iREX™
Intelligent Request-to-Exit Detector
## with the IQ feature

INSTALLATION INSTRUCTIONS

DESCRIPTION

iREX and iREX Plus are PIR detectors specifically designed for request-to-exit (REX) and request-to-enter (REN) applications.
The iREX detectors are designed with the IQ feature (Intelligent Queuing) used to remotely enable or disable the iREX.
The iREX detectors can be installed as stand alone units or in conjunction with Access Control systems.
The iREX can be mounted on both walls and ceilings and are designed with flexible adjustment to cover the specific needs of each secured area.

1. INSTALLATION
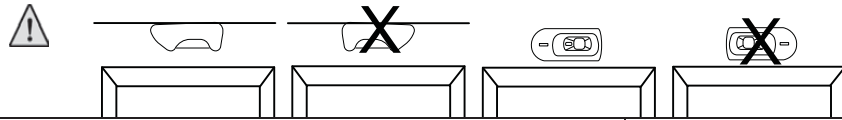
IMPORTANT:
The iREX should always be installed with the rounded side of the detector pointing to your left side when you are facing the iREX.

iREX Components:
Cover | Detector (Tube) | Base Unit

Adjusting Buzzer Volume:

Buzzer Volume Adjustment

MIN   MAX

Masking:

To insert a masking wedge:

Masking Wedge

To remove a masking wedge:

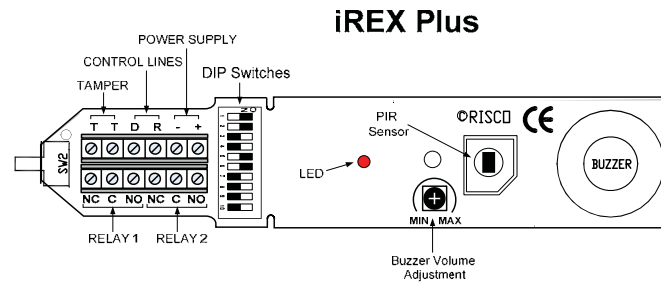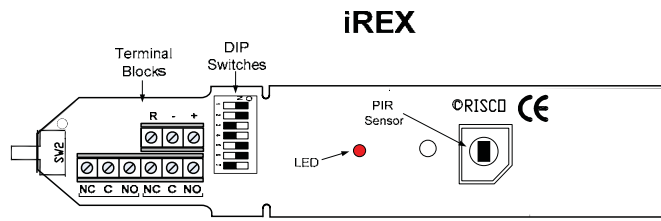Masking Coverage:

1 2 2 3 3 4
Y X X X X Y

2. MOUNTING AND DETECTION

Wall Mounting 2.3m Position 0	Ceiling Mounting 2.3m Position 0	Wall Mounting 4.6m Position 0	Ceiling Mounting 4.6m Position 0
Front View	**Front View**	**Front View**	**Front View**
2.4m 7.8ft	3.5m 11.5ft		
Top View	**Top View**		
Wall Door Wall	Wall Door Wall	4.7m 15.4ft	6.8m 22.3ft
X	Y X Y	**Top View**	**Top View**
Side View	**Side View**	Wall Door Wall	Wall Door Wall
Wall 2.3m (7.5ft) 2m (6.6ft) Door 1m (3.3ft) 0m (0ft) 0.6m (1.9ft)	Wall 0.6m (1.9ft) 2.3m (7.5ft) 2m (6.6ft) Door 1m (3.3ft) 0m (0ft) 1.2m 3.9ft	X	X
		Side View	**Side View**
		Wall 4.6m (15ft) 4m (13.2ft) 3m (9.9ft) 2m (6.6ft) 1m (3.3ft) 0m (0ft) 1.2m 3.9ft	Wall 1.2m 4.6m (15ft) 4m (13.2ft) 3m (9.9ft) 2m (6.6ft) 1m (3.3ft) 0m (0ft) 2.4m 7.9ft

Wall Mounting 2.3m Position A	Wall Mounting 2.3m Position B
Side View	**Side View**
Wall 2.3m (7.5ft) 2m (6.6ft) Door 1m (3.3ft) 0m (0ft) 1.3m 4.3ft	Wall 2.3m (7.5ft) 2m (6.6ft) Door 1m (3.3ft) 0m (0ft) 2.4m 7.9ft

NOTE:
Do not mount the detector in direct sunlight or near heated sources and metal objects.

RISCO GROUP
Creating Security Solutions. With Care.

3. WIRING

iREX

Terminal Blocks — DIP Switches — PIR Sensor — ©RISCO CE — LED — R — +

SW2 — NC C NO NC C NO

iREX Plus

POWER SUPPLY — CONTROL LINES — TAMPER — DIP Switches — PIR Sensor — ©RISCO CE — LED — BUZZER

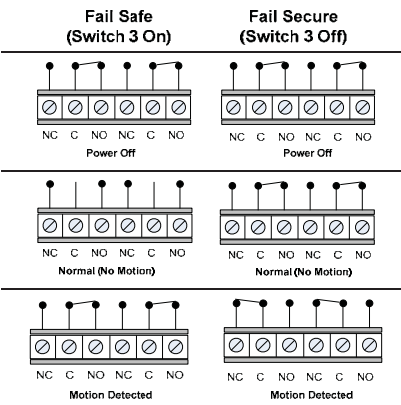SW2 — T T D R – + — NC C NO NC C NO — RELAY 1 — RELAY 2 — MIN MAX — Buzzer Volume Adjustment

Note: Conduct a Walk Test at least once a year. No other maintenance is needed for the product.

Terminal	Application
"+" "–" Power Connection	Connect to power supply between (+) and (–) terminal. (Voltage must be between 12-30 VAC or DC)

"NC,C,NO" Contact Output Wiring

Fail Safe (Switch 3 On) / Fail Secure (Switch 3 Off)

NC C NO NC C NO — Power Off
NC C NO NC C NO — Normal (No Motion)
NC C NO NC C NO — Motion Detected

Basic Connection: Magnetic Lock Only
During motion detection, power is removed from the magnetic lock. The relay behaves according to the Fail Safe/Fail Secure definition.

T T D R – + — 12 - 30 Volt DC or AC Power Supply — NC C NO NC C NO — Maglock
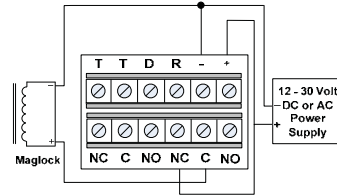
Spike Protection
Add a diode or bridge rectifier for locks that are not spike protected.

T T D R – + — 12 - 30 Volt DC or AC Power Supply — NC C NO NC C NO — Maglock — Diode Bridge Rectifier
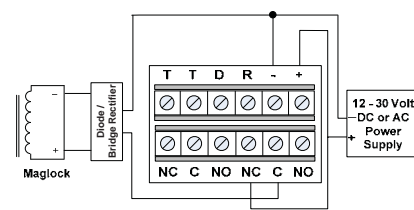
Wiring to an Access Control System

Input — Access Controller — T T D R – + — NC C NO NC C NO — 12 - 30 Volt DC or AC Power Supply
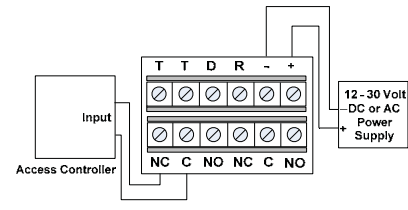
Note: It is recommended to set the Relay Timer Activation to 1/2 second. (4 5 6)

"R" Input Terminal Wiring

Parallel Door Control (iREX or iREX Plus)
Use to control the door both from the iREX or from an external device (card reader, keypad) usually placed on the other side of the door.
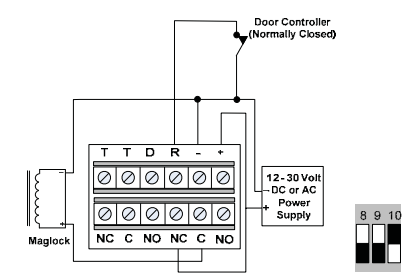
Door Controller (Normally Open) — T T D R – + — 12 - 30 Volt DC or AC Power Supply — NC C NO NC C NO — Maglock — 8 9 10

(Dip Switch settings on iREX Plus)
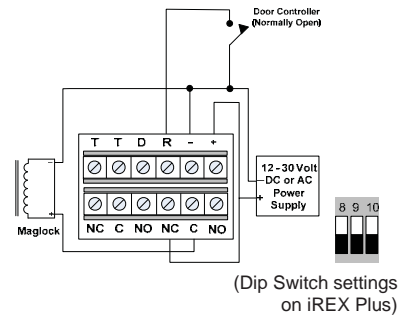
Remote iREX Disable (IQ feature) *
Use the Intelligent Queuing feature to remotely enable or disable the iREX from a remote device (such as a floor switch, additional PIR, Keycard, Burglar alarm system, etc.). The iREX will only activate by motion if the "R" terminal is open, or for 10 seconds after it closes. The iREX is disabled when the "R" input is closed after a delay of 10 seconds.
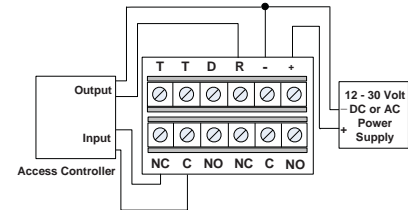
Normally Open — T T D R – + — 12 - 30 Volt DC or AC Power Supply — NC C NO NC C NO — Maglock — 8 9 10
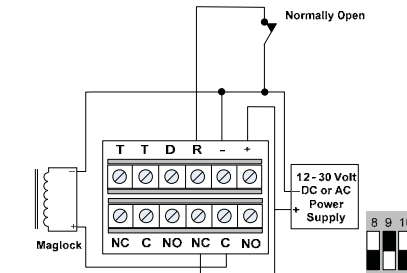
Remote Buzzer Control *
Use this wiring option to control the iREX buzzer from a remote contact. Buzzer is activated while R is open. Turning the buzzer on does not affect the relay.
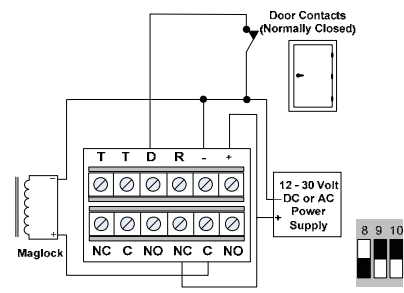
Door Controller (Normally Closed) — T T D R – + — 12 - 30 Volt DC or AC Power Supply — NC C NO NC C NO — Maglock — 8 9 10

Wiring the Remote Buzzer Control to an Access Control System*

Output — Input — Access Controller — T T D R – + — NC C NO NC C NO — 12 - 30 Volt DC or AC Power Supply — 8 9 10

"D" Input Terminal Wiring *

Door Alarm Mode *
If the door is forced open or left open for 10 seconds the buzzer turns on.

Door Contacts (Normally Closed) — T T D R – + — 12 - 30 Volt DC or AC Power Supply — NC C NO NC C NO — Maglock — 8 9 10

Door Secure Mode *
When the iREX is activated but the door remains closed, the relay will drop out after ten seconds. When the iREX is activated and the door is opened and then closed, the relay will drop out after 2 seconds.

Other Inputs — Door Contacts (Normally Closed) — T T D R – + — 12 - 30 Volt DC or AC Power Supply — NC C NO NC C NO — Maglock — 8 9 10
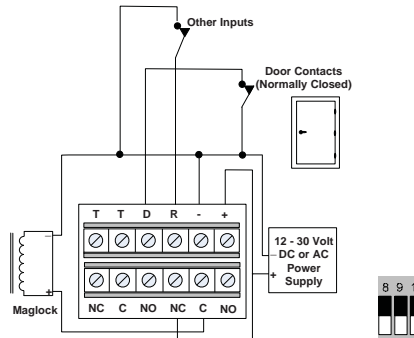
Notes: Relay Timer Mode must be set for at least 16 seconds
The Door Alarm Mode is not to be considered as a UL listed Burglar Alarm System.

"T" Tamper Switch Wiring *
The tamper terminals are connected to the tamper switch, which opens when the cover is opened.

T T D R – +

UL NOTE:
To comply with UL Standard 294, connect the tamper terminal to a 24 hour zone in your control panel.
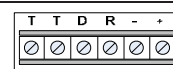
NOTE:
* Available on iREX Plus only

UL NOTE:
Only UL Listed and/or Recognized wire suitable for the application shall be used and the minimum permissible wire size is No. 22 AWG (0.32mm2).

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4. DIP SWITCH OPTIONS

Switch	Function	Description
1	LED Operation	**ON** (*default*) - LED is activated. The LED turns on when motion is detected. **OFF** - LED is disabled.
2	Timer Reset Mode	**ON** (*default*) - Relay timer resets when motion is detected during the Relay operation time. **OFF** - Relay timer does not reset when motion is detected during the Relay time.
3	Relay Mode	This switch defines the relay's operation when power is removed from the iREX. **OFF** (*default*) - *Fail Secure* mode. When power is removed from the iREX a locked door will remain locked and secured against opening. (This mode should be authorized by your local authority) **ON** - *Fail Safe* mode. When power is removed from the iREX a locked door will unlock and be safely opened. (See Contact Output Wiring)

| 4, 5, 6 | Relay Timer Activation |

Relay Timer (seconds)	Switch		
	4	5	6
1/2	OFF	OFF	OFF
1	OFF	OFF	ON
2	OFF	ON	OFF
4(*default*)	OFF	ON	ON
8	ON	OFF	OFF
16	ON	OFF	ON
32	ON	ON	OFF

Switch	Function	Description
7	Signal Processing	Determines the detector's PIR detection sensitivity to movement. **ON** - High PIR sensitivity **OFF** (*default*) - Low PIR sensitivity.

| 8, 9, 10 | Remote Input Functions (See Wiring options) |

Function	Switch		
	8	9	10
Parallel Door Control (default)	OFF	OFF	OFF
Remote Buzzer Control *	OFF	OFF	ON
Remote iREX Disable *	OFF	ON	OFF
Door Alarm Mode *	OFF	ON	ON
Door Secure Mode *	ON	ON	ON

NOTE:
* Available on iREX Plus only

TECHNICAL SPECIFICATIONS

Power

Voltage	12-30 Volts DC or AC
Current Consumption	8mA standby, iREX: 30mA max (Relay+LED), iREX Plus: 50mA max at 12/24 VDC (including Buzzer)
Relay Output Rating	1A @ 30 volts DC or AC, two form "C" contacts
Tamper Output Rating	50mA @ 30 volts DC or AC
Buzzer Output (iREX Plus)	85dB with adjustable volume
Output Level at 10ft	69dBA

Detection System

Mounting Height	2.3m - 4.6m (7.5ft – 15ft)
Detection range Width	From 0.6m (2ft) up to 2.4m (7.9ft)

Physical

Dimensions (LxHxD)	177mm x 50mm x 45mm
Weight	150g
Color	Black or White

Environmental

Radio Frequency Interference (RFI) Immunity	30 V/m from 10 MHz to 2 GHz
Operating Temperature	-20°C to 55°C (-4°F to 131°F)
Storage Temperature	-20°C to 60°C (-4°F to 140°F)
Humidity	Up to 75%

Note: For indoor use only.

ORDERING INFORMATION

Model	Description
iREX 700	iREX Request-to-Exit PIR White/Black
iREX 700P	iREX Plus Request-to-Exit PIR White/Black

For UL Standard 294 Compliance:
1. RFI is not verified by UL
2. IQ remote feature is UL listed when it is controlled by Access Control units and not burglar alarm units.
3. NFPA 101 requires the use of Fail Safe relay mode. Fail Secure relay mode should be used where accepted under Local Authority jurisdiction.
4. Setting of low sensitivity at the mounting height of 15ft and 8.5ft may affect the maximum range.
5. Wiring methods shall be in accordance with the National Electrical Code (ANSI/NFPA70), local codes, and the authorities having jurisdiction.
6. If a fail-secure lock is employed, UL Listed panic hardware must be used to allow exit from the protected area.
7. All interconnected devices must be UL Listed.
8. Unit must be installed indoors within the protected premises.
9. The unit must be powered by a UL294 Listed Access Control, Power Limited, power supply capable of 4 hour standby.