



IO-Link Interface Description

P.Touch, 0 – 50 psi

General Data

Vendor ID	856 (0x0358)
Device ID	1114192 (0x110050)
IO-Link Revision	V1.1
SIO Mode	supported
Process data	16-bit pressure value, 4-bit device status, 2 switching outputs
Baudrate	COM2 (38.4 kBaud)
Minimum cycle time	3 ms

Process data input

RecordT (32 Bit)

Pressure	Pressure	IntegerT (16 Bit)
Current pressure		
Value range [kPa]	(0 to 350) 32760 (OL) 32764 (NoData)	
Gradient (multiplier) to obtain pressure desired unit		
bar	kPa	psi
0.01	1	0.14504
		Mpa
		0.001
		mH2O
		0.10197163
		mmHG
		7.500616827
		% range of sensor
		0.02

The pressure is passed to the IO-link master in units of kpa. To obtain the pressure in the desired units, the PLC will need to multiply the value by the multiplier shown in the table above.

Device status

UIntegerT (4 Bit)

Current device status, a copy of the parameter [Device Status, Index 36] in the process data channel		
Value range	0	(Device is OK)
	1	(Maintenance required)
	2	(Out of specification)
	3	(Functional check)
	4	(Failure)

OUT 2

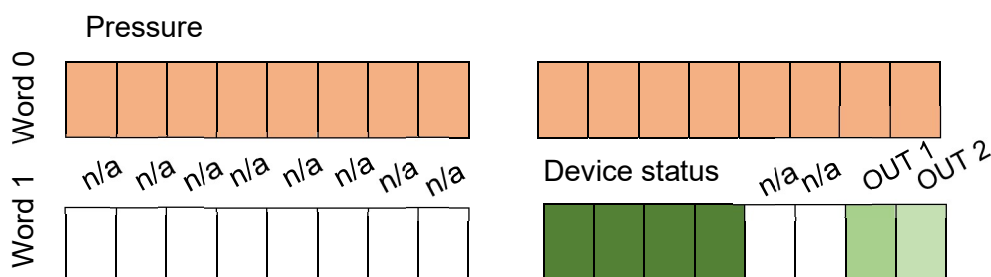
BooleanT

Current status of the digital signal [OUT 2]	
Value range	false (OFF) true (On)

OUT 1

BooleanT

Current status of the digital signal [OUT 1]	
Value range	false (OFF) true (On)





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IO-Link - specific device data

Index dec (hex)	Sub Index	Name	Length	Data type	Access	Default value	Value range
2 (0x02)	0	System command	8 Bit	UInt	wo		(130) Reset Factory Settings
12 (0x0C)	0	Write Protection	8 Bit	UInt	wo	0	(0) no protection (1) write protected
16 (0x10)	0	Vendor Name	64 Byte	String	ro	MP-Sensor	
17 (0x11)	0	Vendor Text	64 Byte	String	ro	www.mp-sensor.de	
18 (0x12)	0	Product Name	64 Byte	String	ro	P.Touch	
19 (0x13)	0	Product ID	64 Byte	String	ro	[product number]	
20 (0x14)	0	Product Text	64 Byte	String	ro		
21 (0x15)	0	Serial Number	16 Byte	String	ro		
22 (0x16)	0	Hardware Revision	64 Byte	String	ro		
23 (0x17)	0	Firmware Revision	64 Byte	String	ro		
24 (0x18)	0	Application Specific Tag	32 Byte	String	rw		
32 (0x20)	0	Error Count	16 Bit	UInt	ro		
36 (0x24)	0	Device Status	8 Bit	UInt	ro		
37 (0x25)	0	Detailed Device Status	3 Byte	Array	ro		



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P.Touch – specific device data

Index dec (hex)	Sub Index	Name	Length	Data type	Access	Default Value	Value range	Unit	Data Storage
64 (0x40)	0	Switch Point 1 / Window High 1	32 Bit	Int	rw	862	Upper Value = 3448 Lower Value = 0	mbar	Yes
65 (0x41)	0	Switch Point 2 / Window High 2	32 Bit	Int	rw	1724	Upper Value = 3448 Lower Value = 0	mbar	Yes
66 (0x42)	0	Reswitch Point 1 / Window Low 1	32 Bit	Int	rw	690	Upper Value = 3448 Lower Value = 0	mbar	Yes
67 (0x43)	0	Reswitch Point 2 / Window Low 2	32 Bit	Int	rw	1552	Upper Value = 3448 Lower Value = 0	mbar	Yes
68 (0x44)	0	OUT 1 Type	8 Bit	UInt	rw	0	(0) PNP (1) NPN (2) Push-Pull		Yes
69(0x45)	0	OUT 2 Type	8 Bit	UInt	rw	0	(0) PNP (1) NPN (2) Push-Pull (3) 0-10V (4) 1-10V (5) 4-20mA		Yes
70 (0x46)	0	OUT 1 Mode	8 Bit	UInt	rw	0	(0) Hysteresis Mode (1) Window Mode		Yes
71 (0x47)	0	OUT 2 Mode	8 Bit	UInt	rw	0	(0) Hysteresis Mode (1) Window Mode		Yes
72 (0x48)	0	OUT 1 Logic	8 Bit	UInt	rw	0	(0) NO (1) NC		Yes
73 (0x49)	0	OUT 2 Logic	8 Bit	UInt	rw	0	(0) NO (1) NC		Yes
74 (0x4A)	0	Switch Delay 1	16 Bit	UInt	rw	0	Upper Value = 60000 Lower Value = 0	s/100	Yes
75 (0x4B)	0	Switch Delay 2	16 Bit	UInt	rw	0	Upper Value = 60000 Lower Value = 0	s/100	Yes
76 (0x4C)	0	Reswitch Delay 1	16 Bit	UInt	rw	0	Upper Value = 60000 Lower Value = 0	s/100	Yes
77 (0x4D)	0	Reswitch Delay 2	16 Bit	UInt	rw	0	Upper Value = 60000 Lower Value = 0	s/100	Yes



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78 (0x4E)	0	Damping	16 Bit	UInt	rw	250	Upper Value = 4000 Lower Value = 0	ms	Yes
79 (0x4F)	0	Unit	8 Bit	UInt	rw	0	(0) bar (1) psi (2) kPa (3) MPa (4) mH2O (5) mmHG (6) %		Yes
82 (0x52)	0	Peak Pressure Threshold	32 Bit	Int	rw	3448	Upper Value = 3793 Lower Value = 0	mbar	Yes
85 (0x55)	0	Mainscreen	8 Bit	UInt	rw	2	(0) Off (1) Reduced (2) Full		Yes
86 (0x56)	0	Display Lock Type	8 Bit	UInt	rw	0	(0) Simple (1) Safe		Yes
87 (0x57)	0	OUT Color	8 Bit	UInt	rw	1	(0) Off (1) Only Detail (2) Out 1 (3) Out 1 reversed (4) Out 2 (5) Out 2 reversed (6) Split (7) Split reversed		Yes
88 (0x58)	0	Display Brightness	8 Bit	UInt	rw	100	Upper Value = 125 Lower Value = 0	%	Yes
89 (0x59)	0	Display Refresh Rate	8 Bit	UInt	rw	0	(0) 50 ms (1) 200 ms (2) 600 ms		Yes
90 (0x5A)	0	Display Resolution	8 Bit	UInt	rw	2	(0) -2 Char. (1) -1 Char. (2) default (3) +1 Char.		Yes
91 (0x5B)	0	Display Rotation	8 Bit	UInt	rw	0	(0) 0° (1) 180°		Yes
92 (0x5C)	0	Min Pressure	32 Bit	Int	ro	0	Upper Value = 3448 Lower Value = 0	mbar	
93 (0x5D)	0	Max Pressure	32 Bit	Int	ro	0	Upper Value = 3448 Lower Value = 0	mbar	
94 (0x5E)	0	Hard Fault Counter	32 Bit	UInt	ro	0	Upper Value = 4.294.967.295 Lower Value = 0	qty	
95 (0x5F)	0	Load Changes Counter	32 Bit	UInt	ro	0	Upper Value = 4.294.967.295 Lower Value = 0	qty	



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96 (0x60)	0	Operation Hours Counter	32 Bit	UInt	ro	0	Upper Value = 4.294.967.295 Lower Value = 0	h	
97 (0x61)	0	Peak Pressure Counter	32 Bit	UInt	ro	0	Upper Value = 4.294.967.295 Lower Value = 0	qty	
98 (0x62)	0	Startup Counter	32 Bit	UInt	ro	0	Upper Value = 4.294.967.295 Lower Value = 0	qty	
99 (0x63)	0	Switchings OUT 1 Counter	32 Bit	UInt	ro	0	Upper Value = 4.294.967.295 Lower Value = 0	qty	
100 (0x64)	0	Switchings OUT 2 Counter	32 Bit	UInt	ro	0	Upper Value = 4.294.967.295 Lower Value = 0	qty	
105 (0x69)	0	Out 2 Range HI	32 Bit	Int	rw	3448	Upper Value = 3448 Lower Value = 690	mbar	Yes
106 (0x6A)	0	Out 2 Range LO	32 Bit	Int	rw	0	Upper Value = 2760 Lower Value = 0	mbar	Yes
110 (0x6E)	0	Clear Commands	8 Bit	UInt	wo		(0) Reset Peak (1) Reset Log		Yes
114 (0x72)	0	Zero-Point	8 Bit	UInt	wo		(0) Set Zero-Point		Yes
115 (0x73)	0	Measuring Range END	32 Bit	Int	ro	3448		mbar	
116 (0x74)	0	Measuring Range START	32 Bit	Int	ro	0		mbar	
117 (0x75)	0	Display Off Time	16 Bit	UInt	rw	60	Upper Value = 3600 Lower Value = 10	s	Yes



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Overview of diagnostic events

Event Code	Diagnostic behavior	Event text	Meaning	Recommendation for action
0x1000	Fault	General malfunction	General malfunction – unknown error	The sensor is no longer functional and must not be operated any longer. It must be repaired or replaced.
0x6320	Fault	Parameter error message	An invalid parameter was written via IO-Link	Observe the validity table / value range of the P.Touch IO-Link description file.
0x7710	Fault	Overcurrent (OC) message	Overcurrent (>250mA) or short circuit at Out 1 and/or Out 2	Reduce the load on Out 1 / 2 or, if necessary, find and eliminate the short circuit.
0x4000	Fault	Temperatur Overload	Overheating detected at Out 2 analog output.	Reduce the load on the Out 2 analog output, observe technical data and temperature derating.
0x5000	Fault	Hardware defect message	A defect was detected in the electronics of the sensor	The sensor is no longer functional and must not be operated any longer. It must be repaired or replaced.
0x8C20	Fault	Measurement Range Exceeded or Undercut	The measured pressure is >1%, above the max. nominal pressure range or below the min. Nominal pressure range	Operate the sensor within the nominal pressure range.
0x8C10	Warning	Process Data Overrange	Process variable range overrun	Operate the sensor within the Process variable range
0x8C30	Warning	Process Data Underrange	Process variable range <u>underrun</u>	Operate the sensor within the Process variable range