INTRODUCTION

The Polar Monitoring Ethernet Gateway is a RS-485 Gateway that is controlled by the Polar Monitoring Cloud.

The unit can connect to a number of different RS-485 devices that are integrated with the Polar Monitoring Cloud to give remote access and data to Power Meters, Variable Speed Drives, Generator Controllers, Water Meters and many more. See website for list of supported devices.

The following document will provide step by step instructions on how to install the Gateway correctly

PACKAGE CONTENTS:

1x Ethernet Gateway
1x Installation manual
1x 1m length power cable
1x 1m length RS-485 communcation cable

MOUNTING THE GATEWAY

The Polar Gateway has an IP42 enclosure, It will require additional protection from water and dust ingress.

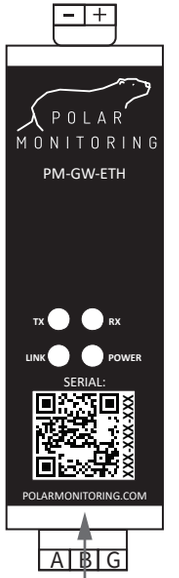
The Gateway is DIN rail mountable and should be placed into a protective enclosure. It is important to provide adequate space around the device to access terminals for power and communication cables.

Keep in mind that Electro Magnetic Interference (EMI) can cause noise on the cables and Gateway if mounted too close to or parallel with high current power lines, this noise can cause the device to not function properly or have poor reliability of communication data.

CONNECTING ETHERNET

The Polar Ethernet Gateway is connected to the internet via an ethernet port in the bottom of the Gateway. Once securely plugged in the Gateway will automatically assign itself an IP address based on the range of the DHCP server on the network. If there is an internet connection on the network it will automatically connect to the Polar Cloud.

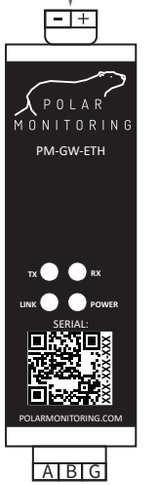
When running the ethernet cable ensure that it is not near any high current power cables as this could cause interference on the line and reduce reliability of the connection.



Ethernet input

CONNECTING POWER

9 - 36V DC Input Terminal



The Polar Ethernet Gateway is powered by 9 - 36V DC only. This must be plugged into the terminals: positive “+” and negative “-” as shown.

The power terminals are located on the top side of the enclosure.

Note: Applying the incorrect voltage will permantly damage the unit.

CONNECTING RS-485

The Ethernet Gateway communicates via RS-485 with other slave devices.

It is important to follow the **“A+”** and **“B-”** “when wiring the communication cables. See image below for proper positioning of RS-485 connectors on the unit.

Refer to the RS-485 protocols of the device the Polar Gateway is being connected to in order to ensure the correct connection/-configuration.

Note: In some cases the device that the Gateway is being connected to has **A** as - (Negative) and **B** as + (Positive). The installer must then follow the **“+”** and **“-”** markings for correct connection.

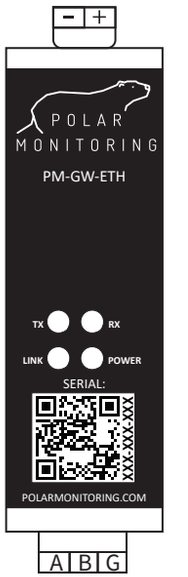
Note: It is important that both the Gateway and the device that it is being connected to are powered off while working on the connections.

Note: Do not run communication cables parallel to any high current power cables. Keep at a minimum distance of 100mm away.

Note: Always use shielded twisted pair communication cables for RS-485 connections.

Communication Settings	
Parameter	Value
Baud Rate	9600 bps
Data	8
Parity	None
Stop bits	1

*Ensure that the serial parameters of each slave device are as per the table above.

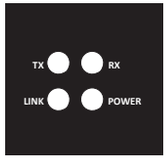


RS-485 (A+), (B–), G Input Terminals

FIRST TIME STARTUP

Once the Gateway has been successfully installed and connected to the system its meant to be monitoring the Gateway should be powered on.

During this step a number of lights will illuminate on the front of the unit. Below is a list of the lights with their function:



POWER — Solid Red
Gateway has power and is on.

LINK — Solid Green
Indicates if the Gateway is connected to the Polar Cloud.

TX — Flashes green
Flashes when there is serial data being sent on the RS-485 line to the device connected to the Gateway.

RX — Flashing green
Flashes when data is being recieved by the Gateway via RS-485 from the connected device.

LOGIN TO CLOUD PORTAL ON PHONE OR PC

Once the device is connected to the Polar Monitoring Cloud , such that the LINK Light is illuminated, It is time to access the cloud portal to view the device. Got to the folloing url:

https://portal.polarmonitoring.com/

To log in enter your unique username or password or sign up as a new user.

SCAN ME for device setup OR
Scan the QR code on the gateway

SPECIFICATIONS

Parameters		Description
Basic Parameters	Power	9V - 36V DC
	Operating Current	Average: 21mA - 50mA Maximum: 54mA (12V)
Environmental	Dimensions (mm)	28x64x109 (LxWxH)
	Weight (g)	110g
	Operating temperature	-30°C to +55°C
Connection	Connection	RJ45 Ethernet Port (10/100Mbps)
	Serial and Baud Rate	RS-485, baud rate 9600 bps
	Net Protocol	IPV4, TCP/UDP
	IP Address	DHCP Client

SUPPORT

Thank you for purchasing a Polar Monitoring Gateway.

For any queries or assistance please look at the Polar Monitoring Wiki Site at:

www.polarmonitoring.com/wiki

POLAR MONITORING

Ethernet Gateway Install Manual

PM-GW-ETH