MaNima Pollux

MaNima Technologies

DATASHEET

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 300Hz.

MaNima Cloud

Additional modules make it possible to send data to the MaNima Cloud.

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

The Pollux has been made with monitoring in mind.

Increased Reliability and Protection

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

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Hastelweg 260B
5652CN Eindhoven

Technical Specifications

Pollux mo+H28+C3:J54		MaNima Pollux	MaNima Pollux 30kHz	MaNima Pollux Industry
General	Weight	360 gram		
	Dimensions	90 x 159 x 58 (B x L x H)		
	Mounting	DIN Rail 35mm		
	IP class	IP10		
	Storage temperature	10°C ~ 60°C		
	Operating temperature	10°C ~ 40°C		
	Warranty	5 Years		
	Directives	CE, RoHs		
Input	Wiring	Max 1.5mm² | 14 AWG		
	Own Power Consumtion	1,5W		
	Efficiency	Approx. 99,8%		
	Input voltage DC1	12-48VDC		
	Input voltage DC2	12-48VDC		
	Input current DC1	20A	10A	20A
	Input current DC2	20A	10A	20A
	Ethernet	Ethernet switch terminal connector: RJ45 bus, 2 x 9 pins terminal block		
	NTC / LDR	2 x RJ11 4 NTC/LDR inputs		
	Digital inputs	2 x RJ11 2 inputs		2 x RJ11 2 inputs + 1 x RJ45 8 channels
	Min-Max NTC measurement	-25°C ~ 100°C, 0.1°C degree resolution and +/-10% accuracy		
Output	DC1 PWM-outputs	4 ch		
	DC2 PWM-outputs	4 ch		
	DC1 Max current output	5A per channel	2,5A per channel	5A per channel
	DC2 Max current output	5A per channel	2,5A per channel	5A per channel
	PWM Frequency	300Hz	30kHz	Stepless 200Hz to 30kHz
	Digital outputs	1 x RJ11 4 digital outputs		
Electronic Protection	Over voltage protection	Yes, up to 50 Volts		
	Short circuit protection	Fast short circuit protection on outputs and inputs (< 10µs response)		
	On-Board temperature protection	Turns off outputs when board is > 60°C.		
Pollux Features	MaNima Configurator	✓		✓
	Real-Time temperature monitoring	✓		✓
	Real-Time electronic monitoring	✓		✓
	Redundant switching inputs and outputs on error	✓		✓
	Adjust basic NTC / LDR settings	✓		✓
	Autonomous PWM Dimming	✓		✓
	Set action/failure handlers	✓		✓
	Artnet / sACN compatible	✓		✓
	Set basic digital and analog contacts	✓		✓
Industrial Features	Remote control with MaNima Cloud	✗		✓
	Cloud Database	✗		✓
	Cloud Datalogging	✗		✓
	Cloud Back-up of configurations	✗		✓
	Cloud Feedback	✗		✓
	INP compatible	✗		✓
	UDP Compatible	✗		✓
	OTA software updates	✗		✓
	Adjust PWM-output	✗		✓
	Adjust PWM frequency	✗		✓
	Set advanced digital and analog contacts	✗		✓
	Set (astronomic) timetables	✗		✓
	Enable Pulse mode	✗		✓

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Feature		Description
Pollux Features	MaNima Configurator	Use the MaNima Configurator to adjust or read the parameters of the MaNima Pollux.
	Real-Time temperature monitoring	Use NTC sensors to monitor the temperature of LED Engines. An on-board temperature sensor also measures the temperature of the MaNima Pollux.
	Real-Time electronic monitoring	The MaNima Pollux measures the currents and voltages over its in- and outputs.
	Redundant switching inputs and outputs on error	Use action handlers to switch from outputs or inputs incase of calamities.
	Adjust basic NTC / LDR settings	Adjust maximum and minimum temperatures of LED Engines and dimming curve of PWM Outputs
	Autonomous PWM Dimming	Autonomously decrease the current of the PWM Output to decrease the generated heat of the LED Engine
	Set action/failure handlers	Set action and failure handlers to add functions to the MaNima Pollux.
	Set basic digital and analog contacts	Set action handlers for digital/analog inputs.
Industrial Features	Remote control with MaNima Cloud	Use the MaNima Cloud to configure the MaNima Pollux with the internet.
	Cloud Database	Get insight into all owned MaNima Products in the MaNima Cloud.
	Cloud Datalogging	All measured parameters and saved into the MaNima Cloud.
	Cloud Back-up of configurations	Save configurations to quickly configure other MaNima Polluxes
	Cloud Feedback	Receive status updates from a MaNima Pollux incase of potential calamities.
	INP compatible	Use Industrial Network Protocols to communicate with the MaNima Pollux
	UDP compatible	Use UDP-Commands to communicate with the MaNima Pollux
	OTA software updates	Automatically install Over-The-Air software updates to increase reliability.
	Adjust PWM-output	Adjust all parameters of the PWM-outputs
	Adjust PWM frequency	Adjust the PWM-frequency from 100Hz to 30kHz
	Set advanced digital and analog contacts	Set action handlers for digital/analog inputs.
	Set (astronomic) timetables	Use timetables to set actions handlers for specific times or periodic events.
	Enable Pulse mode	Activate pulse mode for connector 'digital inputs 2'. Use digital inputs 2 to trigger the strobing/pulse mode of individual PWM-outputs, with a minimum pulse length of 10µs.

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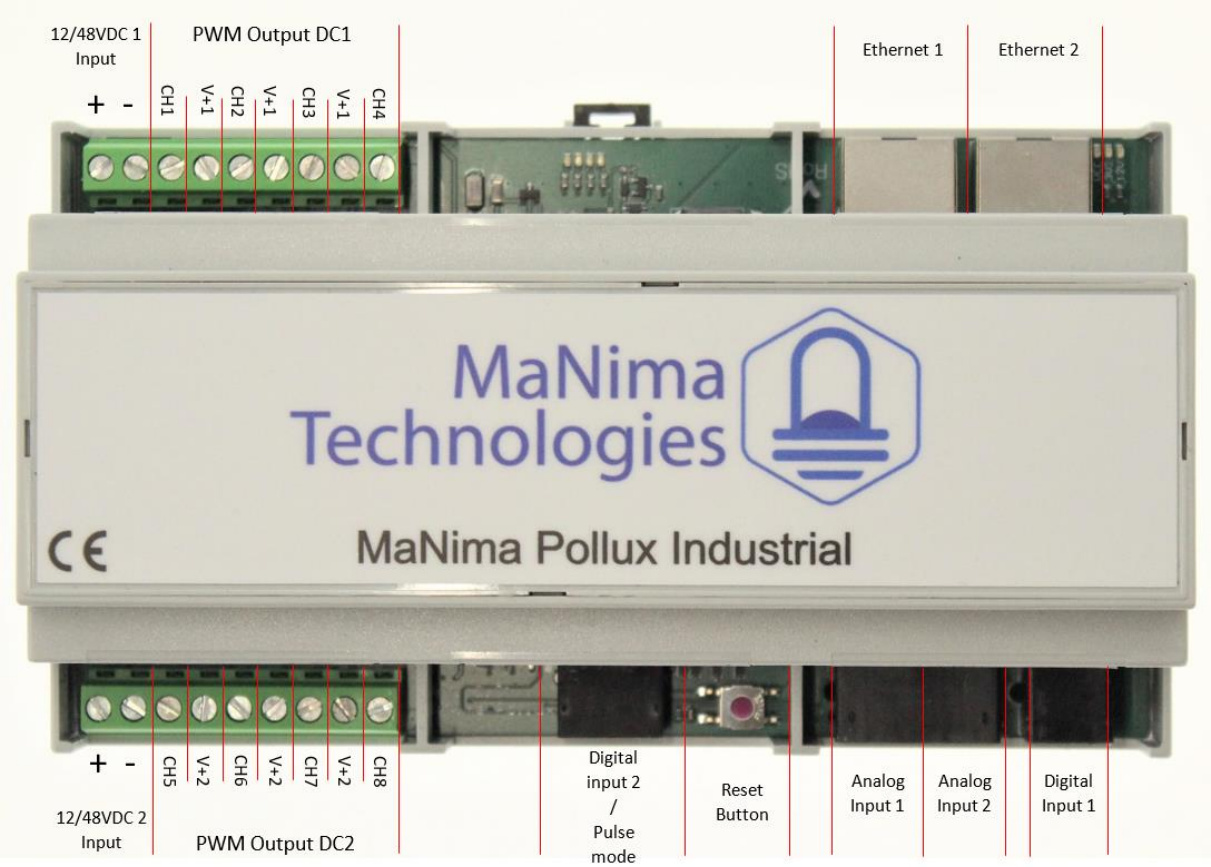
Connection Diagram

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.

Digital input 2 / Pulse mode (Industrial license only): Digital input RJ45 connector.

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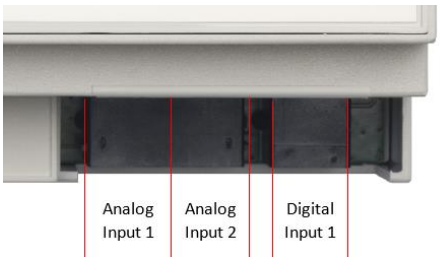
Pinout Connectors:



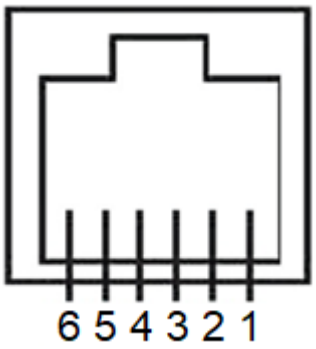
Analog 1			
Pin	Function	Max Current	Max Voltage
1	GND	50mA	0,1V
2	GND	50mA	0,1V
3	NTC / LDR 1_1	50mA	3,3V
4	NTC / LDR 2_1	50mA	3,3V
5	NTC / LDR 3_1	50mA	3,3V
6	NTC / LDR 4_1	50mA	3,3V

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

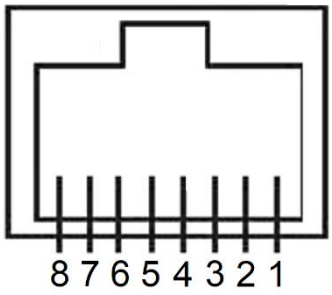
Digital 1			
Pin	Function	Max Current	Max Voltage
1	GND	50mA	0,1V
2	GND	50mA	0,1V
3	Digital Out 2_1	50mA	300V
4	Digital Out 2_2	50mA	300V
5	Digital In 1	5mA	48V
6	Digital in 2	5mA	48V

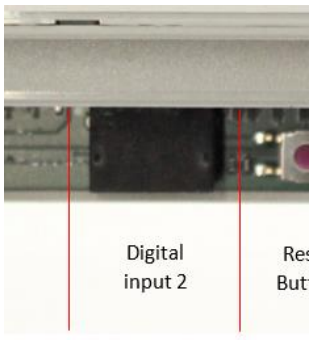
Digital 2			
Pin	Function	Max Current	Max Voltage
1	Digital in 2.1	5mA	48V
2	Digital in 2.2	5mA	48V
3	Digital in 2.3	5mA	48V
4	Digital in 2.4	5mA	48V
5	Digital in 2.5	5mA	48V
6	Digital in 2.6	5mA	48V
7	Digital in 2.7	5mA	48V
8	Digital in 2.8	5mA	48V

6P6C Pinout:



RJ45 Pinout:





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