

# Medium Enterprise Environment Monitoring System

## ENVIROMUX®

## SNMP and Web Monitoring/Management of Critical IT and A/V Operations

### Environment Monitoring

- Temperature
- Humidity
- Water/Chemical Leaks
- Weather
- Power
- Motion / Intrusion / Vibration
- Smoke / Gas
- Live Video & More

### Alert Notifications

- Email
- SNMP
- Siren or Alarm Beacon
- Webpage
- Voice Phone Calls
- SMS Messages
- Front Panel LEDs

### Key Features

- Supports NTI's advanced sensors which can be extended up to 1,000 feet using Cat5/5e/6 cable.
  - Sensors are hot pluggable.
- Monitor (ping) up to 64 IP network devices – alerts are sent if devices are not responding.
- Sensor conditions (events) can be configured to trigger alerts by themselves, and/or be used in combination with other events to trigger Smart Alerts.
- Integrates with various Open Source monitoring packages – Nagios and MRTG.
- Optional internal battery backup – alerts are sent when there is a power outage and when power returns.
- USB ports for connecting USB modem or for downloading log data to USB flash drive.
- Supports IP network video cameras for live view of any facility.
  - Any programmed event can trigger a snapshot from an IP camera.
- Available with dual redundant power for connection to two separate power sources. (The second power supply is sold separately.)
- Optional intuitive graphical software provides an easy-to-use, unified interface for both monitoring and configuring up to 3,000 ENVIROMUX units and all connected sensors.
- Linux inside.

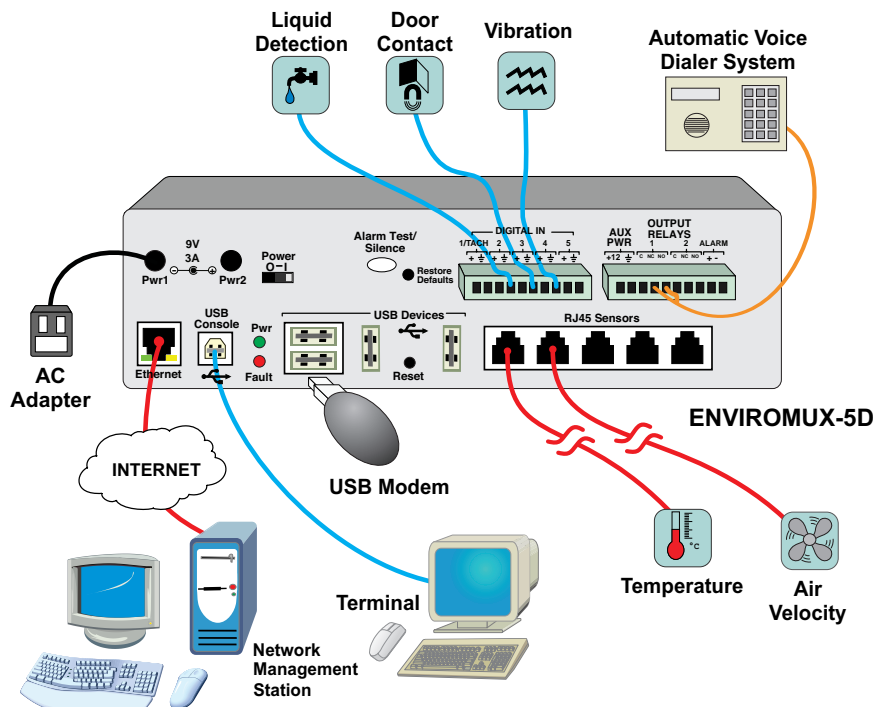


ENVIROMUX-5D (Front & Back)

- 5 external configurable sensors, 5 digital inputs, 2 output relays
- Configure Smart Alerts for different event combinations
- Linux inside
- User-programmable IP camera snapshots
- Multi-language support – English, German, Indonesian, and Japanese

The ENVIROMUX® Medium Enterprise Environment Monitoring System monitors critical environmental conditions, such as temperature, humidity, liquid water presence, power, intrusion, and smoke. When a sensor goes out of range of a configurable threshold, the system will notify you via email, LEDs, alarm beacon, siren, web page, network management (SNMP), voice phone calls (via Automatic Voice Dialer System), and SMS messages (via USB 3G modem).

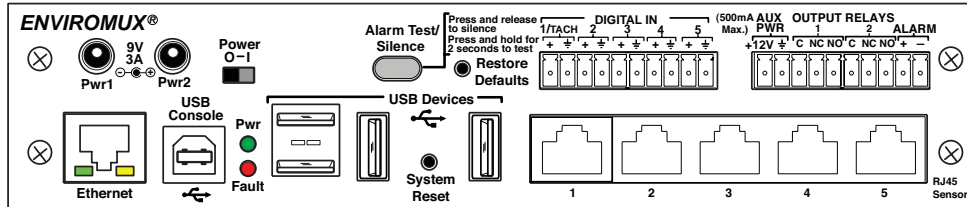
The system includes two internal sensors: temperature and humidity. It also supports five external configurable sensors, five digital input sensors, and two output relays for control of external devices.



# Medium Enterprise Environment Monitoring System

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### SNMP and Web Monitoring/Management of Critical IT and A/V Operations



ENVIROMUX-5D	
Internal Sensors	2
Temperature	ENVIROMUX-5D: 32 to 140°F (0 to 60°C) ENVIROMUX-5DB: 32 to 104°F (0 to 40°C)
Humidity	Applications from 20% to 80% relative humidity at temperatures between 32 to 140°F (0 to 60°C) for ENVIROMUX-5D and between 32 to 104°F (0 to 40°C) for ENVIROMUX-5DB.
RJ45 Sensor Ports	5
Digital Inputs – Screw Terminal Pairs	5
Output Relays – Screw Terminal Pairs	2 (Normally open / normally closed connection points)
Alarm Port – Screw Terminal Pair	1
USB Console Port	One female USB Type B connector for terminal access
AUX Port – Screw Terminal Pair	1 (12V)
Ethernet Port	One 10/100 Base-T Ethernet port with RJ45 Ethernet connector
USB Port	4 female USB Type A connectors for connecting USB modem or for downloading log data to USB flash drive
Alerts	7 methods
Email	Authenticates
Web Interface	✓
SNMP network management	V1/V2c/V3
Front Panel LEDs	LEDs for sensors and power
SMS Messages	Via external USB 3G modem (not included)
Voice Phone Calls	Via automatic voice dialer system (not included)
External Alarm	Via alarm beacon or siren (not included)
Smart Alerts	Up to 50 sensor conditions (events) can be configured to trigger alerts by themselves Up to 20 Smart Alerts can be configured to use different event combinations to send alert messages
Alarm Silence / Test Button	✓
Control Methods	5 methods
Web Interface	HTTP/HTTPS
Telnet	✓
SSH	✓
Network Operation (SNMP)	V1/V2c/V3
RS232	✓ (via female USB Type B connector)
Expandable	Up to 3,000 units via optional management software
Monitor (Ping) IP Devices	Up to 64 devices
Protocols	HTTP/HTTPS, SNMP V1/V2c/V3, SMTP, TCP/IP, Syslog, SNTP, DHCP, SSHv2, SSLv3, LDAPv3, AES 256-bit, 3DES, Blowfish, RSA, EDH-RSA, Arcfour, IPV6, WAP 2.0
Flash Upgradeable	✓
Restore Defaults Button	✓
System Reset Button	✓
Operating Temperature	ENVIROMUX-5D: 32 to 140°F (0 to 60°C) ENVIROMUX-5DB: 32 to 104°F (0 to 40°C)
Power	Dual AC power. 110 or 220 VAC at 50 or 60 Hz via AC adapter. Use the PWR-48V-12V1-6A DC-DC power converter to install the ENVIROMUX-5D in a 48V or 24V Telecom environment.
Dimensions WxDxH (in)	7.88x3x1.75
Mounting	Zero-RU Optional DIN mounting Optional 1RU rackmount kit
Regulatory Approvals	CE, RoHS

## Environmental Sensors

### Temperature & Humidity Sensors

#### Temperature, Humidity & Combination Sensor



**ENVIROMUX-STHS**  
**ENVIROMUX-SHS**  
**ENVIROMUX-STHS**  
**ENVIROMUX-STHS-99**

- Temperature Sensor (ENVIROMUX-STHS)
  - Applications from 32° to 122°F (0° to 50°C).
  - Accurate to within  $\pm 0.9^\circ\text{F}$  ( $\pm 0.5^\circ\text{C}$ ).
- Humidity Sensor (ENVIROMUX-SHS)
  - 20% to 80% relative humidity,  $\pm 5\%$ 
    - ◆ For applications from 32° to 104°F (0° to 40°C)
- Temperature/Humidity Sensor (ENVIROMUX-STHS)
  - Applications from 32° to 122°F (0° to 50°C) and 20% to 80% relative humidity.
  - Accurate to within  $\pm 0.9^\circ\text{F}$  ( $\pm 0.5^\circ\text{C}$ ) and  $\pm 5\%$  relative humidity.
- Temperature/Wide Range Humidity Sensor (ENVIROMUX-STHS-99)
  - Applications from 32° to 176°F (0° to 80°C)
  - Accurate to within  $\pm 2^\circ\text{F}$  ( $\pm 1^\circ\text{C}$ )
    - ◆ 20% to 80% relative humidity,  $\pm 3\%$
    - ◆ 10% to 90% relative humidity,  $\pm 4\%$
    - ◆ 0% to 99% relative humidity,  $\pm 5\%$

#### Wall and Duct Mount Temperature/Humidity Sensors



**ENVIROMUX-STHS-WLM**  
**ENVIROMUX-STHS-DCT**

- Wall Mount ENVIROMUX-STHS-WLM: Applications from 23 to 131°F (-5 to 55°C)
- Duct Mount ENVIROMUX-STHS-DCT: Applications from 14 to 140°F (-10 to 60°C)
- Temperature accurate to within  $\pm 0.54^\circ\text{F}$  ( $\pm 0.3^\circ\text{C}$ )
- Relative Humidity accurate to better than  $\pm 3\%$  from 10 to 90% relative humidity at 68°F (20°C).
- Requires the ENVIROMUX-S420MA-24V to operate.

### RTD Temperature Transmitters & Sensors

#### 100 Ohm Platinum RTD Transmitter



**ENVIROMUX-RTDT-140**  
**ENVIROMUX-RTDT-240**

- Available temperature ranges:
  - ENVIROMUX-RTDT-140: -20 to 140°F (-28 to 60°C).
  - ENVIROMUX-RTDT-240: 30 to 240°F (-1 to 115°C).
- Accurate to within  $\pm 0.8^\circ\text{F}$  ( $\pm 0.45^\circ\text{C}$ ).
- Configuration: 2-wire connection
- Sensor Element: 100Ω platinum
- Signal Output: 4-20 mA, loop-powered
- Requires the ENVIROMUX-S420MA and an RTD sensor probe to operate with the ENVIROMUX-2D/5D/16D.

#### Precision Humidity & Temperature/Humidity Sensor



**ENVIROMUX-SHS-PLT**  
**ENVIROMUX-STHS-PLT-x**

- NIST traceable calibration accurate to within  $\pm 1\%$  from 10 to 80% relative humidity at 77 to 95°F (25 to 35°C).
- Available temperature ranges:
  - ENVIROMUX-STHS-PLT-120: 20 to 120°F (-6 to 48°C).
  - ENVIROMUX-STHS-PLT-140: -20 to 140°F (-28 to 60°C).
  - ENVIROMUX-STHS-PLT-180: 30 to 180°F (-1 to 82°C).
- Accuracy:
  - ENVIROMUX-STHS-PLT-120:  $\pm 1.5^\circ\text{F}$  ( $\pm 0.9^\circ\text{C}$ )
  - ENVIROMUX-STHS-PLT-140:  $\pm 2.4^\circ\text{F}$  ( $\pm 1.4^\circ\text{C}$ )
  - ENVIROMUX-STHS-PLT-180:  $\pm 2.3^\circ\text{F}$  ( $\pm 1.3^\circ\text{C}$ )
- Sensing element: 1000 W platinum; 2 lead resistance thermometer, .00385 TCR.
- Two-point field calibration.
- Output: 4-20 mA DC = 0 to 100% RH.
- Requires the ENVIROMUX-S420MA-24V to operate.

#### Pipe Temperature Sensor



**ENVIROMUX-STSP-xx**

- Mount to the outside of a thin walled steel, copper, or aluminum pipe (up to 1/4" wall).
- Copper contact transmits surface temperature to thermal sensor.
- Weatherproof enclosure designed to IP67 specifications.
- Applications from -40° to 185°F (-40° to 85°C).
- Accurate to within  $\pm 1.0^\circ\text{F}$  ( $\pm 0.5^\circ\text{C}$ ).
- Response time: <1 minute for temperature changes of  $\pm 2^\circ\text{F}$ .
- Available lengths for attached CAT5e cable: 1/10/50/100/200/400/600/800/1000 feet.

#### High-Accuracy Platinum RTD Transmitter, -328° to 1562°F



**ENVIROMUX-RTDT-1562**

- Temperature range: -328 to 1562°F (-200 to 850°C)
- Accurate to within  $\pm 0.2^\circ\text{F}$  ( $\pm 0.1^\circ\text{C}$ )
- Configuration: 2, 3, or 4-wire connection
- Signal Output: RS485
- Requires an RTD sensor probe to operate with the ENVIROMUX-2D/5D/16D.

#### Mini Probe 100 Ohm RTD Sensor, -67°F to 240°F



**ENVIROMUX-RTDS-MP240**

- 0.19" (4.8 mm) round x 0.50" (13 mm) long stainless steel housing.
- Applications from -67 to 240°F (-55 to 115°C).
- Accurate to within  $\pm 0.27^\circ\text{F}$  ( $\pm 0.15^\circ\text{C}$ ).
- 100 Ohm Pt 385 curve.
- Requires the ENVIROMUX-RTDT-140/240 and ENVIROMUX-S420MA-24V to operate with the ENVIROMUX-2D/5D/16D.

## Environmental Sensors

### RTD Temperature Transmitters & Sensors (Continued)

#### All-Purpose 100 Ohm RTD Sensor, -67°F to 240°F



ENVIROMUX-RTDS-A240

- Rugged, point-sensitive waterproof sensor with 9" (229 mm) 304 stainless steel probe and brass fitting.
  - Brass fitting with 1/2" NPT male thread.
- Applications from -67 to 240°F (-55 to 115°C).
- Accurate to within  $\pm 0.27^\circ\text{F}$  ( $\pm 0.15^\circ\text{C}$ ).
- 100 Ohm Pt 385 curve.
- Requires the ENVIROMUX-RTDT-140/240 and ENVIROMUX-S420MA-24V to operate with the ENVIROMUX-2D/5D/16D.

#### Encapsulated 100 Ohm RTD Sensor, 35°F to 140°F



ENVIROMUX-RTDS-E140

- 0.17" round, 0.50" long housing.
- Applications from 35°F to 140°F (2°C to 60°C).
- Accurate to within  $\pm 0.6^\circ\text{F}$  ( $\pm 0.33^\circ\text{C}$ ).
- 100 Ohm Pt 385 curve.
- 8 feet, 24 AWG 2-wire leads
- Requires the ENVIROMUX-RTDT-140/240 and ENVIROMUX-S420MA-24V to operate with the ENVIROMUX-2D/5D/16D.

#### Duct 100 Ohm RTD Sensor, -67°F to 240°F



ENVIROMUX-RTDS-D240

- Rugged, waterproof sensor with 9" (229 mm) 304 stainless steel probe with 4" (102 mm) electrical strap and a nylon fitting.
  - Nylon fitting with 1/2" NPT female thread.
- Applications from -67 to 240°F (-55 to 115°C).
- Accurate to within  $\pm 0.27^\circ\text{F}$  ( $\pm 0.15^\circ\text{C}$ ).
- 100 Ohm Pt 385 curve.
- Requires the ENVIROMUX-RTDT-140/240 and ENVIROMUX-S420MA-24V to operate with the ENVIROMUX-2D/5D/16D.

#### Rugged Encapsulated 100 Ohm RTD Sensor, -30°F to 230°F



ENVIROMUX-RTDS-ER230

- 0.18" round, 0.50" long housing.
- Applications from -30°F to 230°F (-34°C to 110°C).
- Accurate to within  $\pm 0.6^\circ\text{F}$  ( $\pm 0.33^\circ\text{C}$ ).
- 100 Ohm Pt 385 curve.
- 8 feet, 24 AWG 2-wire leads
- Requires the ENVIROMUX-RTDT-140/240 and ENVIROMUX-S420MA-24V to operate with the ENVIROMUX-2D/5D/16D.

### Liquid & Chemical Detection Sensors

#### Low-Cost Liquid Detection Sensor, Rope-Style



ENVIROMUX-LD-LCx-y

- Detects any conductive liquid or moisture.
- Available water sensor cable (x) lengths: 1/10/50/100/200/400/600 feet.
  - Material: PVC twisted pair with stainless 316 elements
  - Diameter: 0.14" (3.5 mm)
- Available 2-wire cable (y) lengths: 5/10/20/50/100 feet.

#### Chemical Detection Sensor



ENVIROMUX-CDx-y

- For detecting the presence of chemical liquid.
  - Reliably senses acids, bases, and other conductive liquids.
- Detects liquid depth  $> 0.1"$  (2.5 mm).
- Minimum puddle: 0.6" (15 mm) diameter.
- Available chemical sensor cable (x) lengths: 1/10/50/100 feet.
- Available 2-wire cable (y) lengths: 5/10/20/50/100 feet.

#### Liquid Detection Sensor, Plenum Rope-Style



ENVIROMUX-LDx-y

- Detects any conductive liquid or moisture.
- Puddle: 0.6" (15 mm) diameter.
- Detects liquid depth  $> 0.1"$  (2.5 mm).
- Available water sensor cable (x) lengths: 1/10/50/100/200/400/600/800/1000 feet.
  - Plenum rating: CL2P (UL)
  - Diameter: 0.25 in (6.35mm)
- Available 2-wire plenum cable (y) lengths: 5/10/20/50/100 feet.

#### Under Carpet Leak Detector



ENVIROMUX-UCLD-x

- Use to detect conductive fluids and moisture under carpets.
- Available 2-wire plenum cable lengths: 10/25/50/100/200/400/600/1000 feet.



## Environmental Sensors

### Liquid & Chemical Detection Sensors (Continued)

#### Tape-Style Liquid Detector



**ENVIROMUX-TLD-x**

- Uses a self-adhesive sensor tape with copper fiber electrodes and a durable netted cover for dependable detection of conductive liquids.
- Continuous tape integrity self-check.
- Floor or under-pipe mounting.
- Available tape sensor lengths: 10/25/50/100 feet.

#### Compact-Size Spot Liquid Detector, Point Leak Detection Sensor



**ENVIROMUX-SLDO-14**

- Use to detect fluids in confined areas.
- One generic relay output
- Adjustable detection level.
  - Probe height adjustable 0" to 0.75" (0 to 19mm)
- Cable length: 14 feet

#### Spot Liquid Detector, Point Leak Detection Sensor



**ENVIROMUX-LD-SPDT**

- Features gold-plated probes and microchip technology for dependable detection of conductive liquids.
- Adjustable detection level.
  - Probe height adjustable 0" to 1.5" (0 to 38mm)

#### Spot Liquid Detector with Built-In Visual & Audible Alarm



**ENVIROMUX-SLDO-A**

- Use to detect conductive fluids in confined areas
- Audible alarm signal – continuously on
- 8 red LEDs for visual alarm signal – continuously on
- Cable length: 4.8 feet

#### Ultrasonic Level Transmitter



**ENVIROMUX-ULT**

- Compact sensor with 2" (51 mm) dead band and beam width optimized for small tanks 49" (1,245 mm) or less.
- Provides two-wire 4-20 mA analog output.
- Includes Fob USB interface tool for configuring the transmitter.
- Requires the ENVIROMUX-S420MA-24V to operate with ENVIROMUX-2D/5D/16D.

### Smoke Detection Sensor

#### Smoke Detection Sensor – 120VAC Wire-In with Battery Backup



**ENVIROMUX-SDS-120V**

- Ionization smoke detector.
- Applications from 40°F to 100°F (4°C to 38°C).
- Front loading battery door.
- One button design for easy testing and HUSH mode activation control.
- Voltage supply: 120VAC.
- Audio alarm: 85dB at 10ft.
- Links with up to 24 devices.
- Use compatible relay (ENVIROMUX-RLY-SDS120V) for connection to the ENVIROMUX system.
- Contact ratings: 10A at 120VAC, 5A at 30VDC.

#### Smoke Detection Sensor – UL Approved



**ENVIROMUX-SDS**

- Photoelectric smoke detector.
- Smoke sensitivity: 0.98-2.4%/ft.
- Built-in 135° F (57° C) thermal heat sensor.
- Operating temperature: 14 to 122°F (-10 to 50°C).

#### Smoke Detection Sensor – CE Approved



**ENVIROMUX-SDS-CE**

- Photoelectric smoke detector.
- Smoke sensitivity: 0.08-0.14 dB/m.
- Applications from 32 to 122°F (0 to 50°C).
- Operating temperature: 14 to 122°F (-10 to 50°C).

#### Smoke Detection Sensor – UL Approved, TAA Compliant



**ENVIROMUX-SDS-TAA**

- Photoelectric smoke detector.
- Smoke sensitivity: 0.98-2.4%/ft.
- Built-in 135° F (57° C) thermal heat sensor.
- Voltage supply: 8-35VDC.

## Environmental Sensors

### Gas Detector/Sensors

#### Gas Detector – Methane, Butane, Propane


**ENVIROMUX-GD-MBP**

- Use to detect leaks of combustible gas (methane, propane, butane, acetylene, etc.)
- Continuous air monitoring.
- Audible alarm signal: 94 dB at 1 foot.
- Relay specifications: level selectable, normally open or normally closed, 250V AC, max 5A.

#### Carbon Dioxide Sensor, CO2


**ENVIROMUX-CO2**

- Measures CO2 in a range of 0 to 2,000 ppm.
- 0 to 5 VDC output.
- Continuous automatic air pressure compensation.

#### Carbon Monoxide Detector, CO


**ENVIROMUX-CMD**

- Continuous air monitoring.
- Pre-set alarm points alert at:
  - 70 ppm after 60 to 240 minutes
  - 150 ppm after 10 to 50 minutes
  - 400 ppm after 4 to 15 minutes

### Air Flow/Velocity Sensors

#### Air Flow Sensor


**ENVIROMUX-AFM**

- Reacts to any condition causing insufficient flow of air.
- Switch contact is closed when air flow is >8.2 ft/s.
- Connection: 2x single strand AWG26, length 18 in.

#### Air Velocity Sensor


**ENVIROMUX-AV  
w/Converter  
ENVIROMUX-S5VDC**

- Measures air velocity.
- Flow range: 0 to 10m (NaN ft)/s
- Accuracy:  $\pm 5\%$  of measuring value at 68°F (20°C).
- Requires the ENVIROMUX-S5VDC sensor converter to operate.

### Weather & Outdoor Sensors

#### Outdoor Temperature Sensor


**ENVIROMUX-STS-O**

- Applications from -40 to 185°F (-40 to 85°C).
- Accurate to within  $\pm 0.9^\circ\text{F}$  ( $\pm 0.5^\circ\text{C}$ ).
- Weatherproof enclosure.

#### Wind Direction Sensor


**ENVIROMUX-EWDS**

- Sensor range: full 360 degrees, zero deadband
- Accuracy:  $\pm 1.8$  degrees
- Resolution: 12 bit or 0.025 degrees
- Directional Vane approximately 8 inches (203 millimeters)
- 3 wire flying leads, 25-feet (7.6-meter)
- Requires the ENVIROMUX-S5VDC-5V to operate with ENVIROMUX-2D/5D/16D.

#### Wind Speed Sensor/Anemometer


**ENVIROMUX-WSS**

- Rugged anemometer
- 3-cup rotor pressed on a stainless steel shaft
- Reed switch and magnet providing one pulse per rotation
- Rotor diameter: 5 inches
- Speed range: ~ 3 mph to 125+ mph (~5 kph to over 200 kph)
- 100 feet of exterior grade wire

#### Barometric Pressure Transmitter


**ENVIROMUX-BPT**

- Use for determining atmospheric air pressure.
- Pressure range: 20.8 to 32 in Hg (10.2 to 15.7 psi)
- Accuracy:  $\pm 0.14$  Hg ( $\pm 0.07$  psi)
- Repeatability:  $\pm 0.03$  Hg ( $\pm 0.014$  psi)
- Pressure Hysteresis:  $\pm 0.02$  Hg ( $\pm 0.01$  psi)
- Long-Term Stability:  $\pm .014$  Hg/year ( $\pm 0.007$  psi/year)
- Requires the ENVIROMUX-S420MA-24V to operate with ENVIROMUX-2D/5D/16D.

## Alert & Communication Accessories

### Automatic Voice/Pager Dialer Systems

#### Automatic Voice/Pager Dialer Systems



**ENVIROMUX-AVDS**  
**ENVIROMUX-AVDS-LC**

- **ENVIROMUX-AVDS**
  - Calls up to 8 telephones, pagers, or cell phones when a sensor goes out of range of a configurable threshold.
  - Program up to 4 separate input channels.
  - Stores up to 4 outgoing voice messages. Create a message for 4 different types of alarms.
- **ENVIROMUX-AVDS-LC**
  - Calls up to 4 telephones, pagers, or cell phones when a sensor goes out of range of a configurable threshold.
  - Program one input channel.
  - Deliver a recorded voice message of up to 30 seconds or a numeric code for pager messaging.

### Internet Tablets

#### 7-inch Tablet with ENVIROMUX® Android App



**ENVIROMUX-TAB7**

- Use tablet network interface over WIFI to view real-time sensor values and alert statuses of sensors/digital inputs/IP devices/output relays/smart alerts outside of the server room.
- Grants full control of the unit through the web interface with admin/user log in.
- Display Size: 7".
- ENVIROMUX® Android App pre-installed
  - Sensor value and alert status pages feature large fonts for viewing from a distance.
  - Display individual or group sensor values at a configurable scan rate - updated in real time.

### IP Surveillance Cameras

#### IP Surveillance Camera



**ENVIROMUX-IPCAM**  
**ENVIROMUX-IPCAM-W**  
**ENVIROMUX-IPCAM-N**  
**ENVIROMUX-IPCAM-WN**

- View and control the camera from the ENVIROMUX web interface, camera web interface, included software, or with compatible cell phone.
- With the ENVIROMUX-2D/5D/16D, a triggered snapshot can be forwarded in alert e-mails.
- Video Streaming: simultaneous Motion JPEG and MPEG-4
- Frame rate: 30fps at 640x480 (VGA) resolution.
- Lens:
  - ENVIROMUX-IPCAM(-W): F2.0, 4.0 mm (0.16 in)
  - ENVIROMUX-IPCAM-N/WN: F2.0, 4.3 mm (0.17 in), 12 infrared LEDs for night vision
- Wireless models: wireless IEEE 802.11 b/g up to 54 Mbps

### Modems

#### USB 3G Modem



**ENVIROMUX-3GU**

- Sends SMS text messages to a pager or cell phone when a sensor goes out of range of a configurable threshold.
- SIM card supporting SMS messaging required (not included).
- 3G network band: HSPA+/HSUPA/HSDPA/HSPA/UMTS(WCDMA)-2100 MHz.
- 2G network band: GSM/GPRS/EDGE-850/900/1800/1900 MHz

#### Industrial USB GSM Modem



**ENVIROMUX-4GU-IND**

- Sends SMS text messages to a pager or cell phone when a sensor goes out of range of a configurable threshold.
- SIM card supporting SMS messaging required (not included).
- Ideal for harsh environments and high temperatures up to 176°F (80°C).
- Supports 2G/3G/4G digital cellular standards.
- USB 2.0 interface.
  - Optional RS232 interface.
- 4G LTE (long-term evolution).
- 3G network band:
  - UMTS/HSPA/HSUPA/HSPA/HSPA+ (WCDMA/FDD)-850/1900/2100 MHz.
- 2G network band:
  - GSM/GPRS/EDGE-850/900/1800/1900 MHz.

## Alert & Communication Accessories

### Sirens

#### Rugged Miniature Piezo Alarm, 103 dB



ENVIROMUX-BEEP1-x

- Output level: 95 to 103 dB at 2 feet.
- Input voltage: 5-15VDC.
- Panel mount.
- Water, humidity and vibration resistant.
- Available lengths for included 2-wire cable: 1/10/50/100/200/400/600/800/1000 feet.

#### Motor Siren, 150 dB



ENVIROMUX-SRN-MTR

- Output level: 150 dB
- High quality motor with a rotating speed of 10000 rev/s.
- Input voltage: 110VAC
- Dielectric strength: 500VAC, 50/60Hz in 1 minute
- Insulation resistance: 100MO at 500VDC

#### Adjustable Siren, 114 dB



ENVIROMUX-SRN-A

- 32 selectable signal tones by dip switch
- Output level: Max. 114 dB
- Volume Control: 0 to -20 dB adjustment
- Input Voltage: 24DVC
  - Includes 24V/1A power supply.

#### Piezo Siren, 108 dB



ENVIROMUX-SRN-M

- Output Level: 108 dB
- Input voltage: 6-12VDC

#### Fire Alarm Bell, 90 dB



ENVIROMUX-SRN-BLL

- Output level: 90 dB
- Input Voltage: 12VDC
- Unaffected by electromagnetic interference

### Alarm Beacons

#### Alarm Beacon – Small: 2.75x1.69 in (70x43 mm)



ENVIROMUX-BCN-R

- Emits flashing red light when activated
- Flash Rate: 90 per minute
- Input voltage: 6 to 12VDC

#### Alarm Beacon - Large: 3.94x3.46 in (100x88 mm)



ENVIROMUX-BCN-RL

- Emits flashing red light when activated
- Flash Rate: 75 per minute
- Input voltage: 6 to 12VDC



## Power Relays & Sensors

### AC & DC Voltage Detectors

#### AC Voltage Detector



**ENVIROMUX-ACVD-515**  
**ENVIROMUX-ACVD-C14**

- Measurement range: detects voltage from 50 to 250 VAC.
- Sensor type: open/closed contact switch.
- Attached 3-foot power cord.
  - ENVIROMUX-ACVD-515: standard US 120V 15A NEMA 5-15 plug
  - ENVIROMUX-ACVD-C14: universal 250V IEC C14 socket

#### DC Voltage Detector



**ENVIROMUX-S60VDC**

- Monitors up to two DC voltages: -60VDC ~ 0VDC or 0VDC ~ 60VDC
- Connector: screw terminal, 5-position

### AC Monitors

#### AC Power Monitor with Relay



**ENVIROMUX-ACLM-P12**  
**ENVIROMUX-ACLM-P8**

- Reports AC voltage, frequency, power, and current.
  - Monitors power from one AC inlet to one AC outlet, between 50~250VAC and 47~63Hz.
  - Monitors the number of swells, sags, and spikes.
- Includes relay with configurable disconnect settings: threshold reboot or manual reboot.
- Outlet Max load rating (continuous):
  - ENVIROMUX-ACLM-P12 (US/Canada): 12A rated load, 15A maximum.
  - ENVIROMUX-ACLM-P8 (Euro/UK): 8A rated load, 10A maximum.
- Capable of measuring current surges from 300mA to 20A.
- Capable of detecting user selected spike events.

#### AC Dual Voltage Detector



**ENVIROMUX-ACLM-V**

- Reports AC voltage and frequency.
  - Monitors AC voltage and frequency on two AC inlets between 50~250VAC and 47~63Hz.
  - Monitors the number of swells, sags, and spikes.
- Capable of detecting user selected spike events.

### 3-Phase Transducers

#### 3-Phase kW Power Transducer, Balanced or Unbalanced



**ENVIROMUX-PT1M-208-0800**  
**ENVIROMUX-PT3M-208-0800**  
**ENVIROMUX-PT3L-208-1600**  
**ENVIROMUX-PT3S-480-0100**  
**ENVIROMUX-PT3L-208-0300**

- Monitors and reports kW real power of any 3 phase circuit.
- Automatically detects phase reversal.
- Input primary voltage: 208 to 240 or 480 VAC RMS
- Number of phases monitored: one or three
  - Balanced Loads: one CT model (assumes single reading represents all phase currents)
  - Unbalanced Loads: three CT model – one black, red, and yellow. Frequency: 50/60Hz
- Maximum primary current: Up to 2400 amps continuous per phase
- Output: 4-20 mA
- Supply power (current loop): 9-30VDC; 30 mA max.
- Requires the ENVIROMUX-S420MA-24V to operate.

#### 3-Phase AC Voltage Transducer



**ENVIROMUX-PT3-600**

- Monitors and reports voltage of any 3 phase circuit.
- Remotely detect blown fuses or tripped circuit breakers.
- Three 600 VAC inputs, three 4-20 mA outputs.
- Inputs and outputs isolated from one another.
- Frequency: 50/60Hz
- Maximum primary current: 600 volts
- “Zero” adjustment for accurate 0 VAC reading, and “Calibration” adjustment for frequency and voltage level.
- Powered by the ENVIROMUX-S420MA-24V.

## Wireless Sensors & Accessories

### Wireless Receivers and Transmitters

#### Wireless Receiver – 1 Zone, 10 Wireless Devices



**ENVIROMUX-WLR**

- Use to connect wireless sensors to the ENVIROMUX-2D/5D/16D
- Supports 10 wireless devices
- Frequency (MHz): 315, 433.92, 868.95 or other UHF channel per local requirements in country of use.

#### Wireless Transmitter



**ENVIROMUX-WLT**

- Use to connect up to two wired, dry contact sensors to ENVIROMUX-2D/5D/16D or ENVIROMUX-SEMS-16U wirelessly.
- User-selectable operation of each input as NC (normally closed loop), or EOL (end-of-line loop with NC or NO sensors)
- Frequency (MHz): 315, 433.92, 868.95 or other UHF channel per local requirements in country of use.

#### Wireless Receiver – 4 Zone, 16 Wireless Devices



**ENVIROMUX-WLR4**

- Use to connect wireless sensors to the ENVIROMUX-5D/16D
- Supports 4 zones and 16 wireless devices
- Frequency (MHz): 315, 433.92, 868.95 or other UHF channel per local requirements in country of use.

### Wireless Environmental Sensors

#### Wireless Liquid Detection Sensor



**ENVIROMUX-WL-LDS**

- For warning of flooding
- Frequency (MHz): 315, 433.92, 868.95, 869.2625 or other UHF channel per local requirements in country of use

#### Wireless Smoke Detector



**ENVIROMUX-WL-SDS**

- For warning of smoke.
- Smoke sensitivity: 0.61 to 1.27%/ft.
- Alarm sound level: 85db at 10 feet (3m).
- Frequency (MHz): 315, 433.92, 868.95, 869.2125 or other UHF channel per local requirements in country of use

#### Wireless Carbon Monoxide Detector



**ENVIROMUX-WL-CMD**

- Gives early warning of carbon monoxide (CO) poisoning danger
- Alarm sound level: 85db at 10 feet (3m).
- Frequency (MHz): 315, 433.92, 868.95, 869.2125 or other UHF channel per local requirements in country of use

### Wireless Door Contact & Glass Break Detection Sensors

#### Wireless Door Contact Sensor



**ENVIROMUX-WL-DCS**

- Built-in magnet works in conjunction with a magnetic contact to detect when a door/window is being opened/closed
- Frequency (MHz): 315, 433.92, 868.95, 869.2125 or other UHF channel per local requirements in country of use

#### Wireless Glass Break Detection Sensor



**ENVIROMUX-WL-DCS**

- Acoustically detects the cracking of glass (plate, tampered, laminated, wired)
- Omni-directional 360° coverage
- Maximum detection range: 20 feet (6 meters)
- Frequency (MHz): 315, 433.92, 868.95, 869 or other UHF channel per local requirements in country of use

## Wireless Sensors & Accessories

### Wireless Motion Detector Sensors

#### Wireless PIR Motion Detector, Mirror



**ENVIROMUX-WL-IMDM**

- Registers movement in the area covered.
- Mirror optics offer exceptionally high detection sensitivity and high immunity to white light and false alarms
- Coverage area: 60 ft x 82 ft - 90°
- Frequency (MHz): 315, 433.92, 868.95 or other UHF channel per local requirements in country of use

#### Wireless PIR Motion Detector, Curtain



**ENVIROMUX-WL-IMDC**

- Registers movement in the area covered.
- Creates a protective curtain enabling complete coverage for properties with large or subdivided windows, doors and all-glass walls.
- Frequency (MHz): 315, 433.92, 868.95 or other UHF channel per local requirements in country of use

#### Wireless PIR Motion Detector, Pet-Immune



**ENVIROMUX-WL-IMDPI**

- Registers movement in the area covered.
- Pet tolerant – ignores animals weighing up to 85 lbs.
- Coverage area: 50 ft x 50 ft – 90° multiple-curtain coverage with creep zone
- Frequency (MHz): 315, 433.92, 868.95 or other UHF channel per local requirements in country of use

# Sensors & Accessories Compatible with ENVIROMUX-2D/5D/16D

ENVIROMUX®

## Sensor Accessories

### Digital Input/Output Expanders

#### Digital I/O Expander (Open-Collector Outputs)



**ENVIROMUX-DI16DO16**

- Adds 16 digital inputs and 16 digital open-collector outputs to the ENVIROMUX-2D/5D/16D
- Digital inputs:
  - 16 screw terminal pairs for connecting dry contact devices
  - Voltage range: 0 to +36VDC
- Digital outputs:
  - 16 screw terminal pairs for open-collector outputs
  - Rated sink current: 500 mA per output
  - +5VDC, 22kΩ pull-ups
  - Voltage range: 0 to +24VDC

#### Digital I/O Expander (Normally-Open Relay Contact Outputs)



**ENVIROMUX-DI16DOR16**

- Adds 16 digital inputs and 16 digital normally-open relay contact outputs to the ENVIROMUX-2D/5D/16D
- Digital inputs:
  - 16 screw terminal pairs for connecting dry contact devices
  - Voltage range: 0 to +36VDC
- Digital outputs:
  - 16 screw terminal pairs for normally-open relay contact outputs
  - Potential free
  - Rated switching load: 0.5A @ 125 VAC, 1.0A @ ±30VDC

### 4-20mA & 5VDC Sensor Converters

#### 4-20mA Sensor Converter



**ENVIROMUX-S420MA-24V**

- External RJ45 device monitors up to two 4-20 mA analog sensors
- Supports ISA Type 2, ISA Type 3, and ISA Type 4 sensors
- Provides 24VDC, 25mA for each sensor

#### 5VDC Sensor Converter



**ENVIROMUX-S5VDC**

- External RJ45 device monitors up to two linear DC sensors, 0VDC ~ 5VDC
- Output for each sensor:
  - ENVIROMUX-S5VDC: 12VDC, 25mA
  - ENVIROMUX-S5VDC-5V: 5VDC, 15mA

### Sensor Cables

#### Sensor Cables



**ENVIROMUX-2W-x**

- 22 AWG 2-wire sensor cable.
- Use to connect dry contact sensors to the ENVIROMUX-2D/5D/16D.
- Available lengths (ft): 3/6/10/25/50/100/300/500

### Self-Adhesive Clips

#### Self-Adhesive Clips for Liquid/Chemical Sensor Rope



**ENVIROMUX-CLP10-LD**

- Use to prevent sensor rope cable from shifting after installation
- Material: Nylon
- Quantity: 10 clips
- Compatible with ENVIROMUX-LDx-y and ENVIROMUX-CDx-y

### Surge Protectors

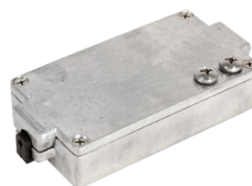
#### CATx Surge Protector



**SP-CAT5-6V**

- Protects sensors running on CATx unshielded twisted pair (UTP) cable against the effects of electrostatic discharge, faulty wiring and lightning.
- The use of two protectors on each end of the line will provide increased protection for each end against surges.
- Protected pins: (1,2) (3,6) (4,7) and (7,8) pass through.

#### Outdoor Twisted Pair Surge Protector



**SP-TP-9V-O**

- Protects sensors running on 2-wire sensor cable against the effects of electrostatic discharge, faulty wiring and lightning.
- The use of two protectors on each end of the line will provide increased protection for each end against surges.
- Wire range: 16 to 28 AWG



## Motion/Intrusion/Vibration Sensors

### Door Contact, Vibration & Glass Break Detection Sensors

#### Door Contact Sensor



ENVIROMUX-M-DCS

- Monitors access with a magnetic bridge sensor, which responds to any magnetic material (no special inserts necessary).
- For normally closed circuit connection.
- Wide actuating gap, approximately 1".

#### Rugged Door Contact Sensor



ENVIROMUX-DCSR  
ENVIROMUX-DCSR-U

- Monitors access with a magnetic bridge sensor (no special inserts necessary).
- Ideal for commercial and industrial installations in harsh environments.
- Heavy-cast aluminum housing with 18 inch stainless steel armored cable.
- Floor-mounting hardware included.
- Universal-style magnet option has a smaller width and depth that provides greater installation flexibility.
- Wide actuating gap, approximately 3".

#### Glass Break Detection Sensor



ENVIROMUX-GBS

- Acoustically detects the cracking of glass.
- Adjustable sensitivity.

#### Vibration Sensor



ENVIROMUX-VSS

- For registering movement / shocks.
- Adjustable sensitivity

#### Fence Vibration Sensor



ENVIROMUX-FENCE1

- Detects when individuals climb over or cut through chain link or wire mesh fences.
- Two open-collector outputs – alarm and power failure.
- UV resistant case and epoxy sealed electronics provides maximum resistance to harsh environments.
- Use individually or chain units with each ranging from 40 to 60 feet away.
- Operating voltage: 9-15V DC.

### Motion Detection Sensors

#### Infrared Motion Sensor



ENVIROMUX-IMD

- Registers movement in the area covered.
- 24 dual-element detection zones for long, mid and short range protections.
- Pulse count or single shot triggering.
- Good RFI protection.

#### Outdoor Infrared Motion Sensor



ENVIROMUX-IMD-O

- Outdoor weatherproof - high reliability against water and insects
- Registers movement in the area covered: 40 ft (12 m) x 50 ft (15 m) - 120° wide
- Selectable detection patterns: Multi-Level (40 zones) or Pet Alley (18 zones)
- Selectable Sensitivity: High, Mid and Low

#### High-Mount Outdoor Infrared Motion Sensor



ENVIROMUX-IMD-OHM

- High-mount outdoor weatherproof sensor with 94 detection zones.
- Registers movement in area covered: 13/18/30/40 ft and 85° wide.
- Mounting height: 8.3 to 10 feet.
- Ideal detection area setting – adjustable length/spot detection.

#### Ceiling Mount Motion Detector



ENVIROMUX-IMD-CM

- Detects movement across the detection field.
- 360° detection pattern.
- 113° conical detection angle from ceiling.
- 36 ft diameter protection when mounted 12 ft high.
- Pulse count or single shot triggering.
- Good RFI protection

### Light Intensity Sensor

#### Light Intensity Sensor



ENVIROMUX-LIS

- Detects and measures the luminous intensity of light.
- Applications from 0 to 128,000 lux.
- Human eye response (540nm peak sensitivity).
- IR and UV rejection

## Motion/Intrusion/Vibration Sensors

### Access Control

#### Access Control Digital Keypad


**ENVIROMUX-ACK**

- Two relay outputs controlled by two groups of independent user codes.
- Normally closed and normally open dry contacts for both output relays.
- Single lock or inter-lock operation.
- Operate with fail-safe or fail-secure locking device.
- Non-volatile memory
- Duress output.

#### RFID Access Control Keypads


**ENVIROMUX-ACKR  
ENVIROMUX-ACKR-WDB**

- Outputs controlled by user codes and/or EM cards.
  - ENVIROMUX-ACKR-WDB:
    - ◆ Output 1: 5 Amp relay for door strike.
    - ◆ Output 2: 1 Amp relay for other control applications.
    - ◆ Output 3: 24VDC/100 mA sink open collector output for other control applications.
  - ENVIROMUX-ACKR:
    - ◆ Output 1: 5 Amp relay for door strike.
    - ◆ Output 2: 1 Amp relay for other control applications.
- Normally closed and normally open dry contacts for all output relays.
- Operate with fail-safe or fail-secure locking device.
- 24 bit standard Wiegand data on reading of EM cards/keyfobs.
- 34 bit Wiegand data output on user code entry.
- ENVIROMUX-ACKR-WDB:
  - One Door Bell relay contact (normally open).
  - Weatherproof (IP-55).

#### Emergency/Panic Button


**ENVIROMUX-EBS**

- Sends activation signal when button is pressed.
- For normally closed or normally open circuit connections.

#### Vandal Resistant & Weatherproof Access Control Digital Keypads


**ENVIROMUX-ACK-VWT  
ENVIROMUX-ACK-VWS**

- Outputs controlled by independent user codes:
  - ENVIROMUX-ACK-VWT:
    - ◆ Output 1: 5 Amp relay for door strike
    - ◆ Output 2 & 3: 1 Amp relay each for other control applications.
  - ENVIROMUX-ACK-VWS:
    - ◆ Output 1: 5 Amp relay for door strike.
    - ◆ Output 2 & 3: 24VDC/100mA sink open collector output for other control applications.
- Normally closed and normally open dry contacts for most relay outputs.
- 34 bit Wiegand data output on user code entry.
- ENVIROMUX-ACK-VWS: Door Bell relay output (normally open).

#### RFID EM Cards/Keyfobs


**ENVIROMUX-RFID-CRD10  
ENVIROMUX-RFID-KYFB10**

- Supports additional users for RFID Access Control Keypads.
- Code: 64 bit.
- Function: read only.
- Operating frequency: 125 KHz.
- Modulation: ASK.
- Quantity: 10 cards/keyfobs.
- Compatible with ENVIROMUX-ACKR and ENVIROMUX-ACKR-WDB.

#### Electric Strike


**ENVIROMUX-EDR-SF  
ENVIROMUX-EDR-SCR**

- Fail-Safe Electric Strike (ENVIROMUX-EDR-SF)
  - The door is locked with power ON, and unlocked with power OFF.
  - For fire/emergency door or escape door installations.
- Fail-Secure Electric Strike (ENVIROMUX-EDR-SCR)
  - The door is locked with power OFF, and unlocked with power ON.
  - For entrance door installation.

#### Key Station


**ENVIROMUX-RKS**

- Remote key station designed for security system ON-OFF control applications.
- Built with universal connection terminals; can be used freely with most security systems.