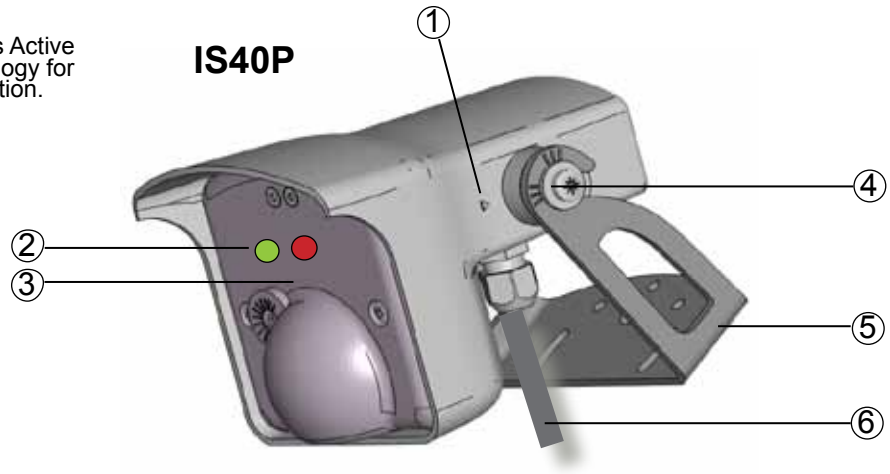
IS40P
USER'S GUIDE

ACTIVE INFRARED (IR) PRESENCE SENSOR

1 DESCRIPTION

- The IS40P uses Active Infrared technology for presence detection.



1. IR angle indicator
2. LED's
3. IR emitters
4. Sensor angle adjustment
5. Bracket
6. Cable

2 SPECIFICATIONS

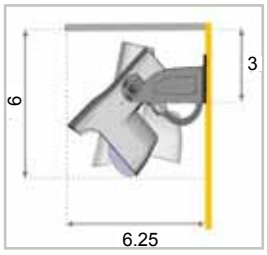
DESCRIPTION	SPECIFICATION
SENSOR TILT ANGLE	15° to 45°
SUPPLY VOLTAGE	12 to 24 VAC ±10% 12 to 24 VDC +30% / -5%
MAIN FREQUENCY	50 to 60 Hz
POWER CONSUMPTION	< 2 W
RELAY OUTPUT - Max. Voltage - Max. Current - Max Switching Power	2 Relays with switch-over contact (voltage free) 60 VDC / 125 VAC 1 A (resistive) 30 W (DC) / 60 VA (AC)
INSTALLATION HEIGHT	8 ft - 16 ft (2.5 m – 6 m)
TEMPERATURE RANGE	-22°F (-30°C) to + 140°F (60°C)
PROTECTION DEGREE	IP65 / NEMA 4
NORM CONFORMITY	Electromagnetic compatibility (EMC) according to 2004/108/EEC, R&TTE: 1999/5/EC
DIMENSIONS (D X W X H)	5 in × 4 in × 3.75 in (127 mm × 102 mm × 96 mm)
MATERIAL - Housing - Face	 ABS Polycarbonate
COLOR - Housing - Face	 Black Transparent Purple
CABLE LENGTH	32 ft (10 m)
TECHNOLOGY	INFRARED
RADIATED FREQUENCY	875 nm
RADIATED POWER DENSITY	< 250 mW/m²
DETECTION MODE	Presence
MAXIMUM DETECTION FIELD	10 ft x 10 ft (3 m x 3 m)
OUTPUT HOLD TIME	0.5 s – 9 s (Activation Relay) / 0.5 s (Presence Relay)
REACTION TIME	250 ms
MINIMUM TARGET SPEED	0 in/s (0 cm/s)
LED SIGNAL	Green = Activation Relay / Red = Presence Relay
SENSOR ANGLE	15°, 30°, 45°

3 PRECAUTIONS

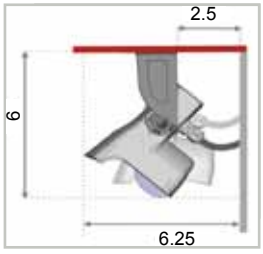
CAUTION

- ❑ This device IS NOT intended for use as a safety sensor.
- ❑ Not recommended for dynamic envioronments. (snow, rain, fog, etc.)
- ❑ Shut off all power before attempting any wiring procedures.
- ❑ Maintain a clean & safe environment when working in public areas.
- ❑ Constantly be aware of pedestrian/vehicle traffic around the area.
- ❑ Always stop pedestrian/vehicle traffic through the doorway when performing tests that may result in unexpected reactions by the door.
- ❑ ESD electrostatic discharge: Circuit boards are vulnerable to damage by electrostatic discharge. Before handling any board ensure you dissipate your body's charge.
- ❑ Always check placement of all wiring before powering up to insure that moving parts will not catch any wires and cause damage to equipment.
- ❑ Ensure compliance with all applicable safety standards upon completion of installation.
- ❑ DO NOT attempt any internal repair of the sensor. All repairs and/or component replacements must be performed by BEA Inc. Unauthorized disassembly or repair:
  1. May jeopardize personal safety and may expose one to the risk of electrical shock.
  2. May adversely affect the safe and reliable performance of the product and will result in a voided product warranty.

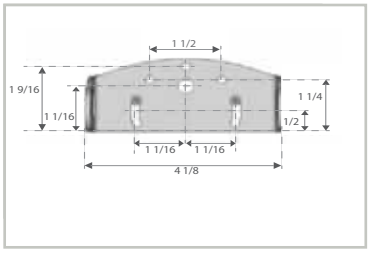
4 DIMENSIONS (inches)



Wall mounting

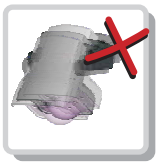


Ceiling mounting

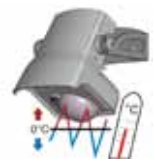


Bracket dimensions

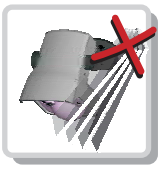
5 INSTALLATION TIPS


The sensor must be firmly fastened to prevent vibration.

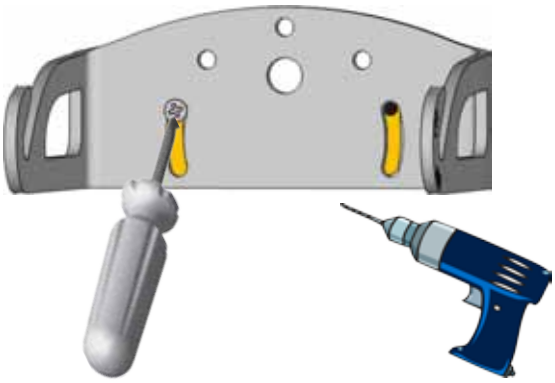
DO NOT cover the sensor.

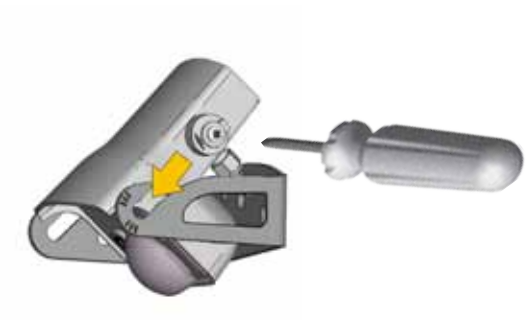

Avoid exposing the sensor to sudden temperature changes


Avoid proximity to neon lamps, fluorescent lights or moving objects


The sensor must not have any object likely to move or vibrate in its sensing field.

6 MOUNTING


Remove the bracket from the sensor.
Drill 2 holes accordingly. If necessary, drill an additional hole to facilitate wire routing. Fix the bracket firmly.


Position the sensor on the bracket and fasten the angle adjustment screws.

7 WIRING AND RELAY CONFIGURATION

WIRING

POWER	RED BLACK		12-24 V AC-DC
ACTIVATION RELAY	WHITE GREEN YELLOW		COM NO NC
PRESENCE RELAY	WHITE/BLACK GREEN/BLACK YELLOW/BLACK		COM NO NC


Green LED
Presence

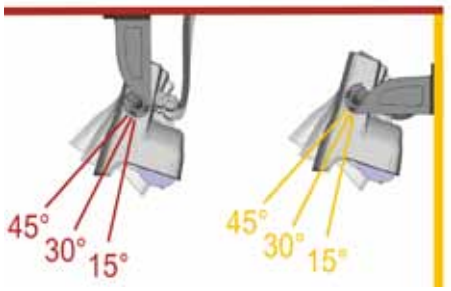

Red LED
Presence

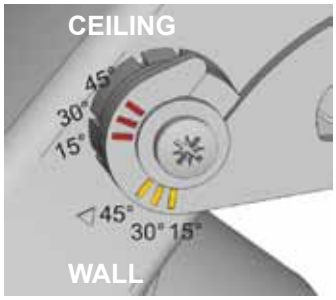
RELAY CONFIGURATION

	Activation Relay	Presence Relay
1	Active	Passive
2	Passive	Active
3	Passive	Passive
4	**Active**	**Active**

Description	Active	Passive
Detection	COM NO NC	COM NO NC
No Detection	COM NO NC	COM NO NC

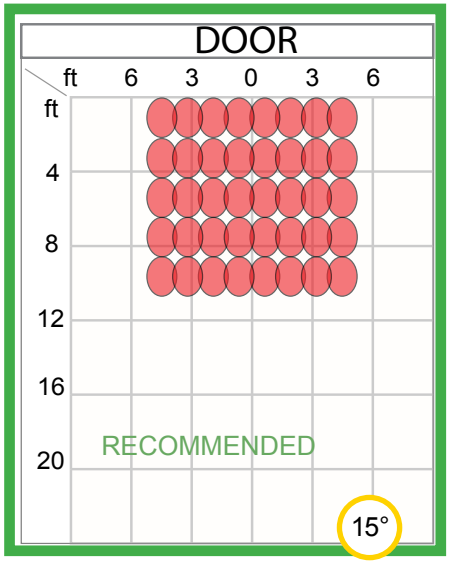
8 SENSOR ANGLE

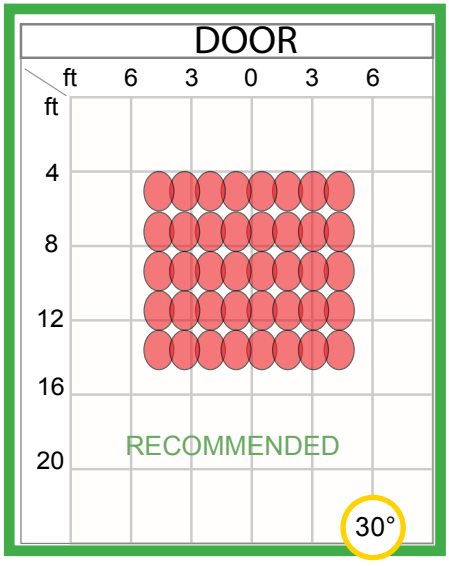


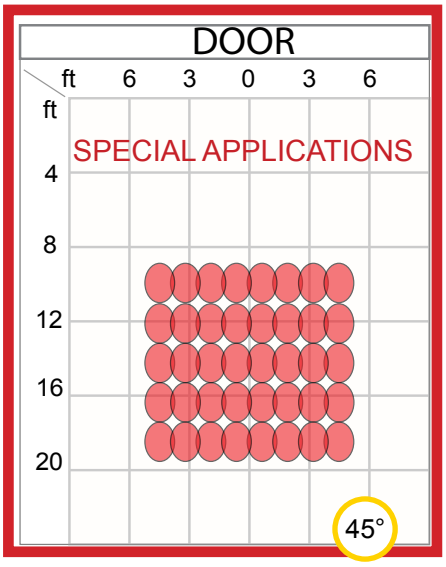


Adjust the angle of the sensor to position the detection field

Tighten the screws firmly







Notes:

1. It is important to adjust sensor angle to position IR field correctly.
2. To obtain an IR pattern that's straight down (closest to the door threshold); wall mounted sensors need to be set at 20º; sensors mounted on an extension bracket or out from the wall should be set to approximately 15º.
3. The graphics above are not to scale and for illustration purposes and represent an approximate IR detection field when at 16 ft. The point of emphasis is to show the IR detection area with respect to the sensor angles.

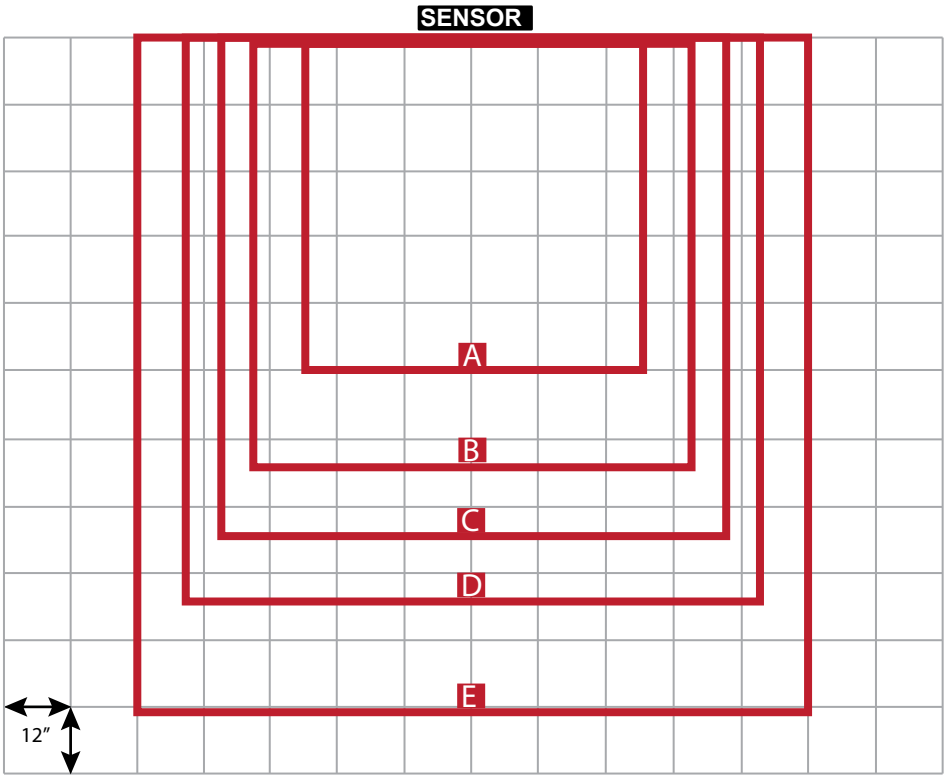
9 IR PATTERN SIZE AT 15° SENSOR ANGLE

Approximate default IR pattern size using a 15º sensor tilt angle.
The higher the mounting height the larger the IR pattern.

Mounting Height	Width *	Depth *
A = 8 ft	5 ft	5 ft
B = 10 ft	7 ft	7 ft
C = 11.5 ft	7.5 ft	7.5 ft
D = 13 ft	8.5 ft	8.5 ft
E = 16 ft	10 ft	10 ft
Maximum Mounting Height		
IS40P	16 ft	

* Dimensions are approximate.

Use of BEA Spotfinder may be utilized to locate IR field.



10 REMOTE CONTROL PARAMETERS

OUTPUT CONFIGURATION

OUTPUT CONFIGURATION

F1

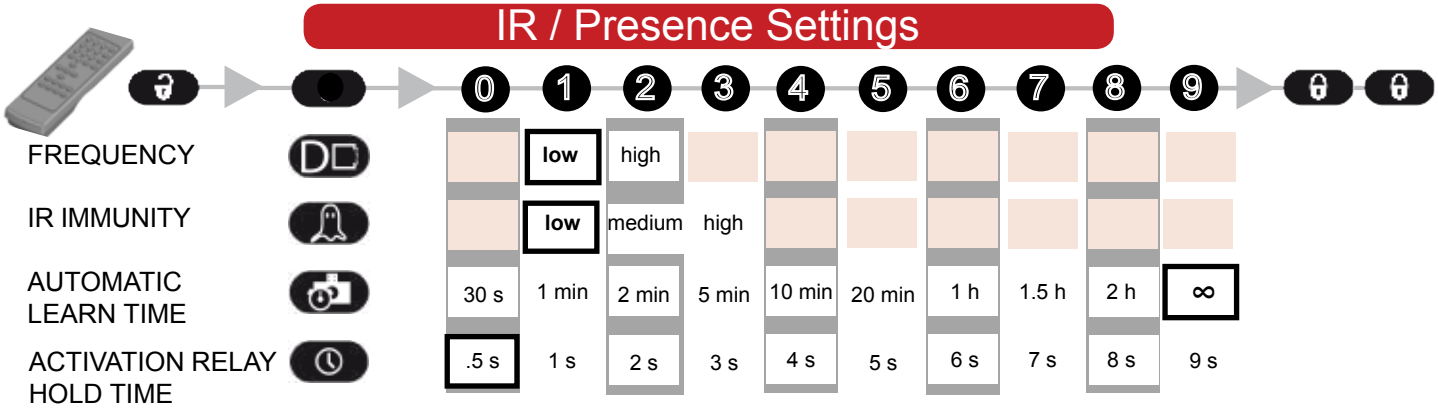
DOOR EXAMPLE

LAST LINE

FIRST LINE

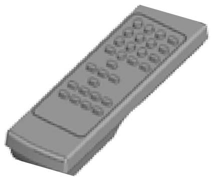
PRESENCE RELAY	IS40P	LED
0 – 6: ALL MODES	**Activates when object is in presence zone.**	Red
ACTIVATION RELAY	**IS40P**	**LED**
0: STANDARD MODE	**Activates when object is in presence zone**	
1: PULSE ON ENTRY	Activates when object enters presence zone	
2: PULSE ON EXIT	Activates when object exits presence zone	
3: PULSE ON ENTRY FIRST / LAST LINE (See Example to the Left)	Activates when object enters presence zone (first or last line)	Green
4: PULSE ON EXIT FIRST / LAST LINE (See Example to the Left)	Activates when object exits presence zone (first or last line)	
5: REMAINS ACTIVE UNTIL PRESENCE ZONE IS CLEARED	Activates when object is in presence zone	
6: REMAINS ACTIVE UNTIL PRESENCE ZONE IS CLEARED	Activates when object is in presence zone	

IR / Presence Settings



Note: The automatic learn time is the amount of time a static object needs to be in the IR field before the sensor will learn it.

= FACTORY VALUES



IR / Presence Settings (Continued)

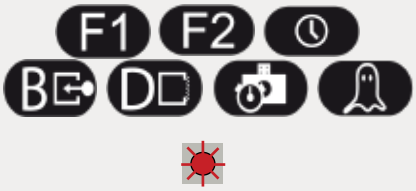
IR PATTERN SIZE (B)	AVAILABLE TARGET SIZE (F2)
DOOR 1	1, 2, 5, 6, 3, 4, 7
DOOR 2	1, 2, 5, 6, 3, 4, 7
DOOR 3	1, 2, 3, 7, 6, 5
DOOR 4	1, 2, 5, 6
DOOR 5	1, 5
DOOR 6	1, 2, 5, 7
DOOR 7	1, 2, 5, 7
DOOR 8	1, 2, 5, 7
DOOR 9	1, 2, 5

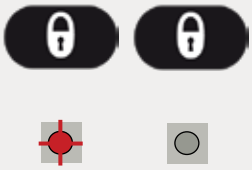
The target (Target Size) can vary location within the field (IR Pattern Size)

☐ = FACTORY VALUES

10 REMOTE CONTROL PARAMETERS (CONTINUED)

Check parameter values

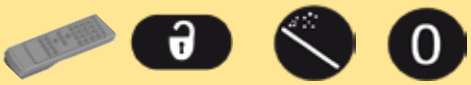
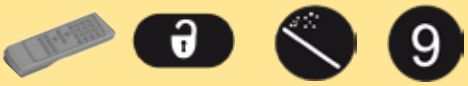




QUESTION A VALUE

The number of green flashes indicates the value of the chosen parameter.

11 SENSOR SETUP SEQUENCE / FACTORY VALUES / ACCESS CODE

IMPORTANT: ENSURE TO SAVE ANY CHANGES DURING THE ADJUSTMENT SESSION VIA PRESSING LOCK LOCK.	
IMPORTANT: ALWAYS FINISH AN ADJUSTMENT SESSION BY LAUNCHING A SETUP.	
RESETTING TO FACTORY VALUES	
SETTING AN ACCESS CODE	
DELETING AN ACCESS CODE	

If you do not know the access code, cycle the power supply.
Within 1 minute, you can access the sensor without introducing any access code or delete the existing access code per the instrucitons above.

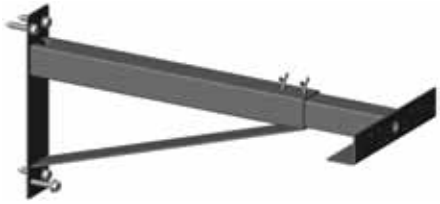
12 TROUBLESHOOTING

SYMPTOMS	POSSIBLE CAUSES	CORRECTIVE ACTION
The door never closes and the red LED is on.	Objects in the IR detection area.	Move objects or reduce automatic learn time.
		Wait for learn time to expire and/or Launch a setup.
The red LED is on during rain or snow.	The presence detection is disturbed by the rain or snow.	Increase the immunity of the IR field. (value 2 or 3 respectively).
The red LED is permanently on after a setup.	Setup has failed due to motion in the IR field during setup.	Launch a setup with the IR area clear of moving objects.
The door keeps recycling open or closed.	The sensor detects door vibrations or environmental disturbances.	Increase IR immunity. Secure mounting bracket.
The door never closed and the LED(s) is off.	Output relay(s) could be wired or configured backwards.	Change wiring at output(s) and/or change relay configuration.

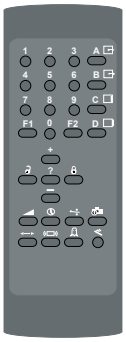
12 TROUBLESHOOTING (CONTINUED)

SYMPTOMS	POSSIBLE CAUSES	CORRECTIVE ACTION
Application requires an access code or sensor will not unlock after entering an access code.	You must enter a code or the wrong code was entered.	Cycle the power. No code is required to unlock during the first minute after powering on. Unlock, then lock and enter a new access code or “0000” to delete the current access code.
The sensor does not respond to the remote control.	The batteries in the remote control are not installed properly, dead or the remote is poorly aimed.	Verify or replace batteries or aim remote towards sensor.
	The sensor is not powered.	Check the power supply of the sensor.

13 ACCESSORIES

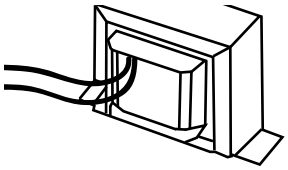


Telescoping HD Bracket
P/N: 10HDBRACKET



Remote control
P/N: 10REMOTE

Spotfinder
P/N: 10SPOTFINDER



Transformer
P/N: 1024VAC

14 COMPANY CONTACT

OPEN UP NEW HORIZONS
A HALMA COMPANY

Do not leave problems unresolved. If a satisfactory solution cannot be achieved after troubleshooting a problem, please call BEA, Inc. If you must wait for the following workday to call BEA, leave the door inoperable until satisfactory repairs can be made. Never sacrifice the safe operation of the automatic door or gate for an incomplete solution.

Our Service Technicians can be called 24 hours a day, 7 days a week. For more information visit www.beasensors.com.

For email support contact us at: Tech_Services@beainc.com			
Phone: 1-800-523-2462		Fax: 1-888-523-2462	
After Normal Business Hours			
West / Mexico 1-888-419-2564	Central 1-800-407-4545	AK, MI, WI, TX, Canada 1-866-836-1863	East 1-866-249-7937