IO-Link

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SIO-Mode	Yes
Frame-Typ	2.5
Baudrate	38,4 kBd
Minimum cycle time	3,0 ms
Processdata input	1 byte
Processdata output	1 byte

Process Data

	Parameter	Bit		Access		Remark
Input Data Byte	Part present (H2)	0		ro		Vacuum is over H2 & not yet under H2-h2
	Air saving function (H1)	1		ro		Vacuum is over H1 & not yet under H1-h1
	System pressure OK (HP1)	2		ro		Pressure is over HP1 & not yet under HP1 - hP1
	Status LED - green	3		ro		Status LED green on
	Status LED - red	4		ro		Status LED red on
	Status LED - flashing	5		ro		Status LED is flashing
	Condition Monitoring Event	6		ro		Details see Index 0x0092
	Error Event	7		ro		Error code see Index 0x0082
Output Data Byte	Vacuum	0		wo		Vacuum on/off
	Blow-off	1		wo		Blow-off on/off
	Setting mode	2		wo		Vacuum on/off without valve-protection
	-	3		wo		Not used
	-	4		wo		Not used
	-	5		wo		Not used
	-	6		wo		Not used
	-	7		wo		Not used

Parameter

SPDU Index dec	SPDU Index hex		Parameter	Data width	Value range	Access	Default value	Remark
			Identification					
7	0x07		Vendor ID	2 bytes		ro	0x00	0x00EA = 234 = J. Schmalz GmbH
8	0x08						0xEA	
9	0x09		Device ID	3 bytes		ro	0x01	Internal code number
10	0x0A						0x87	
11	0x0B						0x73	
16	0x0010		Vendor name	15 bytes		ro	J. Schmalz GmbH	Manufacturer designation
17	0x0011		Vendor text	15 bytes		ro	www.schmalz.com	Internet address
18	0x0012		Product name	32 bytes		ro	SXPi_PC	General product name
19	0x0013		Product ID	17 bytes		ro	10.02.02.00000/00	Order-Nr.
20	0x0014		Product text	30 bytes		ro	SXMPi 00 IMP Q PC 2xM12	Order-Code
21	0x0015		Serial number	9 bytes		ro	000000002	Serial number
22	0x0016		Hardware revision	3 bytes		ro		Hardware revison
23	0x0017		Firmware revision	3 bytes		ro		Firmware revision
			Online					
64	0x0040		System vacuum	2 bytes	0 - 999	ro	0	Unit: mbar
65	0x0041		System pressure	2 bytes	0 - 999	ro	0	Unit: 1 mbar x 10
			Initial Setup					
68	0x0044	ctr	Air saving function	1 byte	0 - 2	rw	1	0 = not active (off) 1 = active (on) 2 = active with supervision (onS)
69	0x0045	bLo	Blow-off mode	1 byte	0 - 2	rw	0	0 = Externally controlled blow-off (-E-) 1 = Internally controlled blow-off – time-dependent (I-t) 2 = Externally controlled blow-off – time-dependent (E-t)
70	0x0046	o-1	Output 1 function	1 byte	0 - 1	rw	0	0 = NO 1 = NC
71	0x0047	o-2	Output 2 function	1 byte	0 - 1	rw	0	0 = NO 1 = NC
72	0x0048	o-3	Output 3 function	1 byte	0 - 1	rw	0	0 = NO 1 = NC
73	0x0049	tyP	Signal type	1 byte	0 - 1	rw	0 / 1	0 = PNP 1 = NPN
74	0x004A	uni	Vacuum display unit	1 byte	0 - 2	rw	0	0 = mbar 1 = kPa 2 = inHg
75	0x004B	dLY	Output filter	1 byte	0 - 3	rw	1	0 = Off 1 = 10ms 2 = 50ms 3 =200ms
76	0x004C	Eco	Eco-Mode	1 byte	0 - 1	rw	0	0 = Eco OFF 1 = Eco ON
77	0x004D	Pin	PIN code	2 bytes	0 - 999	rw	0	0 = unlocked >0 = locked
78	0x004E	dCS	disable continuous sucking	1 byte	0 - 1	rw	0	0 = NO 1 = YES

			Production Setup					
100	0x0064	H-1	Setpoint H1	2 bytes	H1 =< 998 & H1 > (H2+h1)	rw	750	Unit: mbar
101	0x0065	h-1	Hysteresis h1	2 bytes	h1 < (H1-H2) & h1 >= 10	rw	150	Unit: mbar
102	0x0066	H-2	Setpoint H2	2 bytes	H2 < (H1-h1) & H2 > h2+2	rw	550	Unit: mbar
103	0x0067	h-2	Hysteresis h2	2 bytes	h2 < H2-2 & h2 >= 10	rw	10	Unit: mbar
104	0x0068	HP1	Setpoint HP1	2 bytes	HP1 < 9.900 & HP1 > hP1	rw	40	Unit: 1 bar x 0,1
105	0x0069	hP1	Hysteresis hP1	2 bytes	hP1 < HP1 & hP1 > 100	rw	2	Unit: 1 bar x 0,1
106	0x006A	tbL	Duration automatic blow	2 bytes	10 - 999	rw	20	Unit: 1 ms x 10
107	0x006B	t-1	Permissible evacuation time	2 bytes	0 - 999	rw	200	Unit: 1 ms x 10
108	0x006C	-L-	Permissible leakage value	1 byte	0 - 6	rw	6	0 = 4mbar/s 1 = 11mbar/s 2 = 25mbar/s 3 = 50mbar/s 4 = 100mbar/s 5 = 150mbar/s 6 = 250mbar/s
			Calibration					
120	0x0078	UAC	Vacuum sensor offset Cal	1 byte	0 - 1	wo	0	0 = Nothing 1 = Zero offset; After calibrating 0
121	0x0079	PrS	Pressure sensor offset Cal	1 byte	0 - 1	wo	0	0 = Nothing 1 = Zero offset; After calibrating 0
122	0x007A	rct	Reset erasable counters	1 byte	0 - 1	wo	0	0 = Nothing 1 = Reset erasable counters
123	0x007B	rES	Factory defaults	1 byte	0 - 1	wo	0	0 = Nothing 1 = Restore; After restoring 0
			Diagnose					
			Error					
130	0x0082	Exx	Error-Code	1 byte	0-255	ro	0	1-99 = Error-code 100 - 199 = Internal error code
			Counter					
140	0x008C	cc1	Vacuum-on counter	4 bytes	0 - 999 mio	ro	0	Not erasable
141	0x008D	cc2	Valve operating counter	4 bytes	0 - 999 mio	ro	0	Not erasable
142	0x008E	cc3	Condition monitoring counter	4 bytes	0 - 999 mio	ro	0	Not erasable
143	0x008F	ct1	Erasable vacuum-on counter	4 bytes	0 - 999 mio	ro	0	To reset this counter must "1" be sent to Index 0x007A
144	0x0090	ct2	Erasable valve operating counter	4 bytes	0 - 999 mio	ro	0	To reset this counter must "1" be sent to Index 0x007A
145	0x0091	ct3	Erasable Condition monitoring counter	4 bytes	0 - 999 mio	ro	0	To reset this counter must "1" be sent to Index 0x007A
			Condition Monitoring [CM]					
146	0x0092		Condition monitoring	1 byte	0 - 255	ro	0	0 = no warning 1 =Valve protection aktiv 2 =Evacuation time longer than t-1 4 = Leakage rate higher than -L- 8 = H1 in gripping cycle 16 =Dynamic pressure > (H2-h2) but < H1 128 = System pressure outside of operating range
147	0x0093		Leakage area	1 byte	0 - 255	ro	0	0 = no actual value 1 = Leakage of last sucking cycle is >200mbar/s 2 = Leakage of last sucking cycle is between 133 ... 200mbar/s 4 = Leakage of last sucking cycle is between 67 ... 133mbar/s 8 = Leakage of last sucking cycle is <67mbar/s
148	0x0094		Evacuation time t_0	2 bytes	0 - 65.535	ro	0	Time from start of sucking to H2 [ms]
149	0x0095		Evacuation time t_1	2 bytes	0 - 65.535	ro	0	Time from H2 to H1 [ms]
			Energy Monitoring [EM]					
155	0x009B		Air consumption per cycle in percent	1 byte	0 - 100	ro	0	Air consumption of last sucking cycle [%]
156	0x009C		Air consumption per cycle	2 byte	0 - 65.535	ro	0	Air consumption of last sucking cycle [Nl x 0,1]
157	0x009D		Energy consumption per cycle	2 byte	0 - 65.535	ro	0	Energy consumption of last sucking cycle [Ws]
			Predictive Maintenance [PM]					
160	0x00A0		Leakage	2 bytes	0 - 8.000	ro	0	Leakage of last sucking cycle [mbar/s]
161	0x00A1		Dynamic pressure	2 bytes	0 - 999	ro	0	Dynamic pressure of last sucking cycle [mbar]
162	0x00A2		Quality	1 bytes	0 - 100	ro	0	Quality of last sucking cycle [%]
163	0x00A3		Performance	1 bytes	0 -100	ro	0	Performance of last sucking cycle [%]