

MaNima Pollux

DATASHEET



MaNima Pollux

- Redundant setup
- 8 PWM outputs
- 8 NTC / LDR inputs
- Digital in- and outputs
- Built-in Ethernet switch
- Measure PWM, Temperature, Power, Current and Voltage in real-time
- Firmware updates with 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.

Ethernet Switch

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

Digital/Potential Inputs

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

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.

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.

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.

Custom Software

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

Autonomous Operation

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

Increased Reliability and Protection

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



Technical Specifications

Weight	<i>360 Gr</i>
Dimensions	<i>90 x 159 x 58 mm (B x L x H)</i>
Mounting	<i>Din rail 35mm</i>
IP class	<i>IP10</i>
Wiring	<i>Max. 2.5mm² 14 AWG</i>
Connectors	<i>Ethernet switch terminal connector: RJ45 bus, 2 x 9 pins terminal block, 3 x 6P6C</i>
Input voltage	<i>12-48V DC</i>
Own power consumption	<i>9.6W</i>
Ethernet	<i>RJ45 compatible, for 10/100 Base-TX Ethernet with static IP address or DHCP</i>
Input	<i>DC1 12/48VDC power inputs (20A) DC2 12/48VDC power inputs (20A) 2 x Ethernet inputs/outputs 8 x NTC/LDR 2 x digital input optional Wi-Fi module 4 additional GNDs ArtNet/aSCN</i>
Output	<i>4 x Digital Output</i>
Output DC1	<i>4 channels x 5 A</i>
Output DC2	<i>4 channels x 5 A</i>
PWM Frequency	<i>340Hz</i>
Safety Features	<i>Real-time Internal PWM, Temperature, Power, Current and Voltage measurements</i>
Efficiency	<i>Approx. 99.8%</i>
Over voltage protection	<i>Yes, up to 60 Volts</i>
Short circuit protection	<i>Short circuit protection on in-and outputs</i>
Directives	<i>CE, RoHs</i>
Operating temperature	<i>10°C ~ 40°C</i>
On-Board temperature sensor	<i>Yes, must not exceed 60°C.</i>
Storage temperature	<i>10°C ~ 60°C</i>
Min-Max NTC measurement	<i>-5°C ~ 100°C, 0.1°C degree resolution and +/-10% accuracy</i>
Warranty	<i>5 Years</i>
Gui	<i>MaNima configurator</i>



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.

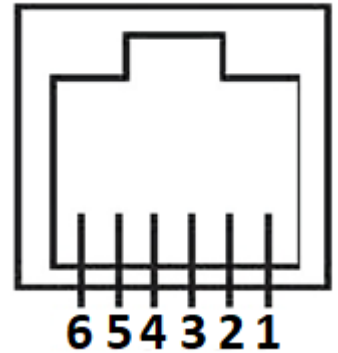
Digital in/output 1: In- and outputs for the digital sensors. See next page for the pinout.

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

Pinout schematics

Connector Type: 6P6C

Analog 1			
Pin	Function	Max Current	Max Voltage
1	GND	50mA	0,1V
2	GND	50mA	0,1V
3	NTC / LDR 1_1	50mA	3,3V
4	NTC / LDR 2_1	50mA	3,3V
5	NTC / LDR 3_1	50mA	3,3V
6	NTC / LDR 4_1	50mA	3,3V

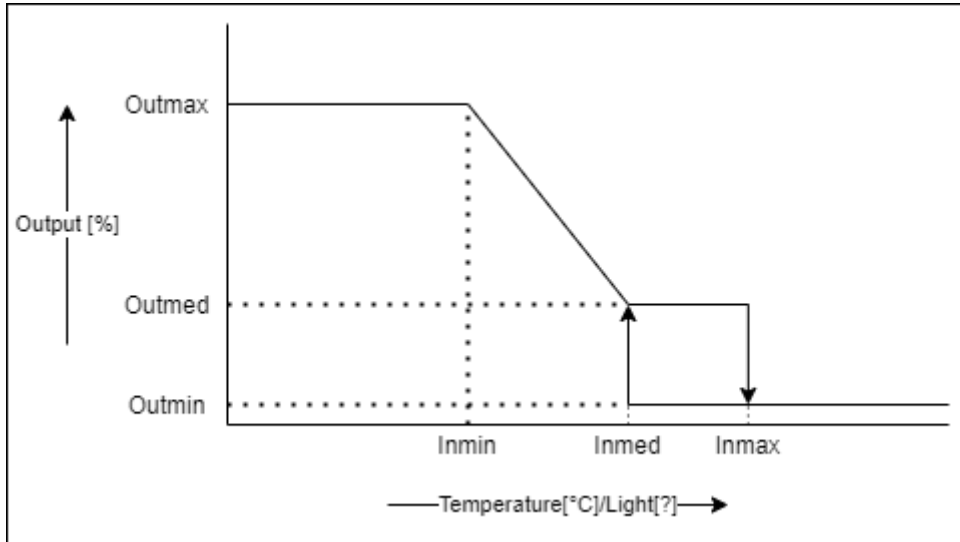


Analog 2			
Pin	Function	Max Current	Max Voltage
1	GND	50mA	0,1V
2	GND	50mA	0,1V
3	NTC / LDR 5_1	50mA	3,3V
4	NTC / LDR 6_1	50mA	3,3V
5	NTC / LDR 7_1	50mA	3,3V
6	NTC / LDR 8_1	50mA	3,3V

Digital 1			
Pin	Function	Max Current	Max Voltage
1	Digital Out 1_1	50mA	300V
2	Digital Out 1_2	50mA	300V
3	Digital Out 2_1	50mA	300V
4	Digital Out 2_2	50mA	300V
5	Digital In 1	5mA	48V
6	Digital in 2	5mA	48V

Temperature dim-curves

The dimming curve and its parameters:



This graph is used to visualise the effects of the parameters.

When setting the parameters, keep in mind the ambient temperature and generated temperature of the LEDs to reduce risk of damages.

The parameters as shown in the MaNima Configurator:

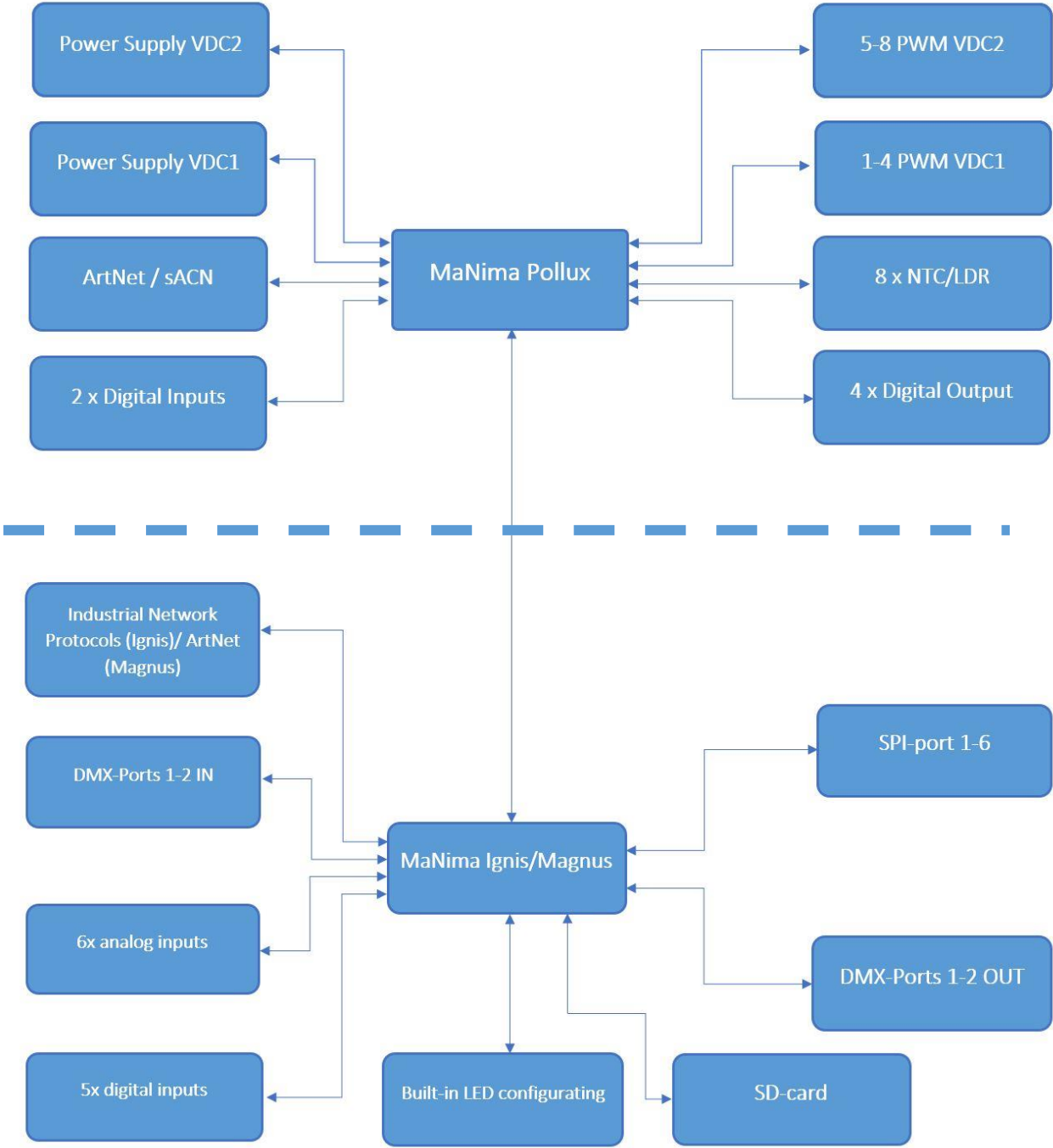
NTC / LDR	
NTC / LDR 1 NTC / LDR 2 NTC / LDR 3 NTC / LDR 4 NTC / LDR 5 NTC / LDR 6 NTC / LDR 7 NTC / LDR 8	
Parameter name	Value
Mode NTC/LDR 6	NTC
NTC/LDR 6 Dim	1.0
NTC6Temp	24.38 deg C
NTC6Outmax	<input type="text" value="100"/> %
NTC6Outmed	<input type="text" value="10"/> %
NTC6Outmin	<input type="text" value="0"/> %
NTC6Inmax	<input type="text" value="70.0"/> deg C
NTC6Inmed	<input type="text" value="60.0"/> deg C
NTC6Inmin	<input type="text" value="50.0"/> deg C



MaNima Pollux Network Overview

MaNima Pollux

Overview



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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