STEP BY STEP

INSTRUCTION

PD2 - ELECTRONICS

Wandfluh AG   *Tel: +41 33 672 72 72*   *Email: sales@wandfluh.com*   *Page 1*
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PD2_Instruction_controller_e

Contents

1 General Information

This step by step guide is designed to provide the user with a simple alignment. It contains for any amplifier type an instruction which describes the required parameters in the correct order.

For a detailed description of the hardware, a product description and a description of all parameters, please refer to "Operating instructions to Amplifier Electronics PD2".

Note: Please read in advance the appropriate operating instruction.

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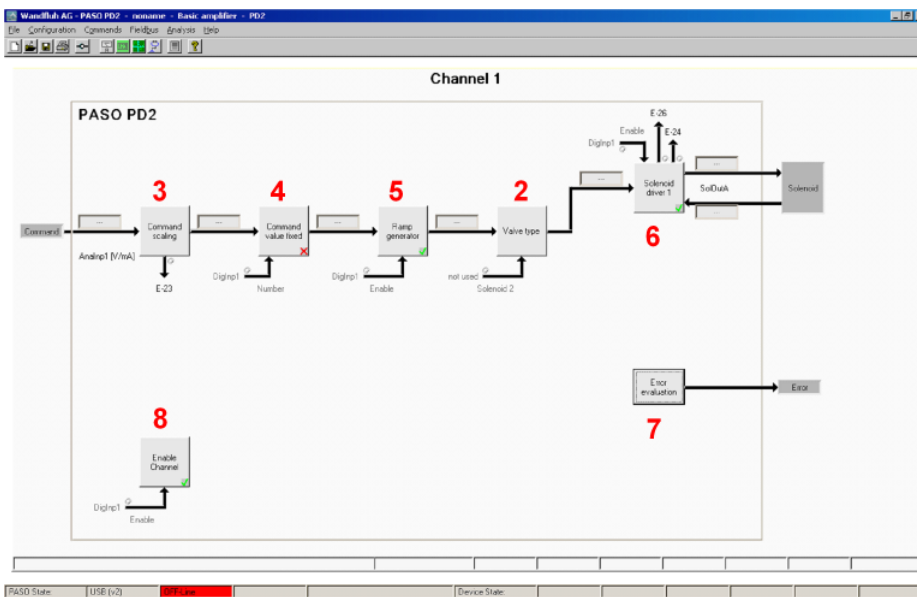# 2 Setup Instruction 1-solenoid valve open loop

2.1 Introduction

This guide shows with an example how to set the PD2 Electronics for controlling a 3/2-way proportional valve in a open loop control (without a feedback signal) for controlling a hydraulic motor with one directions.

Pretended:
Mode of operation: Command uni/bipolar (1-sol)
Command signal: 0 ... 10V at the analog input 1
Valve connection: 3/2-way proportional valve at solenoid A
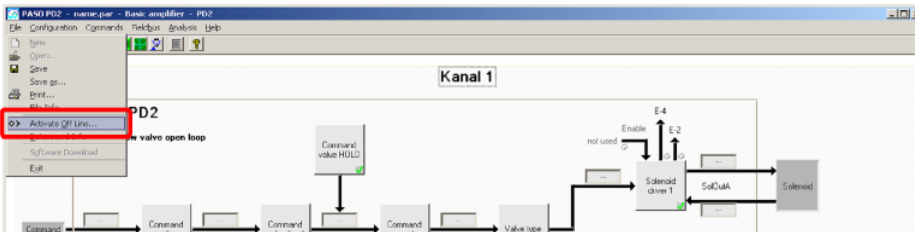Enable channel: external via digital input 1

The following steps are necessary (steps with the remark "optional" are only necessary if needed):
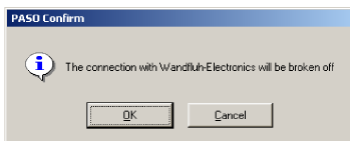

1. Activate PASO Off Line mode [5]
2. Select valve type [6]
3. Scale command signal [6]
4. Set command values fixed [6] (optional)
5. Set ramp generator [6] (optional)
6. Set solenoid driver 1 [6]
7. Set error evaluation [7] (optional)
8. Set enable channel [7]
9. Save parameters in a file [8] (optional)
10. Activate PASO On Line mode [9]
11. By activating the digital input 1, the channel 1 will be released

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2.2 Activate PASO Off Line mode

Select "File - Activate Off Line"

Select "OK"

In the status line the message "Off-Line" appears

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2.3 Select valve type

Parameter	Description
Mode of operation	Select the corresponding mode of operation (in the example "Command uni/bipolar (1-sol)")
Solenoid type	Select the solenoid type of the connected valve (in the example "Proportional solenoid with current measurement")
Valve type	Select the valve type of the connected valve (in the example "Standard 1-solenoid)

The remaining parameters have no function.

2.4 Scale command signal

Parameter	Description
Signal type	Set the signal type from the command signal generator (in the example "Voltage")
Used analog input	If the parameter "Signal type" is set to "Voltage" or "Current", the input where the command signal generator is connect can be selected here (in the example "AnaInp1 [V/mA]")
Used digital input	If the parameter "Signal type" is set to "Digital", "Frequency" or "PWM", the input where the command signal generator is connect can be selected here
Cablebreak detection	If the parameter "Signal type" is set to "Current", "Frequency" or "PWM", a cablebreak detection of the command signal generator can be activated
Lower cablebreak limit	If the parameter "Cablebreak detection" is set to "yes", the lower limit of this detection can be set here (command value < lower cablebreak limit = cablebreak)
Upper cablebreak limit	If the parameter "Cablebreak detection" is set to "yes", the upper limit of this detection can be set here (command value > upper cablebreak limit = cablebreak)
min interface	Set the minimum command signal level (in the example 0V)
max interface	Set the maximum command signal level (in the example 10V)
Deadband function	Enable the deadband function
Deadband threshold	If the parameter "Deadband function" is set to "on", the threshold for the deadband can be set here (command value < deadband threshold => solenoid output = 0)

The remaining parameters have no function

2.5 Set command values fixed (doptional)

Parameter	Description
Enable	Enable the fixed command value function
Selection 1	Set the desired digital input for the fixed command value 1
Fixed command value 1	Set the desired command value for the fixed command value 1. This value becomes the active command value if the digital from "Selection 1" is activated

2.6 Set ramps (optional)

Parameter	Description
Enable	Enable the ramp generator function
Ramp positive up	Ramptime for the current increase on solenoid driver 1
Ramp positive down	Ramptime for the current decrease on solenoid driver 1

2.7 Set solenoid driver 1

Parameter	Description

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Solenoid output	Select the output, where the solenoid is connected (in the example "SolOutA")
Enable	Selection, if the solenoid output is constantly enabled (selection "on"), constantly disabled (selection "off") or if it depends on a digital input (selection "external")
Dig. input	If the parameter "Enable" is set to "external", the corresponding digital input can be selected here
Inversion	If a solenoid with a inverse function is used, this selection should be "yes", otherwise "no"
Cablebreak detection	If the cablebreak detection for the solenoid output is desired, this selection should be "yes", otherwise "no"
Characteristic optimisation	If valve characteristic optimisation is desired, then switch it to "on", otherwise switch it to "off". The values themselves can be adjusted in the tab "valve characteristic".
Imin	Set the desired minimum current for solenoid A (correspond to the current at 0% command signal)
Imax	Set the desired maximum current for solenoid A (correspond to the current at 100% command signal)
Dither function	The dither function should be activated (Selection "on")
Dither frequency	Set the desired dither frequency value
Dither level	Set the desired dither level value

The remaining parameters have no function
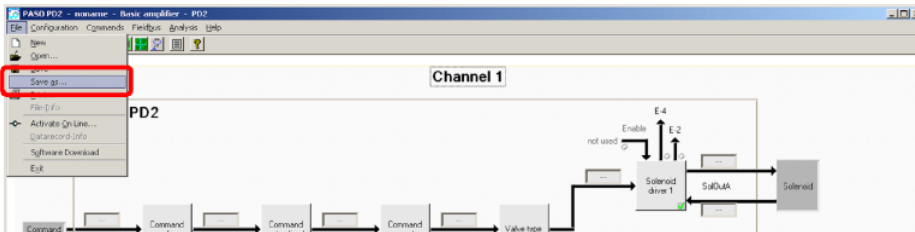
2.8   Set error evaluation (optional)

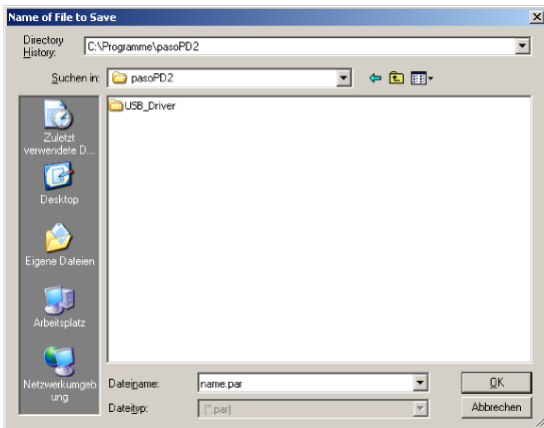| Parameter	Description
Error action	With error "Cablebreak command signal" and "Cablebreak feedback signal", the desired error action can be set. The default setting is "Solenoid 1 off"

2.9   Set enable channel

Parameter	Description
Enable	Selection, if the channel is constantly enabled (selection "on"), constantly disabled (selection "off") of if it depends on a digital input (selection "external")
Dig. input	If the parameter "Enable" is set to *external", the corresponding digital input can be selected here (in the example "DigInp1")

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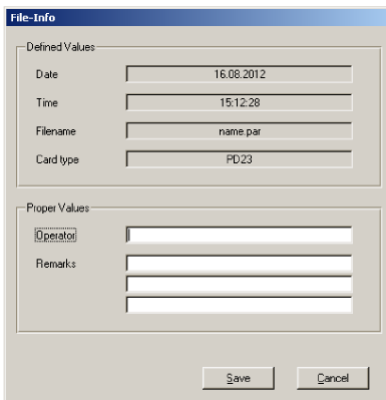## 2.10 Save parameters in a file (optional)

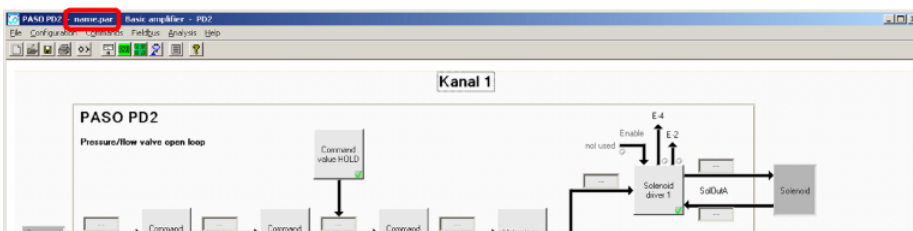Select "File - Save as ..."

Enter the directory and file name, afterwards select "OK"

If required, enter the corresponding values to "Operator" and "Remarks", afterwards select "OK"
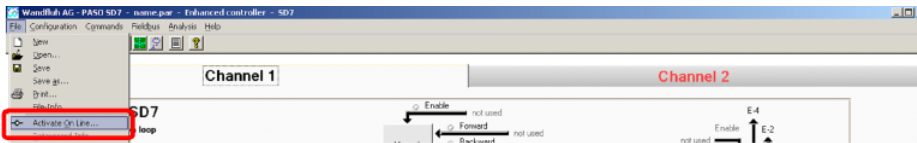

In the header line the corresponding file name appears

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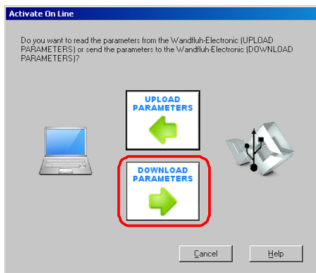
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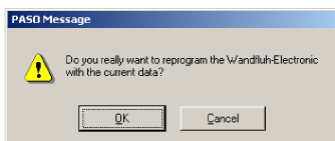
2.11   Activate PASO On Line mode

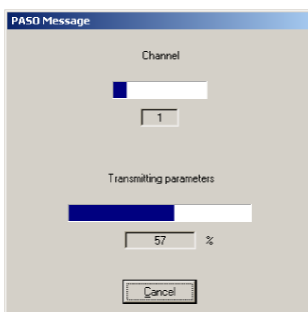Select "File - Activate On Line"

Select "Program the Wandfluh-Electronic with the new actual data?"

Select "OK"

Select "OK"

Wait, until all parameters are sent to the PD2 Electronics

In the status line the message "On-Line" appears

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