THE PNEUMATIC ENGINE FEED BY ENERGY STORED FROM RENEWABLE SOURCES, AN ALTERNATIVE TO CONVENTIONAL FUELS

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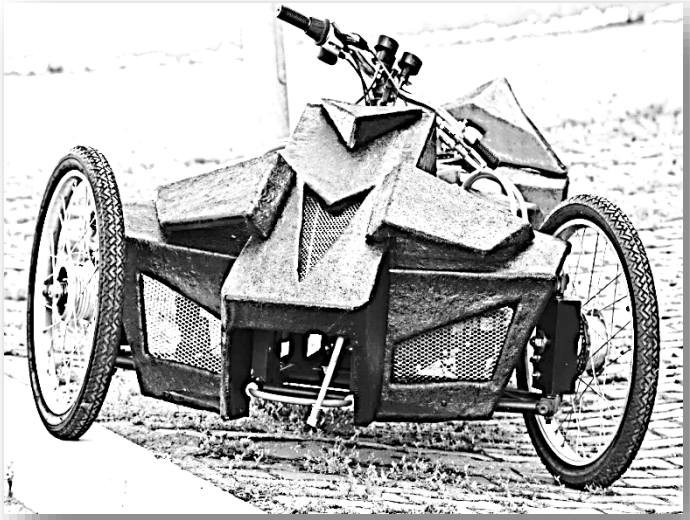
Short details from the project



Among the great challenges of the century in which we live one is the propulsion method.

Pneumatic propulsion engages in this vision.

GOALS

- To use an unconventional energy source
- To use knowledge to develop new ways of propulsion

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INNOVATION SOLUTIONS IN THE MOBILE

The most innovative solution in the car:

1. the using of chassis to preheating the „fuel”
2. creating a battery charging system with photovoltaic panels
3. the use of lightweight materials to achieve bodywork
4. the use of a programmable controller for the control of the car's control systems

The engine can be used for equipping small furniture used for recreation

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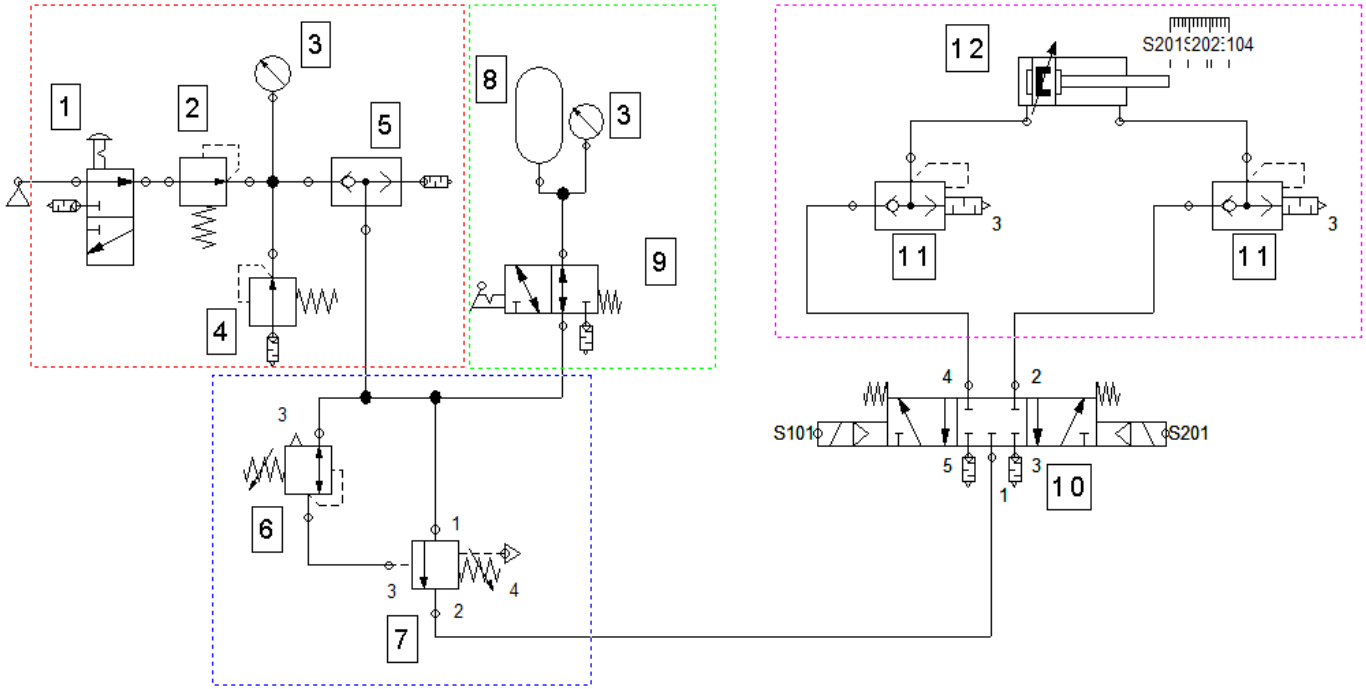
Pneumatic circuit



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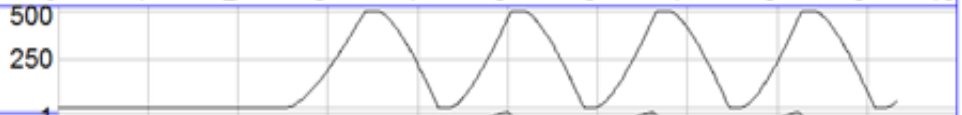
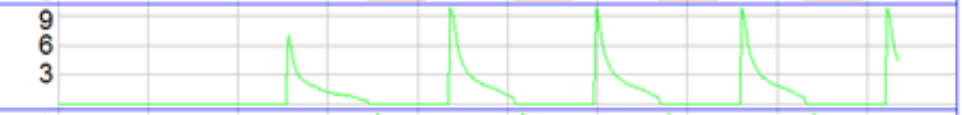
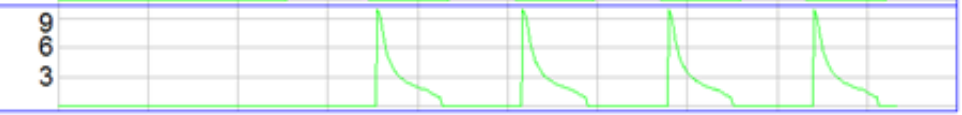
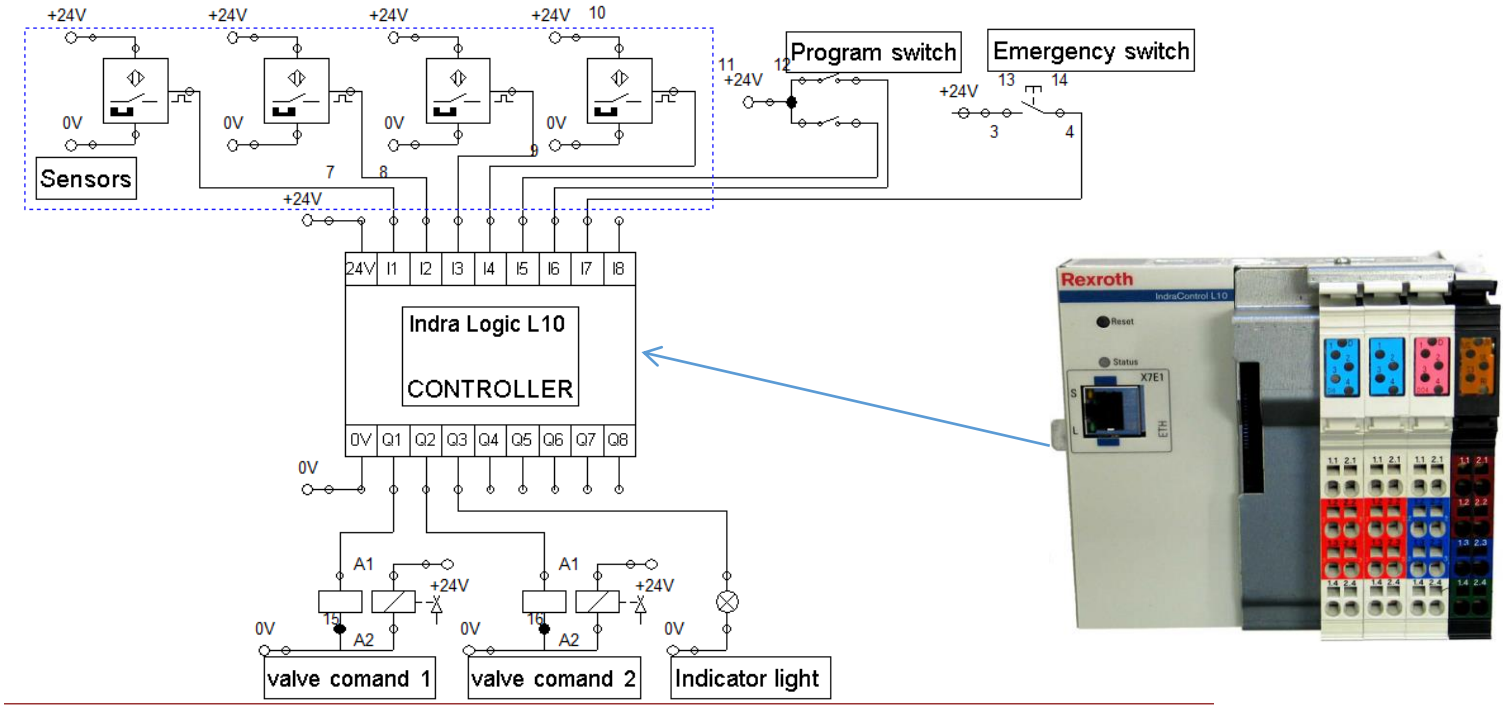
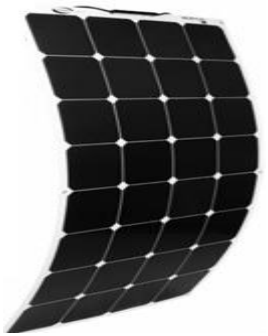
Variation of cylinder parameters depending on the solenoid position

Description	Quantity value	
Double acting cylinder	Position mm	
Double acting cylinder	Velocity m/s	
5/3-way solenoid valve	Switching position	
Push pressure	Pressure bar	
Pull pressure	Pressure bar	

To facilitate control, a programmable controller is used



To charge the batteries, high-efficiency photovoltaic cells are included in the car's case.



Maximum power: 45W
Voltage at maximum power (Vmp): 17.6V
Current at maximum power (Imp): 2.57A
Open circuit voltage (Voc): 21.6V
Short Circuit Current (Isc): 2.66A

A maximum 10 A regulator can be used for charging

Working mode: 12 / 24V
Programming mode twilight sensor mode 7 functions
Own consumption <6mA
Maximum capacity / 10A module
Maximum Output Capacity 10A
Operating temperature -25 ... + 50C

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