

User Manual

Servo Interface

PWM outputs for 4 x 5V servo drives and 4 x digital 5V inputs

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Vendor ID	0x01DE
Device ID	0x000003
IODD V1.1	Maxim-ServoInterface-20150131-IODD1.1
IODD V1.0.1	Maxim- ServoInterface-20150131-IODD1.0.1

IO-Link Version:	V1.1, compatible to V1.0
SIO Mode supported:	true
PIN 2 supported:	as digital out (2 nd channel)

Technology inside:	
μController	Renesas RL78 - R5F100GL
Transceiver	Maxim MAX 14821EWA+
Software	TMG TE GmbH

Introduction:

The Maxim-ServoInterface demonstrates an IO-Link actuator based on components from Maxim and Renesas and software from TMG TE.

4 Servos or other PWM controlled 5V devices as used in model airplanes can be connected. 4 digital inputs 5V are also available.

IO-Link Mode – Process Data:

Inputs (1 Byte)

GPI1	Bit 0	
GPI2	Bit 1	
GPI3	Bit 2	
GPI4	Bit 3	
Input Mask SIO	Bit 4	(also on Pin 4 in SIO Mode)
Input Mask PIN4	Bit 5	(also on Pin 2)
Input Mask SW1	Bit 6	
Input Mask SW2	Bit 7	

Outputs (4 Bytes):

Servo 1 Position:	- 100% to 100%
Servo 2 Position:	- 100% to 100%
Servo 3 Position:	- 100% to 100%
Servo 4 Position:	- 100% to 100%

Device specific parameters:

If the mask (4 Bits) is equal to digital input bits (4 Bits), the according bit in process data input is set to 1

- 64 Input Mask SIO
- 65 Input Mask PIN4
- 66 Input Mask SW1
- 67 Input Mask SW2

- 100 Servo 1 invers false, true Boolean
Inverts the rotation direction of the servo
- 101 Servo 1 trim +- 20% integer 16 (+- 200)
Adjusts the 0 point of the servo
- 102 Servo 1 travel 0 .. 100% integer 16 (0..1000)
Adjusts the maximum rotation angle of the servo
- 103 Servo 1 mode
 - 0 Normal operation
 - 1 Test: Triangle slow (0,5 Hz)
 - 2 Test: Triangle fast (1 Hz)
 - 3 Test: Rectangle (0,5 Hz)
 - 4 Test: Saw Tooth Rising (0,5 Hz)
 - 5 Test: Saw Tooth Falling (0,5 Hz)

In normal operation the rotation angle is set from process data (+- 100%). The test modes will move the servos automatically.

- 110 .. 113 Servo 2 (like Servo 1)
- 120 .. 123 Servo 3 (like Servo 1)
- 130 .. 133 Servo 4 (like Servo 1)

Commands

Reset to factory settings (system command 130)