15W0132B100

Guide for SINUS S

Crane Application

Summary

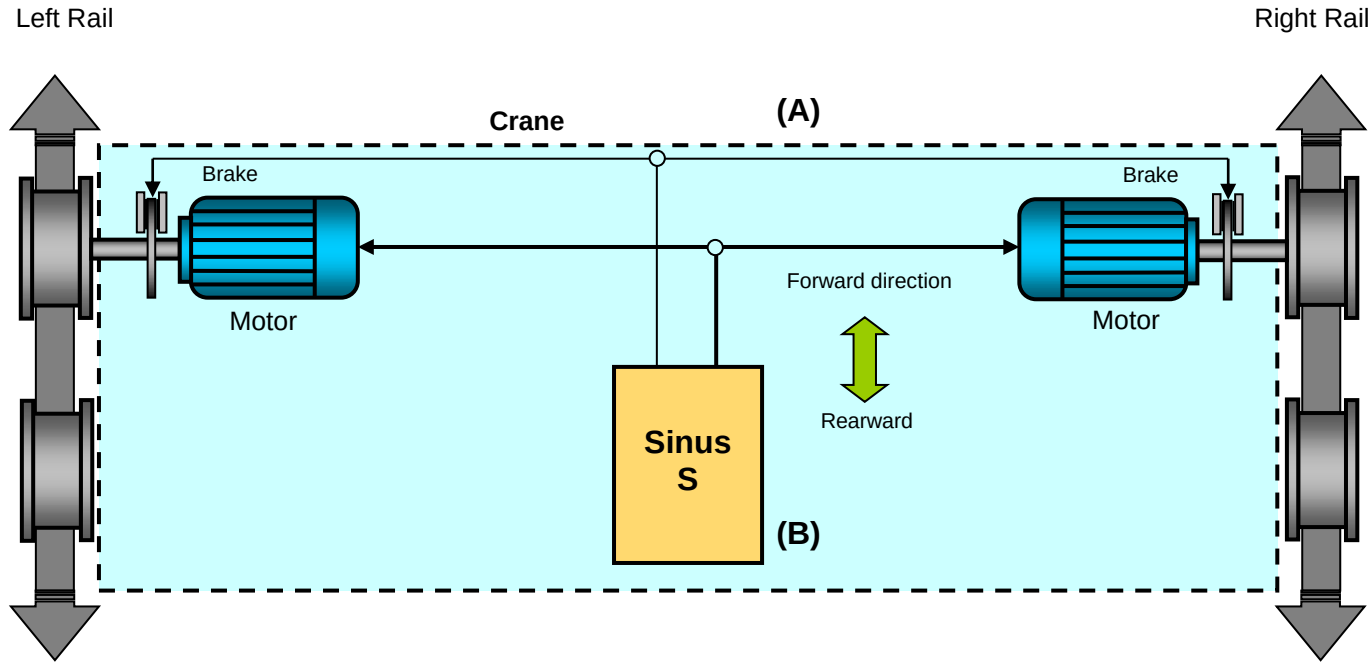


Figure 1 **Lateral side view**

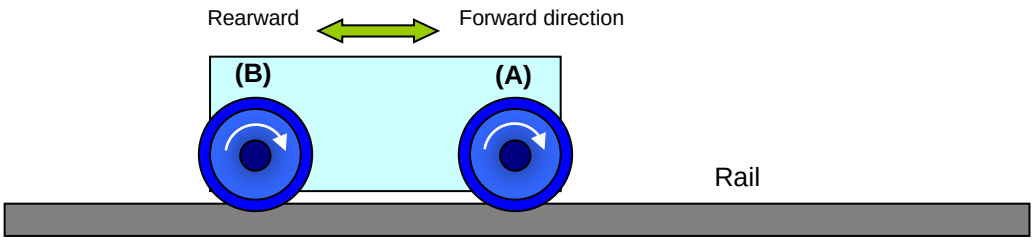


Figure 2

1. Wirings and configuration

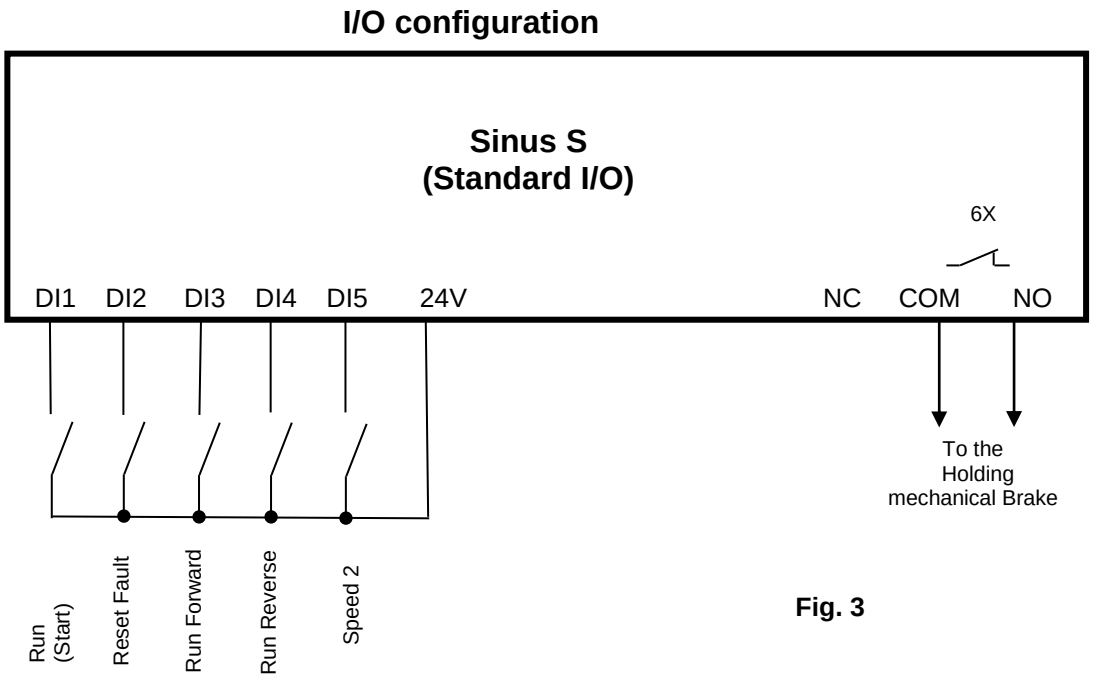


Fig. 3

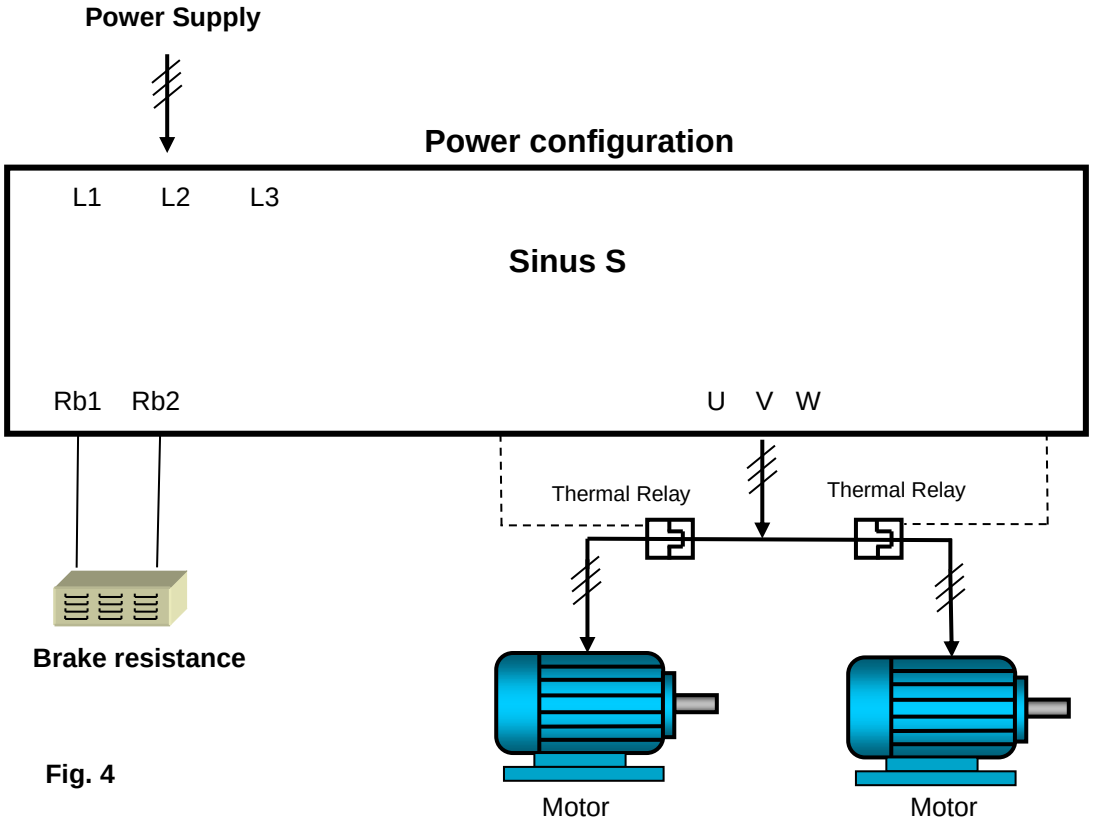


Fig. 4

2. Description

This guide is made for the translation (gantry and trolley) of a crane. The drive can control one or more motors connected in parallel (in this guide 2 motors are shown), the important thing is that the power of the motors MUST NOT be greater than the inverter nominal power.
For example, there are 2 motors and each motor is 2 kW. If the inverter is 5.5 kW, the inverter will control both the motors without problems, if the inverter is less than 4kW, it will be damaged.
Moreover, it is possible to have different preset speeds (in this guide will be shown a 2 speeds crane) and it is also possible to control a mechanical brake.

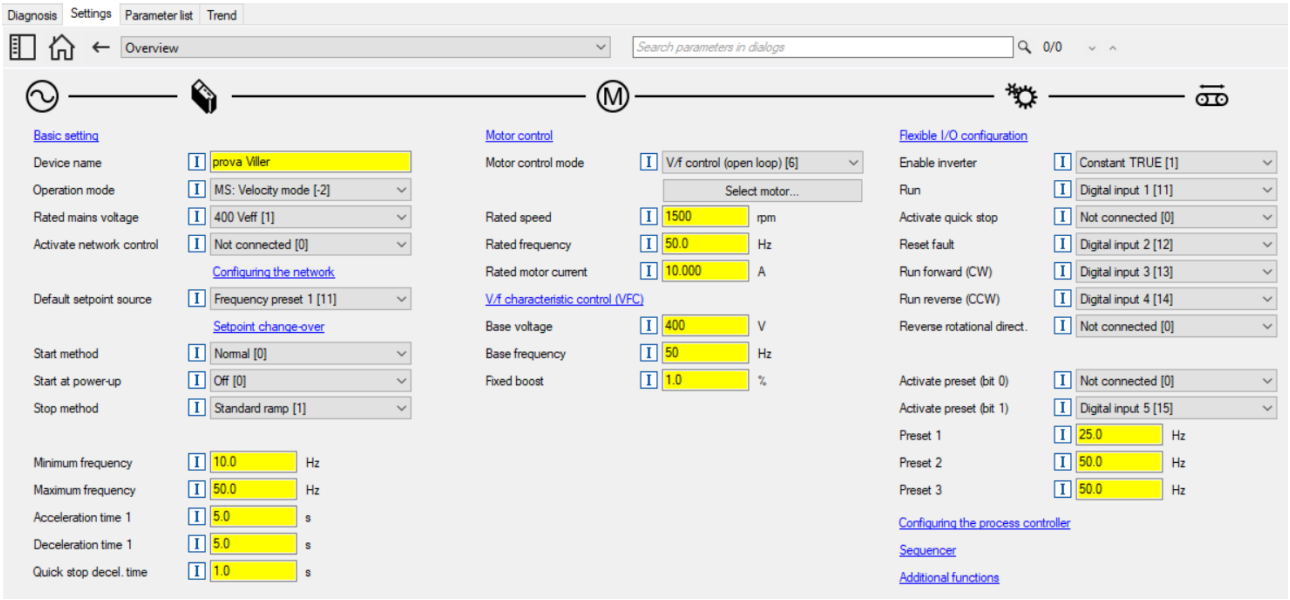
When there is more than 1 motor, we suggest you to protect each motor with a thermal overload relay. This must not open the circuit, but it must stop the inverter. It is possible to give an external alarm to the inverter through a NO contact.

2.1. Installation

Connect the grid and the motor to the inverter as shown in the pictures.
The motor must always be directly connected to the inverter without fuses or switches.
Connect the braking resistor, using Rb1 and Rb2. Be sure that the resistance value is greater than the minimum admissible value for that size of inverter. See the manual for the minimum resistance values.

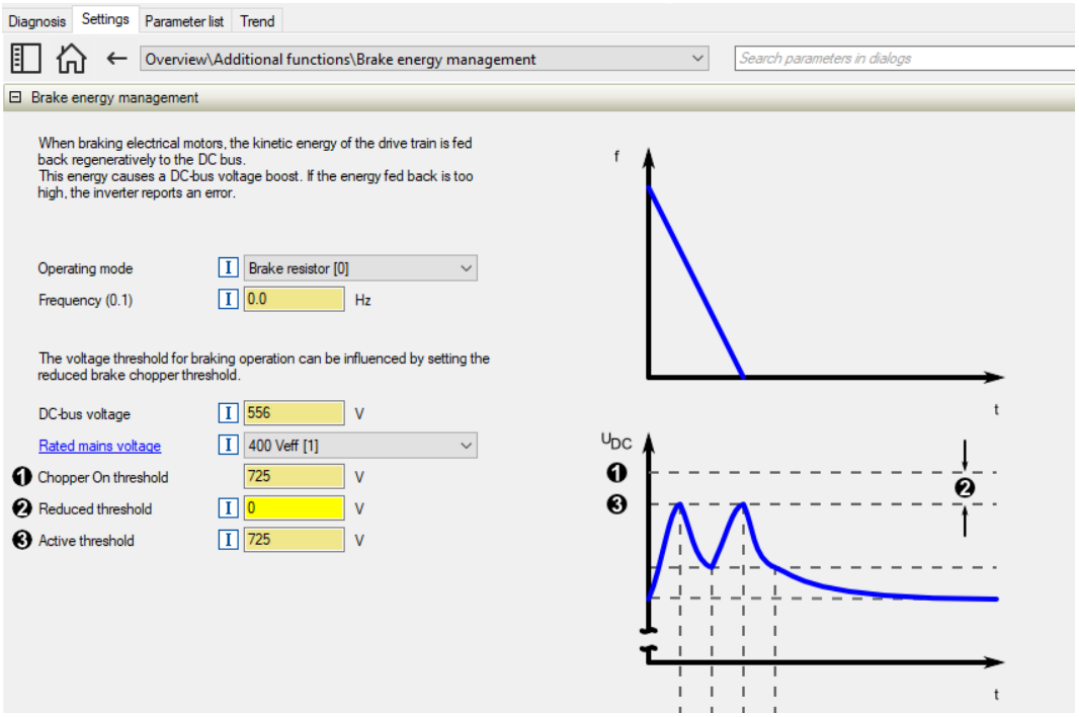
The mechanical brake is directly controlled by the inverter through the digital output or relay.

3. Example of setup



3.1. Overview

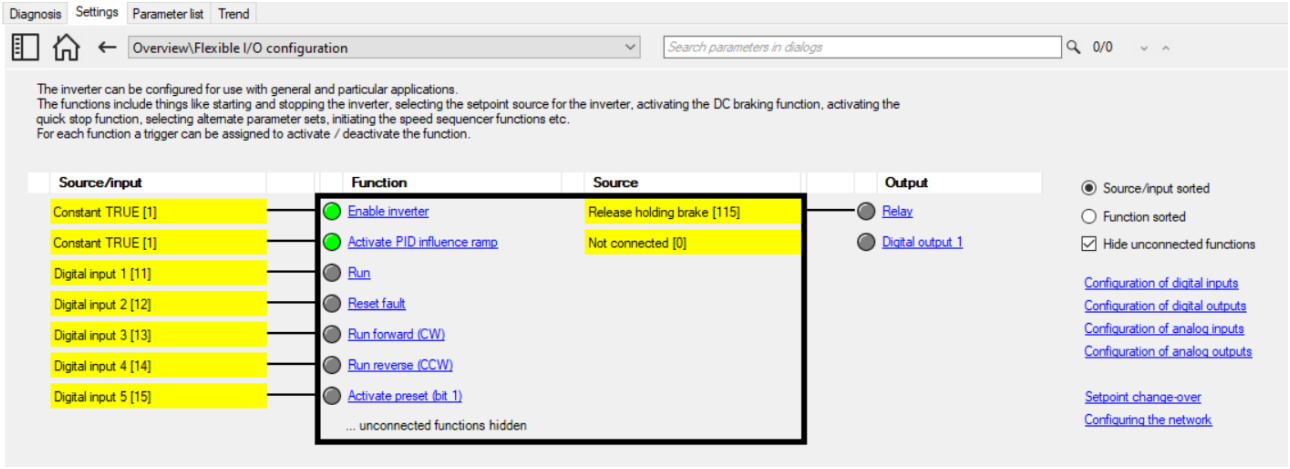
In the Overview are shown the main parameters to set: motor power, current, digital input, frequency reference etc.
In this example, preset speeds have been programmed. In this way, when the user will close Start (DI1) and Run Forward (DI3), the setpoint will be 25 Hz.
If the user will close Active preset (DI5), the setpoint will become 50Hz.

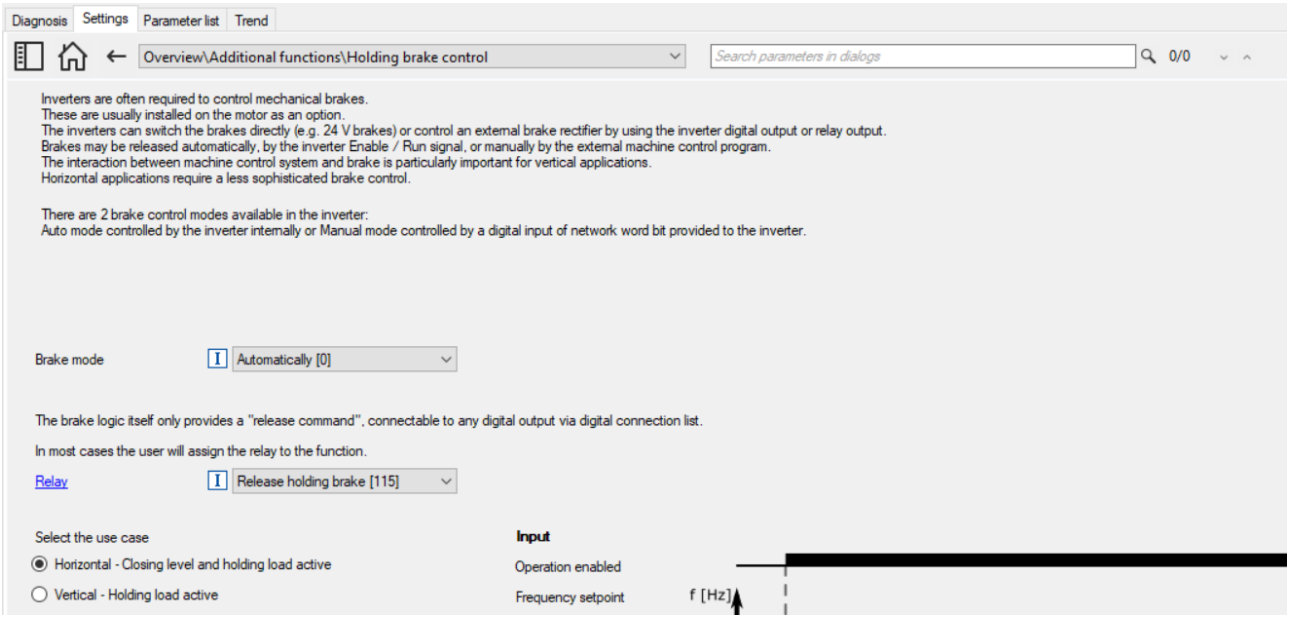


3.2. Brakes

In the example, the brake resistor has been programmed to stop quickly the motors. It is possible to set the voltage threshold in order to fix the maximum DC bus voltage level.

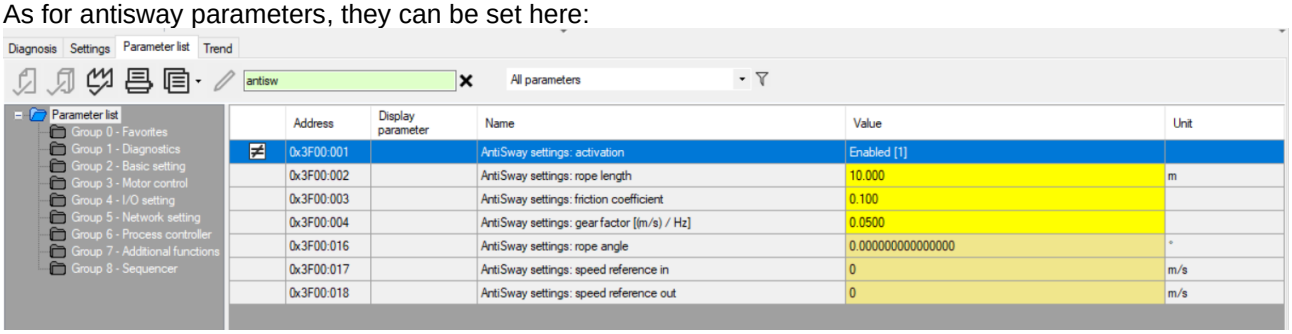
Moreover, also the holding mechanical brake has been programmed. In the following pictures it is shown how the output relay can be programmed to open this brake.





3.3. Antisway

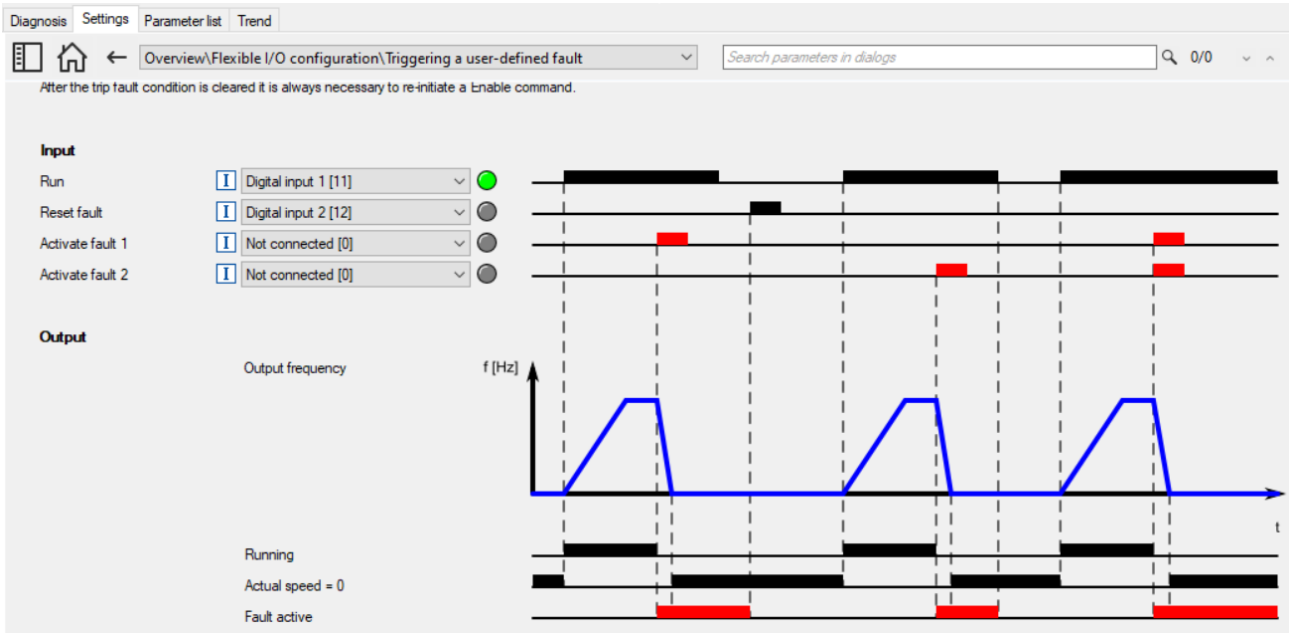
As for antisway parameters, they can be set here:



The important parameters are 2: Enable to activate the function, Length to set the maximum length of the rope. The friction coefficient is useful only to adjust the oscillation if the antisway function is not working well. The gear factor is only a scaling factor and it does not influence the performance of the function.

3.4. External alarm

In addition, an external alarm can be set to stop the crane for emergency or if the thermal relay of the motor trips to protect them.
“Activate fault 1” or “Activate fault 2” can be used for these aims.



NOTE:
If I/O are not enough, another control unit with other 2 Digital Input is available (Application I/O option).