

# Product data sheet

## Characteristics

# ZB5RTA2

ZB5R transmitter complete, black cap



### Main

|                           |                                      |
|---------------------------|--------------------------------------|
| Range of product          | Harmony XB5                          |
| Product or component type | Wireless and batteryless transmitter |
| Device short name         | XB5R                                 |
| Bezel material            | Dark grey plastic                    |
| Fixing collar material    | Plastic                              |
| Mounting diameter         | 22 mm                                |
| Transmission frequency    | 2405 MHz                             |
| Emission class            | 5M00G7W                              |
| Antenna type              | Omnidirectional                      |

### Complementary

|                              |                                                                                                                                                                                                 |
|------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Shape of signaling unit head | Round                                                                                                                                                                                           |
| Type of operator             | Spring return push-button with transmitter                                                                                                                                                      |
| Operator profile             | Black flush                                                                                                                                                                                     |
| Max power consumption in W   | 1 mW                                                                                                                                                                                            |
| Number of channels           | 16                                                                                                                                                                                              |
| Modulation technique         | O-QPSK                                                                                                                                                                                          |
| Bandwidth                    | 5 MHz                                                                                                                                                                                           |
| Antenna gain                 | 0 dBi                                                                                                                                                                                           |
| Embedding depth              | 42 mm                                                                                                                                                                                           |
| CAD overall height           | 41.5 mm                                                                                                                                                                                         |
| CAD overall width            | 30 mm                                                                                                                                                                                           |
| CAD overall depth            | 43 mm                                                                                                                                                                                           |
| Net weight                   | 0.045 kg                                                                                                                                                                                        |
| Operating travel             | 4.3 mm (total travel)                                                                                                                                                                           |
| Operating force              | 10 N C/O changing electrical state                                                                                                                                                              |
| Mechanical robustness        | Free fall resistance 1000 mm conforming to EN/IEC 60068-2-32                                                                                                                                    |
| Standards                    | CSA C22.2 No 14<br>EN/IEC 60947-1<br>EN/IEC 60947-5-1<br>UL 508                                                                                                                                 |
| Radio agreement              | ANATEL<br>ARIB T66<br>FCC<br>ICASA<br>RSS                                                                                                                                                       |
| Communication port protocol  | Zigbee green power at 2.4 GHz conforming to IEEE 802.15.4                                                                                                                                       |
| Maximum sensing distance     | 100 M in free field<br>25 M transmitter in a plastic box type XAL D and receiver in a metal enclosure<br>300 m transmitter in box type XAL D, receiver in metal enclosure and use relay-antenna |
| Acquisition time             | 2 ms                                                                                                                                                                                            |
| Response time                | < 2 ms                                                                                                                                                                                          |
| Emission power               | 3 mW                                                                                                                                                                                            |
| Fixing mode                  | Fixing nut beneath head: 2...2.4 N.m                                                                                                                                                            |

|                             |                                            |
|-----------------------------|--------------------------------------------|
| Station name                | XALD 1...5 cut-outs<br>XALK 2...5 cut-outs |
| Electrical composition code | PW1                                        |

## Environment

|                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|---------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Ambient air temperature for storage   | -40...70 °C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Ambient air temperature for operation | -40...70 °C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Relative humidity                     | 95 % at -40...70 °C without condensation                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| IP degree of protection               | IP66 (front face) conforming to IEC 60529<br>IP67 (front face) conforming to IEC 60529<br>IP69 (front face) conforming to IEC 60529<br>IP69K (front face) conforming to IEC 60529                                                                                                                                                                                                                                                                                                          |
| IK degree of protection               | IK03 conforming to IEC 50102                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Mechanical durability                 | 1000000 cycles                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Shock resistance                      | 25 gn (duration = 6 ms) for 6000 shocks conforming to IEC 60068-2-27<br>30 gn (duration = 18 ms) for half sine wave acceleration conforming to IEC 60068-2-27<br>50 gn (duration = 11 ms) for half sine wave acceleration conforming to IEC 60068-2-27                                                                                                                                                                                                                                     |
| Vibration resistance                  | 5 gn (f= 11...500 Hz) conforming to IEC 60068-2-6<br>+/- 10 mm (f= 2...11 Hz) conforming to IEC 60068-2-6                                                                                                                                                                                                                                                                                                                                                                                  |
| Electromagnetic compatibility         | Electrostatic discharge immunity test - test level: 8 kV (in free air (in insulating parts)) conforming to IEC 61000-4-2<br>Electrostatic discharge immunity test - test level: 4 kV (on contact (on metal parts)) conforming to IEC 61000-4-2<br>Susceptibility to electromagnetic fields - test level: 20 V/m (80...3000 MHz) conforming to IEC 61000-4-3<br>Susceptibility to electromagnetic fields - test level: 6 V/m (3000...6000 MHz, distance = 20 m) conforming to IEC 61000-4-3 |
| Product certifications                | BT 2006/95/EC[RETURN]C-Tick[RETURN]CSA[RETURN]UL[RETURN]GOST                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Directives                            | 2004/108/EC - electromagnetic compatibility<br>1999/5/EC - R&TTE directive                                                                                                                                                                                                                                                                                                                                                                                                                 |

## Packing Units

|                              |          |
|------------------------------|----------|
| Unit Type of Package 1       | PCE      |
| Number of Units in Package 1 | 1        |
| Package 1 Height             | 3.4 cm   |
| Package 1 Width              | 5.3 cm   |
| Package 1 Length             | 8.7 cm   |
| Package 1 Weight             | 38.0 g   |
| Unit Type of Package 2       | S01      |
| Number of Units in Package 2 | 25       |
| Package 2 Height             | 15.0 cm  |
| Package 2 Width              | 15.0 cm  |
| Package 2 Length             | 40.0 cm  |
| Package 2 Weight             | 1.154 kg |

## Offer Sustainability

|                            |                                                                                                                                   |
|----------------------------|-----------------------------------------------------------------------------------------------------------------------------------|
| Sustainable offer status   | Green Premium product                                                                                                             |
| REACH Regulation           |  <a href="#">REACH Declaration</a>             |
| EU RoHS Directive          | Pro-active compliance (Product out of EU RoHS legal scope)                                                                        |
| Mercury free               | Yes                                                                                                                               |
| China RoHS Regulation      |  <a href="#">China RoHS Declaration</a>        |
| RoHS exemption information |  <a href="#">Yes</a>                           |
| Environmental Disclosure   |  <a href="#">Product Environmental Profile</a> |
| Circularity Profile        |  <a href="#">End Of Life Information</a>       |
| WEEE                       | The product must be disposed on European Union markets following specific waste collection and never end up in rubbish bins       |

Contractual warranty

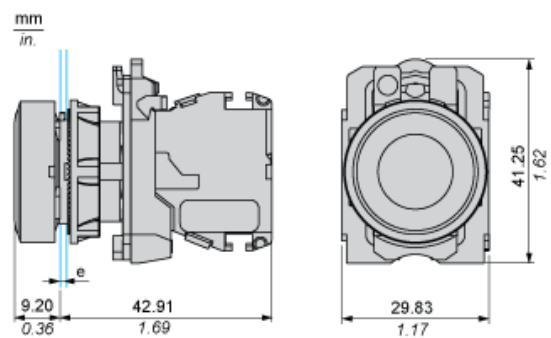
|          |           |
|----------|-----------|
| Warranty | 18 months |
|----------|-----------|

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Wireless and Batteryless Pushbutton - Transmitter

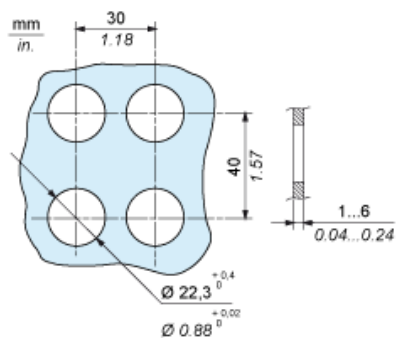
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With Plastic Pushbutton without Cap

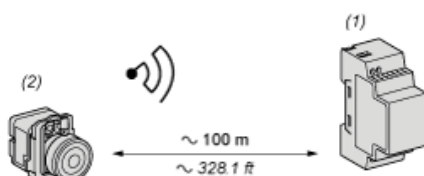


e: panel thickness 1 to 6 mm / 0.039 to 0.24 in.

## Transmitter Mounting

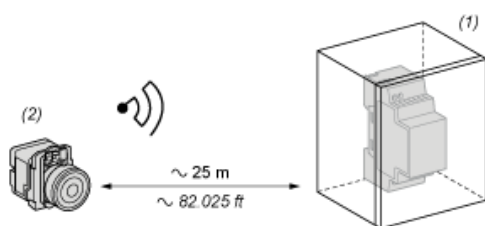


## Transmitter Clearance in Free Field Unobstructed



- (1): Receiver  
(2): Transmitter

## Transmitter Clearance in a Metal Enclosure



- (1): Metal enclosure  
(2): Transmitter

The range is reduced if the transmitter is placed in a metal enclosure (reduction factor: approx 10%)

|                 |            |
|-----------------|------------|
| Glass window    | 10...20 %  |
| Plaster wall    | 30...45 %  |
| Brick wall      | 60 %       |
| Concrete wall   | 70...80 %  |
| Metal structure | 50...100 % |