

S3N-W03

**IO-Link® parameters
v0.2**

PHYSICAL LAYER

Description	
IO-Link Revision	1.1.3
SIO Modus	YES
Min Cycle Time	2.3 ms (COM2)
Transmission Rate	38,4 kbaud (COM2)
Process Data Length	PDInput: 8 Bit configurable
M-Sequence Capability	PREOPERATE: TYPE_1_V OPERATE: TYPE_2_1 ISDU: supported

FEATURES

Description	
Block Parameter	YES
Data Storage	YES
Profile Characteristic	Device Profile: Adjustable Switching Sensor, 2 channel –ID 0x000E – Type SSP 2.7 Common Application Profile: Identification & Diagnosis – ID 0x4000 Function Class: Multiple Adjustable Switching Signal Channel – ID 0x800D

Product IODD can be found on IODDfinder or at www.datasensing.com - downloads - software - cubic sensors - S3N

SERVICE DATA

System Parameters							
Index (dec)	Parameter Object Name	Length	Subindex (offset)	Value/Range	Description	Data Type	Access*
0x000D (13)	Profile Characteristic	2 octets		0x000E	Adjustable Switching Sensor, 2 channel (Smart Sensor Profile)	ArrayT of UIntegerT16	RO
		2 octets		0x4000	Identification & Diagnosis (Common Profile)		
		2 octets		0x800D	Multiple Adjustable Switching Signal Channel ((Smart Sensor Profile)		
0x000E (14)	Process Data Input Descriptor	3 octets		0x01, 0x01, 0x00	SSC1 (OUT0, C/Q pin)	ArrayT of OctetStringT3	RO
		3 octets		0x01, 0x01, 0x01	SSC2 (OUT1, DO pin)		
		3 octets		0x02, 0x02, 0x02	QUALITY BITS		
		3 octets		0x01, 0x01, 0x04	TIME STAMP EVENT		
		3 octets		0x01, 0x01, 0x05	NOT USED		
		3 octets		0x01, 0x01, 0x06	NOT USED		

Identification Parameters								
Index (dec)	Parameter Object Name	Length	Subindex (offset)	Value/Range	Description	Data Type	Access*	Remark
0x0010 (16)	Vendor Name	18 octets		Datasensing S.r.l.	Informative	StringT	RO	
0x0011 (17)	Vendor Text	28 octets		Easing automation challenges	Informative	StringT	RO	
0x0012 (18)	Product Name	15 octets		S3N-PR-x-W03-OZ	Detailed product name	StringT	RO	
0x0013 (19)	Product ID	5 octets		10026	Product identification	StringT	RO	
0x0014 (20)	Product Text	15 octets		Contrast Sensor	Optical function	StringT	RO	
0x0015 (21)	Serial Number	9 octets			Unique serial number	StringT	RO	
0x0016 (22)	Hardware Version	5 octets		RevAE		StringT	RO	
0x0017 (23)	Firmware Version	5 octets		e.g. 1.0.0		StringT	RO	
0x0018 (24)	Application Specific Tag	32 octets		*** (default)	Tag application defined by user	StringT	RW	Saved in non-volatile memory
0x0019 (25)	Function Tag	32 octets		*** (default)	Additional tag for device function identification	StringT	RW	Saved in non-volatile memory
0x001A (26)	Location Tag	32 octets		*** (default)	Additional tag for device function identification	StringT	RW	Saved in non-volatile memory

Observation/Diagnostic								
Index (dec)	Parameter Object Name	Length	Subindex (offset)	Value/Range	Description	Data Type	Access*	Remark
0x0024 (36)	Device Status	1 octet		0x00 → Device is ok 0x01 → Maintenance Required 0x02 → Out of specification 0x03 → Functional Check 0x04 → Failure	Contains current status of device	UIntegerT	RO	
0x0025 (37)	Detailed Device Status	12 octets			Information about currently pending Event. Implemented as dynamic list	ArrayT	RO	
0x0028(40)	Process Data (configurable)	1 octet			Read last valid Process Data Input from PDin channel	Device specific	RO	
0x0041(65)	Light Received	2 octets		0...2048*	Measured signal	UIntegerT	RO	Analog signal has an offset of ~325. When the sensor is set to fast mode (Job Active – Detection mode = 60kHz) the reading of this parameter may affect jitter and response time.
0x0051(81)	Emission Status	1 octet		0x00: Emission OFF 0x01: Emission ON	Read emission status	UIntegerT	RO	
0x0052 (82)	Device Temperature	2 octets	1(64)	[°C]	Temperature actual	IntegerT	RO	Max and min temperature during lifetime are saved in non-volatile memory every hour.
		2 octets	2(48)	[°C]	Temperature minimum Power Up	IntegerT	RO	
		2 octets	3(32)	[°C]	Temperature maximum Power Up	IntegerT	RO	
		2 octets	4(16)	[°C]	Temperature minimum during lifetime	IntegerT	RO	
		2 octets	5(0)	[°C]	Temperature maximum during lifetime	IntegerT	RO	
0x0053 (83)	Device Temperature Threshold	2 octets	1(16)	-40[°C] (default)	Temperature minimum threshold	IntegerT	RW	Saved in non-volatile memory every hour. Events are generated if the device temperature exceeds the thresholds
		2 octets	2(0)	130[°C] (default)	Temperature maximum threshold	IntegerT	RW	
0x0057 (87)	Operating Hours Counter	4 octets	1(64)		Operating Hours: device operating hours. Not resettable by user.	UIntegerT	RO	Saved in non-volatile memory
		4 octets	2(32)	0...(2^32)-1	Operating Hours Maintenance: device operating hours, reset on system command "Confirm Maintenance".	UIntegerT	RO	
		4 octets	3(0)		Operating Hours Power Up: Time in hours since power up.	UIntegerT	RO	
0x0059 (89)	RGB selection	1 octet		0x01 = Red emission (default) 0x02 = Green emission 0x03 = Blue emission	Selects emission type (same value of Job Active – RGB selection)	UIntegerT	R/W	Saved in non-volatile memory
0x005A (90)	Sensitivity selection	1 octet		0...13	Selects amplification of analogue signal. For each step the amplification increases by $\sqrt{2}$ (same value of Job Active – Gain)	UIntegerT	R/W	Saved in non-volatile memory Sensitivity will be change during the next acquisition.
0x005C (92)	Teach Quality	1 octet		0x01 = GOOD TEACH (contrast $\geq 2 \times$ hyst) 0x02 = MEDIUM TEACH (1.5 x hyst \leq contrast < 2 x hyst) 0x03 = BAD TEACH (hyst \leq contrast < 1.5 x hyst)	Quality of the acquired contrast	UIntegerT	RO	Indicates how wide the acquired contrast is GOOD TEACH means the sensor was able to find a configuration with a contrast between mark and background more than twice the hysteresis. MEDIUM and BAD means the sensor was teach between 100%-75% and 75%-50% of the good contrast respectively. The sensor can work also with MEDIUM and BAD contrast, but it has a smaller margin vs detection thresholds. In case of "BAD TEACH" quality alarm bits in process data will always be "1". If the measured contrast is lower than the hysteresis the teach goes in FAIL state (TI Result - Teach-in State = 0x07 (ERROR))
0x0043 (67)	Active Teach	1 octet		0x00: No Teach (default) 0x01: Static Teach 0x02: Dynamic Teach	Last teach acquisition done. After a failed teach, it will be set to default "no teach" value.	UIntegerT	RO	Saved in non-volatile memory.
0x005D (93)	Quality Threshold High	2 octets		0...2048	Quality alarm threshold for alarm function on PD-bit3 (Look at Process Data Input section)		RO	Saved in non-volatile memory.
0x005E (94)	Quality Threshold Low	2 octets		0...2048	Quality alarm threshold for alarm function on PD-bit2 (Look at Process Data Input section)		RO	Saved in non-volatile memory.

Teach-in Parameters								
Index (dec)	Parameter Object Name	Length	Subindex (offset)	Value/Range	Description	Data Type	Access*	Remark
0x003A (58)	TI Select	1 octet		0x00 = SSC1 (default, C/Q pin and DO pin)	Selection for Teach-in channel (volatile)	UIntegerT	R/W	C/Q and DO outputs are antivalent. Teach SSC1 equals to teach SSC2
0x003B (59)	TI Result	1 octet	1(0)	0x00: IDLE 0x01 SUCCESS 0x04 WAIT_FOR_COMMAND 0x05: BUSY 0x07: ERROR	Teach-in State	UIntegerT	RO	
			2(4)	false true	Teach-in Flags SP	BooleanT		
0x003C(60)	SSC1 Param	2 octets	1 (16)	300...2000*	Switching Point 1 (SP1), default value 400 Switching threshold must be ≥ offset (typ.325) Same value of Job Active - Threshold	UIntegerT	R/W	Saved in non-volatile memory.
		2 octets	2(0)	Not Used	SP2	UIntegerT	R/W	
0x003D(61)	SSC1 Config	1 octet	1(24)	0x00: High Active 0x01: Low Active (default)	C/Q pin configuration: Logic In low active mode the output is active with dark marks on light backgrounds (dark mode). In high active mode the output is active with light marks on dark backgrounds (light mode).	UIntegerT	R/W	Saved in non-volatile memory. SSC1_Logic = High Active (0) → Job Active_Dark Mode = 0 SSC1_Logic = Low Active (1) → Job Active_Dark Mode = 1 SSC1 and SSC2 will always have an opposite logic. Hysteresis_max = 2 x Hysteresis_min When Hysteresis is set to max, also the minimum contrast seen by the sensor is doubled. Teach becomes more stable, but less sensible to small differences between marks and background.
		1 octet	2(16)	0x01: Single Point (default)	C/Q pin configuration: Mode	UIntegerT		
		2 octets	3(0)	0x00: Hysteresis min (default) 0x01: Hysteresis max	C/Q pin configuration: Hysteresis (same value of Job Active – Hysteresis)	UIntegerT		
0x003E (62)	SSC2 Param	2 octets	1(16)	300...2000*	Switching Point 2 (SP2), default value 400 Switching threshold must be ≥ offset (typ.325) Same value of Job Active - Threshold	UIntegerT	R/W	Saved in non-volatile memory
		2 octets	2(0)	Not Used	SP2	UIntegerT	R/W	
0x003F (63)	SSC2 Config	1 octet	1(24)	0x00: High Active (default) 0x01: Low Active	DO pin configuration: Logic	UIntegerT	R/W	Saved in non-volatile memory. SSC1 and SSC2 will always have an opposite logic. Hysteresis_max = 2 x Hysteresis_min When Hysteresis is set to max, also the minimum contrast seen by the sensor is doubled. Teach becomes more stable, but less sensible to small differences between marks and background.
		1 octet	2(16)	0x01: Single Point (default)	DO pin configuration: Mode	UIntegerT		
		2 octets	3(0)	0x00: Hysteresis min (default) 0x01: Hysteresis max	DO pin configuration: Hysteresis (same value of Job Active – Hysteresis)	UIntegerT		

* analog signal has an offset of more or less 325; if the threshold is set below this value the output cannot switch

Device Specific Parameters								
Index (dec)	Parameter Object Name	Length	Subindex (offset)	Value/Range	Description	Data Type	Access*	Remark
0x0048 (72)	Delay Settings	1 octet	1(32)	0x0 = no delay (default) 0x1 = Delay OFF	Select Delay mode	UIntegerT	R/W	Saved in non-volatile memory
		4 octets	2(0)	0...(2^32)-1 (default: 20ms)	Delay value [ms]	UIntegerT	R/W	
0x0049 (73)	PDInput configuration	1 octet	1(24)	0x00: disabled	QUALITY ALARM bits (default enabled)	UIntegerT	R/W	Saved in non-volatile memory
		1 octet	2(16)	Unused bit	Unused bit	UIntegerT		
		1 octet	3(8)	0x01: enabled	Unused bit	UIntegerT		
		1 octet	4(0)		TIME STAMP bit (default disabled)	UIntegerT		
0x0058 (88)	Keylock	1 octet		0x00: Inactive (default) 0x01: Active	Enable/disable push button	UIntegerT	R/W	Saved in non-volatile memory
0x00B4 (180)	Output type	1 octet	1 (8)	0x1 = PNP 0x3 = Push Pull (default)	Output type of C/Q pin when in SIO mode	UIntegerT	R/W	Saved in non-volatile memory
		1 octet	2(0)	0x1 = PNP 0x2 = NPN 0x3 = Push Pull (default) 0x4 = INPUT	Output type of DO pin	UIntegerT	R/W	
0x005B (91)	Input Function Configuration	1 octet	1(8)	0: No Function (default) 1: Remote 2: Light/Dark Selection 3: Delay Enable	White wire input functions	UIntegerT	R/W	Saved in non-volatile memory The white wire function remains selected even if the wire is set as output from the output configuration parameter (180).

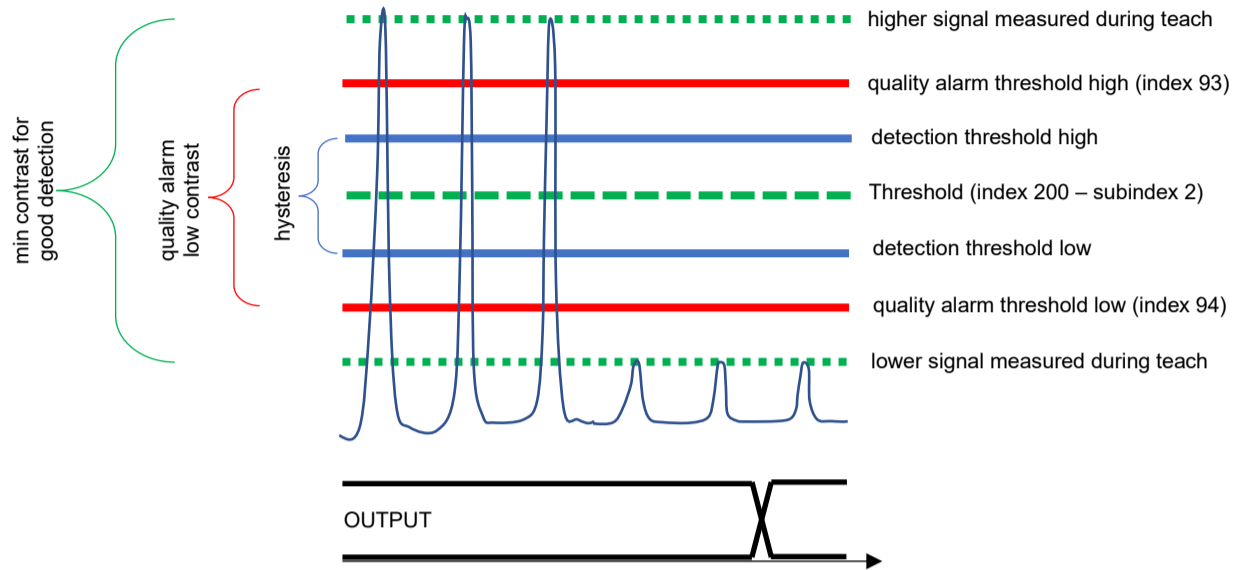
Standard Command					
Index (dec)	Command Name	Length	Value (dec)	Description	Access*
0x0002 (2)	Static Teach	1 octet	0x4B (75)	Standard 2 points mark-background teach (refer to User's Manual)	WO
0x0002 (2)	Dynamic Teach	1 octet	0x4C (76)	Start/stop dynamic teach (refer to User's Manual)	WO
0x0002 (2)	Teach Cancel	1 octet	0x4F (79)	Exit from FAIL condition	WO
0x0002 (2)	Restore Factory Settings	1 octet	0x82 (130)	Restore factory settings (Device Access Locks, Application Specific Tag, Function Tag, Location Tag, Device Temperature Threshold, Delay Settings, Output Type, Keylock, Process Data configuration, Time stamp trigger, Time Stamp Synch Value, Time Stamp List, Jobs, SSC1/SSC2 Param, SSC1/SSC2Config, TI Result, Active Teach, RGB Selection, Sensitivity selection)	WO
0x0002 (2)	Back-to-box	1 octet	0x83 (131)	It restores all factory settings and the sensor goes in a "wait for power cycle" state, blinking alternatively yellow and green leds. See IO-Link specifications 1.1.3 If the master is not updated to last specifications, this command could be visualized in a wrong way. Use ISDU to send the command.	WO
0x0002 (2)	Confirm Maintenance	1 octet	0xA5 (165)	Reset Maintenance parameters (Operating Hours Maintenance, Minimum device temperature since power up, Maximum device temperature since power up, Device Status, Detailed Device Status)	WO
0x0002 (2)	Start / Stop Ping	1 octet	0xAF (175)	Feature to identify the sensor by yellow led blinking	WO
0x0002 (2)	Emission Toggle	1 octet	0xB0 (176)	Toggle emission (see Emitter Status parameter to check the current status)	WO

Events					
Event code (dec)	Event name	Event mode	Event type	Device status	Remarks
0x4220 (16928)	Temperature underrun	Appears / Disappears	Warning	Out of specification	
0x4210 (16912)	Temperature overrun	Appears / Disappears	Warning	Out of specification	
0x5100 (20736)	General power supply fault	Appears / Disappears	Error	Failure	
0x7710 (30480)	Short circuit - Check installation	Appears / Disappears	Error	Failure	

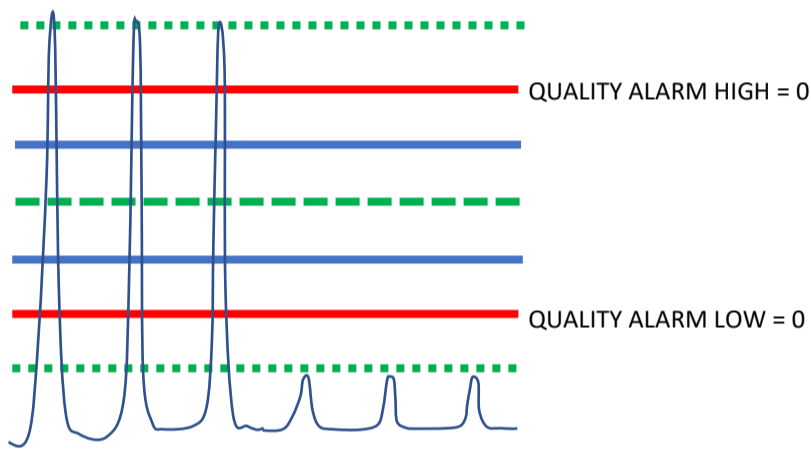
PROCESS DATA INPUT

Bit 7	Bit 6	Bit 5	Bit 4 TIME STAMP EVENT	Bit 3 QUALITY ALARM**: HIGH THRESHOLD	Bit 2 QUALITY ALARM**: LOW THRESHOLD	Bit 1 SSC2 (DO Pin)	Bit 0 SSC1 (C/Q Pin)
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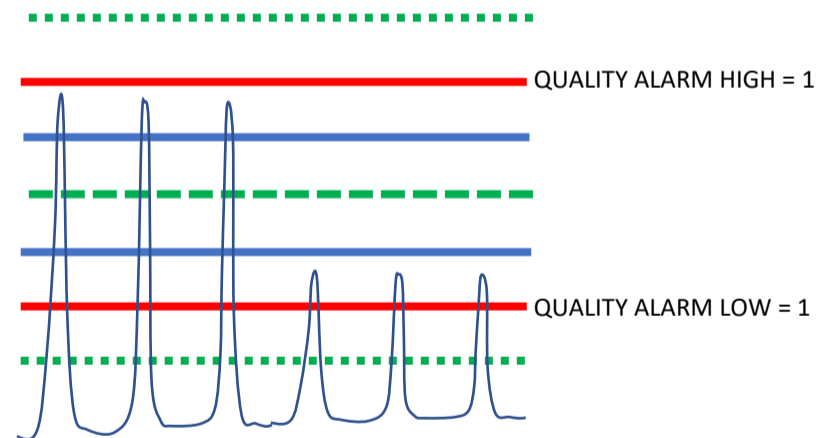
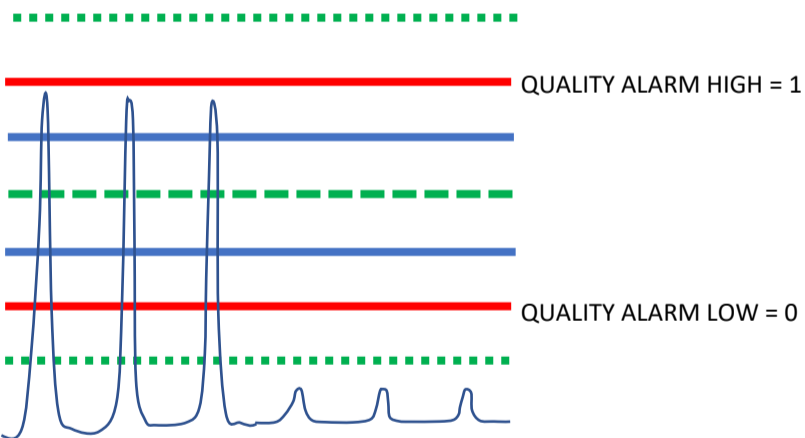
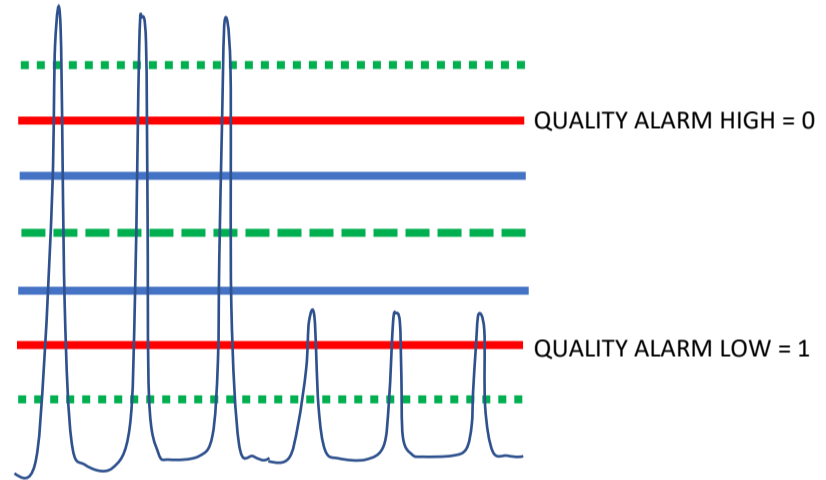
** the sensor sets automatically a quality alarm region around the detection thresholds. This region is defined half the region between detection thresholds and the minimum contrast for a good and stable detection. Min contrast is defined as 2 times the hysteresis. "GOOD TEACH" means that the measured contrast is at least 2 times the hysteresis. "BAD CONTRAST" means that contrast and hysteresis have the same value and quality alarm bits will always switch to "1". If one of these bits is set to 1, it means that contrast (difference between signal measured in on and off state during the teach) seen by the sensor is reduced. Bit3 goes high if the signal in high state is reduced under the quality high threshold. Bit2 goes high if the signal in low state is higher than the quality low threshold. Quality Alarm = 3 means both thresholds are crossed. Activation time of these threshold is ~5-10s.



I.e.: good sensor behavior



I.e.: target is moving closer to the sensor. Both low and high signals increase.



I.e.: target is moving farther from the sensor. Both low and high signals decrease.

Warning, contrast is reducing. Anomalous condition.

EXTENDED PARAMETERS (ADVANCED FUNCTIONS)

The Job function allows saving the configuration and retrieving it later.

JOB PARAMETERS								
Index (dec)	Parameter Object Name	Length	Subindex (offset)	Value/Range	Description	Data Type	Access	Remark
0x00C8 (200)	Job Active	8 octets	1(64)		Name	String	R/W	Saved in non-volatile memory
		2 octets	2(48)	300..2000*	Threshold (SSCx Param – SP1)	UIntegerT		
		1 octet	3(40)	0..13	Gain (Sensitivity selection)	UIntegerT		
		1 octet	4(32)	0x01 = Red emission (default) 0x02 = Green emission 0x03 = Blue emission	Color (RGB selection)	UIntegerT		
		1 octet	5(24)	0x00: High Active 0x01: Low Active (default)	Dark Mode (SSCx1 Config – Logic)	UIntegerT		
		1 octet	6(16)	0x00: Hysteresis min (default) 0x01: Hysteresis max	Hysteresis Factor (SSCx Config – Hysteresis)	UIntegerT		
		1 octet	7(8)	0x00: Contrast factor min (default) 0x01: Contrast factor max	Contrast Factor	UIntegerT		
		1 octet	8(0)	0x00: Detection mode accurate (30kHz) 0x01: Detection mode fast (60kHz – default)	Detection Mode	UIntegerT		
0x00C9 (201)	Job 1	8 octets	1(64)		Name	String	R/W	Saved in non-volatile memory
		2 octets	2(48)	300..2000*	Threshold	UIntegerT		
		1 octet	3(40)	0..13	Gain	UIntegerT		
		1 octet	4(32)	0x01 = Red emission (default) 0x02 = Green emission 0x03 = Blue emission	Color	UIntegerT		
		1 octet	5(24)	0x00: High Active 0x01: Low Active (default)	Dark Mode	UIntegerT		
		1 octet	6(16)	0x00: Hysteresis min (default) 0x01: Hysteresis max	Hysteresis Factor	UIntegerT		
		1 octet	7(8)	0x00: Contrast factor min (default) 0x01: Contrast factor max	Contrast Factor	UIntegerT		
		1 octet	8(0)	0x00: Detection mode accurate (30kHz) 0x01: Detection mode fast (60kHz – default)	Detection Mode	UIntegerT		
0x00CA (202)	Job 2	8 octets	1(64)		Name	String	R/W	Saved in non-volatile memory
		2 octets	2(48)	300..2000*	Threshold	UIntegerT		
		1 octet	3(40)	0..13	Gain	UIntegerT		
		1 octet	4(32)	0x01 = Red emission (default) 0x02 = Green emission 0x03 = Blue emission	Color	UIntegerT		
		1 octet	5(24)	0x00: High Active 0x01: Low Active (default)	Dark Mode	UIntegerT		
		1 octet	6(16)	0x00: Hysteresis min (default) 0x01: Hysteresis max	Hysteresis Factor	UIntegerT		
		1 octet	7(8)	0x00: Contrast factor min (default) 0x01: Contrast factor max	Contrast Factor	UIntegerT		
		1 octet	8(0)	0x00: Detection mode accurate (30kHz) 0x01: Detection mode fast (60kHz – default)	Detection Mode	UIntegerT		
0x00CB (203)	Job 3	8 octets	1(64)		Name	String	R/W	Saved in non-volatile memory
		2 octets	2(48)	300..2000*	Threshold	UIntegerT		
		1 octet	3(40)	0..13	Gain	UIntegerT		
		1 octet	4(32)	0x01 = Red emission (default) 0x02 = Green emission 0x03 = Blue emission	Color	UIntegerT		
		1 octet	5(24)	0x00: High Active 0x01: Low Active (default)	Dark Mode	UIntegerT		
		1 octet	6(16)	0x00: Hysteresis min (default) 0x01: Hysteresis max	Hysteresis Factor	UIntegerT		
		1 octet	7(8)	0x00: Contrast factor min (default) 0x01: Contrast factor max	Contrast Factor	UIntegerT		
		1 octet	8(0)	0x00: Detection mode accurate (30kHz) 0x01: Detection mode fast (60kHz – default)	Detection Mode	UIntegerT		
0x0066 (102)	Load Job	1 octet		0 (default) 1...3	Copy the job corresponding to the selected number to Job Active. When written, it turns automatically to "0" (default value)	UIntegerT	R/W	
0x0067 (103)	Save Job	1 octet		0 (default) 1...3	Save current Job settings (Job Active) into the Job position indicated. When written, it turns automatically to "0" (default value)	UIntegerT	R/W	

Job Active contains all the parameters used to set the sensor. After a teach, the resulting configuration is visible in Job Active. You can name the Job and save it in one of the 3 job slots. Use the parameter "Save Job" to save the active job in a memory slot, and "Load Job" to recall it to the active configuration. If you need to store more job configurations, read index 200 and store the resulting 16 bytes. Write back the 16bytes at index 200 (Job Active) to recall the configuration.

Most parameters of Active Job are duplicated at the standard index of other Datasensing's photoelectric sensors parameters.

You can change them using the parameter at the standard index, or directly in the Job Active configuration. The sensor will keep parameters aligned.

You can use Hysteresis and Contrast factors to reduce the sensor sensibility, making the detection more stable against signal variations (vibrations, distance variations, noise, etc.).

Hysteresys factor	Contrast factor	
0	0	minimum hysteresis and minimum contrast for a good teach = 2x min hysteresis
0	1	minimum hysteresis, doubled contrast for the good teach
1	0	doubled hysteresis and doubled contrast for good teach
1	1	doubled hysteresis and 4x contrast for good teach

Increasing the hysteresis, you increase the difference between on and off detection thresholds.

Increasing the contrast for a good teach, you force the sensor to look for a higher contrast configuration during the teach.

These two parameters automatically define the quality alarm thresholds (index 93 and 94).

Use Detection Mode to set the sensor speed to 60kHz (jitter = 4us) or to 30kHz (jitter = 8us).

With a lower speed, the sensor increases its sensibility. Use the Accurate (30kHz) for most challenging contrasts.

TIMESTAMP								
Index (dec)	Parameter Object Name	Length	Subindex (offset)	Value/Range	Description	Data Type	Access	Remark
0x00B8 (184)	Time stamp trigger	1 octet	1(32)	0x00: disabled (default) 0x01: enabled	EVENT_1 (ID=0x01): Not Used	UIntegerT	RW	Event that generates a time stamp
		1 octet	2(24)		EVENT_2 (ID=0x02): Temperature underrun (Event mode APPEARS)	UIntegerT		
		1 octet	3(16)		EVENT_3 (ID=0x03): Temperature overrun (Event mode APPEARS)	UIntegerT		
		1 octet	4(8)		EVENT_4 (ID=0x04): Short circuit	UIntegerT		
		1 octet	5(0)		EVENT_5 (ID=0x05): Power fault	UIntegerT		
0x00B9 (185)	Time Stamp settings	1 octet	1(8)	3 [ms]	Maximum time stamp latency time	UIntegerT	RO	Latency between event and time stamp (hardware dependent). Typically 3ms.
		1 octet	2(0)	1 [ms]	Time stamp resolution	UIntegerT	RO	
0x00BA (186)	Time Stamp List	70 octets	1 to 10	*see format in Time Stamp Table		UIntegerT	RO	Last time stamp trigger starts counting from Power Up, from Time Stamp Synch Value or from 0 (after Restore Factory Settings)
0x00BB (187)	Time Stamp Synch Value	2 octets	1(32)	0...999	milliseconds	UIntegerT	RW	Reset value for time stamp synchronization
		1 octet	2(24)	0..59	seconds			
		1 octet	3(16)	0...59	minutes			
		1 octet	4(8)	0..23	hours			
		1 octet	5(0)	0...255	days			

Index (dec)	Command Name	Length	Value (dec)	Description	Access
0x0002 (2)	Reset Time Stamp Application	1 octet	0xB1(177)	Reset Time Stamp application (Time Stamp trigger, Time Stamp List and Time Stamp PD bit)	WO
0x0002 (2)	Reset Time Stamp	1 octet	0xB2(178)	Reset clock counter	WO
0x0002 (2)	Time Stamp Synchronization	1 octet	0xB3(179)	Start counting from the Time Stamp Synch Value (index 187). This command clears the Time Stamp List and reset the Time Stamp PD bit.	WO
0x0002 (2)	Reset Time Stamp PD bit	1 octet	0xB4(180)	Reset the Time Stamp PD bit	WO

Time Stamp Table

	<i>ID event</i>	<i>day</i>	<i>hours</i>	<i>minutes</i>	<i>seconds</i>	<i>milliseconds</i>
Last EVENT_X occurred	Byte1	Byte2	Byte3	Byte4	Byte5	Byte6 Byte7
	Byte8	Byte9	Byte10	Byte11	Byte12	Byte13 Byte14
	Byte15	Byte16	Byte17	Byte18	Byte19	Byte20 Byte21

First EVENT_X occurred	Byte64	Byte65	Byte66	Byte67	Byte68	Byte69 Byte70