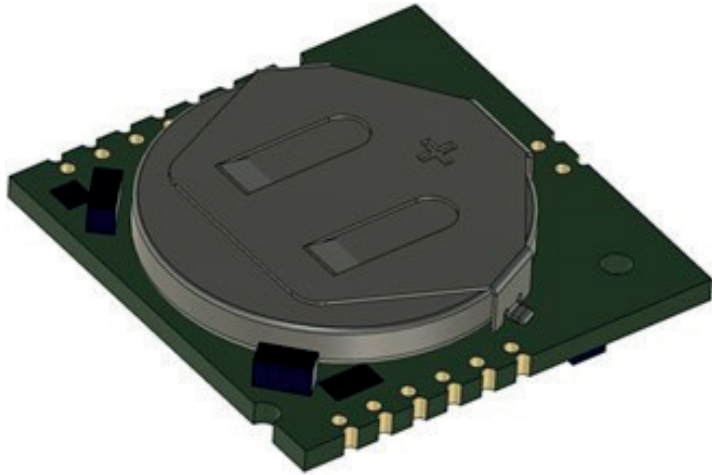# UPCBA80, Universal PCBA



The UPCBA80 wireless input/output transmitter has been specially designed for peripheral devices allowing the user to trigger an alarm, sending a radio signal to a TeleAlarm Nurse Call system. The UPCBA80 has four independently programmable inputs and one independently programmable output.
The device is a PCBA only; no enclosure is supplied or intended for this device.

The UPCBA80 is powered by either a 3V battery (ordered separately) and/or can be powered externally. An external antenna (wire from 8cm to 16cm) is also optional.

Triggered UPCBA80 alarms can be acknowledged with a B81 acknowledgement transmitter.

## Functions

The four inputs can be used as normally open and/or normally closed. All parameters, including the different call criteria, are wirelessly programmable and can be freely defined for each NO / NC of the four inputs. The unit is designed to be used with all types of Nurse Call wireless devices.

The transmitter's tricolour LED indicator confirms broadcast and acknowledgement of the receiver's call. The LED also indicates a low battery and other transmitter states using different colours.

Cancellation of an alarm requires placing the UPBCA80 within 5cm of a B81 acknowledgement transmitter. The UPCBA80 features integrated automatic battery monitoring, with transmission of low-battery status. Correct operation is maintained through daily automatic radio monitoring messages to the receiver. The UPCBA80 can be configured to comply with automatic radio link monitoring in accordance with VDE 0834.

- Very small and light radio transmitter, only 30.5mm x 30mm x 7mm high
- Four individually configurable inputs, with alarm repeat function and assistance call following acknowledgement
- Tricolour LED
- On-board battery or externally powered option
- Solder mounted for easy instal
- Wireless alarm acknowledgement
- Daily radio message
- Wireless programming
- Wireless firmware upgradable
- Radio link monitoring in accordance with VDE 0834
- Battery-level monitoring
- Bidirectional radio

## Pinout



| Pin | Function |
|-----|----------|
| E1 | GND (input reference) |
| E2 | Digital input. NO=Trig 5, NC=Trig 6 (*) |
| E3 | Digital input. NO=Trig 7, NC=Trig 8 (*) |
| E4 | GND (inputs reference) |
| E5 | Digital input. NO=Trig 9, NC=Trig 10 (*) |
| E6 | Digital input. NO=Trig 11, NC=Trig 12 (*) |
| E7 | Output analogue open collector, 30V max., 100mA max. drawn by external supply (ex=BUZZER) |
| E8 | 3.3V internal supply, 390Ω current limited, 8mA max |
| E9 | USART_TX: data transmission, 3V, max 230kbaud |
| E10 | USART_RX: data reception, 3V, max 230kbaud |
| E11 | Input analogue external power supply: 3.3V–3.9V, 40mA min to source |
| E12 | GND (external power supply) |
| E13 | GND (external antenna): coaxial cable shield |
| E14 | External antenna: coaxial cable centre conductor or 8–16 cm wire |

(*)
NO (Normally Open): Trigger selected when closed to GND, NC (Normally Closed): Trigger selected when open from GND

# Installation / Configuration Notes

The unit's sensitivity must not be compromised by external in fluences from shielding and external RF radiation: the board must not be in the proximity of metallic parts, have cable close to the antenna area or any other RF application on the same channel.

The UPCBA80 should only be connected to a single power source.

# Certifications and Approvals

RED 2014/53/EU

EMC 2014/30/EU

LVD 2014/35/EU

RoHS 2011/65/EU

WEEE 2012/19/EU

EN 62368-1 (2014 + AC :2015)

EN 62479 (2010)

EN 50130-4 (2011-06 + A1 :2014)

EN 300 220-2 V3.1.1 (2017-02)

EN 301 489-1 V2.2.2 (Final draft: 2019)

EN 301 489-3 V2.1.1 (2019)

EN 50581 (2012-09)

VDE 0834-1 (2016-06)

VDE 0834-2 (2017)

## Parts Included

| Quantity | Component |
|---|---|
| 1 | UPCBA80 or UPCBA80-WB without battery holder |
| 1 | Leaflet with instructions |

## Ordering information

| Part | Designation | Reference |
|---|---|---|
| UPCBA80-NC | Universal UPCBA80 | T.240.001.500 |
| UPCBA80-WB-NC | Universal UPCBA80 w/o battery holder | T.240.001.758 |
| 3V battery set | 3V Lithium Battery CR2430 (10 pcs) | 4.998.153.678 |

# Technical specifications

| | |
|---|---|
| Dimensions (L × W) | 30.5 × 30mm |
| Weight | 5g (without battery) 9g (with battery) |
| Frequency | 868.8MHz bidirectional |
| Power supply | Replaceable 3V lithium battery CR2430 or external 3.3V supply |
| Consumption | Transmission: max. 25mA Reception: max. 15mA Idle mode: max. 2.5–9μA |
| Receiver category | Complies with Cat 1.5 as specified in EN 300220-1 V3.1.1 |
| Battery life | Up to 2.5 years (according to VDE 0834-1: 5 alarms/day, supervision every 30 seconds) Up to 10 years (5 alarms/day) |
| Automatic battery test | Daily check and at every alarm |
| Battery alarm | At approx. 10% remaining |
| Operating temperature | -10°C to 55°C |
| Storage temperature | -20°C to 80°C |
| Frequency stability (-10°C to +55°C) | < 2.5kHz |
| Modulation | FSK |
| Antenna | Integrated ceramic, optional external wire type |
| Radiated power | Typ. 1mW |
| Environmental class | I |
| Maximum range in free field | Up to 200m |