

# RadioBeacon

RB-X05 ALU Series

## PRODUCT OVERVIEW

The RadioBeacon from Mimes gives the power of IoT to the field beacons, enabling beacons to only require local power. This gives you SIL capable beacon with no IO restrictions. Cyber security designed in from the core with 128bit AES encryption. The RB-X05 is a 05 joule Xenon beacon with robust IP66 corrosion proof aluminium enclosure. This makes the RadioBeacon suitable for all Zone 1, 2, 21 & 22 signalling applications.

The RadioBeacon produces a high output Xenon flash required for effective signalling in environments with elevated levels of ambient light. The field replaceable colour filter enhances the strobe and is constructed from UV stable PC. The integrated ISA100 wireless I/O allows for efficient installation and is SIL1 and SIL2 compliant.



## APPROVALS

|                                    |
|------------------------------------|
| IEC                                |
| IECEX ULD 16.0017X                 |
| IEC 60079 - 0 : 2011               |
| IEC 60079 - 1 : 2024               |
| IEC 60079 - 31 : 2013              |
| TR-CU Ex EAc certificate: Ru C-GB  |
| AA71.B.00109                       |
| SIL1 compliant to IEC 61508 (2010) |
| SIL2 compliant to IEC 61508 (2010) |
| ATEX                               |
| ATEX DEMKO 16 ATEX 1466X           |
| EN 60079 - 0 : 2012 + A11 : 2013   |
| EN 60079 - 1 : 2014                |
| EN 60079 - 31 : 2014               |

## CODING

### Beacon:

|                                       |
|---------------------------------------|
| Ex db IIC Gb T6 Ta -50°C to +40°C     |
| Ex db IIC Gb T5 Ta -50°C to +55°C     |
| Ex db IIC Gb T4 Ta -50°C to +70°C     |
| Ex tb IIIC Db T110°C Ta -50°C to 70°C |

### Antenna:

|                                      |
|--------------------------------------|
| Ex eb IIC T4 Gb T.amb -20°C to +70°C |
|--------------------------------------|

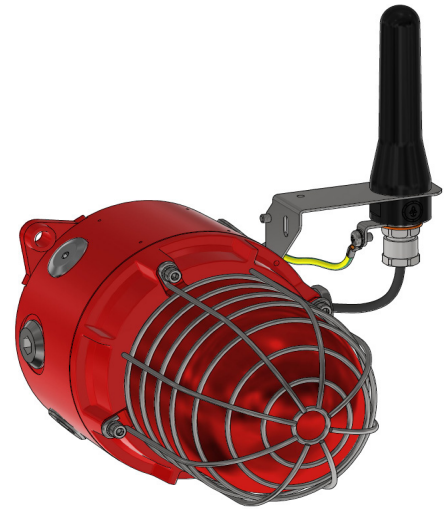


## FEATURES

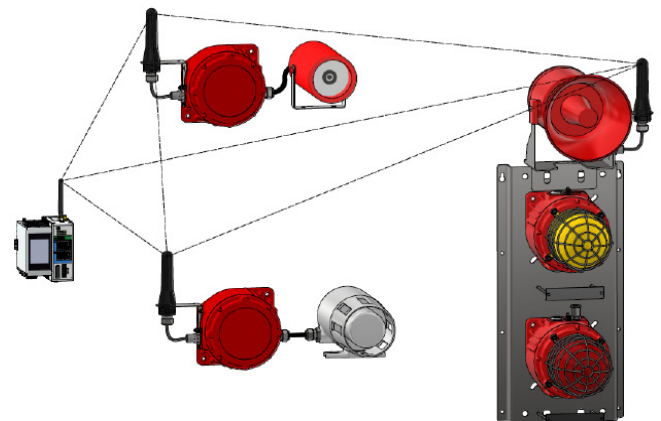
- Universal usage globally with the use of ISA100 industrial communication
- The first wireless Beacon on the market that will be Exd certified and SIL capable
- Bluetooth or over the air configuration
- The RadioBeacon gives the option of SIL2 safety communication using PROFlsafe over ISA100.11a
- Encrypted wireless communication
- Robust Exd IP66/67 Aluminium enclosure
- High output 05 joule
- Choice of three flash rates
- Duplicate cable terminations (in & out for daisy-chain installations)
- Covers all applications from industry, windfarms to oil fields
- Ex e antenna

## BENEFITS

- Guaranteed interoperability with other vendor's field instruments and infrastructure
- Can be connected to 24v dc Ups power and activated via your ISA100 network
- Different communication protocols available, ISA100 and WirelessHART
- Full environmental protection
- Optimal coverage and range
- 1Hz, 1.3Hz, 1.5Hz, and double flash
- Easy customizable antenna solutions suitable for any applications
- For optimal flexibility for wireless benefit



RadioBeacon with antenna



Using RadioBeacon with different field devices in a wireless ISA100 network

## TYPICAL APPLICATIONS

- Petrochemical
- O&G onshore and offshore
- Marine applications
- Industrial applications
- Offshore wind

## PARTCODES

| VERSION:         | PART CODE: |                               |
|------------------|------------|-------------------------------|
| Product type     | RB-X05     | Xenon Beacon - 05 Joule       |
| Enclosure        | E01        | GRP                           |
|                  | E02        | Stainless Steel               |
|                  | E03        | Aluminium                     |
| Safety           | I          | Standard/Industrial           |
|                  | S          | SIL2                          |
| Plug Material    | N          | Nickel Plated                 |
|                  | S          | Stainless Steel               |
| Equipment Tag    | 1          | Label tag                     |
|                  | 2          | SS Equipment tag              |
| Enclosure colour | R          | Red                           |
|                  | C          | Custom                        |
| Lense colour     | A          | Amber                         |
|                  | B          | Blue                          |
|                  | C          | Clear                         |
|                  | G          | Green                         |
|                  | M          | Magenta                       |
|                  | R          | Red                           |
|                  | Y          | Yellow                        |
|                  | Antenna    | A                             |
| A1               |            | Custom cable lenght up to 10m |

## NETWORK AND COMMUNICATIONS

|                            |   |
|----------------------------|---|
| ISA100.11a                 | ISM 2475 - 2400 MHz                       |
| Encyption                  | 128 - Bit AES                             |
| Network modes              | STAR/MESH/STARMESH                        |
| Latency                    | 10 msec to 1 minute                       |
| Line of sight RF range     | EX500m and Non Ex 2000m                   |
| Antenna                    | Omnidirectional antenna with 2.4 GHz band |
| Configuration and software | Bluetooth v4.2 (pending) or serial port   |
| Communication              | ISA100, Profisafe, HART                   |
| External communication     | Modbus, OPC UA, ProfiNet/Safe             |

## SPEFICATIONS

**Maximum output:** 05 Joules (05Ws)

### Flash rate:

1Hz flash (60 fpm)

1.3Hz flash (80 fpm)

1.5Hz flash (90 fpm)

Double flash (120 fpm)

### Peak Candela:

500,000 cd – calc. from energy (J)

### Eff. Intensity cd:

250 cd – calc. from energy (J)

### Peak Candela:

30,451 cd – measured ref to I.E.S

### Eff. Intensity cd:

134.35 cd – measured ref to I.E.S

**Voltages DC:** 24 vdc

**Inrush:** 828mA within 6ms @ 24 vdc

**Ingress protection:** IP rating per

EN60529:IP66/67 Type rating per

UL50E/NEMA250:4/4X/3R/13

**Enclosure material:** Aluminium

### Enclosure finish:

Chromated & powder coated

**Lens guard:** 316 Stainless Steel

**Colour:** Red (RAL3000)

**Cable entries:** 4 x M20 x 1.5mm

(2 x stopping plugs included as standard)

**Terminals:** 0.5 – 2.5mm<sup>2</sup> 20-14 AWG

**Enclosure volume:** <2 litres

**Wireless interface:** ISA100

**Tube life:** Emissions are reduced to

70% after 5 million flashes

**Grounding stud:** M5

**Operating temp:** -20 to +70°C

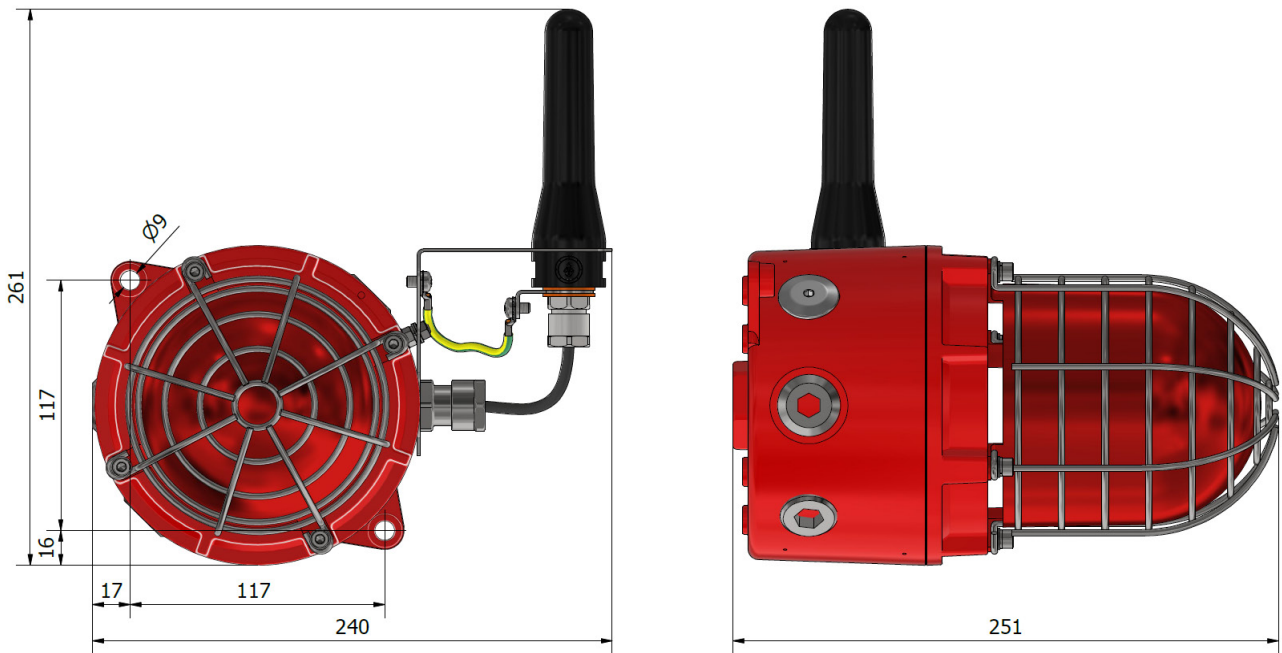
[-0° to +158°F]

**Relative humidity:** 95%

**Weight:** 3.5kg/7.7lbs

## Current Consumption

| Nominal Voltage: | Voltage Range | Nominal Current | Max. Current | In-rush    |
|------------------|---------------|-----------------|--------------|------------|
| 24 vdc           | 20-28 vdc     | 295mA           | 350mA        | 828mA <6ms |



Combination units (MAS) is available on request.

