Knowledge Article

Product Family:	**MD Ultrasonic Sensor**	**Number:**	**KB-SEN-009**
Subject:	**Configure UK6 with Analog or Digital Output**	**Date Issued:**	**February 12, 2021**

Part Numbers

UK6A-D1-0A	UK6A-D1-0E	UK6A-D2-0A	UK6A-D2-0E	UK6A-DN-0A	UK6A-DN-0E
UK6A-DP-0A	UK6A-DP-0E	UK6C-D1-0A	UK6C-D1-0E	UK6C-D2-0A	UK6C-D2-0E
UK6C-DN-0A	UK6C-DN-0E	UK6C-DP-0A	UK6C-DP-0E		

LED locations
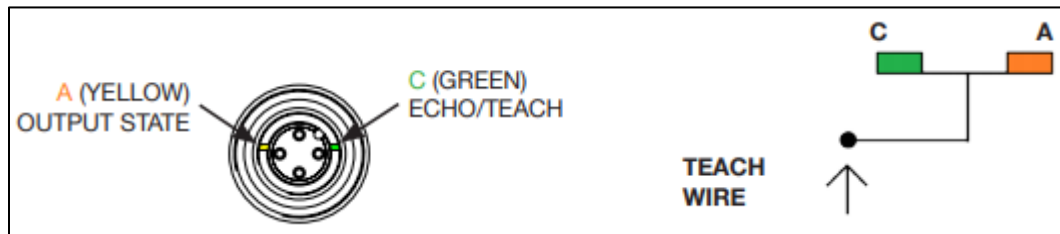
Teach Wire

The Teach wire is pin 2 on the M12 connector, typically the white wire.

- The PNP output models, for normal operation, the teach wire is wired straight to -DC voltage. You will connect the teach wire to +DC voltage for teach functions.

- The NPN output models, for normal operation, the teach wire is wired straight to +DC voltage. You will connect the teach wire to -DC voltage for teach functions.

- The analog models, for normal operation, the teach wire is connected to the +DC voltage, or it can be left unconnected. You will connect the teach wire to the -DC voltage for the teach functions.

Changing Output States

Connect the teach wire to the appropriate voltage for 8 seconds. When the A (Yellow) starts blinking, disconnect the teach wire and the sensor output will change for Normally Open to Normally Closed for discrete models, or Positive to Negative Slope for the analog models. To change that output state back, connect the teach wire for 8 seconds again.

There is no indication which state you are in, it just toggles from NO to NC (or Positive to Negative Slope), and back again.

Selecting Setpoints
P1 must **always** be farther away from the sensor than P2.

- Place the object for the first setpoint location (P1)
- Connect the teach wire to the appropriate voltage, for approximately 1 second.
- A (Yellow) will start blinking, waiting for P2 to be set.
- Move the object to the second setpoint location (P2)
- Connect the teach wire to the appropriate voltage, for approximately 1 second.

A (Yellow) will blink 5 times to acknowledge that the setpoints have been set. If the new setpoints have not been accepted, the A (Yellow) will not blink 5 times and the old setpoints will still be valid.

Clear Sensor back to Default
With the sensed object outside of the sensor sensing range (C (Green) LED is not lit), connect the teach wire to the appropriate voltage, for 1 second. A (Yellow) will blink 5 times, to signal that the sensor has been returned to default Normally Open / Positive Slope setting.

Discrete Output Models
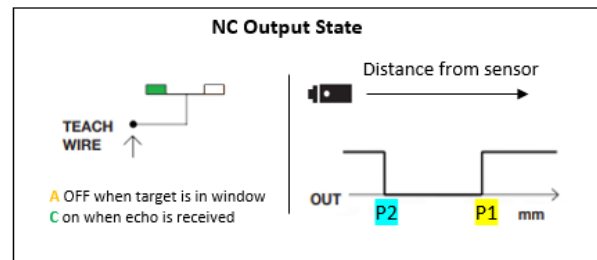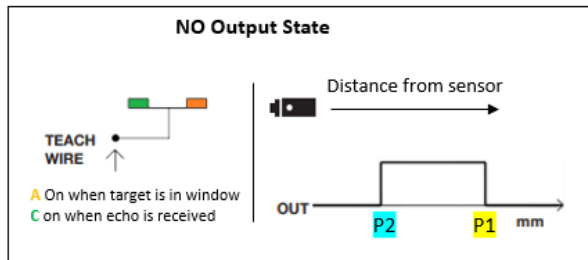
Normally Open Mode
When the sensed object is < P2, Out will be OFF. When the sensed object moves to > P2, Out will turn ON. When the sensed object is > P1, Out will turn OFF.
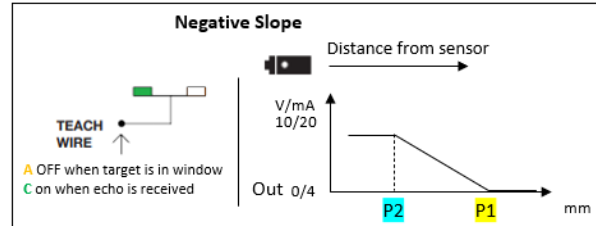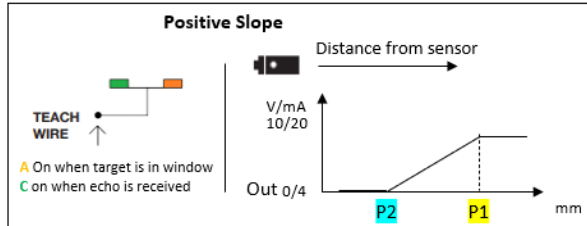
Normally Closed Mode
When the sensed object is < P2, Out will be ON. When the sensed object moves to > P2, Out will turn OFF. When the sensed object is > P1, Out will turn ON.

Technical Assistance: If you have questions regarding this Knowledge Article, please contact Technical Support for further assistance.

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Analog Output Models

Positive Slope

When the sensed object is < P2, Out will be at minimum value. When the sensed object moves to > P2, the output will start to increase. If will be at maximum value when the sensed object at P1.

Negative Slope

When the sensed object is < P2, Out will be at maximum value. When the sensed object moves to > P2, the output will start to decrease. If will be at minimum value when the sensed object at P1.

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