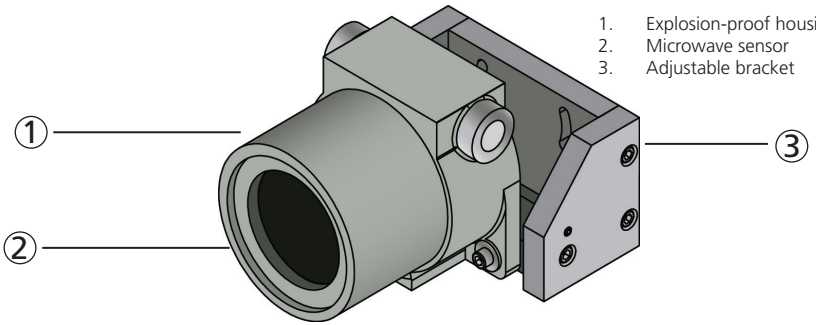
ENGLISH

PHOENIX EX™

Motion Sensor with Explosion-Proof Housing and Tamper Alert

PHOENIX EX™: for normal to high mounting (11.5 - 23 ft)
PHOENIX EX™XL: for low mounting (6.5 - 11.5 ft)
PHOENIX EX™WIDE: for wide detection field

DESCRIPTION



1. Explosion-proof housing
2. Microwave sensor
3. Adjustable bracket

MICROWAVE SENSOR SPECIFICATIONS

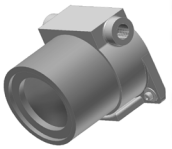
Technology:	microwave doppler radar	
Transmitter frequency:	24.150 GHz	
Transmitter radiated power:	< 20 dBm EIRP	
Transmitter power density:	< 5 mW/cm²	
Anti-tamper:	Tamper alert via output	
Detection zone:	PHOENIX EX™: 13 x 16 ft @ 16ft; PHOENIX EX™XL: 13 x 6.5 ft @ 8.2ft PHOENIX EX™WIDE: 30 x 11ft @ 21ft. (typical at 30° and field size 9)	
Min. detection speed:	2.2 in/s*	
Supply voltage:	12V to 24V AC ±10%; 12V to 24V DC +30% / -10%	
Mains frequency:	50 to 60 Hz	
Max power consumption:	< 2 W	
Output**:	relay (free of potential change-over contact)	End-of-line resistor(s)
Max. voltage:	42V AC/DC	
Max. current:	1A (resistive)	
Max. power:	30 W (DC) / 60 VA(AC)	1/8 Watt
Mounting height:	PHOENIX EX™: 11.5 - 23 ft; PHOENIX EX™XL: 6.5 - 11.5 ft; PHOENIX EX™WIDE: 11.5 - 21 ft;	
Temperature range:	-22 °F to + 140 °F	
Housing Certification:	(Adalet / Scott Fetzer Co., UL Listing # E81696) UL Class I, DIV 1 Group BCD; Class II, DIV 1 Group EFG; Class III; NEMA Type 4X; IP66; UL 1203; CSA C22.2 No.30&CSA C22.2 No.25 FM 3615; ATEX (FLAMEPROOF - DEMKO), Ex d IIC, IEC60529	
Dimensions:	9 in (L) x 7.5 in (W) x 5.5 in (H)	
Materials:	Copper-free aluminum (Housing); Aluminum (Bracket)	
Weight:	13 lbs	
Cable length:	100 ft or 30ft	
Electrical Access:	3/4'' NPT pipe thread	
Norm conformity:	R&TTE 1999/5/EC; EMC 2004/108/EC	

Specifications are subject to changes without prior notice. * Measured in optimal conditions

** Output ratings may vary depending on optional end-of-line resistor values

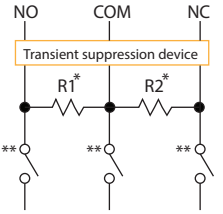
1 WIRING

WIRING DIAGRAM





Phoenix EX output



* **Resistor 1** and **Resistor 2** are unpopulated by default. **Contact BEA if you require custom resistor values.**

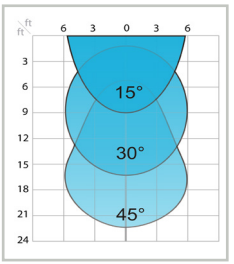
** **Tamper Switch** default location is NO. **Contact BEA if you require tamper switch location change.**

2 INSTALLATION TIPS

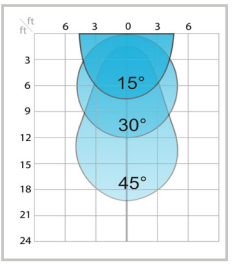
- The sensor must be firmly fastened in order not to vibrate.
- The sensor must not be placed directly behind a panel or any kind of material.
- The sensor must not have any object likely to move or vibrate in its sensing field.
- The sensor must not have any fluorescent lighting in its sensing field.
- The sensor housing cover is adjusted at factory; there is no need to adjust at installation location.

3 DETECTION FIELD DIMENSIONS

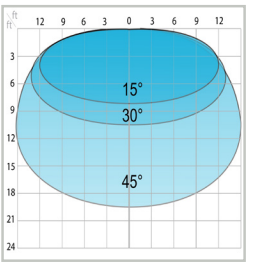
PHOENIX EX™
Mounting height: **16 ft**



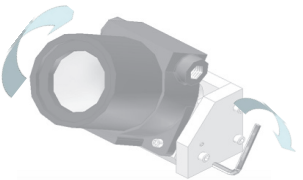
PHOENIX EX™XL
Mounting height: **11.5 ft**



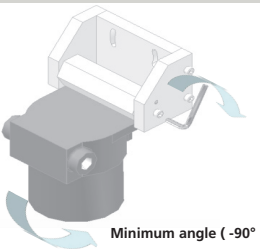
PHOENIX EX™WIDE
Mounting height: **8 ft**



4 MOUNTING ADJUSTMENT



Maximum angle (+30° above horizon)



Minimum angle (-90° below horizon)

- Bolt the bracket securely to the wall or other rigid surface.
- Make sure that the two 5/16 - 18 Allen head bolts are loose so that the sensor can rotate freely.
- Rotate the sensor to the appropriate angle for the application. When the bracket rotates, it will click. Every click represents a 7 1/2" angle adjustment.
- Lock the angle adjustment by tightening the two 5/16 - 18 Allen head bolts.
- Horizontal angle adjustments can be made by loosening the mounting bolts on the base and twisting to the desired angle.

LED SIGNALS

Normal Mode	Red LED	Green LED
Power on / learn	Flashes slowly	Flashes slowly
Detection	On	Off
No Detection	Off	Off

POSSIBLE SETTINGS BY REMOTE CONTROL

LED flashes quickly | LED flashes | LED flashes slowly | LED flashes x times | LED is off

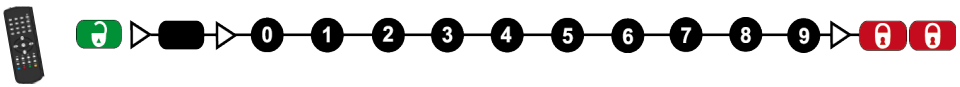
ADJUSTING ONE OR MORE PARAMETERS



CHECKING A VALUE



X = number of flashes = value of parameter



FIELD SIZE	XXS	XS	S	>	>	>	>	**L**	XL	XXL
HOLD-OPEN TIME	**0.5 s**	1 s	2 s	3 s	4 s	5 s	6 s	7 s	8 s	9 s
OUTPUT CONFIGURATION		**A**	P					A = active output (relay active when detection) P = passive output (relay active when no detection)		
DETECTION MODE		bi	**uni**	uni AWAY				bi = two-way detection uni = one-way detection towards sensor uni AWAY = one-way detection away from sensor		
DETECTION FILTER		**1**	2	3	4	5	6			

FACTORY VALUES RESETTING TO FACTORY VALUES: 9

DETECTION FILTER (REJECTION MODE)

1-6

Choose the right detection filter for your application with the remote control

Detection of all targets
(pedestrians and parallel traffic are detected)

1 = no specific filter

2 = filter against disturbances
(recommended in case of vibrations, rain etc.)

Detection only of vehicles moving*
(pedestrians and parallel traffic are not detected + disturbances are filtered)

Value recommendations according to angle and height:

	23 ft - 11.5 ft	8 ft
-75°	3	3
-60°	4	4
-45°	5	4

Always check if the chosen value is optimal for the application.
The object size and nature can influence the detection.

* The vehicle detection filter increases the response time of the sensor.

POSSIBLE SETTINGS BY PUSH BUTTONS



TO START OR END AN ADJUSTMENT SESSION, press and hold either push button until the LED flashes or stops flashing.



TO SCROLL THROUGH THE PARAMETERS, press the right push button.



TO CHANGE THE VALUE OF THE CHOSEN PARAMETER, press the left push button.

	Parameter number	Value (factory values)	
1 FIELD SIZE			(7)
2 HOLD-OPEN TIME			(0)
3 OUTPUT CONFIGURATION			(1)
4 DETECTION MODE			(2)
5 DETECTION FILTER			(1)



TO RESET TO FACTORY VALUES, press and hold both push buttons until both LEDs flash.

ACCESS CODE

The access code (1 to 4 digits) is recommended to set sensors installed in high security areas or close to each other.

SAVING AN ACCESS CODE:



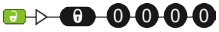
Once you have saved an access code, you always need to enter this code to unlock the sensor.

DELETING AN ACCESS CODE:



ERASE AN UNKOWN ACCESS CODE:

If you do not know the access code, **cut and restore the power supply**. During 1 minute, you can erase an unkown access code:



TROUBLESHOOTING

Sensor appears unresponsive	The sensor power is off.	1 Check the wiring and the power supply.
Discrepency between sensor state and sensor output	Improper output configuration on the sensor.	1 Check the output configuration setting on each sensor connected to the user equipment.
The sensor cycles in and out of detection	The sensor is disturbed by vibration, a moving object, or electrical noise from nearby environment.	1 Make sure the sensor is fixed properly. 2 Make sure the detection mode is unidirectional. 3 Increase the tilt angle. 4 Increase the detection filter value. 5 Reduce the field size.
The sensor goes into detection for no apparent reason	The sensor detects raindrops or vibrations.	1 Make sure the detection mode is unidirectional. 2 Increase the detection filter value.
	In highly reflective environments, the sensor detects objects outside of its detection field.	1 Change the antenna angle. 2 Decrease the field size. 3 Increase the detection filter value.
The LED flashes quickly after unlocking.	The sensor needs an access code to unlock.	1 Enter the right access code. 2 If you do not know the access code, cut the power supply and restore it to access the sensor and change the access code or delete it.
The sensor does not respond to the remote control	The remote control batteries are weak or improperly installed.	1 Check the batteries and change them if necessary.

SAFETY INSTRUCTIONS

The manufacturer of the end-user equipment is responsible for carrying out a risk assessment and installing the sensor and the end-user equipment in compliance with applicable national and international regulations and standards of the end-user equipment.
Only trained and qualified personnel may install and setup the sensor.
The warranty is void if unauthorized repairs are made or attempted by unauthorized personnel.

The complete declaration of conformity is available on our website: www.beainc.com

Only for EC countries: According the European Guideline 2012/19/EU for Waste Electrical and Electronic Equipment (WEEE)

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