

Parameter and Processdata P1XF001



IO-Link P1XF100

Device ID

Product	hex	dec
P1XF001	0x070600	460288

IO-Link Version: V 1.1
Data Storage: yes
Blockparameter: yes
Min Cycle Time: 2,3 ms
SIO-Mode: yes
COM-Mode: COM2

Input length: 16 Bit

Subindex	Name	Bit Offset	Length	Range
1	Output 1	0	1 Bit	0 = false 1 = true
2	Output 2	1	1 Bit	0 = false 1 = true
3	Output 3	2	1 Bit	0 = false 1 = true
4	Output 4	3	1 Bit	0 = false 1 = true
5	Output 5	4	1 Bit	0 = false 1 = true
6	Output 6	5	1 Bit	0 = false 1 = true
7	Output 7	6	1 Bit	0 = false 1 = true
8	Output 8	7	1 Bit	0 = false 1 = true
9	Output 9	8	1 Bit	0 = false 1 = true
10	Output 10	9	1 Bit	0 = false 1 = true
11	Output 11	10	1 Bit	0 = false 1 = true
12	Output 12	11	1 Bit	0 = false 1 = true
13	Contamination State	12	2 Bit	– no contamination – dirty_UnderExposure – dirty_OverExposure
14	Reserved	14	2Bit	

Octet 0 (MSB)

Subindex	14		13		12	11	10	9
Bit Offset	15	14	13	12	11	10	9	8

Octet 1 (LSB)

Subindex	8	7	6	5	4	3	2	1
Bit Offset	7	6	5	4	3	2	1	0

Identification

Name	Index (hex)	Index (dec)	Subindex	R/W	Length	Data Storage	dyna-mic	modify others	Default value	Range
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				P1XF001	
Product ID	0x0013	19	0	R	String				P1XF001	
Product Text	0x0014	20	0	R	String					
Serial Number	0x0015	21	0	R	String				—	
Hardware Revision	0x0016	22	0	R	String				—	
Firmware Revision	0x0017	23	0	R	String				—	
Application Specific Name	0x0018	24	0	R/W	String 32 Byte	X			***	

Parameter

Name	Index (hex)	Index (dec)	Subindex	R/W	Length	Data Storage	dyna-mic	modify others	Default value	Range
Device Settings										
System Command	0x0002	2	0	W	Uint8			X		Factory Reset = 0x82 (130)
Device Access Locks	0x000C	12	0	R/W	Uint16	X				
Display Rotate	0x00A0	160	0	R/W	Uint8	X			0	0 = Normal 1 = Rotate
Display Intensity	0x00A1	161	0	R/W	Uint8	X			0	0 = Normal 1 = Power Saver 2 = Screensaver
Display Mode	0x00A2	162	0	R/W	Uint8	X			0	0 = Digital 1 = Bar Graph
Expert Menu	0x00B0	176	0	R/W	Boolean	X			0	0 = Off 1 = On
Language	0x00F0	240	0	R/W	Uint8	X			0	0 = English 1 = Deutsch 2 = Francais 3 = Espanol 4 = Italiano
Password Enable	0x0100	256	0	R/W	Uint8	X			0	0 = Disable 1 = Enable
Password Change	0x0101	257	0	R/W	Uint16	X			5023	0...9999
Mesasured Value Settings										
Operation Mode	0x0110	272	0	R/W	Boolean	X		X	0	0=Color Detection HSL 1=Color Assignment 2=Color Detection ROYGBV
Filter	0x00D0	208	0	R/W	Uint16	X		X	8 (Filter = 256)	Filter = 2 ^(value) Value = 1...12
Sender light intensity	0x00E0	224	0	R/W	Uint8	X			6	0 = Off 1 = Minimum 2 = Dark 3 = Middle 4 = Bright 5 = Maximum 6 = Automatic
Teach-in (Condition: Operation Mode=0 or 2)										
Window Teach-in	0x0200	512	0	W	Uint4			X	0	0 = No action
Subsequent Teach-in OK	0x0202	514	0	W	Uint4			X	0	1...12 → Teach output
Subsequent Teach-in NOK	0x0203	515	0	W	Uint4			X	0	1...12
Teach-in (Condition: Operation Mode=1)										
Assignment Teach-in	0x0201	513	0	W	Uint4			X	0	0 = No action 1...12 → Teach output 1...12

Pin Function										
Pin function.A1	0x0040	64	1	R/W	Uint8	X		X	1	0 = Deactivated 1 = Switch 2 = Error 3 = Contamination
Pin function.E/A2	0x0040	64	2	R/W	Uint8	X		X	1	0 = Deactivated 1 = Switch 2 = Error 3 = Contamination 4 = Sender Light 5 = Extern Teach 6 = Trigger
Pin function.E/A3	0x0040	64	3	R/W	Uint8	X		X	1	0 = Deactivated 1 = Switch 2 = Error 3 = Contamination 4 = Sender Light 5 = Extern Teach 6 = Trigger
Pin function.A4	0x0040	64	4	R/W	Uint8	X		X	1	0 = Deactivated 1 = Switch 2 = Error 3 = Contamination
Pin function.A5	0x0040	64	5	R/W	Uint8	X		X	1	0 = Deactivated 1 = Switch 2 = Error 3 = Contamination
Pin function.A6	0x0040	64	6	R/W	Uint8	X		X	1	0 = Deactivated 1 = Switch 2 = Error 3 = Contamination
Pin function.E/A7	0x0040	64	7	R/W	Uint8	X		X	1	0 = Deactivated 1 = Switch 2 = Error 3 = Contamination 4 = Sender Light 5 = Extern Teach 6 = Trigger
Pin function.A8	0x0040	64	8	R/W	Uint8	X		X	1	0 = Deactivated 1 = Switch 2 = Error 3 = Contamination
Pin function.A9	0x0040	64	9	R/W	Uint8	X		X	1	0 = Deactivated 1 = Switch 2 = Error 3 = Contamination
Pin function.A10	0x0040	64	10	R/W	Uint8	X		X	1	0 = Deactivated 1 = Switch 2 = Error 3 = Contamination
Pin function.A11	0x0040	64	11	R/W	Uint8	X		X	1	0 = Deactivated 1 = Switch 2 = Error 3 = Contamination
Pin function.A12	0x0040	64	12	R/W	Uint8	X		X	1	0 = Deactivated 1 = Switch 2 = Error 3 = Contamination
Pin Configuration										
A1 Configuration (Condition: Pin function=1)										
A1 NO / NC	0x0211	529	0	R/W	Uint8	X			0	0 = NO 1 = NC
A1 NPN / PNP	0x0221	545	0	R/W	Uint8	X			2	0 = PNP 1 = NPN 2 = Pushpull
A1 Impulse	0x0071	113	0	R/W	Uint16	X			0	0...10000 ms
A1 ON Delay	0x0051	81	0	R/W	Uint16	X			0	0...10000 ms
A1 OFF Delay	0x0061	97	0	R/W	Uint16	X			0	0...10000 ms
Tolerance (Condition: Operation mode=0)										
A1 Window size Hue	0x0501	1281	0	R/W	Uint16				60	1...4000
A1 Window size Saturation	0x0511	1297	0	R/W	Uint16				130	1...4000
A1 Window size Lightness	0x0521	1313	0	R/W	Uint16				4000	1...4000

Tolerance (Condition: Operation mode=2)										
A1 Windows size Red	0x0691	1681	0	R/W	Uint16				6	1...4000
A1 Windows size Orange	0x06A1	1697	0	R/W	Uint16				6	1...4000
A1 Windows size Yellow	0x06B1	1713	0	R/W	Uint16				6	1...4000
A1 Windows size Green	0x06C1	1729	0	R/W	Uint16				6	1...4000
A1 Windows size Blue	0x06D1	1745	0	R/W	Uint16				6	1...4000
A1 Windows size Violette	0x06E1	1761	0	R/W	Uint16				6	1...4000
Thresholdes (Condition: Operation mode=0)										
A1 High Threshold hue R	0x0531	1329	0	R/W	Uint16				32769	32769...40863
A1 Low Threshold hue R	0x0541	1345	0	R/W	Uint16				32734	28768...36862
A1 High Threshold hue O	0x0551	1361	0	R/W	Uint16				32769	32769...40863
A1 Low Threshold hue O	0x0561	1377	0	R/W	Uint16				32734	28768...36862
A1 High Threshold hue Y	0x0571	1393	0	R/W	Uint16				32769	32769...40863
A1 Low Threshold hue Y	0x0581	1409	0	R/W	Uint16				32734	28768...36862
A1 High Threshold hue G	0x0591	1425	0	R/W	Uint16				32769	32769...40863
A1 Low Threshold hue G	0x05A1	1441	0	R/W	Uint16				32734	28768...36862
A1 High Threshold hue B	0x05B1	1457	0	R/W	Uint16				32769	32769...40863
A1 Low Threshold hue B	0x05C1	1473	0	R/W	Uint16				32734	28768...36862
A1 High Threshold hue V	0x05D1	1489	0	R/W	Uint16				32769	32769...40863
A1 Low Threshold hue V	0x05E1	1505	0	R/W	Uint16				32734	28768...36862
A1 High Threshold saturation	0x05F1	1521	0	R/W	Uint16				32769	32769...40863
A1 Low Threshold saturation	0x0601	1537	0	R/W	Uint16				32734	28768...36862
A1 High Threshold lightness	0x0611	1553	0	R/W	Uint16				32769	32769...40863
A1 Low Threshold lightness	0x0621	1569	0	R/W	Uint16				32734	28768...36862
Thresholdes (Condition: Operation mode=2)										
A1 High Threshold R	0x0531	1329	0	R/W	Uint16				32769	32769...40863
A1 Low Threshold R	0x0541	1345	0	R/W	Uint16				32734	28768...36862
A1 High Threshold O	0x0551	1361	0	R/W	Uint16				32769	32769...40863
A1 Low Threshold O	0x0561	1377	0	R/W	Uint16				32734	28768...36862
A1 High Threshold Y	0x0571	1393	0	R/W	Uint16				32769	32769...40863
A1 Low Threshold Y	0x0581	1409	0	R/W	Uint16				32734	28768...36862
A1 High Threshold G	0x0591	1425	0	R/W	Uint16				32769	32769...40863
A1 Low Threshold G	0x05A1	1441	0	R/W	Uint16				32734	28768...36862
A1 High Threshold B	0x05B1	1457	0	R/W	Uint16				32769	32769...40863
A1 Low Threshold B	0x05C1	1473	0	R/W	Uint16				32734	28768...36862
A1 High Threshold V	0x05D1	1489	0	R/W	Uint16				32769	32769...40863
A1 Low Threshold V	0x05E1	1505	0	R/W	Uint16				32734	28768...36862
Thresholdes (Condition: Operation mode=1)										
A1 Color Assignment Teach Threshold R	0x0631	1585	0	R/W	Uint16				0	0...4095
A1 Color Assignment Teach Threshold O	0x0641	1601	0	R/W	Uint16				0	0...4095
A1 Color Assignment Teach Threshold Y	0x0651	1617	0	R/W	Uint16				0	0...4095
A1 Color Assignment Teach Threshold G	0x0661	1633	0	R/W	Uint16				0	0...4095
A1 Color Assignment Teach Threshold B	0x0671	1649	0	R/W	Uint16				0	0...4095
A1 Color Assignment Teach Threshold V	0x0681	1665	0	R/W	Uint16				0	0...4095
A1 Configuration (Condition: Pin function=2 OR 3)										
A1 NO / NC	0x0211	529	0	R/W	Uint8	X			0	0 = NO 1 = NC
A1 NPN / PNP	0x0221	545	0	R/W	Uint8	X			2	0 = PNP 1 = NPN 2 = Pushpull
E/A2 Configuration (Condition: Pin function=1)										
E/A2 Configuration	Same Structure as A1 Configuration (Condition: Pin function=0) Same indexes as A1 +1									
E/A2 Configuration (Conditions: Pin function=2 OR 3)										
E/A2 Configuration	Same Structure as A1 Configuration (Conditions: Pin function=1 OR 2) Same indexes as A1 +1									
E/A2 Configuration (Conditions: Pin function=4 OR 6)										
E2 Input Logic	0x0262	610	31	R/W	Uint8	X			0	0 = Active High 1 = Active Low
E/A2 Configuration (Conditions: Pin function=5)										
E2 Input Logic	0x0262	610	31	R/W	Uint8	X			0	0 = Active High 1 = Active Low
E2 Extern Teach-in	0x02A2	674	32	R/W	Uint8	X			1	1...12 → Teach-In output 1...12

E/A3 Configuration										
E/A3 Configuration	Same Structure as E/A 2 Configuration Same indexes as A1 +2									
A4 Configuration										
A4 Configuration	Same Structure as A1 Configuration Same indexes as A1 +3									
A5 Configuration										
A5 Configuration	Same Structure as A1 Configuration Same indexes as A1 +4									
A6 Configuration										
A6 Configuration	Same Structure as A1 Configuration Same indexes as A1 +5									
E/A7 Configuration										
E/A7 Configuration	Same Structure as E/A2 Configuration Same indexes as A1 +6									
A8 Configuration										
A8 Configuration	Same Structure as A1 Configuration Same indexes as A1 +7									
A9 Configuration										
A9 Configuration	Same Structure as A1 Configuration Same indexes as A1 +8									
A10 Configuration										
A10 Configuration	Same Structure as A1 Configuration Same indexes as A1 +9									
A11 Configuration										
A11 Configuration	Same Structure as A1 Configuration Same indexes as A1 +10									
A12 Configuration										
A12 Configuration	Same Structure as A1 Configuration Same indexes as A1 +11									
Device Test										
Pin Test Output 1	0x1000	4096	1	R/W	Uint8				0	0 = Running 1 = ForceHigh 2 = ForceLow
Pin Test Output 2	0x1000	4096	2	R/W	Uint8				0	
Pin Test Output 3	0x1000	4096	3	R/W	Uint8				0	
Pin Test Output 4	0x1000	4096	4	R/W	Uint8				0	
Pin Test Output 5	0x1000	4096	5	R/W	Uint8				0	
Pin Test Output 6	0x1000	4096	6	R/W	Uint8				0	
Pin Test Output 7	0x1000	4096	7	R/W	Uint8				0	
Pin Test Output 8	0x1000	4096	8	R/W	Uint8				0	
Pin Test Output 9	0x1000	4096	9	R/W	Uint8				0	
Pin Test Output 10	0x1000	4096	10	R/W	Uint8				0	
Pin Test Output 11	0x1000	4096	11	R/W	Uint8				0	
Pin Test Output 12	0x1000	4096	12	R/W	Uint8				0	
Test Status	0x1001	4097	0	R/W	Uint16			X	0	Bits 0...11: 0 = Force Low 1 = Force High Bits 12-14: 0 Bit 15: 0 = Running State 1 = Test State

Observation

Name	Index (hex)	Index (dec)	Subindex	R/W	Length	Data Storage	dyna-mic	modify others	Default value	Range
Color sensor information										
Sensor status	0x1200	4608	0	R	Uint16		X		—	0 = Status OK 1 = No signal 2 = Signal too low 3 = Signal too high 4 = LED temperature too high 5 = LED temperature too low
sRGB color values	0x1203	4611	0	R	Record (3 x Uint8)		X		—	
Red	0x1203	4611	1	R	Uint8		X		—	
Green	0x1203	4611	2	R	Uint8		X		—	
Blue	0x1203	4611	3	R	Uint8		X		—	
HSL values	0x1201	4609	0	R	Record (8 x Uint16)		X		—	
Lightness	0x1201	4609	1	R	Uint16		X		—	
Hue Red	0x1201	4609	2	R	Uint16		X		—	
Hue Orange	0x1201	4609	3	R	Uint16		X		—	
Hue Yellow	0x1201	4609	4	R	Uint16		X		—	
Hue Green	0x1201	4609	5	R	Uint16		X		—	
Hue Blue	0x1201	4609	6	R	Uint16		X		—	
Hue Violet	0x1201	4609	7	R	Uint16		X		—	
Saturation	0x1201	4609	8	R	Uint16		X		—	
Raw Color Sensor Channel Values ROYGBV	0x1202	4610	0	R	Record (6 x Uint16)		X		—	
Red	0x1202	4610	1	R	Uint16		X		—	
Orange	0x1202	4610	2	R	Uint16		X		—	
Yellow	0x1202	4610	3	R	Uint16		X		—	
Green	0x1202	4610	4	R	Uint16		X		—	
Blue	0x1202	4610	5	R	Uint16		X		—	
Violette	0x1202	4610	6	R	Uint16		X		—	
Input 1	0x1204	4612	1	R	Boolean		X			0 = Low, 1 = High
Input 2	0x1204	4612	2	R	Boolean		X			0 = Low, 1 = High
Input 3	0x1204	4612	3	R	Boolean		X			0 = Low, 1 = High