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Discrete Raise Low Function

Simon - 2024-09-27 - easYgen-3000XT

1. Introduction

The "Discrete raise low function" is providing a function to vary setpoints according to binary signals of LogicManagers.

Most commonly push-buttons are used to energize digital inputs of the control: These inputs are assigned to the LogicsManager for the raise / low function.

As long as a push-button is pushed the corresponding setpoint will be raised or lowered with a configurable ramp rate.

Frequency and voltage can be adjusted within the configured operating limits.

Active power may be adjusted between 0 and the configured load control setpoint maximum "5523 Load control setpoint maximum".

The power factor may be adjusted between 0.71 leading and 0.71 lagging.

The following chapters give an example how to configure the application mentioned before.

2. Example

The example shows the configuration for variing the setpoints by four push-buttons connected to the digital inputs 9 - 12.

The following configuration steps are required:

- Assign the analog variables for discrete setpoints to the AnalogManagers for frequency, power, voltage and PF setpoints.
- Assign digital inputs 9 12 to the LogicManagers "Discrete f/p+", "Discrete f/P-", "Discrete V/PF+", "Discrete V/PF-".
- Configure ramps (speed for raise / lower [%/s]).

${\bf 2.1.}\ Frequency\ and\ load\ setpoint\ via\ discrete\ raise\ /\ low\ function$

In this example digital input 9 will be used to lower and digital input 10 will be used to raise the frequency / load setpoint.

2.1.1. Configuration of the analog manager for frequency setpoint 1: SP1



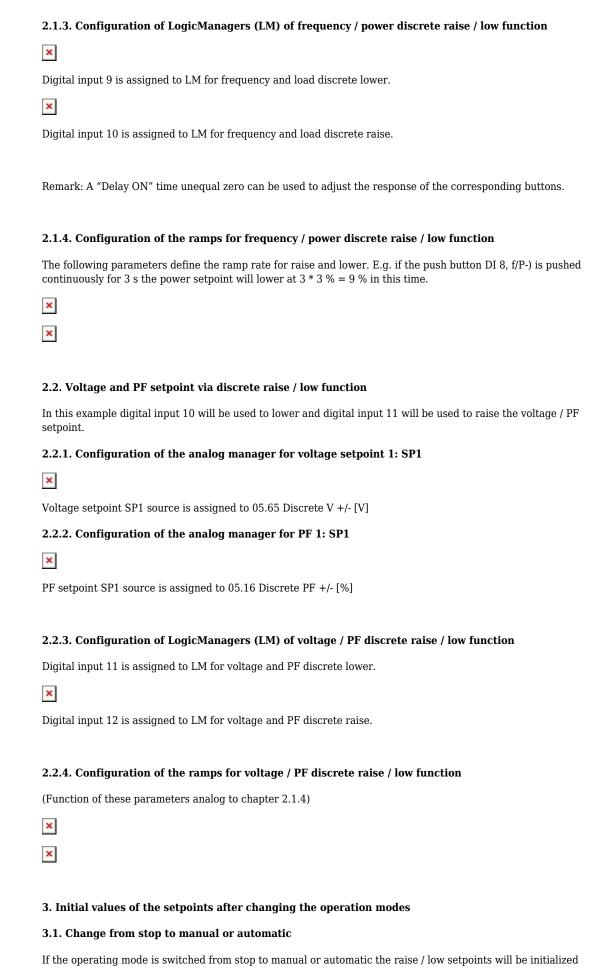
Frequency setpoint SP1 source is assigned to 05.63 Discrete f +/- [Hz]

2.1.2. Configuration of the analog manager for load setpoint 1 SP1



Power setpoint SP1 source is assigned to 05.64 Discrete P +/- [W]

(starting from revision 1.15: to 05.14 Discrete P +/- [kW])



like the following:

P: 0,

PF: 1

f: rated frequency

V: rated voltage

3.2 Change from manual to automatic

If the easYgen is in state "In operation" and the operating mode is switched from manual to automatic, the raise / low setpoints will be initialized like the following:

P: current measured value,

PF: current measured value

f: rated frequency

V: rated voltage

3.3 Change from automatic to manual

If the easYgen is in state "In operation" and the operating mode is switched from automatic to manual, the raise \prime low setpoints will be initialized like the following:

P: current measured value,

PF: current measured value

f: current measured value

V: current measured value