E-IMD-TAA2
Infrared Motion Detector- TAA Compliant

ENGLISH

1. INTRODUCTION

E-IMD-TAA2 is a digital PIR detector with a wide detection range made up of an up and down, left and right service field. It includes a patented combination of Fresnel and cylindrical optical system with high-detection sensitivity beginning at 0.5 meter away from the detector up to a distance of 12 meters (40 ft.). The detector has full true digital temperature compensation.

As a pet immune motion detector, the E-IMD-TAA2 employs technology that ensures immunity to pets weighing up to 2k kg (60 lb).

A patented algorithm allows the detector to distinguish between true motion of an intruder and other disturbances that cause false alarms. An on-board motion event selector enables to choose whether 1 or 2 consecutive motion events will trigger an alarm. A TST (Test) input permits detector switching to walk test mode remotely without opening the detector.

2. SPECIFICATIONS

Input Voltage: 9 to 16 VDC.
Current Drain: Max. 9 mA @ 12 VDC
OPTICAL (see Fig. 2)
Lens Data
   No. of curtains: 36, equivalent to 196 beams.
   Max. Coverage: 12 x 12 m (40 x 40 ft) / 90°
Pet Immunity : Animals up to 27 kg (60 lb)
ALARM and TAMPER
Alarm Output: Solid-state relay, N.C., up to 100 mA / 30 V, ~30 Ω internal resistance. Circuit opens for 2-3 seconds upon alarm.
Alarm Indication: LED lights for 2-3 seconds.
Event Counter: Selectable, 1 or 2 motion events.
Tamper Output: Normally closed, 50 mA resistive / 30 VDC.
MOUNTING
Surface or corner, at the height of 1.8 to 2.4 m (6 to 8 ft)
Note: Base allows single-sided corner mount at 45° to wall.
ACCESSORY (Included):
   Surface mounted swivel bracket, adjustable 30° down and 45° left/45° right.

ENVIRONMENTAL
Operating Temperature: –10°C to 50°C (14°F to 122°F)
Storage Temperature: –20°C to 60°C (–4°F to 140°F)
RFI Protection: Greater than 20 V/m (20 MHz to 1000 MHz)
Compliance with Standards: EN 50131-1 Grade 2, Class II
PHYSICAL
Size (H x W x D): 80 x 50 x 37 mm (3-1/8 x 1-15/16 x 1-7/16")
Weight: Approximately 77 g (2-3/4 oz)

PATENTS: U.S. Patents 5,693,943 ● 6,211,522 ● 6,818,881, 6,768,294 (other patents pending)

3. INSTALLATION

3.1 General Guidance (see fig. 3)

1. Keep away from heat sources.	5. Keep wiring away from power cables.
2. Do not expose to air drafts.	
3. Do not install outdoors.	6. Do not install behind partitions.
4. Avoid direct sunshine.	7. Mount on solid stable surface.

3.2 Installation Procedure

1. Mounting - see fig. 4.
2. Jumpers settings - see fig. 5.
3. Wiring – See fig. 6.
4. Walk-test - see fig. 2. Perform walk across the far end of coverage pattern in both directions. The LED should light for 2-3 seconds each time your motion is detected.
   Important! Instruct the user to perform walk test at least once a week to verify proper function of the detector.

4. SPECIAL COMMENTS
4.1 Product Limitations

Although this detector is a highly reliable device, it does not guarantee complete protection against intrusion. Even the most sophisticated detectors can sometimes be defeated or may fail to warn because:
A. The detector will not function if the DC power supplied to it is incorrect or improperly connected.
B. A PIR detector does not provide full volumetric coverage. It can only detect motion that disturbs the sensitive beams spread within the protected area.
C. Motion is not detected if it takes place behind closed doors, walls, glass partitions, windows and shutters.
D. The detection ability of the PIR detector may be reduced by malicious masking or by spraying various materials on the lens or by mechanical tampering with the optical system.
E. The PIR detector's performance depends on the temperature difference between the environment and the human body. If this difference is too small, the PIR performance may decrease.
F. Even the most reliable electrical devices, including this detector, may go wrong due to an unexpected failure of a component part.
The above list includes the most common reasons for failure to detect intrusion, but it is by no means comprehensive. It is therefore recommended that the detector and the entire alarm system be checked weekly, to ensure proper performance.
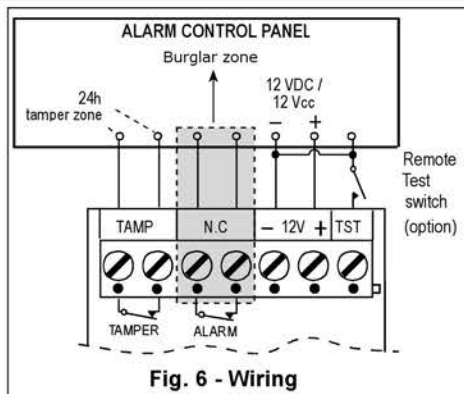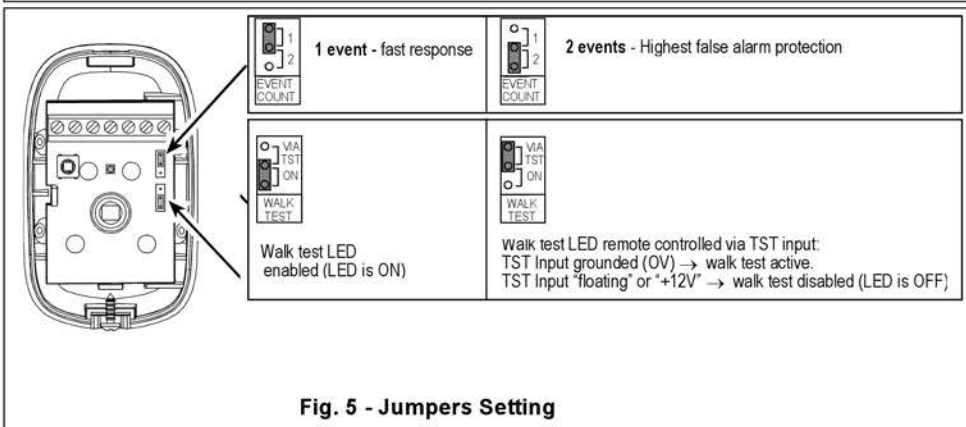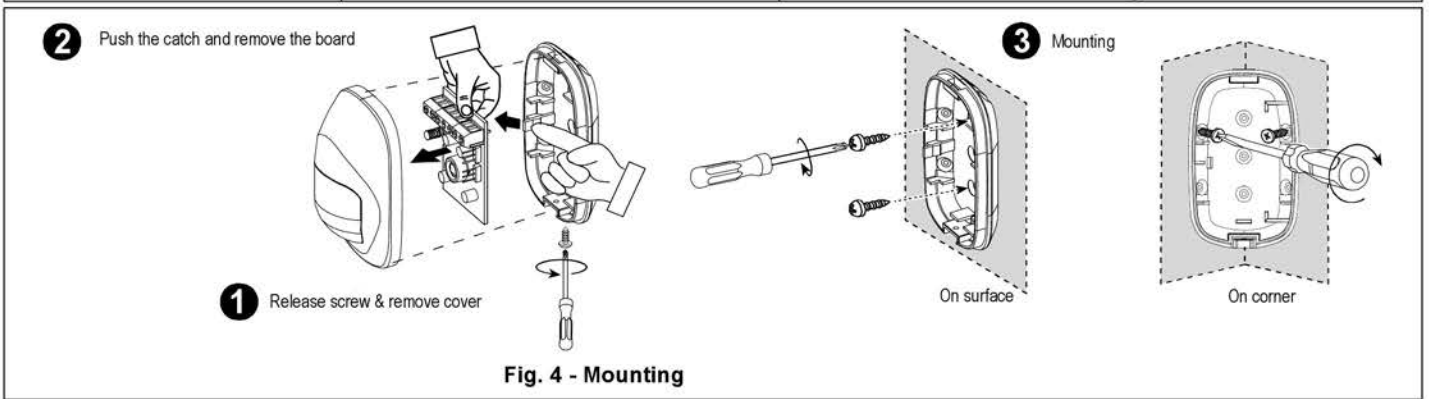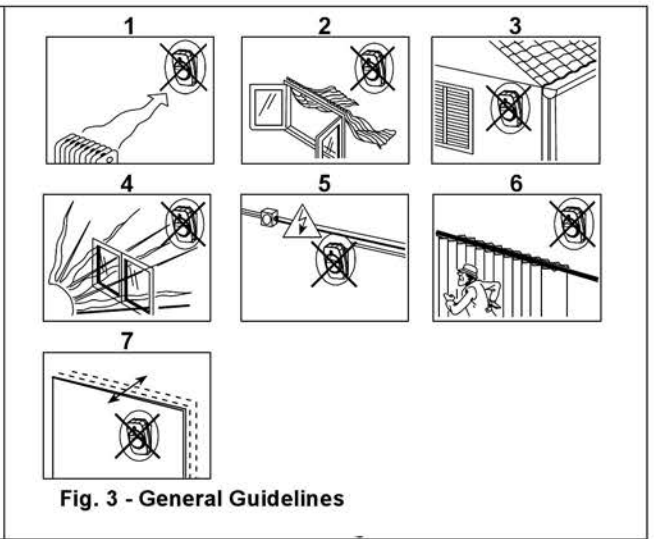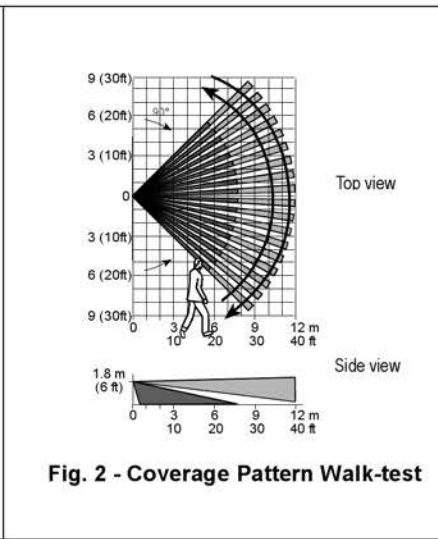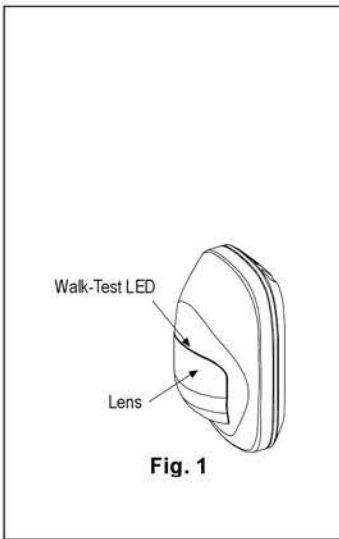An alarm system should not be regarded as a substitute for insurance. Home and property owners or renters should be prudent enough to continue insuring their lives and property, even though they are protected by an alarm system.

4.2 Compliance with FCC Standards

This device has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in residential installations. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio and television reception. However, there is no guarantee that interference will not occur in a particular installation. If this device does cause such interference, which can be verified by turning the device off and on, the user is encouraged to eliminate the interference by one or more of the following measures:
– Re-orient or re-locate the receiving antenna.
– Increase the distance between the device and the receiver.
– Connect the device to an outlet on a circuit different from the one which supplies power to the receiver.
– Consult the dealer or an experienced radio/TV technician.

> **WARNING!** *Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.*

Walk-Test LED

Lens

Fig. 1

9 (30ft)
6 (20ft)
3 (10ft)
0
3 (10ft)
6 (20ft)
9 (30ft)

90°

0   3   6   9   12 m
10 20 30 40 ft

Top view

1.8 m (6 ft)

0   3   6   9   12 m
10 20 30 40 ft

Side view

Fig. 2 - Coverage Pattern Walk-test

1   2   3
4   5   6
7

Fig. 3 - General Guidelines

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❷ Push the catch and remove the board

❸ Mounting

❶ Release screw & remove cover

On surface

On corner

Fig. 4 - Mounting

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1 event - fast response

EVENT COUNT
1
2

2 events - Highest false alarm protection

EVENT COUNT
1
2

VIA TST ON
WALK TEST

Walk test LED enabled (LED is ON)

VIA TST ON
WALK TEST

Walk test LED remote controlled via TST input:
TST Input grounded (0V) → walk test active.
TST Input "floating" or "+12V" → walk test disabled (LED is OFF)

Fig. 5 - Jumpers Setting

ALARM CONTROL PANEL

Burglar zone

24h tamper zone

12 VDC / 12 Vcc
−   +

TAMP   N.C   − 12V +   TST

TAMPER   ALARM

Remote Test switch (option)

Fig. 6 - Wiring

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1   5   3
6
2   7   4

Note: The rear plate has 7 recessed areas that can either be used for mounting the sensor or passing wires through.   Depending upon your installation, poke them out with a screwdriver or sharp tool and use as needed.

Swivel Mounting Bracket for E-IMD-TAA2 Infrared Motion Detector

1. INTRODUCTION

The **BR-1**, which is designed for surface mounting, is adjustable 30° down as well as 45° left and 45° right. It is attached to the wall with two long mounting screws and two plastic wall anchors.

2. SPECIFICATIONS

Adjustment: Vertical - 0° to 30° downward; horizontal - 45° right, 45° left

Size (H x W x D): 50 x 38 x 28 mm (2 x 1.5 x 1.1 in.).

Weight: 30 g (1 oz).

Color: White

3. INSTALLATION

1. Disassemble the bracket by releasing the locking screw (6).
2. Position the backplate (1) on the wall in the desired location. Using the backplate, mark the two screw holes to be drilled.
3. Drill the two holes where marked and securely fix the backplate to the wall with the furnished pan-head screws and anchors. Be careful to position the **ribs** (3) upward.
4. If required, center the backplate ball (11). With your fingers, insert the locking screw (6) into the backplate ball and shift the ball until the hole faces exactly forward. Remove the screw.
5. Open the PIR detector and remove the PC board by releasing its locking screw. Be careful not to touch the pyro detector.
6. Punch out the screw hole knockout (5) in the PIR's back (7).
7. Hold the PIR's back with the top side facing up. Insert the front plate mounting standoffs (8) into the holes in the PIR back.
8. Mount the pivot (4) onto the front plate, taking care to position the large curve (10) downward.
9. Insert the locking screw (6) into the hole in the PIR's back (7), through the front plate (9) and pivot (4), and into the backplate ball (11). Turn the screw down **but do not yet secure it tightly**.
10. Adjust the PIR backplate to the desired position (left, right or down) and tighten the locking screw **very strongly** with a screwdriver.
11. Reinstall the PC board and set the vertical adjustment scale to 0°. If required, further vertical adjustment can be done by sliding the PC board up or down.
12. Reassemble the PIR and walk test in accordance with the installation instructions (see figure 2).
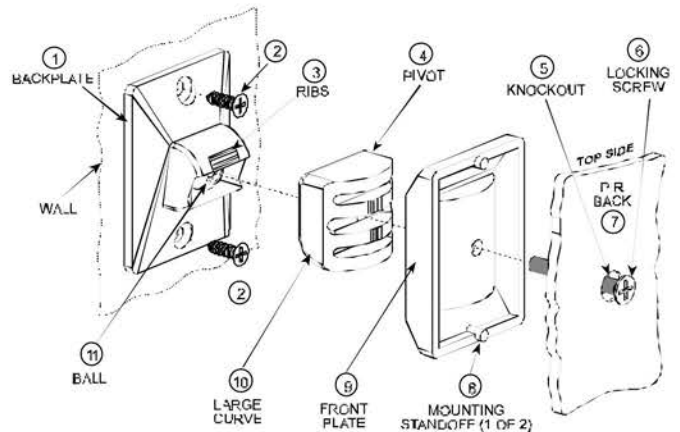

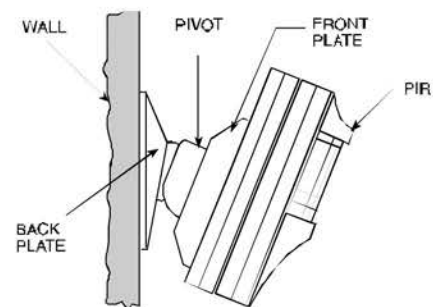**Figure 1.** Construction and Assembly

Figure 2. PIR and Adjustable Bracket Installed

Wiring and Configuration Instruction

This ENVIROMUX Sensor is intended for connection to an NTI E-MINI-LXO /-16D/-5D/-2D for use in detecting changes in the environment.   When properly connected, the sensors will provide signals to the ENVIROMUX that with proper configuration will result in alert messages being sent to the administrator of the ENVIROMUX. The sensor has screw terminals for easy user connections.

The sensors used with the E-16D/-5D and -2D can be powered by the ENVIROMUX and don't require an external power supply. Sensors models without the "–P" are used for these models (i.e. E-IMD).

Sensors used with the E-MINI-LXO/-MICRO-T(RHP) or E-1W require an external power supply. To include a 12VDC AC adapter order model with "-P" (i.e. E-IMD-TAA2-P).

Access Screw Terminals
See the image below for instruction to open the case to access the screw terminals.

Loosen screw (approx. 4-5 turns) to open case

E-IMD-TAA2

## Installation-with External Power Supply (E-MINI-LXO)
1. Connect two 16-26 awg wires (not supplied) from any set of dry contacts (see below) on the E-MINI-LXO (set 1-5).
2. Connect the other end of those two wires to the switch terminals "N.C" on the sensor.   (Apply one wire to each terminal, it doesn't matter which wire goes on which terminal.)

VIEW OF CONTACTS ON E-MINI-LXO
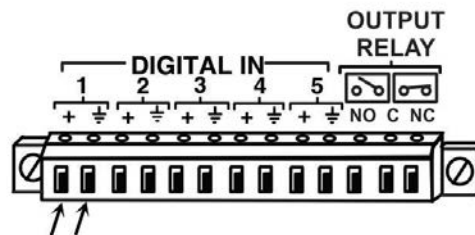
CONNECT THE SENSOR "N.C." TERMINALS TO ANY SET OF CONTACTS ON THE E-MINI-LXO (1-5)

3. Connect the AC adapter wire labeled "PLUS 12" to the "+12"   marked in the image below.
4. Connect the AC adapter wire labeled "NEG" to the terminal labeled "—" (negative) as shown in the image below.


E-IMD-TAA2(-P)
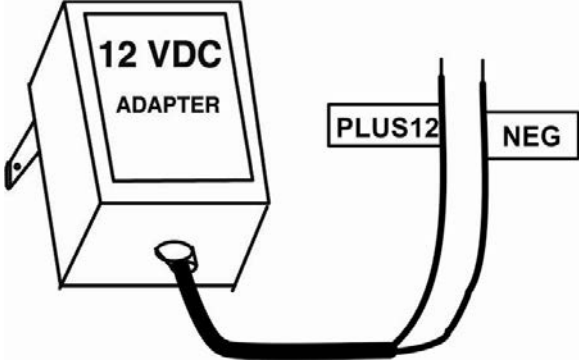
5. Be sure to tighten terminals to secure each conductor to the terminal block.
6. Mount the sensor as needed.

Installation- E-16D / -5D / -2D
Using RJ45 Sensor Socket

If an RJ45 Sensor socket is available, a contact sensor can be connected to it using a CAT5 cable. Connect the CAT5 cable as indicated in the image below. Connect the white/orange and orange (ALARM) wires to the contact terminals of the sensor.


Schematic for wiring Contact Sensor to RJ45 Socket
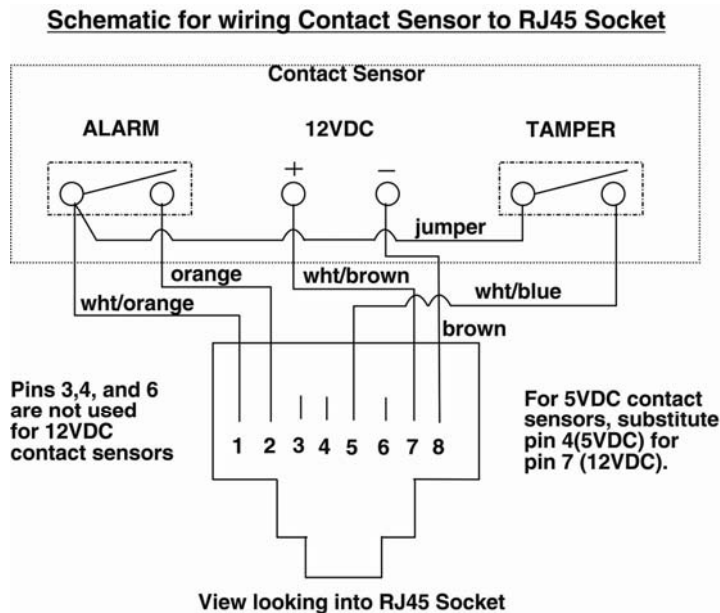
If the sensor does not have a tamper feature, or you do not wish to use it, simply omit the connection to pin 5.

APPLICATION NOTE: The wire gauge specified for connection is 16-26 awg.   This will support a connection up to 1000 feet between the sensor and the ENVIROMUX.

### Using DIGITAL IN Terminals

The ENVIROMUX-16D has 8 sets of terminals for connecting contact sensors. The ENVIROMUX-5D / 2D have 5 sets.
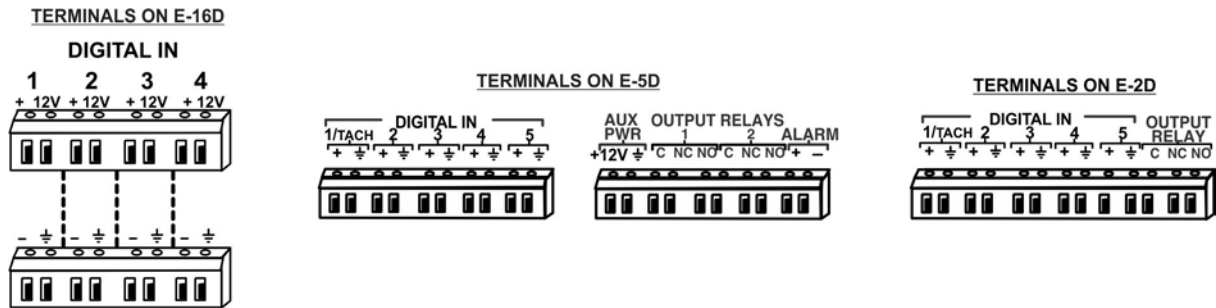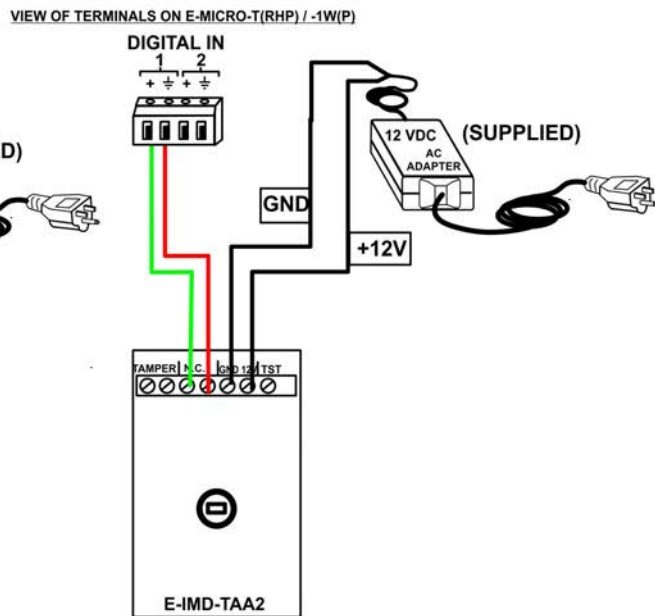

1.   Connect two 16-26 awg wires (not supplied) to the "**+**" and "**-**" ("**+**" and " ⏚ " on the E-5D / 2D) of any set of "Digital In" terminals (see next page) on the ENVIROMUX.

2.   Connect the other end of those two wires to the contact terminals "N.C" on the sensor.   (Apply one wire to each terminal, it doesn't matter which wire goes on which terminal.)
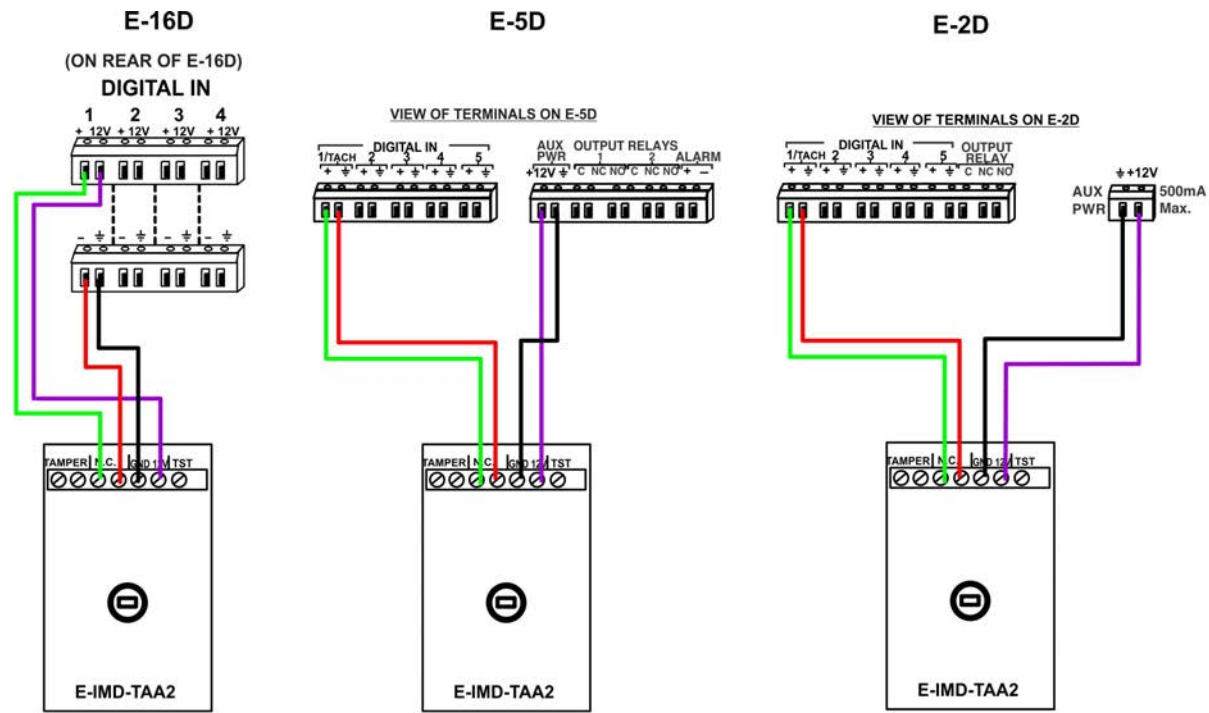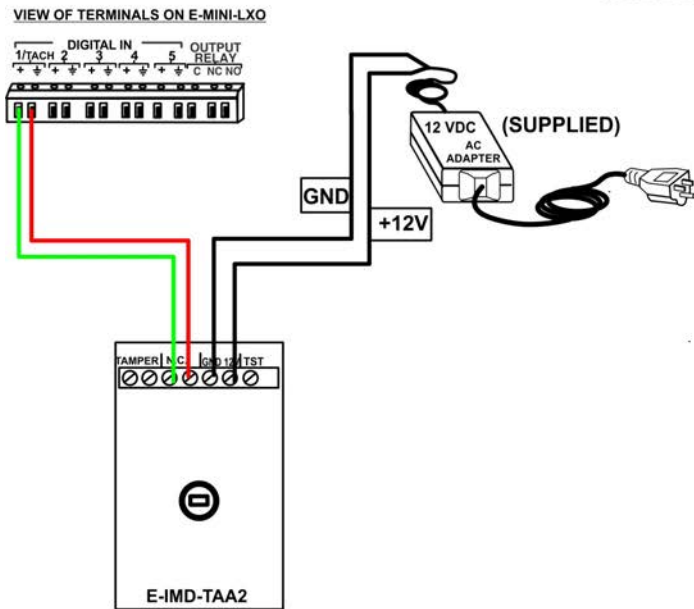
Note: Using 16-26AWG wire, the sensor can be mounted up to 1000 feet away from the ENVIROMUX.

3. Connect two more 18-22 awg wires (not supplied) between the "12V" and " ⏚ " (ground) terminals and the "+12" and "NEG" terminals on the sensor.

Note: If the "AUX PWR" terminals on the E-2D / -5D are already powering another sensor, then an external power supply may be required to power the new sensor, with power connections made as shown for the E-MINI-LXO above. . If the combined power consumption of the two (or more) sensors exceeds 500mA, then an external power supply will be required.

4. Be sure to tighten terminals to secure each conductor to the terminal block.
5. Mount the sensor as needed according to the type of sensor being connected.

Operation

1. If the sensor includes an AC adapter, connect the AC adapter to a 120VAC power source.   If the sensor is powered by an ENVIROMUX, the sensor will be powered any time the ENVIROMUX is ON.   The sensor has an LED that will illuminate to indicate the sensor is in alert.

2. Configure the ENVIROMUX to report signals from the connected dry contact sensor as alert detection occurs.   (Refer to ENVIROMUX manual for details on configuration- see also examples on next page.)   When an alert condition is detected, the switch terminals on the sensor will open to generate an alert message from the ENVIROMUX.

Digital Input Configuration

Digital Input Settings

Description	Test Switch 1
	Descriptive name for the digital input
Normal Status	Open ▼
	Select the normal status for the digital input
Refresh Rate	1 Sec ▼
	The refresh rate at which the digital input view is updated

> The "Normal Status" for the E-IMD-TAA2 should be set to "Closed".

⊞ Group Settings
⊞ Schedule Settings
⊟ Alert Settings

Disable Alerts	☐
	Disable alert notifications for this digital input
Alert Delay	5 Sec ▼
	Duration the digital input must be out of normal status before alert is generated
Notify Again Time	6 Hr ▼
	Time after which alert notifications will be sent again
Notify on return to normal	☑
	Send a notification when this digital input returns to normal status
Auto acknowledge	☑
	Automatically acknowledge alert when digital input returns to normal status
Enable Syslog Alerts	☑
	Send alerts for this digital input via syslog
Enable SNMP Traps	☐
	Send alerts for this digital input via SNMP traps
Enable E-mail Alerts	☐
	Send alerts for this digital input via e-mail
E-mail Subject	Test Switch 1
	Subject of e-mails sent for alerts
Select IP Camera	None Available ▼
	Select IP camera for image capture on alert
Attach IP camera capture to e-mail	☐
	Attach captured image from selected IP camera to alert e-mail
Save image to USB	☐
	Save captured image from selected IP camera to USB Flash
Enable SMS Alerts	☑
	Send alerts for this digital input via SMS
Enable Siren/Beacon alarm	☐
	Turn on the siren/beacon alarm when digital input goes to alert
Associated Output Relay	None ▼
	Name of the output relay that can be controlled by this digital input
Output Relay status on alert	Inactive ▼
	Status of the output relay when going to alert
Output Relay status on return from alert	Inactive ▼
	Status of the output relay when returning from alert

⊞ Data Logging

[Save]

Alert Simulation

[Simulate Alert] [Clear Alert]

Example of sensor configuration in E-2D, 5D, 16D or E-MINI-LXO using DIGITAL IN terminals

Motion Detector 16 Configuration (Type: Motion Detector)

Sensor Settings

Description	Motion Detector 16
	Descriptive name for the sensor
Normal Status	Closed ▼
	Select the normal status for the sensor
Enable Tamper Alert	☑
	Enable tamper alert notifications for this sensor
Tamper Normal Status	Closed ▼
	Select the tamper contact normal status
Refresh Rate	1 Sec ▼
	The refresh rate at which the sensor view is updated

⊞ Group Settings

⊞ Schedule Settings

⊞ Critical Alert Settings

⊞ Data Logging

Save

Alert Simulation

Simulate Alert   Clear Alert

Example of sensor configuration in E-16D/ -5D/ -2D using RJ45

Warranty Information

The warranty period on this product (parts and labor) is two (2) years from the date of purchase. Please contact Network Technologies Inc at **(800) 742-8324** (800-RGB-TECH) or **(330) 562-7070** or visit our website at http://www.networktechinc.com for information regarding repairs and/or returns. A return authorization number is required for all repairs/returns.

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