WatchGas
Detection

USER MANUAL

ATEX
Beacon

Contents

Warning

- Inspect the ATEX Beacon before installation to ensure it is not damaged
- Always specified wiring conform country electrical rules
- The ATEX Beacon is designed to be used in hazardous environments
- Prevent the circuit boards to get in contact with liquids
- Prevent electrical or mechanical shocks, to ATEX Beacon
- Clean ATEX Beacon only with slightly damp cloth
- Read and understand this manual before installation and use

Disposal

The ATEX Beacon should not be disposed with your other household waste. The ATEX Beacon is ideally suited for disposal within the waste electronic and electrical equipment (WEEE) recycling scheme. Check at your local authority, retailer or con-tact our technical support team for recycling/disposal advice as regional variations apply. You may return the unit to us for safe dismantling and disposal.

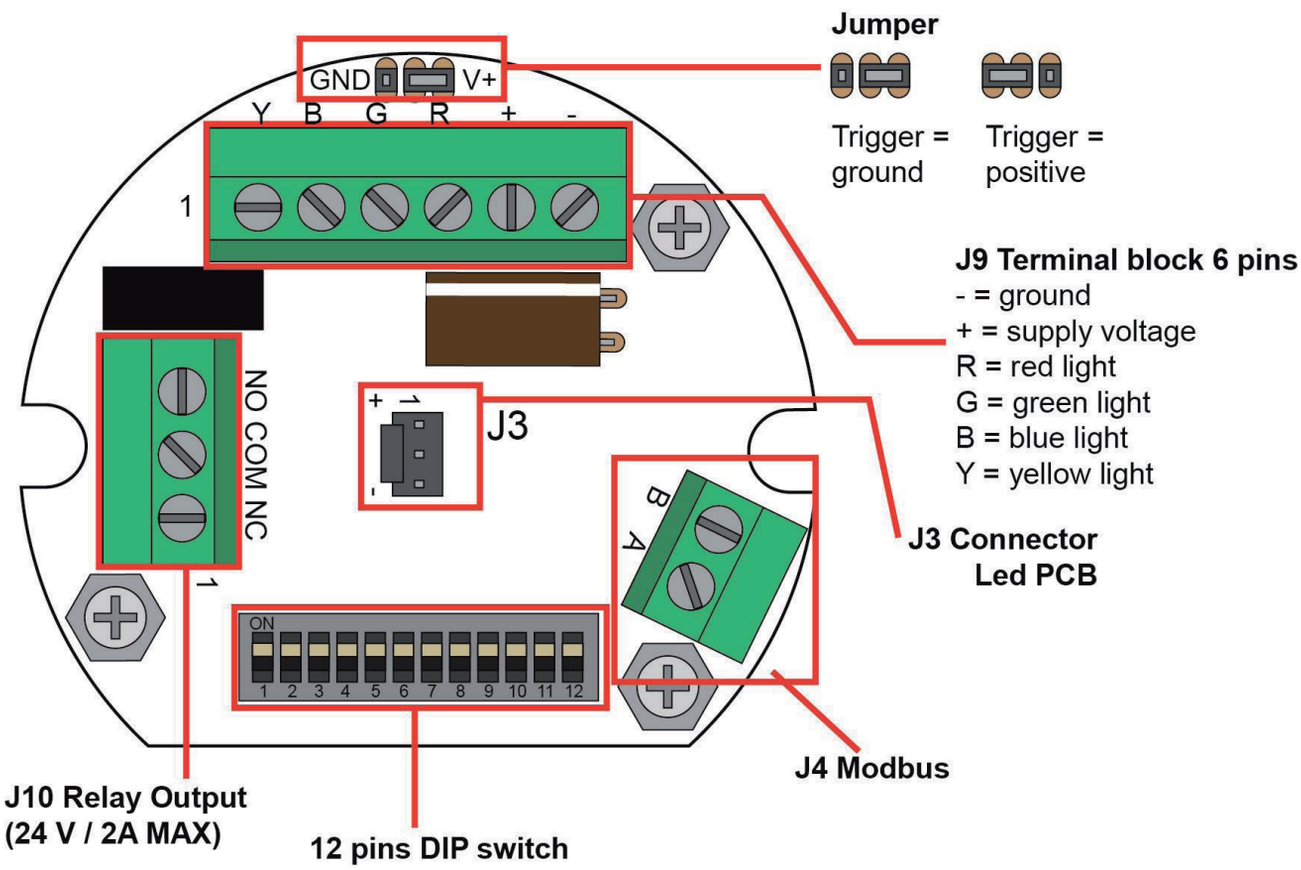
Important

This user manual contains important information regarding the operation of the ATEX Beacon. Ensure you read this user manual fully before installing and operating the ATEX Beacon. If you are installing this ATEX Beacon for use by others, you must leave this manual with the end user. Installation must be carried out, in accordance with latest codes and regulations, by a qualified electrician.

Ensure power source is disconnected prior to installation or maintenance to avoid damage to the ATEX Beacon or electric shock.

1. About the ATEX Beacon

The ATEX Beacon has 78 Ultra Bright RGB LEDs 360° visibility. The colours can be controlled independently trough analogue or digital input, a selection of 4 patterns is available. Potential free contact for driving external device for example a Sounder.



Power supply:	9-30V DC (min 9W)
Stand-by current:	<0.1W
Trigger voltage positive:	6-30V DC
Trigger voltage ground:	Min. 6V DC below supply
Trigger current:	Max. 6mA
Cable diameter:	0.25mm2 to 3.0 mm2 (12 to 24AWG)
Relay voltage:	Max. 24V DC
Relay current:	2A Max.

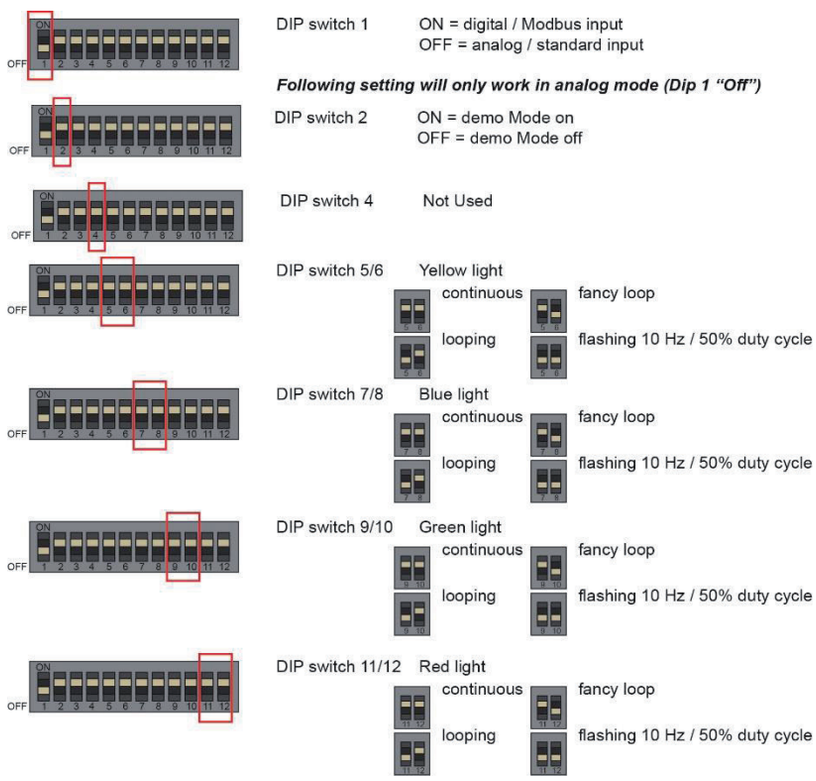
2. Installation

Do not handle internal electronical components whilst wiring up. Environmental exposure during installation should be under dry circumstances, avoid heavy moist and wet conditions.

To open the Housing please first remove the hexagon m3 bolt, then unscrew the glass top of the housing. To wire the ATEX Beacon remove LED insert by removing the 3 Nylon screws, and disconnect the LED PCB from connector J3. Connect Power Supply and signal or Modbus cables to the J9 or J4 connector. Se-lect if you want to use the beacon analogue or controlled by Modbus.

3. Analogue Controlled

Select the if the trigger is positive or negative trigger by setting the Jumper to the right position. Select the mode and patterns for each used colour by according the DIP switch settings figure. Connect the trigger wires to the correct terminal. NOTE: Colours are prioritised Lowest blue>green>yellow>Red Highest, so if you trigger green and red you get a red light.



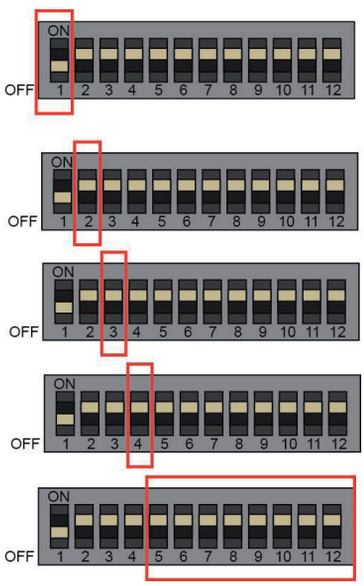
When connections are made reconnect LED PCB to J3 and fix it with the 3 nylon screws. Carefully screw back glass to ensure that there's no cable obstructions during closing, place back the hexagon bolt.

4. Modbus Controlled

4.1 SETTINGS

The following configuration options are available with the dip switches.

Option	Default value	Valid range	Description	DIP Switch
Modbus ID	0 (disabled)	1-255	Select Modbus adres	5/12
Baudrate	9600	9600-19200	Baudrate in symbols per second	2



DIP switch 1 — ON = digital / Modbus input
OFF = analog / standard input

Following setting will only work in digital mode (Dip 1 "On")

DIP switch 2 — ON = Baud rate 19200
OFF = Baud rate 9600

DIP switch 3 — Not Used

DIP switch 4 — Not Used

DIP switch 5/12 — Modbus setting refer to modbus table to set adress

4.2 SUPPORTED CODES

Function code	Function name	Used for
3	Reading holding register(s)	Reading registers (up to 8 registers per command)
6	Write single register	Setting of a register
16	Write multiple registers	Setting of multiple registers

5. Register Map

Data can be read using the Read Holding Registers command. A memory map de-tailing all useful locations is listed below:

Address	Content	Unit
0x0000	Light effect type	View note [1]; 16 bit unsigned integer
0x0001	Red value	View note [2]; 16 bit unsigned integer
0x0002	Green value	View note [2]; 16 bit unsigned integer
0x0003	Blue value	View note [2]; 16 bit unsigned integer
0x0004	Relay control	Zero: disabled, non-zero: energized
0x0005	Input status	View note [3]; 16 bit unsigned integer
0x0006	Firmware version	

Notes: [1] See table in next section for possible values in this register. [2] A value 0-255 will result in zero brightness (0) to maximum brightness (255). Any value larger than 255 is internally set to 255. [3] This register reflects the status of the input pins. The pins do not control anything, but can be used to read the status of external equipment.

5.1 PIN NUMBERS

The input status register reflects the value of the input pins. Toggling these pins while the unit is configured as a Modbus device does not affect the operating behavior.

Bit	Decimal value	Pin
Bit 3	8	Red
Bit 2	4	Green
Bit 1	2	Blue
Bit 0	1	Yellow

5.2 LIGHT EFFECT TYPES

The input status register reflects the value of the input pins. Toggling these pins while the unit is configured as a Modbus device does not affect the operating behavior.

ID	Effect
0	Slow flashing (3Hz 50% duty)
1	Looping effect 1
2	Looping effect 2
3	All leds continuously on
4	Looping effect 3
5	Flashing (2Hz 10% duty)
6	Flashing (10Hz 50% duty)

6. Troubleshooting

Error	Solution
Beacon will not turn on	Check power supply
	Check trigger input
	Check connection cable from let insert to J3 ensure is connected
	Check if trigger jumper is installed correctly
Wrong colour	Check if correct trigger is pulsed
	Is there a higher priority trigger active (Blue>Green>Yellow>Red)
Beacon runs colour pattern automatically	Disable demo mode
No response on triggers	Check if the beacon is set to analogue mode

7. Specifications

Size	20,5 x 13,6 cm (7.87 x 5.11 in.)
Weight	S1675grams (3.69lbs.)
Operating Temperature	-20 to +40°C (-4 to 104°F)
IP Rating	IP 65
Cable entry	2 x ¾"NPT
WMaterial	Copper free aluminium LM6 (copper<0.05%) With epoxy coating
Operating Voltage	9 – 30V DC
Energy consumption	9W Max (Stand-by <0.1W)
Potential free relay contact	24V DC 2A Max
User Options	Light effect, Colour selection
EX mark	II 2 GD Ex d IIC T6 (INERIS 01ATEX0072x)
Can be used in zone	1, 2, 21 and 22

8. Modbus Table

Dip Switch								Set adress
5	6	7	8	9	10	11	12	
0	0	0	0	0	0	0	1	1
0	0	0	0	0	0	1	0	2
0	0	0	0	0	0	1	1	3
0	0	0	0	0	1	0	0	4
0	0	0	0	0	1	0	1	5
0	0	0	0	0	1	1	0	6
0	0	0	0	0	1	1	1	7
0	0	0	0	1	0	0	0	8
0	0	0	0	1	0	0	1	9
0	0	0	0	1	0	1	0	10
0	0	0	0	1	0	1	1	11
0	0	0	0	1	1	0	0	12
0	0	0	0	1	1	0	1	13
0	0	0	0	1	1	1	0	14
0	0	0	0	1	1	1	1	15
0	0	0	1	0	0	0	0	16
0	0	0	1	0	0	0	1	17
0	0	0	1	0	0	1	0	18
0	0	0	1	0	0	1	1	19
0	0	0	1	0	1	0	0	20
0	0	0	1	0	1	0	1	21
0	0	0	1	0	1	1	0	22
0	0	0	1	0	1	1	1	23
0	0	0	1	1	0	0	0	24
0	0	0	1	1	0	0	1	25
0	0	0	1	1	0	1	0	26
0	0	0	1	1	0	1	1	27
0	0	0	1	1	1	0	0	28
0	0	0	1	1	1	0	1	29
0	0	0	1	1	1	1	0	30
0	0	0	1	1	1	1	1	31
0	0	1	0	0	0	0	0	32
0	0	1	0	0	0	0	1	33
0	0	1	0	0	0	1	0	34
0	0	1	0	0	0	1	1	35
0	0	1	0	0	1	0	0	36
0	0	1	0	0	1	0	1	37
0	0	1	0	0	1	1	0	38
0	0	1	0	0	1	1	1	39
0	0	1	0	1	0	0	0	40
0	0	1	0	1	0	0	1	41
0	0	1	0	1	0	1	0	42
0	0	1	0	1	0	1	1	43
0	0	1	0	1	1	0	0	44
0	0	1	0	1	1	0	1	45
0	0	1	0	1	1	1	0	46
0	0	1	0	1	1	1	1	47
0	0	1	1	0	0	0	0	48
0	0	1	1	0	0	0	1	49
0	0	1	1	0	0	1	0	50
0	0	1	1	0	0	1	1	51
0	0	1	1	0	1	0	0	52
0	0	1	1	0	1	0	1	53
0	0	1	1	0	1	1	0	54
0	0	1	1	0	1	1	1	55
0	0	1	1	1	0	0	0	56
0	0	1	1	1	0	0	1	57
0	0	1	1	1	0	1	0	58
0	0	1	1	1	0	1	1	59
0	0	1	1	1	1	0	0	60
0	0	1	1	1	1	0	1	61
0	0	1	1	1	1	1	0	62
0	0	1	1	1	1	1	1	63
0	1	0	0	0	0	0	0	64

Dip Switch								Set adress
5	6	7	8	9	10	11	12	
0	1	0	0	0	0	0	1	65
0	1	0	0	0	0	1	0	66
0	1	0	0	0	0	1	1	67
0	1	0	0	0	1	0	0	68
0	1	0	0	0	1	0	1	69
0	1	0	0	0	1	1	0	70
0	1	0	0	0	1	1	1	71
0	1	0	0	1	0	0	0	72
0	1	0	0	1	0	0	1	73
0	1	0	0	1	0	1	0	74
0	1	0	0	1	0	1	1	75
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0	1	0	0	1	1	0	1	77
0	1	0	0	1	1	1	0	78
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0	1	0	1	0	0	0	1	81
0	1	0	1	0	0	1	0	82
0	1	0	1	0	0	1	1	83
0	1	0	1	0	1	0	0	84
0	1	0	1	0	1	0	1	85
0	1	0	1	0	1	1	0	86
0	1	0	1	0	1	1	1	87
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0	1	0	1	1	0	0	1	89
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0	1	0	1	1	1	0	0	92
0	1	0	1	1	1	0	1	93
0	1	0	1	1	1	1	0	94
0	1	0	1	1	1	1	1	95
0	1	1	0	0	0	0	0	96
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0	1	1	0	1	1	0	1	109
0	1	1	0	1	1	1	0	110
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0	1	1	1	0	0	0	0	112
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0	1	1	1	1	0	1	0	122
0	1	1	1	1	0	1	1	123
0	1	1	1	1	1	0	0	124
0	1	1	1	1	1	0	1	125
0	1	1	1	1	1	1	0	126
0	1	1	1	1	1	1	1	127
1	0	0	0	0	0	0	0	128

Dip Switch								Set adress
5	6	7	8	9	10	11	12	
1	0	0	0	0	0	0	1	129
1	0	0	0	0	0	1	0	130
1	0	0	0	0	0	1	1	131
1	0	0	0	0	1	0	0	132
1	0	0	0	0	1	0	1	133
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1	0	0	1	0	0	1	1	147
1	0	0	1	0	1	0	0	148
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1	0	0	1	0	1	1	0	150
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1	0	0	1	1	0	0	0	152
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1	0	1	0	0	0	1	1	163
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1	0	1	0	0	1	0	1	165
1	0	1	0	0	1	1	0	166
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1	0	1	1	1	1	0	1	189
1	0	1	1	1	1	1	0	190
1	0	1	1	1	1	1	1	191
1	1	0	0	0	0	0	0	192

Dip Switch								Set adress
5	6	7	8	9	10	11	12	
1	1	0	0	0	0	0	1	193
1	1	0	0	0	0	1	0	194
1	1	0	0	0	0	1	1	195
1	1	0	0	0	1	0	0	196
1	1	0	0	0	1	0	1	197
1	1	0	0	0	1	1	0	198
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1	1	0	0	1	0	0	1	201
1	1	0	0	1	0	1	0	202
1	1	0	0	1	0	1	1	203
1	1	0	0	1	1	0	0	204
1	1	0	0	1	1	0	1	205
1	1	0	0	1	1	1	0	206
1	1	0	0	1	1	1	1	207
1	1	0	1	0	0	0	0	208
1	1	0	1	0	0	0	1	209
1	1	0	1	0	0	1	0	210
1	1	0	1	0	0	1	1	211
1	1	0	1	0	1	0	0	212
1	1	0	1	0	1	0	1	213
1	1	0	1	0	1	1	0	214
1	1	0	1	0	1	1	1	215
1	1	0	1	1	0	0	0	216
1	1	0	1	1	0	0	1	217
1	1	0	1	1	0	1	0	218
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1	1	0	1	1	1	0	1	221
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1	1	0	1	1	1	1	1	223
1	1	1	0	0	0	0	0	224
1	1	1	0	0	0	0	1	225
1	1	1	0	0	0	1	0	226
1	1	1	0	0	0	1	1	227
1	1	1	0	0	1	0	0	228
1	1	1	0	0	1	0	1	229
1	1	1	0	0	1	1	0	230
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1	1	1	0	1	1	0	1	237
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1	1	1	1	0	0	1	0	242
1	1	1	1	0	0	1	1	243
1	1	1	1	0	1	0	0	244
1	1	1	1	0	1	0	1	245
1	1	1	1	0	1	1	0	246
1	1	1	1	0	1	1	1	247
1	1	1	1	1	0	0	0	248
1	1	1	1	1	0	0	1	249
1	1	1	1	1	0	1	0	250
1	1	1	1	1	0	1	1	251
1	1	1	1	1	1	0	0	252
1	1	1	1	1	1	0	1	253
1	1	1	1	1	1	1	0	254
1	1	1	1	1	1	1	1	255

9. Limited Warranty

WATCHGAS warrants this product to be free of defects in workmanship and materials-under normal use and service-for two years from the date of purchase from the manufacturer or from the product's authorized reseller.

The manufacturer is not liable (under this warranty) if its testing and examination disclose that the alleged defect in the product does not exist or was caused by the purchaser's (or any third party's) misuse, neglect, or improper installation, testing, or calibrations. Any unauthorized attempt to repair or modify the product, or any other cause of damage beyond the range of the intended use, including damage by fire, lightening, water damage or other hazard, voids liability of the manufacturer.

In the event that a product should fail to perform up to manufacturer specifications during the applicable warranty period, please contact the product's authorized reseller or WATCHGAS service center at +31 (0)85 01 87 709 for repair/return information.

WatchGas Detection

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V1.0