



Eyedro[®]
GREEN SOLUTIONS INC.

PRODUCT GUIDE:
EYEDRO INLINE
PRODUCTS

CONTENTS

Important Safety Information for Eyedro Monitoring Products.....	5
Additional Safety Information for Inline Electricity Monitoring.....	6
Box Contents (By Product).....	7
Eyedro Inline Electricity Monitor	7
Hardware Installation	8
Connect Cabling	8
Materials You Will Need.....	8
Tools You Will Need	8
Procedure	8
Mount Eyedro Module (Optional)	9
Materials You Will Need.....	9
Tools You Will Need	9
Procedure (Vertical Mount).....	9
Procedure (Horizontal Mount).....	9
Internet Connection.....	10
Provisioning Wi-Fi (ILM.WIFI.* Products Only)	11
Materials You Will Need.....	11
Tools You Will Need	11
Procedure (Wi-Fi Devices Only)	11
Tips	12
Connect to Existing Wireless Mesh (ILM.NODE.* Products Only).....	13
Software Configuration.....	14
MyEyedro.com.....	14
Specifications	15
Hardware Specifications – North America.....	15
Hardware Specifications – Europe	16

PRODUCT GUIDE: EYEDRO INLINE PRODUCTS

Compliance 17

Warranty 18

Troubleshooting 19

Contact Information 20

PRODUCT GUIDE: EYEDRO INLINE PRODUCTS

If you have any questions about using your Eyedro Electricity Monitoring System please visit eyedro.com for information, documentation, videos, and answers to frequently asked questions.

**PLEASE READ ALL ENCLOSED INSTRUCTIONS PRIOR TO THE INSTALLATION.
EACH STEP OF THE ENCLOSED INSTRUCTIONS MUST BE FOLLOWED CAREFULLY.**

IMPORTANT SAFETY INFORMATION FOR EYEDRO MONITORING PRODUCTS

The Eyedro Monitoring products (and all components) are designed for **INDOOR USE ONLY** and should be installed inside a suitable building or panel. When installing:

- ❗ **DO NOT** subject the unit or sensors to excessive temperature, humidity, force, shock, or dust.
- ❗ **DO NOT** use or store this product in locations that could adversely affect the product such as rain, snow, or desert.
- ❗ **DO NOT** immerse the unit in water or other liquids. If liquid is spilled over it, remove power, and clean up the spill immediately with a soft, lint-free, cloth and allow all electronics to fully dry before attempting to use.
- ❗ **DO NOT** use this product where the use of radio frequency products can cause interference in other critical control equipment (i.e., hospitals).

The Eyedro Monitoring products (and all components) are **NOT USER SERVICEABLE**. Please contact Eyedro Green Solutions Inc. if any component appears damaged or faulty.

- ❗ **DO NOT** open the case of the unit or tamper with any of the internal or external components.
- ❗ **DO NOT** attempt to repair the product by yourself.
- ❗ **DO NOT** dispose of this product in your household waste. At the end of its serviceable life please ensure product is disposed of according to local electrical and electronics equipment disposal practices.

The following notes apply to Eyedro Wireless products:

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. 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 communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

Reorient or relocate the receiving antenna.

Increase the separation between the equipment and receiver.

Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

Consult the dealer or an experienced radio/TV technician for help.

To satisfy FCC RF Exposure requirements for mobile and base station transmission devices, a separation distance of 20 cm or more should be maintained between the antenna of this device and persons during operation. To ensure compliance, operation at closer than this distance is not recommended. The antenna(s) used for this transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

ADDITIONAL SAFETY INFORMATION FOR INLINE ELECTRICITY MONITORING

It is important that you observe some simple safety precautions when installing Eyedro Inline Electricity Monitoring products. The Eyedro Inline Electricity Monitor was designed to be generic and easy to install. Typically, there is no need to handle live wires during the installation. However, there are a couple safety issues that should be considered when installing and using the system.



UNSURE ABOUT HANDLING ELECTRICAL WIRING? CONSULT A QUALIFIED ELECTRICIAN FOR SENSOR INSTALLATION.

- ❗ Any **inlet or outlet power cords** used with this product must be **properly rated** for the connected device.
- ❗ Current and/or voltage of the connected device **must not exceed the maximum ratings** specified on this product.

BOX CONTENTS (BY PRODUCT)

EYEDRO INLINE ELECTRICITY MONITOR



A



B



C

	Wi-Fi (ILM.WIFI.*)	Wireless Mesh (ILM.NODE.*)	Description
A	1	-	Eyedro Inline Wi-Fi Electricity Monitor
	-	1	Eyedro Inline Wireless (Mesh) Electricity Monitor
B	1	1	Inlet Power Cord (15A NEMA 5-15P to IEC C13 shown)
C	1	1	Outlet Power Cord (15A IEC C14 to NEMA 5-15R shown)
D	1	1	Quick Start Guide (not shown)

HARDWARE INSTALLATION



DO NOT CONTINUE WITH THE INSTALLATION OF THE EYEDRO INLINE ELECTRICITY MONITORING SYSTEM UNTIL YOU HAVE READ THE SAFETY SECTION OF THIS GUIDE.

CONNECT CABLING

MATERIALS YOU WILL NEED

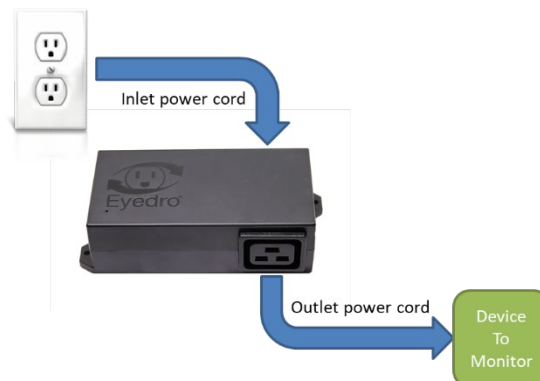
- Tie wraps (optional – not included)

TOOLS YOU WILL NEED

- None

PROCEDURE

1. Unplug the device/load that will be monitored.
2. Connect the provided outlet power cord to the outlet socket of the Eyedro Inline module.
3. Connect the provided inlet power cord to the inlet socket of the Eyedro Inline module.
4. Connect the plug of the device to be monitored to the receptacle side of the outlet cord.
5. Connect the plug side of the inlet cord into a nearby AC wall receptacle or power strip.
6. Ensure connected device powers on as expected.
 - ❗ Eyedro Inline Monitors are passive (no on/off control). If the connected device does not operate as expected, verify all connections in between are correct and secured.
7. Optionally, secure all wiring neatly with tie wraps.
8. Optionally, proceed to module mounting procedure if desired.



MOUNT EYEDRO MODULE (OPTIONAL)

MATERIALS YOU WILL NEED

- Two (2) #8 (4.2mm) pan head or round head mounting screws (optional – not included)

TOOLS YOU WILL NEED

- Screwdriver
- 7/64" drill bit (optional)
- Drill (optional)

PROCEDURE (VERTICAL MOUNT)

1. Write down the 8-digit serial number from the back of the module. This will be required during software setup.
 - ❗ The serial number will be in the format "**123 - 45678**"
2. Find a clear area on the wall beside the device being monitored.
 - ❗ Make sure all cables will easily reach the module before securing.
3. Mark locations on the wall for the screws using the module as a template.
4. If preferred, drill a pilot hole in the marked locations using a 7/64" drill bit.
5. Drive two (2) screws into the wall surface through the flange holes on the sides of the enclosure.
6. **Carefully** tighten the screws until snug. Do not overtighten or it may cause damage to the flange(s).
7. Ensure secure fit.

PROCEDURE (HORIZONTAL MOUNT)

Mounting is not required for horizontal installations (i.e., on a desktop or shelf). If added security is desired, follow instructions for vertical mounting using screws or double-sided tape.

INTERNET CONNECTION

All Eyedro products are designed to take advantage of the MyEyedro cloud services – thus requiring the product(s) to be always connected to the internet. There is a small amount of internal memory to store data in the event of a temporary disruption to your internet service.

For most networks, it only requires that you connect the device to the network with a DHCP server somewhere on the network. A DHCP server is enabled on most routers by default and will provide connected hardware with an IP address so they can communicate via the internet.

In some cases, additional security has been added to the local network (firewall, port filtering, etc.) making some additional configuration necessary. A good test would be to plug a laptop or computer into the same Ethernet port that you intend to use for your (wired) Eyedro product, or, if installing a Eyedro Wi-Fi product, provision it to connect to the same Wi-Fi network – if you can open a browser and navigate the web no additional configuration is likely needed.

A couple of important notes:

- **Wi-Fi** devices utilize the **2.4GHz** frequency band. Ensure your Wi-Fi router supports 2.4GHz devices.
- All devices require a **DHCP server** somewhere on the network.
- If your network does not have a DHCP server, or it is restricted, you may need to reserve an IP address for the device based on the MAC address of the device.
- The **MAC address** of your device will be **60:54:64:XX:YY:ZZ** – where XX:YY:ZZ are based on digits of your module serial number. For example, a module with the serial number **123-45678** will have the MAC address 60:54:64:**12:36:78**. Devices with both Ethernet and Wi-Fi will substitute the first device specific digit with 'E' for the Ethernet MAC (the Wi-Fi MAC will remain the same) – the above example will become 60:54:64:E2:36:78.
- All devices communicate using **port 80 (HTTP)** – all communication to/from the device looks like standard **web traffic**.
- If you have changed the DNS settings in your router (i.e., to use an ad blocker), try switching back to use the default settings. Alternately use Google's DNS servers 8.8.8.8 (primary) and 8.8.4.4 (secondary)
- Eyedro Mesh products (ILM.NODE.*) do **not** communicate using the **Wi-Fi** protocol. They use a custom wireless protocol between modules and an existing Eyedro Gateway¹ (not included).
- Eyedro Gateway¹ devices require connection to **an active Ethernet port** on your router, switch, or hub.
- Eyedro Gateway¹ devices ship with Ethernet patch cords (straight-through). Most routers, switches and hubs provide crossover functionality, but some old hardware may not. In those cases, it may be necessary to connect to a specific port or use a crossover cable.
- Eyedro Gateway¹ devices communicate via **Half-Duplex 10Base-T**. Most routers, switches and hubs provide coexistence, but some may not. In those cases, it may be necessary to configure the connected port appropriately.

¹ Eyedro Gateway devices are sold separately.

PROVISIONING WI-FI (ILM.WIFI.* PRODUCTS ONLY)

MATERIALS YOU WILL NEED

- None

TOOLS YOU WILL NEED

- Phone, tablet, or computer (to connect to the device's network)

PROCEDURE (WI-FI DEVICES ONLY)

1. Using a phone, tablet, or computer, disconnect from your current Wi-Fi network.
 - ❗ It may be necessary to explicitly deselect 'auto-connect'. Failing to do so may cause the provisioning device to switch back to its original network during provisioning.
 - ❗ If your device has an alternate path to the internet (i.e., cellular), it may be necessary to disable that network connection during provisioning (i.e., turn off cellular).
 - ❗ It may be necessary to temporarily disable your virus scanner during provisioning.
2. Using the same phone/tablet/computer, search for available Wi-Fi networks and connect to the Wi-Fi network created by your Eyedro device.
 - ❗ The name of the created network will be "Eyedro [xxx-yyyy]" where xxx-yyyy matches the serial number of the device.
3. Open a browser and go to eyedro.com/setup.
 - ❗ If not automatically redirected to the setup page, it may be necessary to enter **192.168.1.1** in the browser URL.
 - ❗ On some mobile devices, you may get a message indicating 'Sign in'. Click sign in and you should be redirected to the setup page. If not, refresh the page and/or open a browser and browse to eyedro.com/setup or 192.168.1.1.
4. Input the Wi-Fi credentials (Network SSID and Password) for the network you would like the device to connect to in the appropriate fields and click **Connect**.

Eyedro Wi-Fi Settings

Network (SSID):

Show Password:

Password (Key):

IMPORTANT

- Network (SSID) and Password (Key) are **case sensitive**
- Network (SSID) is the name of the network used to connect the device to the internet
- Password (Key) is the password, pass-phrase or security key used to access the specified network (blank = Open Network)
- When device successfully connects to your network, its SSID (EyedroWiFi [sn]) will disappear from your available network list
- If the device is unable to connect to your network, see the [EYEFI Setup](#) page for troubleshooting tips

Copyright © 2016-2022 Eyedro Green Solutions Inc. Sensors Network Dashboard

5. Reconnect your phone, tablet, or computer to your original Wi-Fi network. Don't forget to re-enable your cellular connection and/or virus scanner if you turned them off during provisioning.

Important note: If the setup is not successful, the device will recreate its own network and reappear in your available network list. Your device must be connected to the internet before you will be able to claim it on your MyEyedro Account.

TIPS

When applying power to the device it will run through its startup tests. Approximately 10 seconds after power has been applied, the status lights will indicate the status of the communication:

- **Red/Green** (both) toggle 2 seconds on/off = **Not connected**.
SSID, "Eyedro [xxx-yyyy]", should be visible in your available Wi-Fi network list.
- **Green** toggle 2 seconds on/off = **Connected**.
Device is connected to the provisioned network and should appear as 'Active' in MyEyedro.

If the status lights are still not green (connected) after following the procedure, cycle power to the Eyedro device and try the procedure again – carefully following all instructions and notes.

Wi-Fi connection videos can be found online at the following links:

Eyedro Wi-Fi connection setup via Desktop: [video link](#)

Eyedro Wi-Fi connection setup via mobile: [video link](#)

Additional tips and troubleshooting advice can be found online at:

Website: eyedro.com

Support: eyedro.com/support

How To: <https://eyedro.com/how-to-connect-an-eyefi-to-the-internet/>

Troubleshooting: eyedro.com/support-troubleshooting

CONNECT TO EXISTING WIRELESS MESH (ILM.NODE.* PRODUCTS ONLY)

All wireless mesh products require connection through an Eyedro Gateway module (sold separately).

Assuming your gateway is already installed and configured correctly, no other steps are required to connect your Eyedro Inline Wireless Mesh Electricity Monitor to the internet aside from ensuring it is in range of the gateway.

To achieve best performance in wireless mesh installations the following guidelines should be followed:

1. Minimize the number of obstructions between modules where possible (interior/exterior walls, floors, windows, etc.). Line of sight provides the best performance.
2. Minimize the number of 2.4GHz radiators near the modules (Wi-Fi routers, Wi-Fi devices, Bluetooth devices, ZigBee/IEEE 802.15.4 wireless devices or other “smart home” devices).
3. If using a Wi-Fi bridge device for connectivity, create a physical separation (>24”) between Eyedro module(s) and Wi-Fi bridge. If possible, plug the two devices into separate receptacles.
4. Modules should be secured in position with screws, double sided tape, Velcro tape or by other means. They should not be left hanging from wires because if they are bumped it can affect the signal quality.
5. Keep the area around the Eyedro module free from metallic objects.

SOFTWARE CONFIGURATION

MYEYEDRO.COM



The **MyEyedro** cloud service is the interface for your Eyedro device(s). Eyedro and MyEyedro are always working together to measure, analyze and store your usage and cost information. With MyEyedro, your data is automatically and securely stored in the cloud, so it's ready when and where you need it most. MyEyedro presents your data in ways that are engaging, informative and easy to understand. See real-time usage and gain access to many helpful features, including:

- Responsive real-time graphs
- Hourly/Daily/Weekly/Monthly cost estimates
- Comparisons and estimates
- Configurable reports

MyEyedro is easy to use and accessible from a standard web browser.

1. Go online to: <http://my.eyedro.com> to create your online account (or login if you have an existing account).
2. From the system configuration screen, enter the serial number of your Eyedro Module(s) – found on the back of the device(s).

For more information on MyEyedro and complete instructions for adding devices, refer to the online documentation and user guide found at <http://eyedro.com/support>

SPECIFICATIONS

HARDWARE SPECIFICATIONS – NORTH AMERICA

	Wireless (Mesh)		Wi-Fi	
Model No	EYEDRO.ILM	EYEDRO.ILM	EYEDRO.ILM	EYEDRO.ILM
Part No	ILM.NODE.1E.15A	ILM.NODE.1E.20A	ILM.WIFI.1E.15A	ILM.WIFI.1E.20A
Parts Included	One (1) Inline Wireless Mesh Electricity Monitor	One (1) Inline Wireless Mesh Electricity Monitor	One (1) Inline Wi-Fi Electricity Monitor	One (1) Inline Wi-Fi Electricity Monitor
	One (1) Inlet Power Cord	One (1) Inlet Power Cord	One (1) Inlet Power Cord	One (1) Inlet Power Cord
	One (1) Outlet Power Cord	One (1) Outlet Power Cord	One (1) Outlet Power Cord	One (1) Outlet Power Cord
Power Supply Voltage	120VAC, 60Hz			
Maximum Load (Outlet) Current	15A	20A	15A	20A
Measurement Accuracy	±1% Typical ¹			
Environmental Operating Conditions	Indoor Use Only 0°C to 50°C (32°F to 122°) 80% relative humidity Altitude up to 2000m (6562ft) Supply voltage fluctuations up to ±10% nominal Transient overvoltage up to Overvoltage Category II Temporary overvoltage Pollution Degree 2 Ingress protection level IP50			
Module Dimensions (W x H x D)	160 x 70 x 45 mm (6.25 x 2.75 x 1.75 in)			
Weight [approximate]²	1.179 kg (2.6 lbs)			
Wireless Link	IEEE 802.15.4 2.405 to 2.480 GHz		IEEE 802.11 b/g/n 2.412 to 2.484 GHz	
Wireless Range³	Indoors: 150m (500ft) Line of sight: 300m (1000ft)		Indoors: 50m (150ft) Line of sight: 100m (300ft)	

¹Accuracy noted is for sensor readings at 10% to 90% of rated current. This product also requires a continuous internet connection.

² Approximate weight includes packaging and contents. Weight based on ILM.xxx.1E.20A model with inlet and outlet cords.

³ Wireless range is dependent on the location and environment that device(s) are installed in. Typical values provided.

HARDWARE SPECIFICATIONS – EUROPE

	Wireless (Mesh)		Wi-Fi	
Model No	EYEDRO.ILM	EYEDRO.ILM	EYEDRO.ILM	EYEDRO.ILM
Part No	ILM.NODE.1E.10A	ILM.NODE.1E.16A	ILM.WIFI.1E.10A	ILM.WIFI.1E.16A
Parts Included	One (1) Inline Wireless Mesh Electricity Monitor	One (1) Inline Wireless Mesh Electricity Monitor	One (1) Inline Wi-Fi Electricity Monitor	One (1) Inline Wi-Fi Electricity Monitor
	One (1) Inlet Power Cord	One (1) Inlet Power Cord	One (1) Inlet Power Cord	One (1) Inlet Power Cord
	One (1) Outlet Power Cord	One (1) Outlet Power Cord	One (1) Outlet Power Cord	One (1) Outlet Power Cord
Power Supply Voltage	230VAC, 50Hz			
Maximum Load (Outlet) Current	10A	16A	10A	16A
Measurement Accuracy	±1% Typical ¹			
Environmental Operating Conditions	Indoor Use Only 32 to 122°F (0 to 50°C) 80% relative humidity Altitude up to 6562ft (2000 m) Supply voltage fluctuations up to ±10% nominal Transient overvoltage up to Overvoltage Category II Temporary overvoltage Pollution Degree 2 Ingress protection level IP50			
Module Dimensions (W x H x D)	6.25 x 2.75 x 1.75 in (160 x 70 x 45 mm)			
Weight [approximate]²	2.6 lbs (1.179 kg)			
Wireless Link	IEEE 802.15.4 2.405 to 2.480 GHz		IEEE 802.11 b/g/n 2.412 to 2.484 GHz	
Wireless Range³	Indoors: 500ft (150m) Line of sight: 1000ft (300m)		Indoors: 150ft (46m) Line of sight: 300ft (92m)	

¹Accuracy noted is for sensor readings at 10% to 90% of rated current. This product also requires a continuous internet connection.

² Approximate weight includes packaging and contents. Weight based on ILM.xxx.1E.16A model with inlet and outlet cords.

³ Wireless range is dependent on the location and environment that device(s) are installed in. Typical values provided.

COMPLIANCE

This product has been tested and found in compliance to:

Safety Requirements For Electrical Equipment For Measurement, Control, And Laboratory Use - Part 1: General Requirements [UL 61010-1:2012 Ed.3+R:29Apr2016]

Safety Requirements For Electrical Equipment For Measurement, Control, And Laboratory Use – Part 1: General Requirements (R2017) [CSA C22.2#61010-1-12:2012 Ed.3+U1;U2]

CAN ICES-3 (B)/NMB-3(B); ISED Canada ICES-003, Issue 6, Class B – Information Technology Equipment (Including Digital Apparatus).

Federal Communications Commission (FCC), Part 15, Subpart B, Class B - Unintentional Radiators.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference and (2) this device must accept any interference received, including interference that may cause undesired operation.

WARRANTY

LIMITED ONE YEAR WARRANTY

Eyedro Green Solutions Inc. shall provide warranty for all defects in material and workmanship for a period of one year from the original date of purchase. Defective parts may be repaired or replaced, at the discretion of the manufacturer, free of charge during this period.

Warranty Conditions:

1. The product must be installed and operated in strict accordance with the provided instructions.
2. The product must be installed and operated in strict accordance with the operating conditions.
3. Warranty claims require original proof of purchase. A photo of the product may also be requested.
4. Warranty is void if the product has been tampered with or modified in any way.
5. Warranty returns require a Return Material Authorization (RMA) number. Visit eyedro.com/support for an RMA number.
6. Warranty excludes shipping fees outside of the continental United States and Canada 7 days after shipment.

TROUBLESHOOTING

Device installation is simple and non-invasive but occasionally problems do arise. Before contacting support, please refer to our online troubleshooting resources.

Troubleshooting: eyedro.com/support-troubleshooting

CONTACT INFORMATION

If you have any questions about using your Eyedro Electricity Monitoring System please visit our website for documentation, videos, frequently asked questions, and contact forms.

Website: eyedro.com

Support: eyedro.com/support



Eyedro Green Solutions Inc.
550 Parkside Drive, Unit B1
Waterloo, ON N2L5V4

COPYRIGHT © 2011-2023 EYEDRO GREEN SOLUTIONS INC. ALL RIGHTS RESERVED.
THIS DOCUMENT, AND ALL ITS CONTENTS, MAY NOT BE MODIFIED, DISTRIBUTED, COPIED, OR REPRODUCED IN ANY FORM, IN PART OR IN WHOLE, WITHOUT THE EXPRESS WRITTEN CONSENT OF EYEDRO GREEN SOLUTIONS INC.

THE EYEDRO ELECTRICITY MONITORING SYSTEM IS INTENDED TO BE USED TO INCREASE AWARENESS OF ELECTRICITY CONSUMPTION WITHIN THE BUILDING AND AS AN ADDITIONAL RESOURCE TO APPROXIMATE UTILITY COSTS. SYSTEM ACCURACY DEPENDS ON A NUMBER OF FACTORS INCLUDING (BUT NOT LIMITED TO): MEASUREMENT AMPLITUDE, SENSOR CALIBRATION, UP TIME, AND STABILITY OF THE VOLTAGE SUPPLY. IT IS NOT INTENDED TO REPLACE THE ELECTRICITY METER FOR THE BUILDING.

EYEDRO GREEN SOLUTIONS INC. RESERVES THE RIGHT TO MAKE CHANGES TO THE PRODUCTS, SPECIFICATIONS, AND/OR DOCUMENTATION AT ANY TIME WITHOUT NOTICE.

IMAGES AND/OR INSTRUCTIONS DETAILED IN THIS DOCUMENT MAY DIFFER FROM THE ACTUAL PRODUCT HARDWARE AND/OR SOFTWARE.