

ENGLISH

Device Purpose

The Pinebox is an industrial smart gateway designed for collecting, processing, and forwarding data from IO-Link® sensors and devices. It simplifies the integration of industrial sensors into data systems and enables real-time data monitoring and analysis through its web interface and Node-RED environment.

Detailed Manual Availability

For comprehensive guidance on installation, configuration, and advanced use of the Pinebox (Model PT-1010), a detailed user manual is available for download. This manual includes step-by-step instructions, troubleshooting tips, and detailed technical specifications.

You can download the manual from our website at:

download.pinetek-networks.com/pinebox/documents

First steps: Web Interface Access

1. Initial Setup:
 - Connect the Pinebox to a 24V DC power source.
 - Connect the device to your network via an Ethernet cable (RJ45). By default, the device will seek a DHCP-assigned IP address. If a DHCP server is unavailable, the fallback IP address is printed on the device label.
2. Accessing the Interface:
 - Once connected, access the device's web interface by entering its IP address into a web browser.
 - The default web interface allows you to configure ports, manage data flow with Node-RED, and view data logs.
3. Device Configuration:
 - Configure each connected IO-Link device using the provided M12 connectors.
 - Use the interface to load the necessary IODD files for each device, allowing the Pinebox to recognize and communicate with the connected sensors.

Node-RED Integration

The integrated Node-RED environment enables graphical programming for device data management. Using drag-and-drop nodes, you can set up data flows, visualize real-time data, and forward information to databases or external services.

Compliance and Regulatory Information

1. **CE Compliance:**

For detailed information on CE conformity, including applicable standards and testing levels, please refer to the **EU Declaration of Conformity** document, available at download.pinetek-networks.com/pinebox/documents
2. **RoHS and REACH:**

This product complies with the RoHS and REACH directives. Detailed statements are available at www.pinetek-networks.com/quality.
3. **WEEE Directive (2012/19/EU):**

The Pinebox is marked with the crossed-out wheeled bin symbol, indicating it should not be disposed of with regular household waste. For disposal in B2B environments, contact Pinetek Networks for device return options. For B2C, use local e-waste facilities or contact your local authority.
4. **Data Privacy:**

The device does not collect, store, or transmit any data unless configured by the user.

Safety Information

To ensure safe and proper operation of the Pinebox, please follow the instructions below carefully.

General Safety

- **Authorized Personnel Only:** The installation, operation, and maintenance of the device should be carried out by qualified and trained personnel familiar with industrial equipment and safety procedures.
- **Manual Access:** Keep this guide accessible for future reference and ensure all relevant personnel are aware of the safety guidelines.
- **Label Awareness:** Pay close attention to all safety labels and warnings on the device to avoid hazards.

Electrical Safety

- **Power Source:** Only connect the Pinebox to a power supply of 24V DC ±20%. Operating outside this range may cause damage, fire, or other hazards.
- **Isolation:** Disconnect the power supply before performing any maintenance, cleaning, or opening the device enclosure.
- **Environment:** Avoid exposing the device to moisture, water, or other conductive environments that may increase the risk of electric shock or short circuits.

Pinebox Quick Start Guide – Basic Usage Information

- **Overload Protection:** The device is designed with overload protection (450mA per L+ port). Ensure connected devices do not exceed these limits.

Device Handling and Physical Safety

- **Mounting:** Securely mount the device on a DIN rail to prevent accidental disconnection, vibration-related damage, or falling hazards.
- **Ventilation:** Ensure adequate ventilation around the device
- **Temperature:** Operate the device within the specified temperature range of -25°C to 55°C. Higher temperatures may reduce performance or damage internal components.
- **Ports and Connections:** Use proper cables and connectors (e.g., M12 for IO-Link devices). Avoid applying excessive force when connecting or disconnecting cables.

Environmental Safety

- **IP20 Protection:** The Pinebox is rated for IP20 and is suitable for indoor use only. Avoid exposure to dust, liquids, or corrosive environments.
- **Electromagnetic Compatibility (EMC):** Ensure the device is installed in an EMC-compliant environment. Keep the Pinebox away from equipment that may cause excessive electromagnetic interference.

Limitations on Use

- **Industrial Applications Only:** The Pinebox is intended for industrial IoT applications and is unsuitable for safety-critical systems, life-support equipment, or fail-safe operations where malfunction could lead to severe injury, loss of life, or environmental damage.
- **Critical Applications Warning:** Using the Pinebox in critical applications, such as medical devices, transportation systems, or emergency response equipment, is prohibited.

Maintenance and Disposal

- **Routine Checks:** Regularly inspect the device for signs of wear, damage, or malfunction. Replace faulty components immediately.
- **WEEE Compliance:** Dispose of the device in accordance with the EU WEEE Directive 2012/19/EU. Do not discard it with household waste. For B2B environments, contact Pinetek Networks for device return or recycling options.
- **Battery Replacement:** If applicable, replace the CR2032 battery in an ESD-safe environment. Ensure correct polarity and handle batteries responsibly to avoid environmental harm.

Emergency Situations

- **Immediate Power Cutoff:** In case of overheating, unusual noise, or visible damage, immediately disconnect the device from the power source.
- **Contact Support:** For further assistance, contact Pinetek Networks support at info@pinetek-networks.com.

Product Information

- **Model:** PT-1010
- **Power:** 24V DC \pm 20%
- **Network:** RJ45 (Ethernet 10/100/1000 Mbps), DHCP/Static IP
- **Ports:** 4 IO-Link compatible ports (max 450mA per L+ port)
- **Dimensions:** 90 x 72 x 63 mm
- **Protection Class:** IP20

Support

For assistance, please reach out to info@pinetek-networks.com or visit our support portal: support.pinetek-networks.com

Manufacturer Information

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