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wenglor
the innovative family

P1PCx8x
P1PCx9x

Laser Distance Sensors Triangulation

IO-Link

Interface Description

Subject to change without notice
Available as PDF version only
Status: 08.05.2026
www.wenglor.com

P1PCx8x

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)
P1PC181	0x000084	132	00 00 84	0 0 132
P1PC182	0x000085	133	00 00 85	0 0 133
P1PC381	0x00008D	141	00 00 8D	0 0 141
P1PC382	0x00008E	142	00 00 8E	0 0 142
P1PC391	0x0000E7	231	00 00 E7	0 0 231

IO-Link Information

IO-Link Version:	V1.1.4
Data Storage:	Yes
Blockparameter:	Yes
Min Cycle time:	800 μs
SIO-Mode:	Yes
COM-Mode:	COM3
ISDU:	Yes
Process data In (Device to Master):	48 Bit
Process data Out (Master to Device):	8 Bit

IO-Link Profile

Common Profile
Function Class Identification
Function Class Diagnosis
Function Class Extended Identification
Smart Sensor Profil - Measuring Sensor, Type 3.2
Smart Sensor Profil - Transducer Disable

Process input data (Length: 48 Bit)

Device to Master

Subindex	Name	Bit Offset	Length	Range
1	Measurement Value	16	Int32	0...1000
2	Scale	8	Int8	0
3	Indication Error/Warning 4	7	1 Bit	0 = false 1 = true
4	Indication Error/Warning 3	6	1 Bit	0 = false 1 = true
5	Indication Error/Warning 2	5	1 Bit	0 = false 1 = true
6	Indication Error/Warning 1	4	1 Bit	0 = false 1 = true
7	Error	3	1 Bit	0 = false 1 = true
8	Warning	2	1 Bit	0 = false 1 = true
9	SSC2	1	1 Bit	0 = false 1 = true
10	SSC1	0	1 Bit	0 = false 1 = true

These values are outside the measurement range and show information about the measurement:

Measured Value =	0x80000008	–2147483640	Object too close
	0x7FFFFFF8	2147483640	Object too far
	0x7FFFFFFC	2147483644	No measurement data

	Octet 0 (MSB)								Octet 1								Octet 2								Octet 3							
Subindex	1																															
Bit Offset	47	46	45	44	43	42	41	40	39	38	37	36	35	34	33	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16
	Measurement value 32 bit																															

	Octet 4								Octet 5 (LSB)							
Subindex	2								3	4	5	6	7	8	9	10
Bit Offset	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
	Scale															

Process data (Length: 8 Bit)

Master to Device

Subindex	Name	Bit Offset	Length	Range
1	Emitted Light	0	1 Bit	0 = On 1 = Off
2	Find Me	1	1 Bit	0 = Off 1 = Blinking
3	Teach SSC1	3	1 Bit	0 → 1 Start Teach
4	Teach SSC2	4	1 Bit	0 → 1 Start Teach

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

Parameter

Name	Index (hex)	Index (dec)	Sub-index	R/W	Data type	Data Storage	Dynamic	Modify others	Default value	Range
Identification										
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				P1PCx8x	
Product ID	0x0013	**19**	0	R	String				P1PCx8x	
Product Text	0x0014	**20**	0	R	String				Laser Distance Sensors Triangulation	
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										
Locator	0x1200	**4608**	0	R/W	Uint8		X		0 = Locator Stop	0 = Locator Stop 1 = Locator Start
Reset Functions										
System Command	0x0002	2	0	W	Uint8			X	—	Device Reset = 0x80 (128) Restore Factory Settings = 0x81 (129) Application Reset = 0x82 (130) Back-to-Box = 0x83 (131)
Device Settings										
Device Access Locks.Data Storage Lock	0x000C	**12**	2	R/W	Bool	X			0 = unlocked	0 = unlocked 1 = Data Storage Locked
Device Access Locks.Local Parameterization Lock	0x000C	**12**	3	R/W	Bool	X			0 = unlocked	0 = unlocked 1 = Data Storage Locked
NFC Lock	0x0305	**773**	0	R/W	Uint8	X			0 = unlocked	0 = read/write 1 = read only 2 = locked
Display Rotate	0x00A0	**160**	0	R/W	Uint8	X			P1PCx9x: 0 = Off P1PCx8x: not available	0 = Off 1 = On
Measurement Value Settings										
Maximum Exposure Time	0x07D3	**2003**	0	R/W	Uint16	X			Default 200 µs	1…1600 µs
Current Exposure Time	0x2690	**9872**	0	R	Uint32		X		—	µs/6
Measurement Filter	0x0110	**272**	0	R/W	Uint8	X			3	0 = Off 1…9
Emitted Light	0x00E0	**224**	0	R/W	Uint8	X			0 = An	0 = On 1 = Off
SSC1										
SSC1 Teach-Mode	0x0290	**656**	0	R/W	Uint8	X		X	0 = Foreground	0 = Foreground 1 = Background 2 = Window
SSC1 Switch Point	0x0270	**624**	0	R/W	Sint32	X			1000	1...1000
SSC1 Hysteresis Mode	0x0230	**560**	0	R/W	Uint8	X			0 = Automatic	0 = Automatic 1 = Manual
SSC1 Hysteresis	0x0300	**768**	0	R/W	Uint32	X			3	1...1000
SSC1 Window (SSC1 Mode = Window)										
SSC1 Window Near	0x0271	**625**	0	R/W	Uint32	X			P1PC18x: 50 P1PC38x: 150	1...1000
SSC1 Window Far	0x0272	**626**	0	R/W	Uint32	X			P1PC18x: 50 P1PC38x: 150	1...1000

Name	Index (hex)	Index (dec)	Sub-index	R/W	Data type	Data Storage	Dynamic	Modify others	Default value	Range
SSC2										
SSC2 Teach Mode	0x0291	**657**	0	R/W	Uint8	X			0 = Foreground	0 = Foreground 1 = Background 2 = Window
SSC2 Switch Point	0x0280	**640**	0	R/W	Uint16	X			1000	1...1000
SSC2 Hysteresis Mode	0x0231	**561**	0	R/W	Uint8	X			0 = Automatic	0 = Automatic 1 = Manual
SSC2 Hysteresis	0x0301	**769**	0	R/W	Uint32	X			3	1...1000
SSC2 Window (SSC2 Mode = Window)										
SSC2 Window Near	0x0281	**641**	0	R/W	Uint32	X			P1PC18x: 50 P1PC38x: 150	1...1000
SSC2 Window Far	0x0282	**642**	0	R/W	Uint32	X			P1PC18x: 50 P1PC38x: 150	1...1000
Teach-In										
SSC1 Teach-In	0x0200	**512**	0	W	Uint8			X	—	1 = Teach-In
SSC2 Teach-In	0x0201	**513**	0	W	Uint8			X	—	1 = Teach-In
Pin Function										
E/A1 Pin Function	0x0040	**64**	0	R/W	Uint8	X			0 = Switching Output	0 = Switching Output SSC1 1 = Error Output 2 = Warning Output 3 = Emitted Light Disengageable 4 = Extern Teach
E/A2 Pin Function	0x0041	**65**	0	R/W	Uint8	X			6 = Antivalent Switching Output	1 = Error Output 2 = Warning Output 3 = Emitted Light Disengageable 4 = Extern Teach 6 = Antivalent Switching Output
E3 Pin Function	0x0042	**66**	0	R/W	Uint8	X			3 = Emitted Light Disengageable	3 = Emitted Light Disengageable 4 = Extern Teach 5 = Disabled
Digital Outputs										
A1 (SSC, Error or Warning Output)										
A1 On Delay	0x0050	**80**	0	R/W	Uint16	X			0 ms	0...10.000 ms
A1 Off Delay	0x0060	**96**	0	R/W	Uint16	X			0 ms	0...10.000 ms
A1 NO/NC	0x0210	**528**	0	R/W	Uint8	X			0 = NO	0 = NO 1 = NC
A1 NPN/PNP/P-P	0x0220	**544**	0	R/W	Uint8	X			0 = PNP	0 = PNP 1 = NPN 2 = Push-Pull
A2 (Error or Warning Output)										
A2 On Delay	0x0051	**81**	0	R/W	Uint16	X			0 ms	0...10.000 ms
A2 Off Delay	0x0061	**97**	0	R/W	Uint16	X			0 ms	0...10.000 ms
A2 NO/NC	0x0211	**529**	0	R/W	Uint8	X			0 = NO	0 = NO 1 = NC
A2 NPN/PNP/P-P	0x0221	**545**	0	R/W	Uint8	X			0 = PNP	0 = PNP 1 = NPN 2 = Push-Pull
Digital Inputs										
E1 (Teach Input or Emitted Light)										
E1 Input Ub Active/Inactive	0x0260	**608**	0	R/W	Uint8	X			0 = Ub active	0 = Ub Active 1 = Ub Inactive
E2 (Teach Input or Emitted Light)										
E2 Input Ub Active/Inactive	0x0261	**609**	0	R/W	Uint8	X			0 = Ub active	0 = Ub Active 1 = Ub Inactive
E3 (Teach Input or Emitted Light)										
E3 Input Ub Active/Inactive	0x0262	**610**	0	R/W	Uint8	X			0 = Ub active	0 = Ub Active 1 = Ub Inactive

Diagnosis

Name	Index (hex)	Index (dec)	Sub-index	R/W	Data type	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	4x Array of StringT3		X		0	Shows the pending Events (maximum 4)
Additional Status Information	0x1300	**4864**	0	R	Uint32		X		0	Value 0 = No Warning / Errors Measurement: Bit 0 = Signal Warning Bit 2 = Overexposure Bit 3 = Ambient light Bit 4 = Object to Close Bit 5 = Object to Far Bit 6 = No Measurement data Bit 8 = Emitted Light off Other: Bit 17 = Fatal Device Error Bit 18 = Temperature Error Bit 19 = Temperature Warning High Bit 20 = Temperature Warning Low Bit 28 = Undervoltage detection Bit 29 = Short Circuit
Self Check	0x2518	**9496**	0	R	Uint32		X		–	–
Condition Monitoring Functions										
Process Data Indication										
Indication Warning/Error 1	0x1310	**4880**	0	R//W	Uint8	X			Signal Warning	Measurement: 0 = Signal Warning 2 = Overexposure 3 = Ambient Light 4 = Object Too Close 5 = Object Too Far 6 = No Measurement Data 8 = Emitted Light Off Other: 17 = Fatal Error 18 = Temperature Error 19 = Temperature Warning High 20 = Temperature Warning Low 22 = Laser Error 28 = Undervoltage 29 = Short Circuit»
Indication Warning/Error 2	0x1311	**4881**	0	R//W	Uint8	X			Ambient Light	
Indication Warning/Error 3	0x1312	**4882**	0	R//W	Uint8	X			Temperature Warning High	
Indication Warning/Error 4	0x1313	**4883**	0	R//W	Uint8	X			Short Circuit	

Name	Index (hex)	Index (dec)	Sub-index	R/W	Data type	Data Storage	Dynamic	Modify others	Default value	Range
Warning Output Configuration										
Warning Output Configuration	0x1314	**4884**	0	R//W	Uint32	X			• Signal Warning • Overexposure • Ambient light • Temperature Warning High • Temperature Warning Low • Undervoltage detection	0 = Not use as Warning / Error 1 = Used as Warning / Error Measurement: Bit 0 = Signal Warning Bit 2 = Overexposure Bit 3 = Ambient Light Bit 4 = Object Too Close Bit 5 = Object Too Car Bit 6 = No Measurement Data Bit 8 = Emitted Light Off Other: Bit 17 = Fatal Error Bit 18 = Temperature Error Bit 19 = Temperature Warning High Bit 20 = Temperature Warning Low Bit 22 = Laser Error Bit 28 = Undervoltage Bit 29 = Short Circuit
Error Output Configuration										
Error Output Configuration	0x1315	**4885**	0	R//W	Uint32	X			• Object to close • Object to far • No Measure-ment data • Fatal Device Error • Temperature Error • Laser Error • Short Circuit	
Device Simulation										
Simulation Mode	0x0310	**784**	0	R/W	Uint8		X		0	0 = Off 1 = On
Device Simulation Enabled (Simulation Mode = 1)										
Simulation Messwert	0x0315	**789**	0	R/W	Uint32		X		2147483647	Measurement value 2147483647 = Use Process Value, -2147483640 = Too Close, 2147483640 = Too Far, 2147483644 = No Measurement
Simulation SSC1	0x0331	**817**	0	R/W	Uint8		X		2	0 = Off 1 = Active 2 = Use Process Value
Simulation SSC2	0x0332	**818**	0	R/W	Uint8		X		2	0 = Off 1 = Active 2 = Use Process Value
Simulation Signal Warning	0x031B	**795**	0	R/W	Uint8		X		2	0 = Off 1 = On 2 = Use Process Value
Simulation Overexposed Signal	0x031C	**796**	0	R/W	Uint8		X		2	
Simulation Ambient Light	0x031E	**798**	0	R/W	Uint8		X		2	
Simulation Fatal Error	0x0323	**803**	0	R/W	Uint8		X		2	
Simulation Temperature Error	0x0324	**804**	0	R/W	Uint8		X		2	
Simulation Temperature Warning High	0x0325	**805**	0	R/W	Uint8		X		2	
Simulation Temperature Warning Low	0x032F	**815**	0	R/W	Uint8		X		2	
Simulation Undervoltage	0x0327	**807**	0	R/W	Uint8		X		2	
Simulation Short Circuit	0x0328	**808**	0	R/W	Uint8		X		2	
Simulation Laser Error	0x032D	**813**	0	R/W	Uint8		X		2	

Events

Name	Event Code	Type	Specification
Maintenence required - Cleaning	0x8C40	Information	IO-Link
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