BPMI Pipe Cleaning and Inspection Robot

**Introduction**

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**Software Installation**

1. Download Raspberry Pi OS to Pi Zero 2 via Raspberry Pi imager tool.
   * Download the latest version from raspberrypi.com/software and run the installer.
   * Or install it from a terminal using your package manager, e.g. sudo apt install rpi-imager.
   * Click Choose device and select your Raspberry Pi model from the list.
   * Next, click Choose OS and select an operating system to install. Imager always shows the recommended version of Raspberry Pi OS for your model at the top of the list.
   * Connect a microSD card in using an external or built-in SD card reader. Then, click Choose storage and select your storage device.
   * In a popup, Imager will ask you to apply OS customization. It is strongly recommended to configure your Raspberry Pi via the OS customization settings. Click the Edit Settings button to open OS customization.
     1. When you first open the OS customisation menu, you might see a prompt asking for permission to load WiFi credentials from your host computer. If you respond "yes", Imager will prefill WiFi credentials from the network you’re currently connected to. If you respond "no", you can enter WiFi credentials manually.
     2. The hostname option defines the hostname your Raspberry Pi broadcasts to the network using mDNS. When you connect your Raspberry Pi to your network, other devices on the network can communicate with your computer using <hostname>.local or <hostname>.lan.
     3. The username and password option defines the username and password of the admin user account on your Raspberry Pi.
     4. The wireless LAN option allows you to enter an SSID (name) and password for your wireless network. If your network does not broadcast an SSID publicly, you should enable the "Hidden SSID" setting. By default, Imager uses the country you’re currently in as the "Wireless LAN country". This setting controls the WiFi broadcast frequencies used by your Raspberry Pi. Enter credentials for the wireless LAN option if you plan to run a headless Raspberry Pi.
     5. The locale settings option allows you to define the time zone and default keyboard layout for your Pi.
   * The Services tab includes settings to help you connect to your Raspberry Pi remotely.
   * This system will use the Raspberry Pi remotely over the network, check the box next to Enable SSH. You should enable this option to run a headless Raspberry Pi.
   * Choose the password authentication option to SSH into your Raspberry Pi over the network using the username and password you provided in the general tab of OS customisation.
   * Choose Allow public-key authentication only to preconfigure your Raspberry Pi for passwordless public-key SSH authentication using a private key from the computer you’re currently using. If already have an RSA key in your SSH configuration, Imager uses that public key. If you don’t, you can click Run SSH-keygen to generate a public/private key pair. Imager will use the newly-generated public key.
   * After entering OS customization settings, click save and Yes.
   * When you see the "Write Successful" popup, your image has been completely written and verified. You’re now ready to boot a Raspberry Pi from the storage device!

**Setup**

1. Ensure Ethernet is enabled on the Raspberry Pi Zero by modifying the ‘/etc/network/interfaces’ file.
2. Configure a static IP address for the Pi.
3. Restart the network.
4. Verify Connection.
5. Connect PC to the same network as the Pi via the ethernet connection.