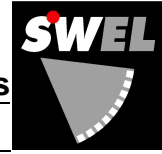


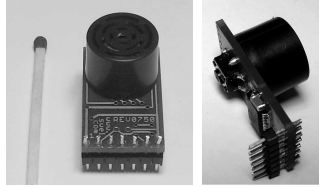
Sensor Push-Button CUBI-M1AP

Details

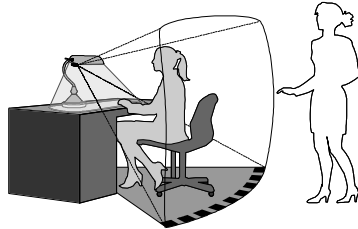


Switch with integrated Presence Detector

CM1ap



Sensor range at a work place:



Operating Principle

The Sensor Push-Button CUBI-M1AP is a combination of a manual switch and a high sensitive motion detector. It is switched on and off manually like any push-button. In the on-state the integrated motion detector continuously checks whether the user is still present. If there is no motion detected, the Sensor Push-Button switches off automatically.

The integrated motion detector Type CUBI works based on the Ultrasonic Echo Principle. The new technology mimics the orientation function of bats called echolocation: The sensor emits short pulse-like bursts of inaudible ultrasonic energy. Returning echoes are analyzed by an internal microchip to paint a "picture" of the scanned area.

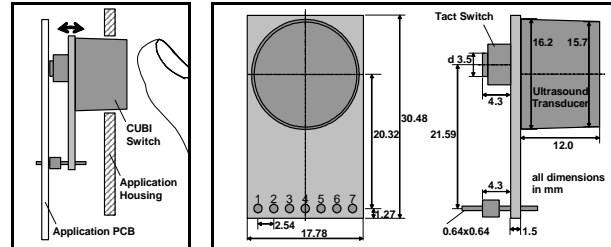
In these "pictures", close-up objects can be separated from the background. Inside the close-up range the resolution is 2mm, enough to detect the breathing motion of a person sitting quietly at his or her desk. Background motions are cut off as if there was an invisible wall. Passers-by do not trigger the sensor.

- **Forgot to switch off? Done automatically now!**
- **For lamps, mirror lighting and other applications**
- **Tiny, easy to integrate, only one opening in the housing is necessary**

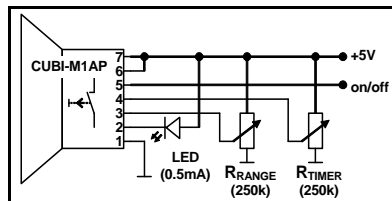
Dimensions and Application

The Sensor Push-Button CUBI-M1AP is soldered onto a PCB so that the tact switch touches the PCB's surface without pressure.

The ultrasound transducer is accessible through an opening in the appliance's housing. Pushing the transducer triggers the tact switch.



Pins and Basic Circuitry



- 7 – P5V Power Supply +5V
- 6 – RX Input; for service purpose, connect to P5V
- 5 – SOUT .. Output; H(Ri 6kΩ)=on, L=off
- 4 – TIMER . Input Timer; 0V=Min ... +5V=Max (16 steps)
- 3 – RANGE Input Range; 0V=Min ... +5V=Max (16 steps)
- 2 – LED Output LED; L(Ri 6kΩ)=LEDOn, H=LEDOff; blinking indicates operating rhythm, bright blinking = motion
- 1 – GND ... Ground

Problems?

The CUBI-M1AP is switched on but the LED does not blink:

- Some computer monitors, dimmers and lamps emit strong electrical noise. Moving the CUBI-M1AP a little usually helps.
- Drills and lathes also emit ultrasound that could interfere with the CUBI-M1AP. Do not use it in mechanical workshops.
- Do not use the CUBI-M1AP together with ultrasonic sensors from other manufacturers in the same room.

The CUBI-M1AP switches off although you are still present:

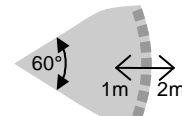
- Check that the CUBI-M1AP's view is not obstructed (e.g. pile of books).
- Check the range setting.

The CUBI-M1AP's automatic switch-off occurs too late or never:

- The CUBI-M1AP is extremely sensitive (sensitivity levels down to 2mm!). Check curtains etc. for movements. Re-direct the CUBI-M1AP or reduce the range (adjuster).
- Warm or cold air flows through the CUBI-M1AP's close-up range. Decreasing the range will reduce false switching. However, the use is not recommended in immediate vicinity of open windows, radiators and air conditioners.

Specifications

- Sensor Range 1m - 2m (3.5' - 6.5') adjustable
- Sensor angle of view 60°
- Sensor Timer 20sec - 20min adjustable
- Sensitivity 2mm (1/10")
- Ultrasound 40kHz, inaudible for human beings and pets
- Dimensions 30.48mm x 17.78mm (1.2" x 0.7")
- Power supply 5V DC (+/-5%), 12mA typ. (15mA max.)
- Several CUBI-Push-Buttons can operate in the same room
- Use is not recommended in immediate vicinity of open windows, radiators or air conditioners
- For indoor use in dry environment
- RoHS compliant



SWEL is constantly improving its products and reserves the right to make changes in the product design without notification.

