

# Examples for setting Parameters of DMMD

The setting of DMMD parameters can be realised by connecting specific wires of the open ended parameter cable accessory. This can be done e.g. with

- Switches
- Plugs / Insolation Screw
- Twisting / Soldering of the stripped ends

Some examples are described on the following slides.

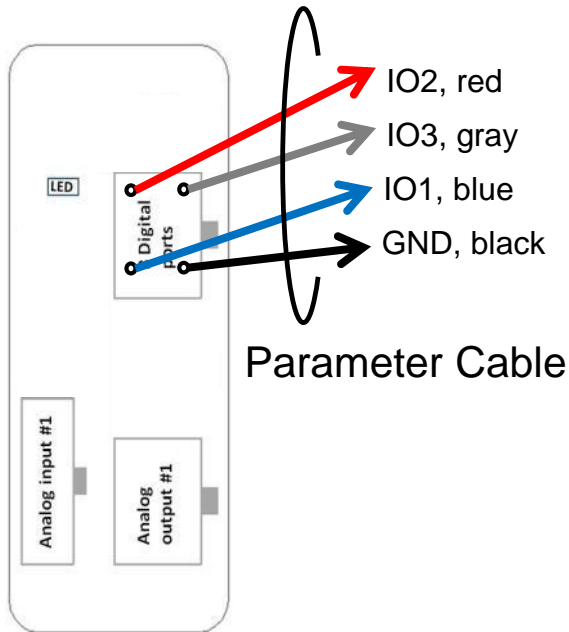
e.g.: Single Handle Bar Switches



e.g.: 3 Positions Handle Bar Switch



# DMMD Parameter settings



To achieve a certain setting for the throttle response the wires have to be connected according to the following table

Throttle response		Connect corresponding wires			
Adjusting range	Setting time	gray	red	blue	black
80%, soft	3.5sec, very slow	✓	-	-	✓
80%, soft	2.3sec, slow	✓	✓	-	✓
80%, soft	1.5sec, fast	✓	-	✓	✓
80%, soft	0.8sec, very fast	✓	✓	✓	✓
45%, aggressive	3.5sec, very slow	-	-	-	-
45%, aggressive	2.3sec, slow	-	✓	-	✓
45%, aggressive	1.5sec, fast	-	-	✓	✓
45%, aggressive	0.8sec, very fast	-	✓	✓	✓

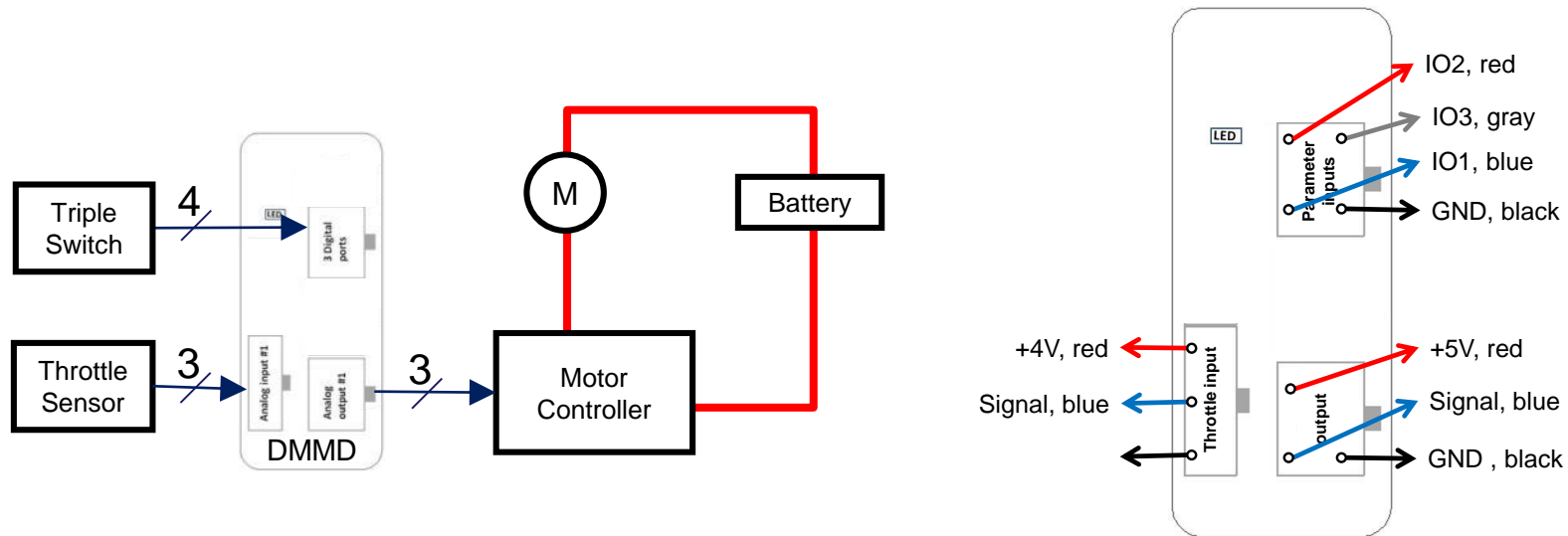
\*)

\*) Standard setting, without parameter cable

Adjusting range: Percentage of the full throttle range to cover the range of 0 ... 100% torque  
 Large Range = soft throttle response, smaller range = more aggressive response

Setting time: time that elapses from opening throttle until steady state of the output signal

# DMMD wiring diagram for OSET PI-type open loop controller



## Parameter settings for OSET PI-type open loop controller

Switch to GND		Time Constant	Switch to GND		Adjusting Range
IO1	IO2	0% bis 100% [sec]	IO3	/ Throttle Signal	
open	open	3.5 (slow) *)	open	medium 45% *)	
open	closed	2.3	closed	large 80%	
closed	open	1.5			
closed	closed	0.8 (fast)			

\*) default setting without switch

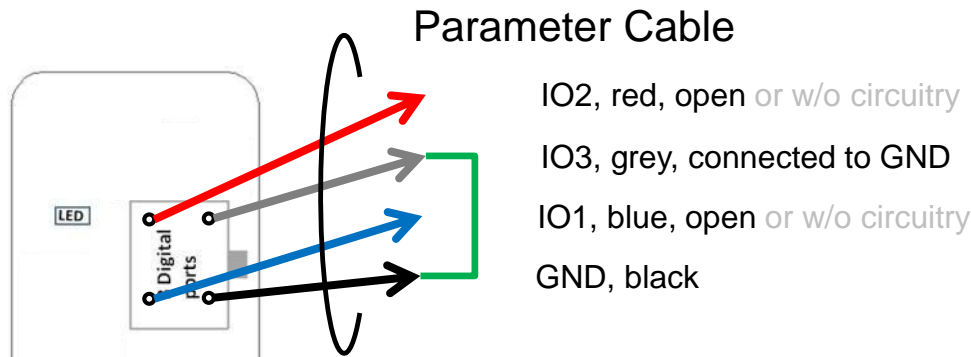
Adjusting range: Percentage of the full throttle range to cover the range of 0 ... 100% torque  
 Large Range = soft throttle response, smaller range = more aggressive response  
 Setting time: time that elapses from opening throttle until steady state of the output signal

# PI-type open loop controller OSET: Fixed setting for Time Constant and Adjusting Range



Example of **fixed setting of Adjusting Range** using:

- Twisting stripped ends of parameter cable



Resulting Parameters :  
Time Constant: 3,5 Seconds  
Adjusting Range large 80%

## Parameter settings for OSET PI-type open loop controller

Switch to GND		Time Constant	Switch to GND	Adjusting Range
IO1	IO2	0% to 100% [sec]	IO3	/ Throttle Signal
<b>open</b>	<b>open</b>	<b>3.5 (slow) *)</b>	open	medium 45% *)
open	closed	2.3	<b>closed</b>	<b>large 80%</b>
closed	open	1.5		
closed	closed	0.8 (fast)		

\*) default setting without switch

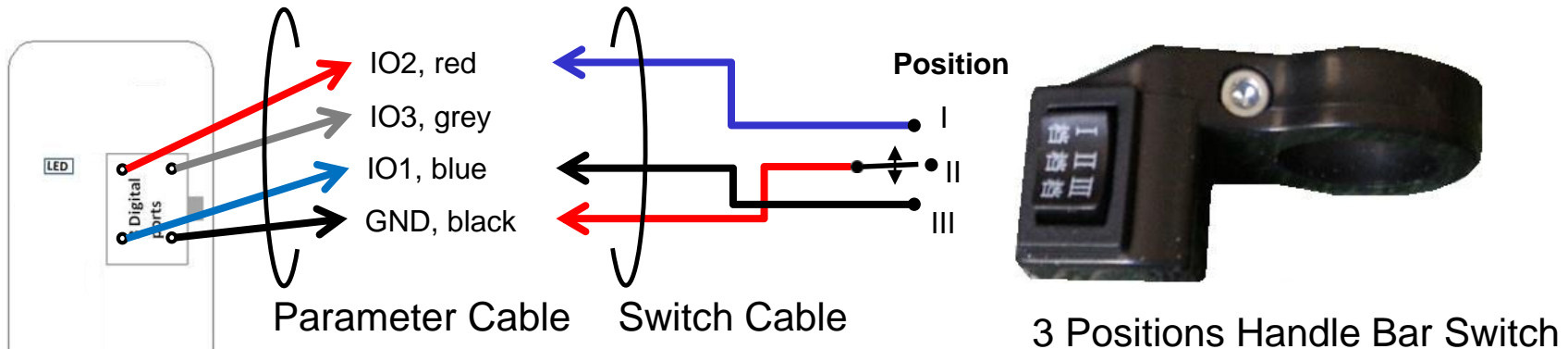
Adjusting range: Percentage of the full throttle range to cover the range of 0 ... 100% torque  
Large Range = soft throttle response, smaller range = more aggressive response  
Setting time: time that elapses from opening throttle until steady state of the output signal



# PI-type open loop controller OSET: Setting of Time Constant with Switch

Example of **switching between 3 Time Constants** using:

- 3 Positions Handle Bar Switch



## Switching Parameter settings for OSET PI-type open loop controller

3 Positions Switch	Time Constant
	0% to 100% [sec]
<b>Position II</b>	<b>3.5 (slow) *)</b>
<b>Position I</b>	<b>2.3</b>
<b>Position III</b>	<b>1.5</b>
Not available	0.8 (fast)

Switch to GND	Adjusting Range
IO3	/ Throttle Signal
offen	medium 45% *)

\*) default setting without switch

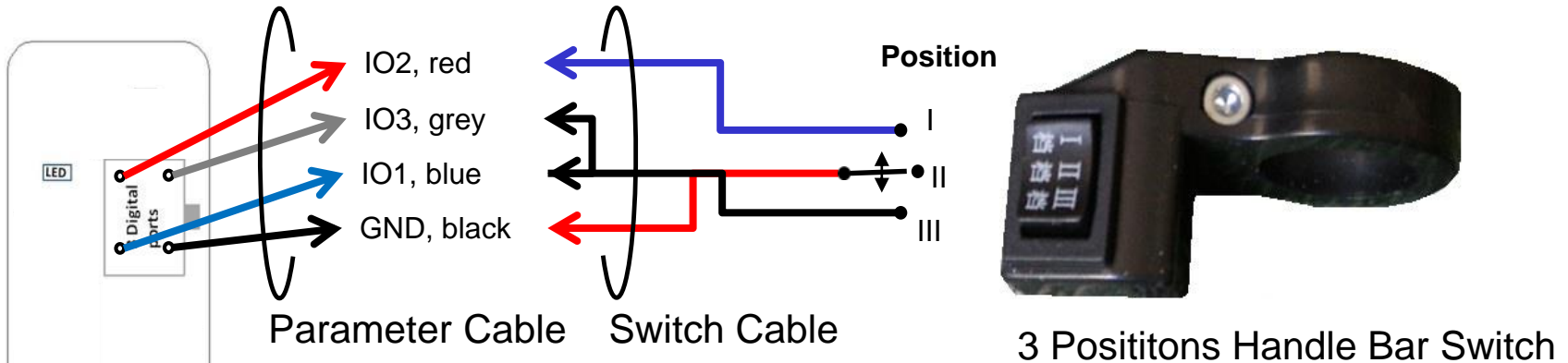
Adjusting range: Percentage of the full throttle range to cover the range of 0 ... 100% torque  
 Large Range = soft throttle response, smaller range = more aggressive response  
 Setting time: time that elapses from opening throttle until steady state of the output signal



# PI-type open loop controller OSET: Setting of Time Constant and Adjustment Range with Switch



Example of **combined switching between 3 Time Constants and 2 Adjustment Ranges** using 3 Positions Handle Bar Switch



Switching Parameter settings for OSET PI-type open loop controller

3 Positions Switch	Time Constant
	0% to 100% [sec]
<b>Position II</b>	<b>3.5 (slow) *)</b>
<b>Position I</b>	<b>2.3</b>
<b>Position III</b>	<b>1.5</b>
Not available	0.8 (fast)

3 Positions Switch	Adjusting Range
	/ Throttle Signal
<b>Position II</b>	<b>medium 45% *)</b>
<b>Position I</b>	<b>medium 45% *)</b>
<b>Position III</b>	<b>large 80%</b>

\*) default setting without switch

Adjusting range: Percentage of the full throttle range to cover the range of 0 ... 100% torque  
Large Range = soft throttle response, smaller range = more aggressive response  
Setting time: time that elapses from opening throttle until steady state of the output signal

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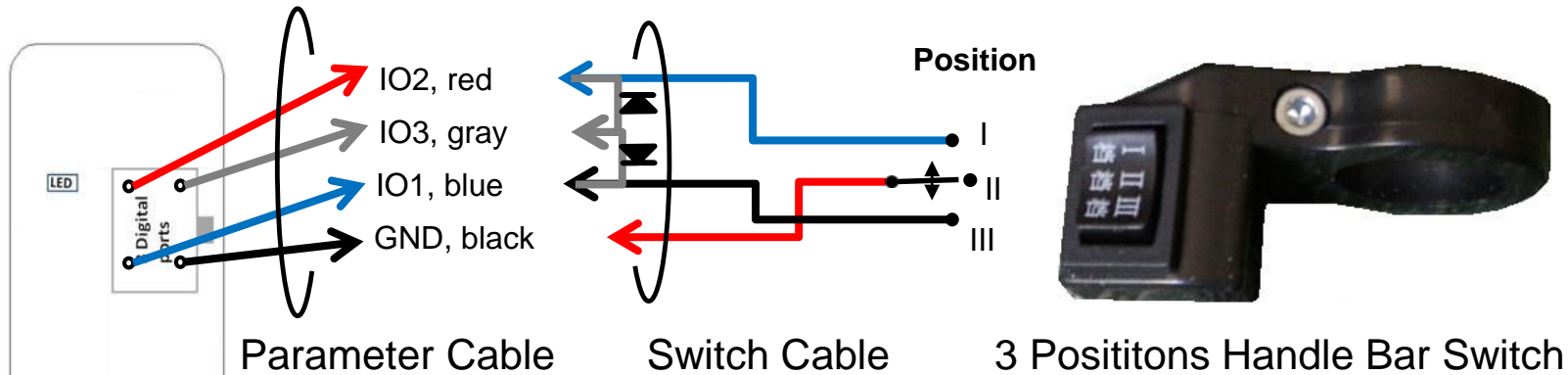
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e-mail: info@picoamps.de



# PI-type open loop controller OSET: Setting of Time Constant and Adjustment Range with Switch



Example of **combined switching between 3 Time Constants and 2 Adjustment Ranges** using 3 Positions Handle Bar Switch



## Switching Parameter settings for OSET PI-type open loop controller

3 Positions Switch	Time Constant
	0% to 100% [sec]
<b>Position II</b>	<b>3.5 (slow) *)</b>
<b>Position I</b>	<b>2.3</b>
<b>Position III</b>	<b>1.5</b>
Not available	0.8 (fast)

3 Positions Switch	Adjusting Range
	/ Throttle Signal
<b>Position II</b>	<b>medium 45% *)</b>
<b>Position I</b>	<b>large 80%</b>
<b>Position III</b>	<b>large 80%</b>

\*) default setting without switch

Adjusting range: Percentage of the full throttle range to cover the range of 0 ... 100% torque  
 Large Range = soft throttle response, smaller range = more aggressive response  
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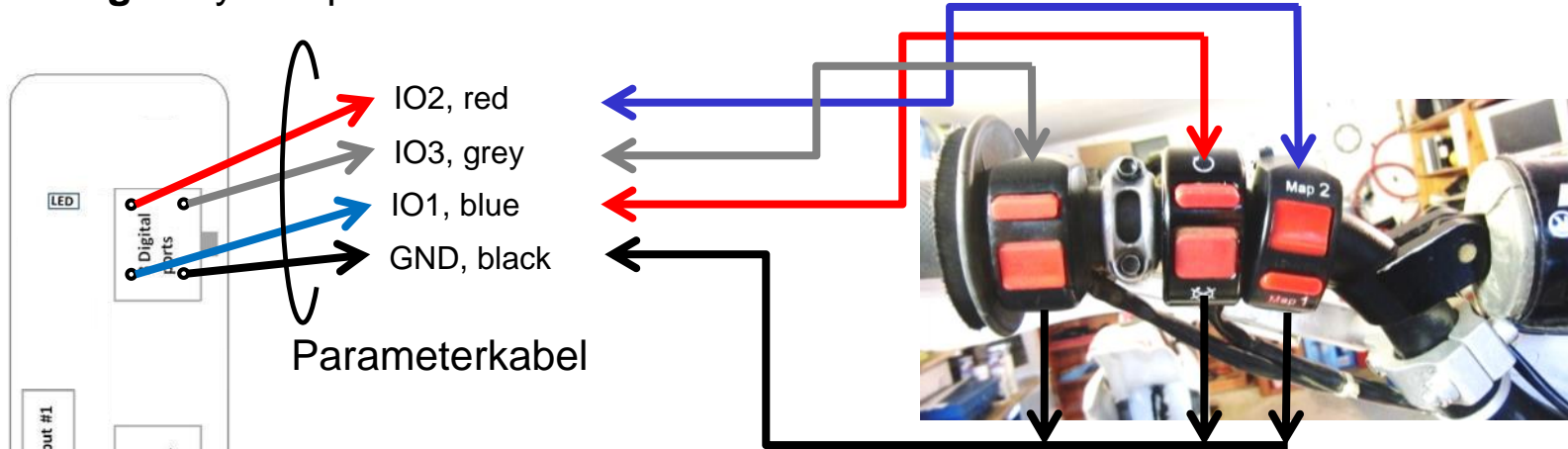
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# PI-type open loop controller OSET: Setting of Time Constant and Adjustment Range with 3 Switches



Example of **ubiquitous switching between 4 Time Constants and 2 Adjustment Ranges** by 3 separate Handle Bar Switches



Parameter settings for OSET PI-type open loop controller

Switch to GND		Time Constant	Switch to GND	Adjusting Range
IO1	IO2	0% bis 100% [sec]	IO3	/ Throttle Signal
open	open	3.5 (slow) *)	open	medium 45% *)
open	closed	2.3	closed	large 80%
closed	open	1.5		
closed	closed	0.8 (fast)		

\*) default setting without switch

Adjusting range: Percentage of the full throttle range to cover the range of 0 ... 100% torque  
 Large Range = soft throttle response, smaller range = more aggressive response  
 Setting time: time that elapses from opening throttle until steady state of the output signal

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