DOSPEL
Lider Wentylacji
-SINCE 1974-

Dragon Driver

500V MAX

User manual

NOTE! Before assembly and use
read the entire manual

Control logic operation manual (500V MAX version)

This manual applies to the voltage controller version with a maximum voltage of 500V. This controller is intended for use in installations where the operating voltage does not exceed 500V.

Control logic operation manual

1) Analog input (voltage sensor):

- The variable voltage at the analog input (e.g. a voltage measuring sensor) is read by**controller.**
- The read data is converted into a voltage value in the range of 0-500V, according to the sensor calibration.

2) Operating conditions of digital outputs:

- Based on the voltage reading,**controller**makes decisions about the state of digital outputs. The operation of the outputs depends on the voltage level at the analog input.

The logic of operation of individual digital outputs

Digital input 1:

- Activation

Digital output 1 turns on (high state)**when the analog input voltage is 480V or more.** It works by comparing the voltage value with a threshold (480V). If the voltage exceeds this threshold, digital output 1 is turned on.

- Deactivation

Digital output 1 is**switched off (low)**when the voltage drops below 480V.

Digital input 2:

- Activation

Digital output 2 turns on (high state)**after 2 seconds**when the analog input voltage is 480V or more at all times.

The controller monitors whether the voltage maintains 480V for 2 seconds. If so, digital output 2 is activated.

- Deactivation

Digital output 2 is**switched off (low)**, if the voltage drops below 480V before 2 seconds elapse. The time and the flag that tracks voltage stability are also reset.

Detailed description of the operation process:

Start of action:

- **Controller**starts to cyclically read the voltage from the analog input (e.g. a sensor measuring voltage).
- The voltage value is converted to a volt value (range 0-500V) and compared to the 480V threshold.**Controller**supports the version designed to work in installations with a maximum voltage of 500V.

Voltage ≥ 480V:

- When the voltage exceeds or reaches 480V, digital output 1 is immediately turned on (high state).
- If the voltage remains at 480V or higher for 2 seconds, digital output 2 also becomes ON (high).

- After 2 seconds, if the voltage is still ≥ 480V, output 2 remains on.

Voltage < 480V:

- If the voltage drops below 480V, digital output 1 is immediately turned off (low state).
- Additionally, if the voltage drops below 480V before 2 seconds elapse, digital output 2 is turned off and all flags are reset.

Voltage monitoring:

- **Controller**works in a loop, which means that the process of reading and analyzing the voltage is repeated cyclically. Actions at the outputs are taken on an ongoing basis based on the current voltage readings.

Voltage range:

- **Controller**can be used in voltage installations with different voltage ranges (from 0 to 1000V), depending on the selected device version. Thanks to this, it can be adapted to different installation needs, offering flexibility in applications with different operating voltages.

Power supply:

The controller is powered from**external, dedicated 12V power supply,**which is included in the package. This power supply provides the appropriate voltage to operate the device. Make sure that the power supply is connected correctly and works stably to ensure proper operation**controller.**

To**controller**function reliably, especially in the event of a power failure, it is recommended**connecting the device to the UPS**(uninterrupted power supply). Thanks to this, in the event of a power outage,**controller** will remain fully functional and able to continue operating without disruption.

Safety of electrical equipment installation

When installing the controller and any electrical device in high-voltage installations (up to 500V), safety rules must be followed to avoid risks related to electric shock, damage to devices and fire.

Here are some key rules:

1) Use appropriate tools and protective equipment:

- Make sure you are using insulated tools that are rated for high voltage use.
- Always wear protective equipment, including electrically insulating gloves and safety glasses.

2) Disconnect the power before installation:

- Before starting any work involving installing or modifying the electrical system, make sure the power has been turned off.
- Use appropriate lockouts and warnings to prevent accidental re-energization.

3) Compliance with electrical standards:

- Make sure that electrical equipment is installed in accordance with applicable standards and laws.

- Check that the controller is certified to operate within the given voltage range (0-500V) and that it meets the appropriate safety standards.

4) Insulation and protection of wires:

- Install the appliance in a way that ensures adequate insulation of the wires to avoid the risk of electric shock.

- Ensure that all cables are properly insulated and protected against mechanical damage and moisture.

- Remember to check the electrical connections before starting the system.

Warranty period

The controller is covered by a 2-year warranty, which covers manufacturing defects of the device. The warranty does not cover damage resulting from improper use, mechanical damage or external forces. In the event of a complaint, contact an authorized service center.

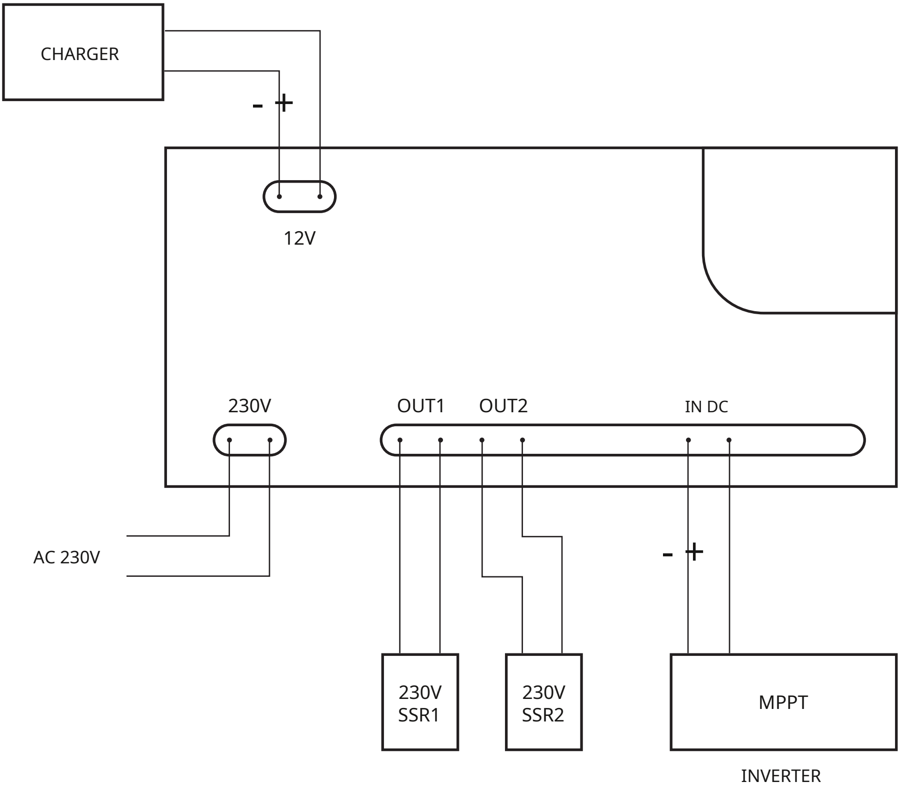
Connection

To properly connect the controller to the system, follow these steps:

1) Installation preparation:
Make sure the system is turned off and secured against accidental re-powering.

2) Connecting inputs:
Connect the wires from the inverter to the analog input marked (IN DC), taking care to observe polarity and properly label and insulate the wires.

3) Connecting outputs:
Digital outputs 1 and 2 should be connected to the appropriate devices or systems that are to be controlled based on the results from the analog input. It is recommended to use SSR relays with a coil voltage of up to 35V DC.



WARRANTY CARD NO. ....

date notifications and order number	date execution repairs	specification of materials and repair activities	number fitter signature

MODEL:	**MODEL:**	**MODEL:**
serial number: .... **date of sale: ....**	**serial number: ....** **date of sale: ....**	**serial number: ....** **date of sale: ....**
seller's stamp	seller's stamp	seller's stamp
warranty card is an attachment	**warranty card is an attachment**	**warranty card is an attachment**
to account no.	**to account no. ....**	**to account no. ....**
date:	**date: ....**	**date: ....**
signature and stamp of the repair shop	signature and stamp of the repair shop	signature and stamp of the repair shop