your setpoints configured, it is best to enable the Teach Block to prevent someone from accidentally pressing the teach button and making new setpoints.

### To enable Teach Block

Press the teach button for 12 seconds. After the first 8 seconds, the LD1 and LD2 LEDs will start blinking, keep holding the teach button until the blinking rate increases. Once the faster blinking rate happens, then you can release the button. The teach button will not allow new setpoints to be set.

### To disable the Teach Block

Same as the enable. Press the teach button for 12 seconds. After the first 8 seconds, the LD1 and LD2 LEDs will start blinking, keep holding the teach button until the blinking rate increases. Once the faster blinking rate happens, then you can release the button. The teach button will allow new setpoints to be set.

There is no way to tell if you are turning the Block mode On or Off. If Block mode is enabled, then momentarily pressing the teach button will cause LD1 and LD2 to blink once, to tell you that the button press is locked out. If LD1 and LD2 start flashing, that means that a new P1 setpoint has been entered.



# Knowledge Article

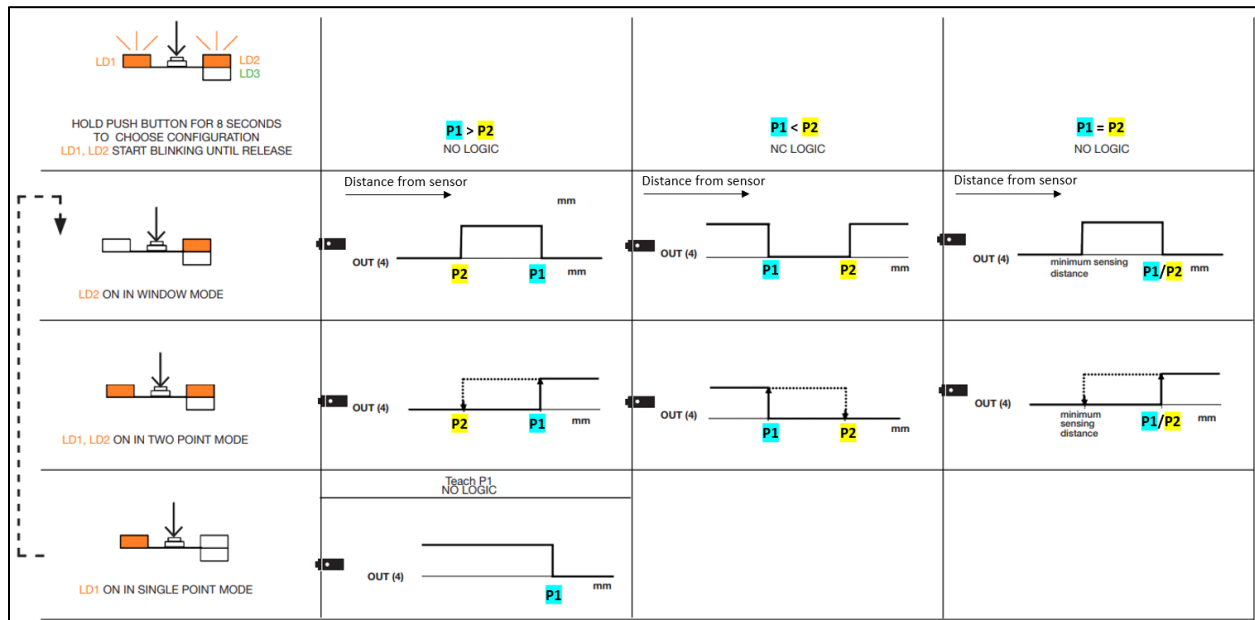
THIS INFORMATION PROVIDED BY AUTOMATIONDIRECT.COM TECHNICAL SUPPORT IS PROVIDED "AS IS" WITHOUT A GUARANTEE OF ANY KIND. These documents are provided by our technical support department to assist others. We do not guarantee that the data is suitable for your particular application, nor do we assume any responsibility for them in your application.

## Changing Modes

Push and hold the teach button for 8 seconds. LD1 and LD2 will start blinking to tell you that you have entered the configuration mode. When you release the teach button, the current mode will be displayed on LD1 and LD2. To change the sensor mode, you can press the teach button to cycle through the 3 modes:

- Window Mode (LD1 off, LD2 on)
- Hysteresis (Two Point) Mode (LD1 on, LD2 on)
- Single Point Mode (LD1 on, LD2 off)

If the teach button has not been pressed for 3 seconds, the new mode is enabled and you would need to set P1 and/or P2, depending on what mode you selected.



## Selecting Setpoints (Non-Single Point Mode)

Place the object for the first setpoint location (P1), press the teach button. LD1 and LD2 will start blinking, waiting for P2 to be set. Move the object to the second setpoint location (P2) and press the teach button again. That will set P1 and P2. LD1 and LD2 will blink 5 times to acknowledge that the setpoints have been set. If P2 was closer to the sensor than P1, then  $P1 > P2$ . If P1 was closer to the sensor than P2, then  $P1 < P2$ . This is important because that will change the output from Normally Open to Normally Closed.



# Knowledge Article

THIS INFORMATION PROVIDED BY AUTOMATIONDIRECT.COM TECHNICAL SUPPORT IS PROVIDED "AS IS" WITHOUT A GUARANTEE OF ANY KIND. These documents are provided by our technical support department to assist others. We do not guarantee that the data is suitable for your particular application, nor do we assume any responsibility for them in your application.

---

## Selecting Setpoints (Single Point Mode)

Place the object for the setpoint location (P1), press the teach button. LD1 and LD2 will blink 5 times to acknowledge that the setpoint have been set.

## Window Mode

- If  $P1 > P2$  the output is going to be Normally Open, which means that the sensor output will be ON when the sensed object is within the P1 and P2 window.
- If  $P1 < P2$  the output is going to be Normally Closed, which means that the sensor output will be OFF when the sensed object is within the P1 and P2 window.
- If  $P1 = P2$  the output is going to be Normally Open, which means that the sensor output will be ON when the sensed object is greater than the minimum sensing distance and P1/P2 setpoint.

## Hysteresis (Two Point) Mode

- If  $P1 > P2$  the output is going to be Normally Open, which means that the sensor output will be ON when the sensed object is  $> P2$ . The output will not turn back OFF until the object moves to a distance  $< P1$ .
- If  $P1 < P2$  the output is going to be Normally Closed, which means that the sensor output will be OFF when the sensed object is  $> P2$ . The output will not turn back ON until the object moves to a distance  $< P1$ .
- If  $P1 = P2$  the output is going to be Normally Open, which means that the sensor output will be ON when the sensed object is greater than P1/P2 and will not turn OFF until the object moves below the minimum sensing distance.

## Single Point Mode

- Place the sensed object at maximum distance (P1) that you want the output to cycle. Press teach button once, the new setpoint is now enabled. If the sensed object is closer to the sensor than P1, the output is ON. If the sensed object is further away than P1, the output is OFF.

## Clear Sensor back to Default

With the sensed object within the P1 setpoint, press the teach button once, LD1 and LD2 will blink constantly. Then move the sensed object outside the sensing range of the sensor. Press the teach button again. LD3 (green) will blink 5 times, to signal that the sensor has been returned to default settings. The default is Window Mode.