

## Teach-In Box for Ultrasonic Proximity Sensors Series DUPS / DUPR-A / DUPR-B



### Description

The ultrasonic sensors of the DUPS, DUPR-A and DUPR-B series are set with a teach-in procedure. This can happen either manually by connecting the teach wire to 0V or +24VDC, or with the help of the Teach-In Box. The Teach-In Box has two 2m long cables for connection between sensor (M12, f) and sensor cable (M12, m). Thus it is put into the actual sensor cabling, and it can be removed after the teach-in procedure. The teach-in happens by a quick touch of the switch either to the left or right.

### Setting of the switching points (binary output)

The switching points are set by a quick touch (min. 1s) of the switch. The LED shows during teaching if the sensor has detected the object.

#### Window operation NO

- Place the object to the near switching point
- Teach switching point by pushing switch to the left (-U<sub>B</sub>)
- Place the object to the far switching point
- Teach switching point by pushing switch to the right (+U<sub>B</sub>)

#### Window operation NC

- Place the object to the near switching point
- Teach switching point by pushing switch to the right (+U<sub>B</sub>)
- Place the object to the far switching point
- Teach switching point by pushing switch to the left (-U<sub>B</sub>)

#### Switching point NO

- Place the object to the switching point
- Teach switching point by pushing switch to the right (+U<sub>B</sub>)
- Let the sensor look into the void
- Teach by pushing switch to the left (-U<sub>B</sub>)

#### Switching point NC

- Place the object to the switching point
- Teach switching point by pushing switch to the left (-U<sub>B</sub>)
- Let the sensor look into the void
- Teach by pushing switch to the right (+U<sub>B</sub>)

### Setting the measuring limits (analogue output)

The two measuring limits are set by a quick touch (min. 2s) of the switch. The LED shows during teaching if the sensor has detected the object. By pushing the switch to the left (-U<sub>B</sub>) the lower measuring limit (0V or 4mA) and by pushing the switch to the right (+U<sub>B</sub>) the upper measuring limit (10V or 20mA) is taught. Thus it is possible to teach a rising or a falling ramp.

- Place the object to the lower measuring limit (i.e. where 0V or 4mA is expected)
- Teach lower measuring limit by pushing switch to the left (-U<sub>B</sub>)
- Place the object to the upper measuring limit (i.e. where 10V or 20mA is expected)
- Teach upper measuring limit by pushing switch to the right (+U<sub>B</sub>)

Lower and upper measuring limits can also later be programmed individually.

### LED indicator on sensor

	LED red	LED yellow
During teach-in:		
- object detected	off	blinking
- no object detected	blinking	off
Normal operation PNP	off	switching status
Normal operation analogue	off	on