



# Parameter and Process Data

## *EB200E*

## EB200E IO-Link

### Device ID

Product	Hex	Decimal
EB200E.IR	0x009C41	40001

IO-Link Version: V 1.1  
 Data Storage: Yes  
 Block Parameter: Yes  
 Min. Cycle Time: 5 ms  
 SIO-Mode: Yes  
 COM-Mode: 38'400 bit/s (COM 2)

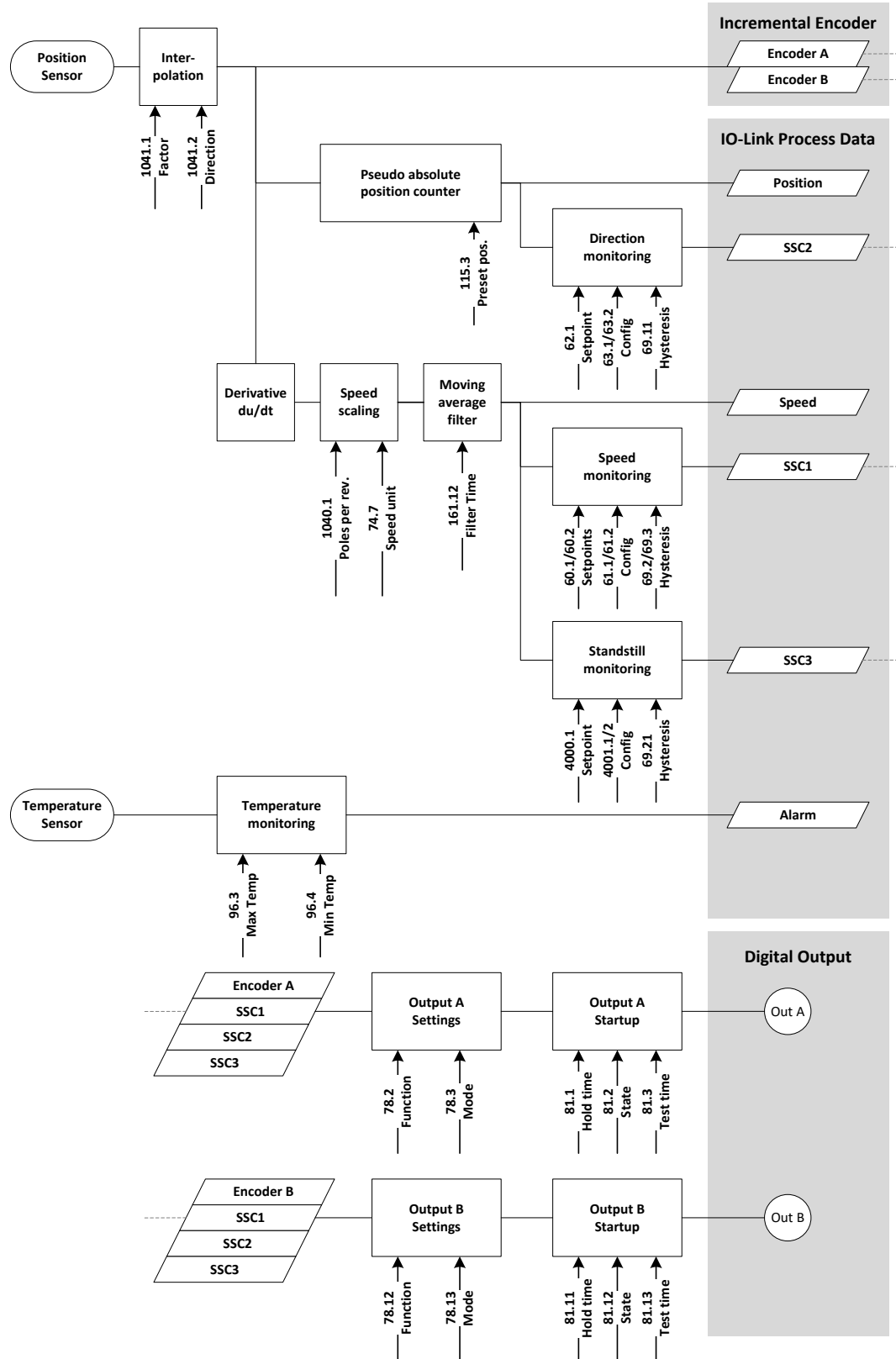
### PDI

Process Data mapping of Process Data Input

	Speed			Position			Status Bits		
Type	Int 32			Int 32			4x Boolean		
Bit Offset	71	...	40	39	...	8	7	...	0
Subindex	1			2			6	...	3

Sub-index	Bit Offset	Name	Type	Range	Description
1	40	Speed	Int32	-2 <sup>31</sup> -1 ... 2 <sup>31</sup>	Speed value [unit according Index 74]
2	8	Position	Int32	-2 <sup>31</sup> -1 ... 2 <sup>31</sup>	Position value [steps]
3	0	SSC1	Boolean	0 / 1	State of Speed Monitor (SSC1)
4	1	SSC2	Boolean	0 / 1	State of Direction Monitor (SSC2)
5	3	Alarm	Boolean	0 / 1	0: Device temperature within limit values 1: Device temperature exceeds limit values
6	4	SSC3	Boolean	0	State of Standstill Monitor (SSC3)

## Block Diagram



## ISDU Communication

### Identification

Index	Sub-Index	Access	SPDU name	Format	Description
16	0	R	Vendor Name	String	Baumer Electric AG
17	0	R	Vendor Text	String	www.baumer.com
18	0	R	Product Name	String	
19	0	R	Product Id	String	Reference for IODD
20	0	R	Product Text	String	
24	0	R/W	Application Specific Tag	String	Tag for customer use, default: ***
25	0	R/W	Function Tag	String	Tag for customer use, default: ***
26	0	R/W	Location Tag	String	Tag for customer use, default: ***
21	0	R	Serial Number	String	
22	0	R	Hardware Version	String	Current hardware version
23	0	R	Firmware Revision	String	Current firmware version

### Observation

Measurement Values					
88	10	R	Measurement Values.Position	Int32	Value of actual position [steps]
88	20	R	Measurement Values.Speed	Int32	Value of actual speed [unit according Index 74]

### Diagnosis

Device Status					
36	0	R	Device Status	Uint8	0: device is operating properly 4: Failure
Device Temperature					
208	1	R	Device Temperature. Current	Float32	Current Device Temperature [°C]
208	4	R	Device Temperature. Lifetime Min	Float32	Minimum Device Temperature [°C] (over lifetime)
208	5	R	Device Temperature. Lifetime Max	Float32	Maximum Device Temperature [°C] (over lifetime)
Operation Time					
211	3	R	Operation Time.Lifetime	Uint32	Operating time [h] (since production)
Revolutions Count					
231	3	R	Revolutions Count. Lifetime	Uint64	Number of full revolutions (over lifetime)

## Parameter

### Unit

Index	Sub-Index	Access	SPDU name	Format	Description
<b>Unit</b>					
74	7	R/W	Unit.Speed	Uint16	Unit of speed value: <b>1997: steps/s</b> ; 1085: rpm For correct rpm scaling, please set up also number of poles of the used pole wheel (Index 1040.1).

### Encoder Settings

<b>Scale Settings</b>					
1040	1	R/W	Poles per Revolution	Uint16	Number of poles per revolution: 2...256 32: 32 poles per revolution (for EBS.R-FN032) <b>64: 64 poles per revolution (for EBS.R-FN064)</b>
<b>Interpolation Settings</b>					
1041	1	R/W	Interpolation Settings. Factor	Uint16	Interpolation factor: 1: 1-fold; 2: 2-fold; 3: 3-fold; 4: 4-fold; 5: 5-fold; <b>8: 8-fold</b> ; 10: 10-fold; 12: 12-fold; 16: 16-fold
1041	2	R/W	Interpolation Settings. Direction	Uint8	Interpolation direction: <b>0: A before B / up counting (CW)</b> 1: A before B / up counting (CCW)
1041	3	R	Interpolation Settings. Steps per revolution	Uint32	Number of steps per revolution (= Poles per Revolution x Interpolation Factor x 4)

### Signal processing

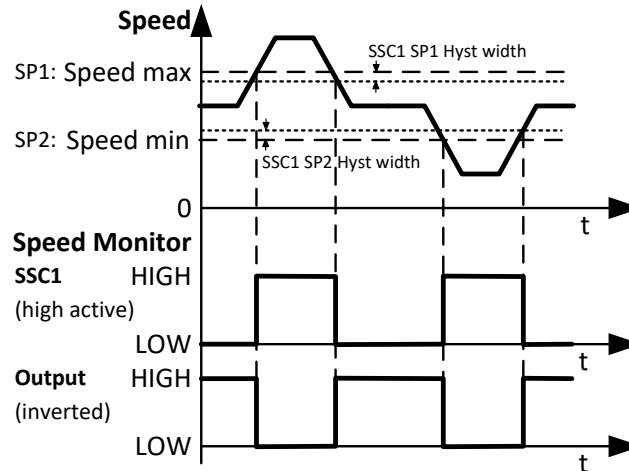
<b>Moving average Filter</b>					
161	11	R/W	Moving Average Filter. Speed Filter	Uint16	Enables or disables the speed filter: 0: Disabled; <b>1: Enabled</b>
161	12	R/W	Moving Average Filter. Speed Averaging Time	Uint16	Timebase for speed calculation [ms]: 5: 5 ms; 10: 10 ms; 20: 20 ms; 50: 50 ms; 100: 100 ms; 200: 200 ms
<b>Preset Settings</b>					
115	3	R/W	Preset Settings.Preset Position Value	Int32	Write to this Index sets the preset position value. <b>0: 0 steps</b>
1000	0	W	Baumer Commands	Uint32	Write to this Index executes the command: 208: Preset Position

### Alarm Settings

<b>Temperature Alarm Settings</b>					
96	3	R/W	Max Temperature	Float32	If the current device temperature exceeds this value, alarm bit (AL) in process data will be set <b>95: +95 °C</b>
96	4	R/W	Min Temperature	Float32	If the current device temperature is below this value, alarm bit (AL) in process data will be set <b>-40: -40 °C</b>

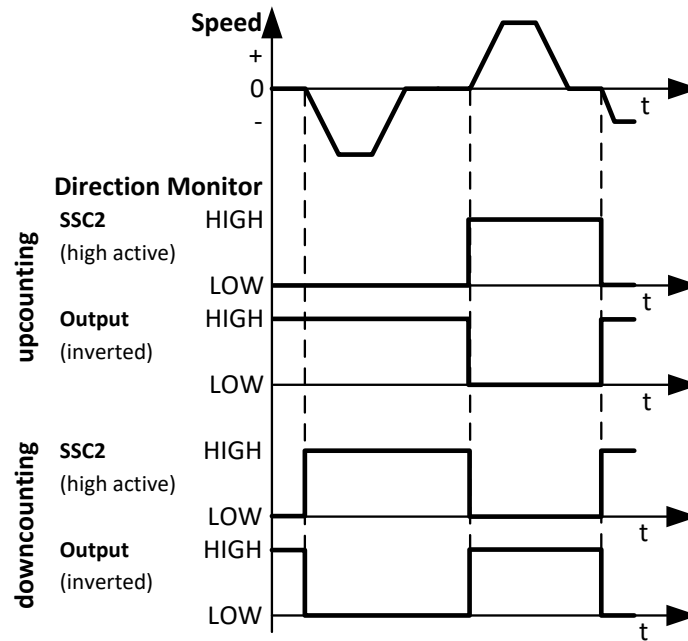
## Switched Signal Channel Settings

### SSC1 (Speed Monitor) Settings



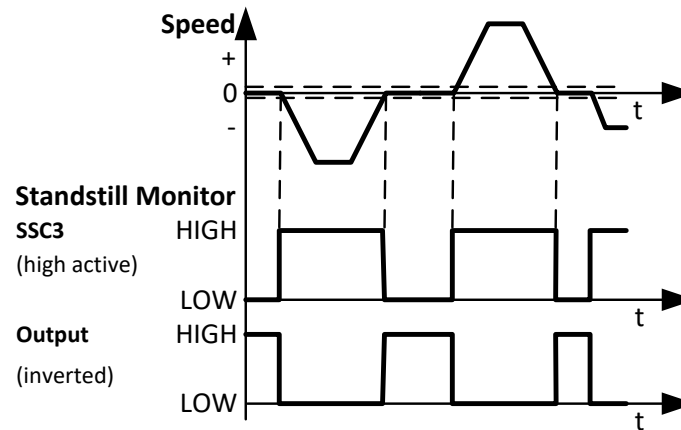
Index	Sub-Index	Access	SPDU name	Format	Description
<b>SSC1 Setpoints</b>					
60	1	R/W	SSC1 Setpoints.SP 1	Int32	Speed limit max [Speed unit Index 74]: <b>0: zero speed</b>
60	2	R/W	SSC1 Setpoints.SP 2	Int32	Speed limit min [Speed unit Index 74]: <b>0: zero speed</b>
<b>SSC1 Config</b>					
61	1	R/W	SSC1 Config.Logic	UInt8	Logic of SSC1: <b>0: high active</b> 1: low active
61	2	R/W	SSC1 Config.Mode	UInt8	Mode of SSC1: 0: Deactivated (SSC1 state is "inactive") <b>1: Single point</b> 2: Window mode
69	2	R/W	Hysteresis.SSC1 SP1 Width	Int32	Speed SP1 Hysteresis [Speed unit Index 74]: <b>0: no hysteresis</b>
69	3	R/W	Hysteresis.SSC1 SP2 Width	Int32	Speed SP2 Hysteresis [Speed unit Index 74]: <b>0: no hysteresis</b>

## SSC2 (Direction Monitor) Settings



Index	Sub-Index	Access	SPDU name	Format	Description
<b>SSC2 Setpoints</b>					
62	1	R/W	SSC2 Setpoints.SP 1	Int32	Monitoring Direction (activation of SSC2 in case of): <b>0: upcounting direction</b> <b>1: downcounting direction</b>
<b>SSC2 Config</b>					
63	1	R/W	SSC2 Config.Logic	Uint8	<u>Logic of SSC2:</u> <b>0: high active</b> <b>1: low active</b>
63	2	R/W	SSC2 Config.Mode	Uint8	<u>Mode of SSC2:</u> <b>0: Deactivated</b> (SSC2 state is "inactive") <b>1: Single point</b>
69	11	R/W	Hysteresis.SSC2 Width	Int32	Direction Hysteresis in other direction [steps]: <b>0: no hysteresis</b>

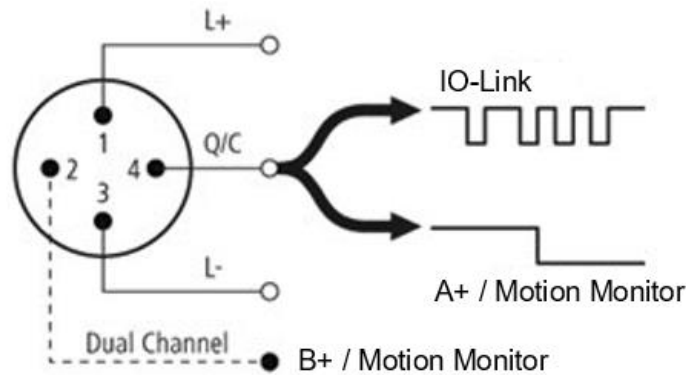
## SSC3 (Standstill Monitor) Settings



Index	Sub-Index	Access	SPDU name	Format	Description
<b>SSC3 Config</b>					
4001	1	R/W	SSC3 Config.Logic	Uint8	<u>Logic of SSC3:</u> <b>0: high active</b> 1: low active
4001	2	R/W	SSC3 Config.Mode	Uint8	<u>Mode of SSC3:</u> 0: Deactivated (SSC3 state is "inactive") <b>1: Single point</b>
69	21	R/W	Hysteresis.SSC3 Width	Int32	Standstill threshold [Speed unit Index 74]: <b>0: no hysteresis</b>



## Digital Output Settings



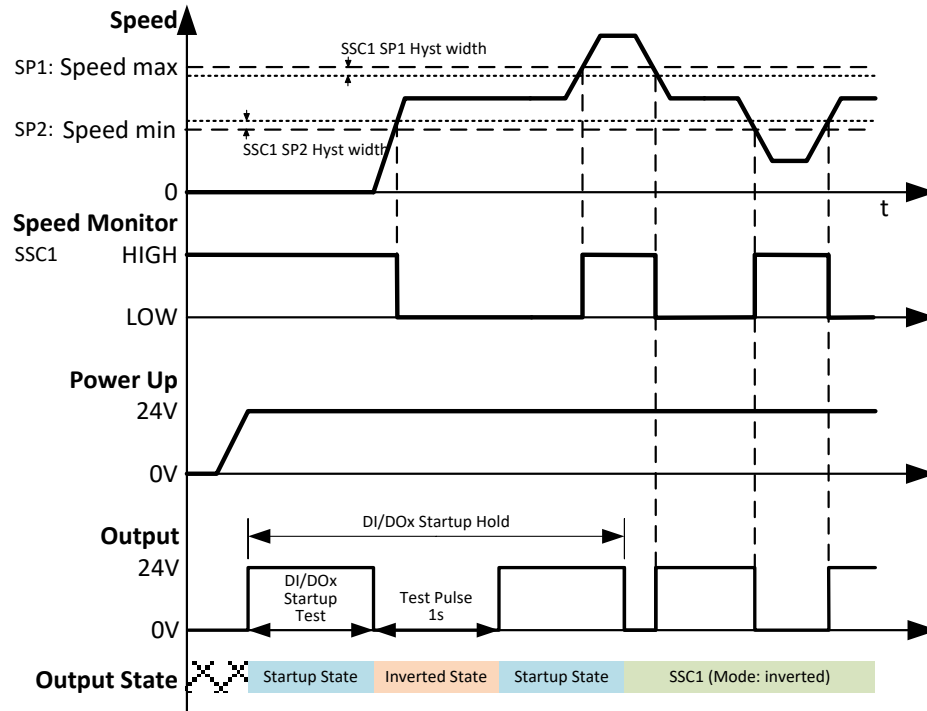
Output A+ is IO-Link capable and the following functions are programmable:  
Encoder Channel A, Speed-, Standstill- or Direction Monitor.

Dual Channel Output B+ functions: Encoder Channel B, Speed-, Standstill- or Direction Monitor.

Index	Sub-Index	Access	SPDU name	Format	Description
<b>Output Settings</b>					
78	2	R/W	Output Settings.Out1 Function	Uint16	Defines the output function of channel A+: <b>60: Encoder channel A</b> 100: SSC1 State (Speed Monitor) 200: SSC2 State (Direction Monitor) 300: SSC3 State (Standstill Monitor)
78	3	R/W	Output Settings.Out1 Mode	Uint8	Defines the output logic of channel A+: 1: Direct <b>2: Inverted</b>
78	12	R/W	Output Settings.Out2 Function	Uint16	Defines the output function of channel B+: <b>61: Encoder channel B</b> 100: SSC1 State (Speed Monitor) 200: SSC2 State (Direction Monitor) 300: SSC3 State (Standstill Monitor)
78	13	R/W	Output Settings.Out2 Mode	Uint8	Defines the output logic of channel A+: 1: Direct <b>2: Inverted</b>

## Digital Output Startup Settings

In case of using EB200E as a standalone Motion Monitor (Speed-, Direction- or Standstill Monitor), several startup settings may be helpful to ensure a proper startup behavior of the application.



Index	Sub-Index	Access	SPDU name	Format	Description
<b>Output Startup</b>					
81	1	R/W	Output Startup.Out1 Startup Hold Time	Uint32	Within this time [ms] after startup, the DO output is <u>hold on the startup state</u> : <b>0: startup hold disabled</b>
81	2	R/W	Output Startup.Out1 Startup State	Uint8	0: low <b>1: high</b>
81	3	R/W	Output Startup.Out1 Test Time	Uint32	After this time [ms] after startup, the DO output is <u>set to its inverted startup state for 1 s</u> : <b>0: startup test disabled</b>
81	11	R/W	Output Startup.Out2 Startup Hold Time	Uint32	Within this time [ms] after startup, the DO output is <u>hold on the startup state</u> : <b>0: startup hold disabled</b>
81	12	R/W	Output Startup.Out2 Startup State	Uint8	0: low <b>1: high</b>
81	13	R/W	Output Startup.Out2 Test Time	Uint32	After this time [ms] after startup, the DO output is <u>set to its inverted startup state for 1 s (for test purposes, also within the startup hold period)</u> : <b>0: startup test disabled</b>