

# RadioBeacon

RB-X10 GRP 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-X10 is a 10 joule Xenon beacon with robust IP66 corrosion proof GRP (glass reinforced polyester) 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:

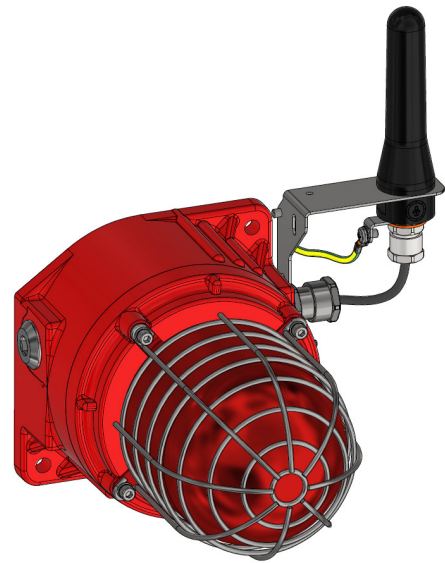
Ex eb IIC T4 Gb T.amb -20°C to +70°C
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## FEATURES

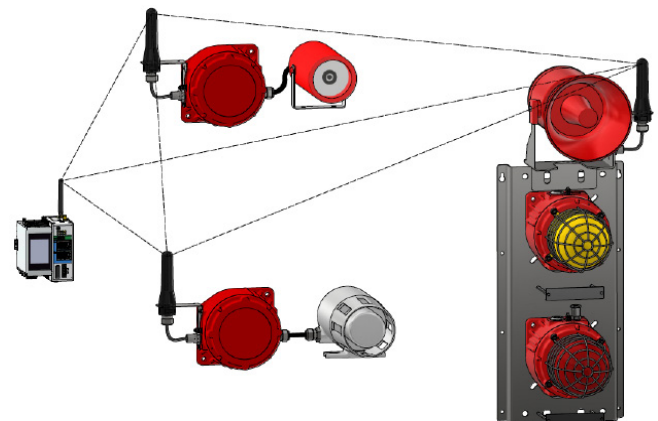
- Universal usage globally with the use of ISA100 industrial communication
- The first wireless Beacon on the market that will be Exd certified and SIL capable
- Bluetooth or over the air configuration
- The RadioBeacon gives the option of SIL2 safety communication using PROFIsafe over ISA100.11a
- Encrypted wireless communication
- Robust Exd IP66/67 GRP enclosure
- High output 10 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-X10	Xenon Beacon - 10 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:** 10 Joules (10Ws)

### Flash rate:

1Hz flash (60 fpm)

1.3Hz flash (80 fpm)

1.5Hz flash (90 fpm)

Double flash (120 fpm)

### Peak Candela:

1.000,000 cd – calc. from energy (J)

### Eff. Intensity cd:

500 cd – calc. from energy (J)

### Peak Candela:

110,243 cd – measured ref to I.E.S

### Eff. Intensity cd:

479.39 cd – measured ref to I.E.S

**Voltages DC:** 24 vdc

**Inrush:** 813mA within 6ms @ 24 vdc

**Ingress protection:** IP rating per

EN60529:IP66/67 Type rating per

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

**Enclosure material:** GRP

**Enclosure finish:** Natural

can be painted in alternative colours

**Lens guard:** 316 Stainless Steel

**Colour:** Natural Red

**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

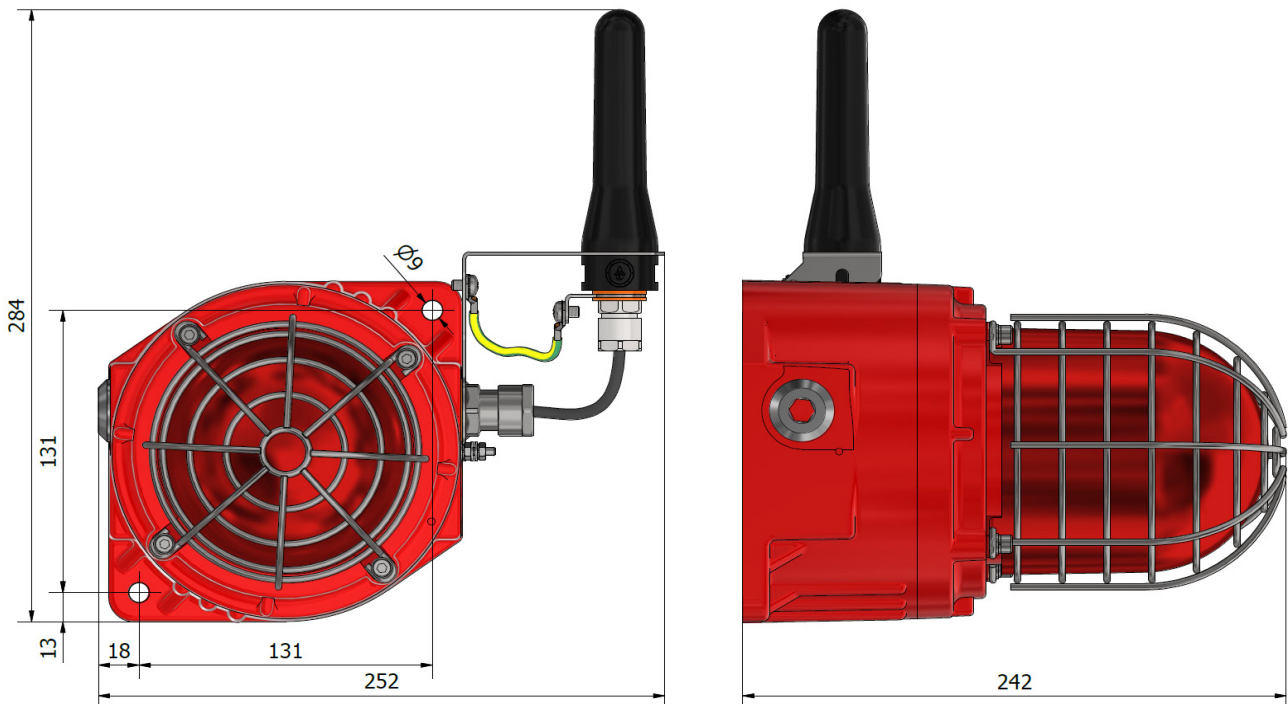
[-0° to +158°F]

**Relative humidity:** 95%

**Weight:** 3.8kg/8.4lbs

## Current Consumption

Nominal Voltage:	Voltage Range	Nominal Current	Max. Current	In-rush
24 vdc	20-28 vdc	605mA	710mA	753mA <6ms



Combination units (MAS) is available on request.

