MaNima Pollux Industry

DATASHEET

MaNima Pollux Industry

- Redundant setup
- 8 PWM outputs
- 8 NTC / LDR inputs
- 10 Digital inputs and 2 contact outputs
- Built-in Ethernet switch
- Measure PWM, Temperature, Power, Current and Voltage in real-time
- Firmware updates over Ethernet
- ArtNet/sACN compatible
- Configure with MaNima Configurator
- Autonomous operation

Sensor Inputs

Measurements are possible with multiple sensor inputs. These readings can then be used for monitoring and conditions.

PWM Output

There are 8 PWM outputs available on the MaNima Pollux. These can be used to control analogue LEDs or devices. PWM frequency up to 340Hz.

Custom Software

The MaNima Pollux can be customized to communicate with your system. Contact MaNima Technologies for more information.

Ethernet Switch

The MaNima Pollux doubles as an ethernet switch. The two ethernet ports on the Pollux are part of the same network.

Redundant Setup

If the Pollux is used in an important installation that must be free from interference and malfunctions, it is possible to have a 2nd power source for the Pollux to ensure system reliability.

Autonomous Operation

The Pollux is able to fulfil completely autonomous operations without user interaction.

Digital/Potential Inputs

There are 2 digital/ potential inputs available on the MaNima Pollux. These can be used as triggers for actions.

Monitoring and the Cloud

The Pollux has been made with monitoring in mind. It is also possible to send this data to a cloud database.

Increased Reliability and Protection

The MaNima Pollux is able to measure the current and voltage going through the PWM outputs.

MaNima Technologies
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Technical Specifications

Weight	*360 Grams*
Dimensions	*90 x 159 x 58 mm (B x L x H)*
Mounting	*Din rail 35mm*
IP class	*IP10*
Wiring	*Max. 2.5mm2 | 14 AWG*
Connectors	*Ethernet switch terminal connector: RJ45 bus, 2 x 9 pins terminal block, 3 x 6P6C*
Input voltage	*12-48V DC*
Own power consumption	*1.5W*
Ethernet	*RJ45 compatible, for 10/100 Base-TX Ethernet with static IP address or DHCP*
Input	*DC1 12-48VDC power inputs (20A) | DC2 12-48VDC power inputs (20A) | 2 x Ethernet ports | 8 x NTC/LDR input | 10 x digital input | optional Wi-Fi module | 4 additional GNDs | ArtNet/aSCN*
Output	*2 x Digital Output*
Output DC1	*4 channels x 5 A*
Output DC2	*4 channels x 5 A*
PWM Frequency	*300Hz*
Safety Features	*Hardware over current trip on every output, software current monitoring, onboard temperature limiting, redundant switching on error detection*
Efficiency	*Approx. 99.8%*
Over voltage protection	*Yes, up to 50 Volts*
Short circuit protection	*Fast short circuit protection on outputs (< 10µs response)*
Directives	*CE, RoHs*
Operating temperature	*10°C ~ 40°C*
On-Board temperature sensor	*Limits output when board is > 60°C.*
Storage temperature	*10°C ~ 60°C*
Min-Max NTC measurement	*-25°C ~ 100°C, 0.1°C degree resolution and +/-10% accuracy*
Warranty	*5 Years*
Gui	*MaNima configurator*

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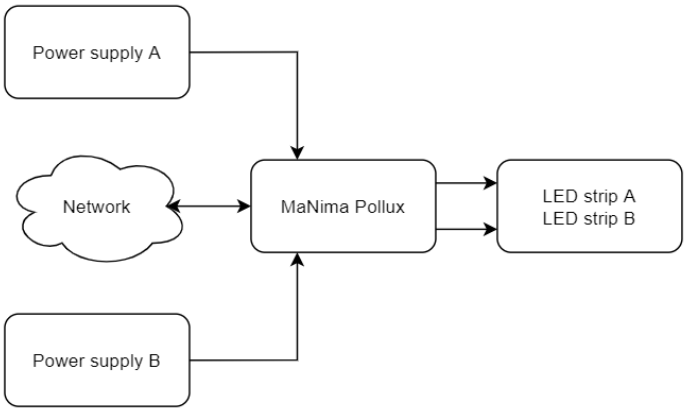
Application examples

The Pollux can be used in a large amount of applications. A small selection is explained in below using block diagrams. Note that a combination of these can also be used!

Standalone, with redundant power supplies and LED strips

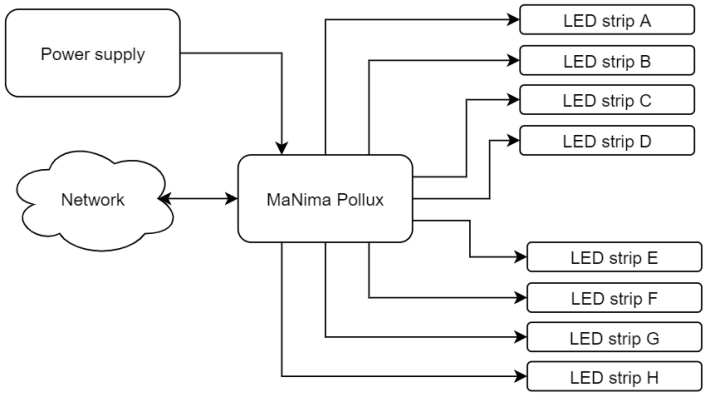


In this example, the LED strips are redundant placed inside a profile. Both are driven at about 50% to obtain sufficient lightning while keeping the temperature low.

When power supply A fails, LED A turns off. The MaNima Pollux recognizes this and immediately drives LED strip B at 100%.

An error is sent over the network to the system manager to replace the power supply.

Standalone, without redundant power supply and 8 separate LED strips

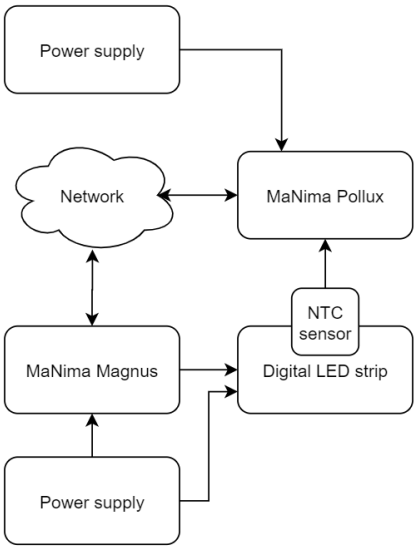


When large amount of strips are required, the Pollux can drive up to 8 one color lines.

Each line can have it's own temperature sensor, to dim the strip when the temperature gets too high, protecting the LEDs.

When a LED line fails (because of a broken cable or similar), the Pollux recognizes less current is flowing and immediately sends an error to the system manager over the network.

Remote dimming for the MaNima Magnus as extension



If digital LED lines are required in the project, while still requiring the protection features of the Pollux, one can use the MaNima Magnus to drive the digital LED strip. The Pollux functions as an extension for the Magnus and takes control over the output.

When the NTC is disconnected because of wire failure, the Magnus turns the output off. If the LED strip is getting too hot, the brightness is lowered to decrease heat built-up in the LED strip. All communication goes over the network. If the network fails, the Magnus falls back in error mode, turning off its output.

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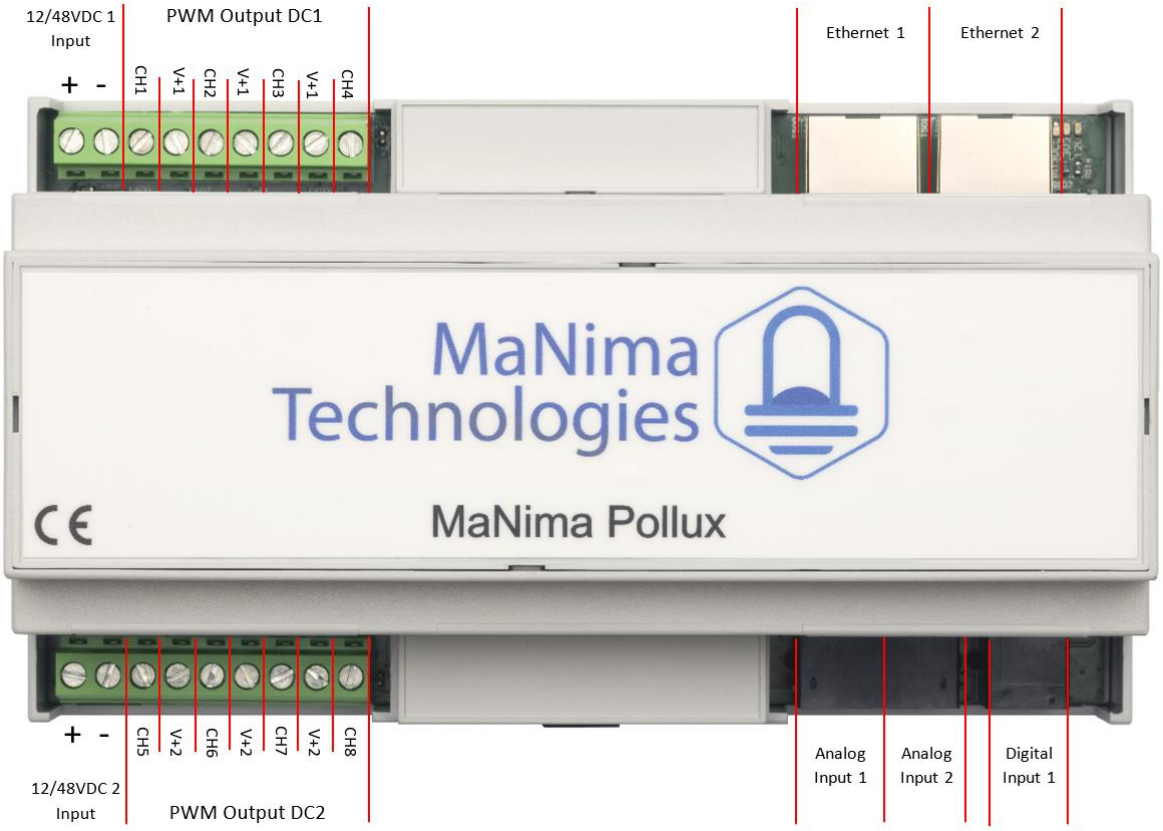
Connection Diagram

Descriptions of ports from top left to bottom right:



12/48V DC1: Power input for power source 1. Corresponds with 'DC1 PWM Outputs'.

12/48V DC2: Power input for power source 2. Corresponds with 'DC2 PWM Outputs'.

DC1 PWM outputs: 4 x PWM Outputs and 3 x V+. Corresponds with '12/48V DC1 Power input'.

DC2 PWM outputs: 4 x PWM Outputs and 3 x V+. Corresponds with '12/48V DC2 Power input'.

Analog input 1: Input for analogue sensors. See next page for the pinout.

Analog input 2: Input for analogue sensors. See next page for the pinout.

Digital in/output 1: In- and outputs for the digital sensors. See next page for the pinout.

Ethernet 1 and 2: RJ45 connector Ethernet switch for connecting the Pollux to the network.

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MaNima Products Overview

MaNima Ignis

Industrial Interface

Total system integration for industrial systems

INP and custom API

MaNima Magnus

Digital LED Interface

For high quality digital LED applications

Standalone up to 26 SPI and 2 DMX universes

MaNima Pollux

Monitoring and PWM

10 sensor inputs (8 analogue, 2 digital)

8 PWM outputs

4 digital outputs

MaNima Nexus

Connectivity module

Connect the installation to wireless network

MaNima Magnus: The MaNima Magnus Architectural LED Interface is a professional LED controller with an industrial design made for operating digital LED installations. The interface is also able to control multiple protocols at once.

MaNima Ignis: The MaNima Ignis Industrial Interface is a LED interface designed for the industrial market. The MaNima Ignis is a stable and reliable platform that is used in the Industry for operating LEDs. The MaNima Ignis can communicate with existing systems.

MaNima Nexus: The MaNima Nexus is a module used for connecting advanced and complex systems to a network of MaNima products.

MaNima Pollux: The MaNima Pollux is an industrial PWM driver and LED monitoring module made for the professional market. The MaNima Pollux is a versatile device which can fulfil many different tasks. The MaNima Pollux has been designed to be reliable, stable and fail-safe.

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