

EN

P1XD2xx

Fiber-optic amplifier



Interface Description

IO-Link P1XD2xx

Vendor ID

Product	hex	dec	hex (Bytes)	dec (Bytes)
wenglor sensoric GmbH	0x0057	87	00 57	0 87

Device ID

Product	hex	dec	hex (Bytes)	dec (Bytes)
P1XD202	0x170602	1508866	17 06 02	23 6 2
P1XD204	0x170604	1508868	17 06 04	23 6 4
P1XD212	0x17060C	1508876	17 06 0C	23 6 12
P1XD214	0x17060E	1508878	17 06 0E	23 6 14

IO-Link Information

IO-Link Version:	V1.1.3
Data Storage:	Yes
Blockparameter:	Yes
Min Cycle Time:	2 ms
SIO-Mode:	Yes
COM-Mode:	COM3
ISDU:	Yes
Process data In (Device to Master):	56 Bit
Process data Out (Master to Device):	8 Bit

IO-Link Profiles

Common Profile
Function Class Identification
Function Class Diagnosis
Smart Sensor Profil - Transducer Disable

Process data

Process Data Input (Device -> Master)

Subindex	Name	Bit Offset	Length	Range
1	Signal	40	16 Bit	0...9999
2	SSC1 Switch Point	24	16 Bit	0...9999
3	SSC2 Switch Point	8	16 Bit	0...9999
4	not used	4	4 Bit	
5	Error	3	1 Bit	0 = false 1 = true
6	Warning	2	1 Bit	0 = false 1 = true
7	SSC2 - Switching Signal 2	1	1 Bit	0 = false 1 = true
8	SSC1 - Switching Signal 1	0	1 Bit	0 = false 1 = true

	Octet 0 (MSB)								Octet 1 (LSB)								Octet 2 (MSB)								Octet 3 (LSB)							
Subindex	1																2															
Bit Offset	55	54	53	52	51	50	49	48	47	46	45	44	43	42	41	40	39	38	37	36	35	34	33	32	31	30	29	28	27	26	25	24
	Signal 0...9999																SSC1 Switch Point 0...9999															

	Octet 4 (MSB)								Octet 5 (LSB)								Octet 8															
Subindex	3																4				5	6	7	8								
Bit Offset	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0								
	SSC2 Switch Point 0...9999																															

Process Data Output (Master -> Device)

Subindex	Name	Bit Offset	Length	Range
1	Control Signal (LED Control)	0	1 Bit	0 = Enabled 1 = Disabled
2	Find Me	1	1 Bit	0 = Off 1 = Blinking
3	not used	2	6 Bit	

	Octet 0 (MSB)							
Subindex	3						2	1
Bit Offset	7	6	5	4	3	2	1	0

Identification

Name	Index (hex)	Index (dec)	Sub-index	R/W	Datatype	Data Storage	Dynamic	Modify others	Default value	Range
Information										
Vendor Name	0x0010	16	0	R	String				wenglor sensoric GmbH	
Vendor Text	0x0011	17	0	R	String				the innovative family	
Product Name	0x0012	18	0	R	String				P1XD2xx	
Product ID	0x0013	19	0	R	String				P1XD2xx	
Product Text	0x0014	20	0	R	String				Fiber Optic Cable Sensor	
Serial Number	0x0015	21	0	R	String				-	
Hardware Version	0x0016	22	0	R	String				-	
Firmware Version	0x0017	23	0	R	String				-	
Tags										
Application Specific Tag	0x0018	24	0	R/W	String 32 Byte	X			***	
Function Tag	0x0019	25	0	R/W	String 32 Byte	X			***	
Location Tag	0x001A	26	0	R/W	String 32 Byte	X			***	
Sensor Localisation										
Find Me	0x1200	4608	0	R/W	UInt8		X		0 = Off	0 = Off 1 = Blinking

Parameter

Name	Index (hex)	Index (dec)	Sub-index	R/W	Datatype	Data Storage	Dynamic	Modify others	NFC	Default value	Range
Reset Functions											
System Commands	0x0002	2	0	W	UInt8			X		-	Device Reset = 0x80 (128) Application Reset = 0x81 (129) Restore Factory Settings = 0x82 (130) Back-to-box = 0x83 (131)
Device Settings											
Device Access Locks.Local Parameterization Lock	0x000C	12	3	R/W	Bool	X				0 = Unlocked	0 = Unlocked 1 = Locked
NFC Disable	0x0305	773	0	R/W	UInt8	X				0 = Unlocked	0 = Unlocked 1 = Read Only 2 = Locked
Installation Assist	0x0307	775	0	R/W	UInt8				X	0 = Off	0 = Off 1 = On
Measurement Value Settings											
Emitted Light	0x00E0	224	0	R/W	UInt8	X			X	0 = On	0 = On 1 = Off
Noise Filter	0x00D0	208	0	R/W	UInt8	X			X	2 = Minimum	0 = Maximum 1 = Medium 2 = Minimum
Emitting Power	0x0116	278	0	R/W	UInt8	X			X	0 = Maximum	0 = Maximum 1 = Medium 2 = Minimum
Emitting Color	0x0117	279	0	R/W	UInt8	X			X	2 = Pink	0 = Red 1 = Blue 2 = Pink

Name	Index (hex)	Index (dec)	Sub-index	R/W	Datatype	Data Storage	Dynamic	Modify others	NFC	Default value	Range
Gain	0x0118	280	0	R/W	Uint8	X			X	0 = Low	0 = Low 1 = High
SSC1											
Teach Mode	0x0290	656	0	R/W	Uint8	X			X	0 = Normal Teach	0 = Normal Teach 1 = Jump detection 2 = Minimal Teach 3 = Minimal Teach with Dynamic Readjustment 4 = Dynamic Teach 5 = Background Teach 6 = Window Teach
Teach-In	0x0200	512	0	W				X			1 = Teach-In 2 = Dynamic Teach Start 3 = Dynamic Teach Stop
Teach Status	0x01E0	480	0	R	Uint8					0 = Idle	0 = Idle 1 = Ongoing 2 = Last Teach Failed 3 = Last Teach Successful 4 = Last Teach Warning 5 = Teach Type Changed 6 = Last teach canceled 7 = Last teach not possible: emitter disabled 8 = Locked
Hysteresis	0x0250	592	0	R/W	Uint8	X			X	2 = Minimum	0 = Maximum 1 = Medium 2 = Minimum
Switching Point	0x0270	624	0	R/W	Uint16	X			X		0...9999
SSC1 (Teach Mode = Jump Detection)											
Signal Jump Minimum	0x02A0	672	0	R/W	Uint16	X			X	300	200 ... 5000
Signal Jump Direction	0x02A2	674	0	R/W	Uint8	X			X	0 = Positive	0 = Positive 1 = Negative 2 = Both
Signal Jump Impulse	0x02A3	675	0	R/W	Uint16	X			X	0 = Hold	0 = Hold 1...10000 ms
Signal Jump Cycle Offset	0x02A4	676	0	R/W	Uint16	X			X	2000	50...20000
Maximum Recorded Signal Jump	0x02AF	687	0	R	Uint32		X				0...9999
Signal Jump Command	0x02C0	704	0	W	Uint8			X			1 = Reset Maximum Recorded Signal Jump SSC1
SSC1 (Teach Mode = Minimum Teach with Dynamic Readjustment)											
Teach Percentage	0x02F0	752	0	R/W	Uint8	X		X	X	10	3...30 %
Dynamic Readjustment Storage	0x0340	832	0	R/W	Uint8	X			X	1 = On	0 = Off 1 = On
Dynamic Readjustment Time	0x0320	800	0	R/W	Uint16	X			X	3600	5...3600 s
Switch Point	0x0278	632	0	R	Uint16				X		0...9999
SSC1 (Teach Mode = Dynamic Teach)											
Dynamic Teach Duration	0x02E0	736	0	R/W	Uint16	X			X	60	10...600 s
SSC1 (Teach Mode = Window Teach)											
Window Size High	0x0261	609	0	R/W	Uint16	X			X	1000	50...7000
Window Size Low	0x0260	608	0	R/W	Uint16	X			X	1000	50...7000
SSC2											
Teach Mode	0x0291	657	0	R/W	Uint8	X			X	0 = Normal Teach	0 = Normal Teach 1 = Jump detection 2 = Minimal Teach 3 = Minimal Teach with Dynamic Readjustment 4 = Dynamic Teach 5 = Background Teach 6 = Window Teach
Teach-In	0x0201	513	0	W				X			1 = Teach-In

Name	Index (hex)	Index (dec)	Sub-index	R/W	Datatype	Data Storage	Dynamic	Modify others	NFC	Default value	Range
Teach Status	0x01E1	481	0	R	Uint8					0 = Idle	0 = Idle 1 = Ongoing 2 = Last Teach Failed 3 = Last Teach Successful 4 = Last Teach Warning 5 = Teach Type Changed 6 = Last teach canceled 7 = Last teach not possible: emitter disabled 8 = Locked
Hysteresis	0x0251	593	0	R/W	Uint8	X			X	2 = Minimum	0 = Maximum 1 = Medium 2 = Low
Switching Point	0x0271	625	0	R/W	Uint16	X			X		0 ... 9999
SSC2 (Teach Mode = Jump Detection)											
Signal Jump Minimum	0x02B0	688	0	R/W	Uint16	X			X	300	200...5000
Signal Jump Direction	0x02B2	690	0	R/W	Uint8	X			X	0 = Positive	0 = Positive 1 = Negative 2 = Both
Signal Jump Impulse	0x02B3	691	0	R/W	Uint16	X			X	0 = Hold	0 = Hold 1...10000 ms
Signal Jump Cycle Offset	0x02B4	692	0	R/W	Uint16	X			X	2000	50...20000
Maximum Recorded Signal Jump	0x02BF	703	0	R	Uint32		X				0...9999
Signal Jump Command	0x02C0	704	0	W	Uint8			X			2 = Reset Maximum Recorded Signal Jump SSC2
SSC2 (Teach Mode = Minimum Teach with Dynamic Readjustment)											
Teach Percentage	0x02F1	753	0	R/W	Uint8	X		X	X	10	3...30 %
Dynamic Readjustment Storage	0x0341	833	0	R/W	Uint8	X			X	1 = On	0 = Off 1 = On
Dynamic Readjustment Time	0x0321	801	0	R/W	Uint16	X			X	60	5...3600 s
Switch Point	0x0279	633	0	R	Uint16				X		0...9999
SSC2 (Teach Mode = Dynamic Teach)											
Dynamic Teach Duration	0x02E1	737	0	R/W	Uint16	X			X	60	10...600 s
SSC2 (Teach Mode = Window Teach)											
Window Size High	0x0263	611	0	R/W	Uint16	X			X	1000	50...7000
Window Size Low	0x0262	610	0	R/W	Uint16	X			X	1000	50...7000
Pin Function											
A1 Pin Function	0x0040	64	0	R/W	Uint8	X		X	X	0 = Switching Output SSC 1	0 = Switching Output SSC1 1 = Error Output 2 = Warning Output
E/A2 Pin Function	0x0041	65	0	R/W	Uint8	X		X	X	P1XD2x2: 0 = Switching Output SSC2 P1XD2x4: 4 = Teach Input for	0 = Switching Output SSC2 1 = Error Output 2 = Warning Output 4 = Teach Input 5 = Disabled 6 = Antivalent Output of SSC1
Digital Outputs											
A1 (SSC)											
A1 NO/NC	0x0210	528	0	R/W	Uint8	X			X	0 = NO	0 = NO 1 = NC
A1 NPN/PNP/P-P	0x0220	544	0	R/W	Uint8	X			X	P1XD20x: 0 = PNP P1XD21x: 1 = NPN	0 = PNP 1 = NPN 2 = Push-Pull
On Delay	0x0050	80	0	R/W	Uint16	X			X	0	0...10000 ms
Off Delay	0x0060	96	0	R/W	Uint16	X			X	0	0...10000 ms
Impulse	0x0070	112	0	R/W	Uint16	X			X	0	0...10000 ms

Name	Index (hex)	Index (dec)	Sub-index	R/W	Datatype	Data Storage	Dynamic	Modify others	NFC	Default value	Range
A1 (Error or Warning Output)											
A1 NO/NC	0x0210	528	0	R/W	Uint8	X			X	0 = NO	0 = NO 1 = NC
A1 NPN/PNP/P-P	0x0220	544	0	R/W	Uint8	X			X	P1XD20x: 0 = PNP P1XD21x: 1 = NPN	0 = PNP 1 = NPN 2 = Push-Pull
A2 (SSC)											
A2 NO/NC	0x0211	529	0	R/W	Uint8	X			X	0 = NO	0 = NO 1 = NC
A2 NPN/PNP/P-P	0x0221	545	0	R/W	Uint8	X			X	P1XD20x: 0 = PNP P1XD21x: 1 = NPN	0 = PNP 1 = NPN 2 = Push-Pull
On Delay	0x0051	81	0	R/W	Uint16	X			X	0	0 ... 10000 ms
Off Delay	0x0061	97	0	R/W	Uint16	X			X	0	0 ... 10000 ms
Impulse	0x0071	113	0	R/W	Uint16	X			X	0	0 ... 10000 ms
A2 (Error or Warning Output)											
A2 NO/NC	0x0211	529	0	R/W	Uint8	X			X	P1XD20x: 0 = PNP P1XD21x: 1 = NPN	0 = NO 1 = NC
A2 NPN/PNP/P-P	0x0221	545	0	R/W	Uint8	X			X	0 = PNP	0 = PNP 1 = NPN 2 = Push-Pull
Digital Inputs											
E2 (Teach input or Trigger)											
Ub Active/Inactive	0x0261	609	0	R/W	Uint8	X			X	0 = Ub Active	0 = Ub Active 1 = Ub Inactive

Diagnosis

Name	Index (hex)	Index (dec)	Sub-index	R/W	Datatype	Data Storage	Dynamic	Modify others	Default value	Range
Status										
Device Status	0x0024	36	0	R	Uint8		X		0	0 = Device is OK 1 = Maintenance required 2 = Out of specification 3 = Functional check 4 = Failure
Detailed Device Status	0x0025	37	0	R	Array of StringT3		X		0	Shows the pending Events (maximum 4)
Additional Status										
Additional status Information	0x1300	4864	1	R	Bool		X		0	Contaminated Optics
			2							Emitted Light Off
			3							Fatal Error
			4							Temperature Error
			5							Temperature High
			6							Temperature Low
			7							Undervoltage
			8							Power Fault
			9							Short Circuit

Name	Index (hex)	Index (dec)	Sub-index	R/W	Datatype	Data Storage	Dynamic	Modify others	Default value	Range
Device Simulation										
Simulation Mode	0x0310	784	0	R/W	UInt8		X		0 = off	0 = off 1 = on
Device Simulation Enabled (Simulation Mode = 1)										
Signal Value	0x0315	789	0	R/W	UInt16		X		65535 = Use Process Value	0 ... 9999 65535 = Use Process Value
Simulation SSC1	0x0331	817	0	R/W	UInt8		X		255 = Use Process Value	0 = Off 1 = On 255 = Use process Value
Simulation SSC2	0x0332	818	0	R/W	UInt8		X		255 = Use Process Value	0 = Off 1 = On 255 = Use process Value
Simulation Contaminated Optics	0x031C	796	0	R/W	UInt8		X		255 = Use Process Value	0 = Off 1 = On 255 = Use process Value
Simulation Fatal Error	0x0323	803	0	R/W	UInt8		X		255 = Use Process Value	0 = Off 1 = On 255 = Use process Value
Simulation Temperature Error	0x0324	804	0	R/W	UInt8		X		255 = Use Process Value	0 = Off 1 = On 255 = Use process Value
Simulation Temperature High	0x0325	805	0	R/W	UInt8		X		255 = Use Process Value	0 = Off 1 = On 255 = Use process Value
Simulation Temperature Low	0x032C	812	0	R/W	UInt8		X		255 = Use Process Value	0 = Off 1 = On 255 = Use process Value
Simulation Undervoltage	0x0327	807	0	R/W	UInt8		X		255 = Use Process Value	0 = Off 1 = On 255 = Use process Value
Simulation Power Fault	0x0329	809	0	R/W	UInt8		X		255 = Use Process Value	0 = Off 1 = On 255 = Use process Value
Simulation Short Circuit	0x0328	808	0	R/W	UInt8		X		255 = Use Process Value	0 = Off 1 = On 255 = Use process Value

Events

Name	Event Code	Type	Specification
General malfunction – unknown error	0x1000	Error	IO-Link
Short circuit – Check installation	0x7710	Error	IO-Link
Device temperature over-run – Clear source of heat	0x4210	Warning	IO-Link
Device temperature under-run – Insulate device	0x4220	Warning	IO-Link
Temperature fault – Overload	0x4000	Error	IO-Link
Primary supply voltage under-run – Check tolerance	0x5111	Warning	IO-Link
Cleaning Required	0x8C40	Warning	IO-Link
Emitter light changed (on/off)	0x1811	Notification	wenglor specific
Watchdog reset occurred	0x1812	Notification	wenglor specific

