

ProcessData id=PD_ProcessData

ProcessDataIn "Process Data In" id=PD_ProcessDataIn

bit length: 16

data type: 16-bit Record (subindex access not supported)

subindex	bit offset	data type	allowed values	default value	acc. restr.	mod. other var.	excl. from DS	name	description
1	0	Boolean	false = Inactive, true = Active					Output State (Q)	State of the primary discrete output
2	1	Boolean	false = Inactive, true = Active					Hard Alarm State	If active, the sensor's threshold(s) cannot be optimized, and the sensor's output will stop functioning
3	2	14-bit UInteger						Measurement	

Octet 0

bit offset	15	14	13	12	11	10	9	8
subindex	3							
element bit	13	12	11	10	9	8	7	6

Octet 1

bit offset	7	6	5	4	3	2	1	0
subindex	3						2	1
element bit	5	4	3	2	1	0		

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Standard Variable "Direct Parameters 1" index=0 id=V_DirectParameters_1

data type: 128-bit Record

access rights: rw

subindex	bit offset	data type	allowed values	default value	acc. restr.	mod. other var.	excl. from DS	name	description
1	120	8-bit UInteger			ro			Reserved	
2	112	8-bit UInteger			ro			Master Cycle Time	
3	104	8-bit UInteger			ro			Min Cycle Time	
4	96	8-bit UInteger			ro			M-Sequence Capability	
5	88	8-bit UInteger		17	ro			IO-Link Version ID	
6	80	8-bit UInteger			ro			Process Data Input Length	

octet	8	9	10	11	12	13	14	15
bit offset	63 - 56	55 - 48	47 - 40	39 - 32	31 - 24	23 - 16	15 - 8	7 - 0
subindex	9	10	11	12	13	14	15	16
element bit	7 - 0	7 - 0	7 - 0	7 - 0	7 - 0	7 - 0	7 - 0	7 - 0

Standard Variable "Direct Parameters 2" index=1 id=V_DirectParameters_2

data type: 128-bit Record
access rights: rw

subindex	bit offset	data type	allowed values	default value	acc. restr.	mod. other var.	excl. from DS	name	description
1	120	8-bit UInteger						Device Specific Parameter 1	
2	112	8-bit UInteger						Device Specific Parameter 2	
3	104	8-bit UInteger						Device Specific Parameter 3	
4	96	8-bit UInteger						Device Specific Parameter 4	
5	88	8-bit UInteger						Device Specific Parameter 5	
6	80	8-bit UInteger						Device Specific Parameter 6	
7	72	8-bit UInteger						Device Specific Parameter 7	
8	64	8-bit UInteger						Device Specific Parameter 8	
9	56	8-bit UInteger						Device Specific Parameter 9	
10	48	8-bit UInteger						Device Specific Parameter 10	

11	40	8-bit Unsigned						Device Specific Parameter 11
12	32	8-bit Unsigned						Device Specific Parameter 12
13	24	8-bit Unsigned						Device Specific Parameter 13
14	16	8-bit Unsigned						Device Specific Parameter 14
15	8	8-bit Unsigned						Device Specific Parameter 15
16	0	8-bit Unsigned						Device Specific Parameter 16

octet	0	1	2	3	4	5	6	7
bit offset	127 - 120	119 - 112	111 - 104	103 - 96	95 - 88	87 - 80	79 - 72	71 - 64
subindex	1	2	3	4	5	6	7	8
element bit	7 - 0	7 - 0	7 - 0	7 - 0	7 - 0	7 - 0	7 - 0	7 - 0

octet	8	9	10	11	12	13	14	15
bit offset	63 - 56	55 - 48	47 - 40	39 - 32	31 - 24	23 - 16	15 - 8	7 - 0
subindex	9	10	11	12	13	14	15	16
element bit	7 - 0	7 - 0	7 - 0	7 - 0	7 - 0	7 - 0	7 - 0	7 - 0

Standard Variable "Standard Command" index=2 id=V_SystemCommand

data type: 8-bit Unsigned
 allowed values: 65 = SP1 Single Value Teach, 67 = SP1 Two Value Teach TP1, 68 = SP1 Two Value Teach TP2, 71 = SP1 Dynamic Teach Start, 72 = SP1 Dynamic Teach Stop, 79 = S1 Exit Teach, 130 = Restore Factory Settings, 160 = Disable Emitter, 161 = Enable Emitter
 access rights: wo
 modifies other variables

octet	0	
bit offset	7 - 0	

element bit	7 - 0
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Standard Variable "Device Access Locks" index=12 id=V_DeviceAccessLocks

data type: 16-bit Record (subindex access not supported)
access rights: rw

subindex	bit offset	data type	allowed values	default value	acc. restr.	mod. other var.	excl. from DS	name	description
1	0	Boolean						Parameter (write) Access Lock	
2	1	Boolean						Data Storage Lock	
3	2	Boolean						Local Parameterization Lock	
4	3	Boolean						Local User Interface Lock	

Octet 0

bit offset	15	14	13	12	11	10	9	8
subindex	/////	/////	/////	/////	/////	/////	/////	/////

Octet 1

bit offset	7	6	5	4	3	2	1	0
subindex	/////	/////	/////	/////	4	3	2	1

Standard Variable "Vendor Name" index=16 id=V_VendorName

data type: 64-octet String UTF-8
access rights: ro

octet	0	1	2	3	4	5	6	7
bit offset	511 - 504	503 - 496	495 - 488	487 - 480	479 - 472	471 - 464	463 - 456	455 - 448

octet	8	9	10	11	12	13	14	15
bit offset	447 - 440	439 - 432	431 - 424	423 - 416	415 - 408	407 - 400	399 - 392	391 - 384

octet	16	17	18	19	20	21	22	23
bit offset	383 - 376	375 - 368	367 - 360	359 - 352	351 - 344	343 - 336	335 - 328	327 - 320

octet	24	25	26	27	28	29	30	31
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bit offset	319 - 312	311 - 304	303 - 296	295 - 288	287 - 280	279 - 272	271 - 264	263 - 256
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octet	32	33	34	35	36	37	38	39
bit offset	255 - 248	247 - 240	239 - 232	231 - 224	223 - 216	215 - 208	207 - 200	199 - 192

octet	40	41	42	43	44	45	46	47
bit offset	191 - 184	183 - 176	175 - 168	167 - 160	159 - 152	151 - 144	143 - 136	135 - 128

octet	48	49	50	51	52	53	54	55
bit offset	127 - 120	119 - 112	111 - 104	103 - 96	95 - 88	87 - 80	79 - 72	71 - 64

octet	56	57	58	59	60	61	62	63
bit offset	63 - 56	55 - 48	47 - 40	39 - 32	31 - 24	23 - 16	15 - 8	7 - 0

Standard Variable "Vendor Text" index=17 id=V_VendorText

data type: 64-octet String UTF-8
access rights: ro

octet	0	1	2	3	4	5	6	7
bit offset	511 - 504	503 - 496	495 - 488	487 - 480	479 - 472	471 - 464	463 - 456	455 - 448

octet	8	9	10	11	12	13	14	15
bit offset	447 - 440	439 - 432	431 - 424	423 - 416	415 - 408	407 - 400	399 - 392	391 - 384

octet	16	17	18	19	20	21	22	23
bit offset	383 - 376	375 - 368	367 - 360	359 - 352	351 - 344	343 - 336	335 - 328	327 - 320

octet	24	25	26	27	28	29	30	31
bit offset	319 - 312	311 - 304	303 - 296	295 - 288	287 - 280	279 - 272	271 - 264	263 - 256

octet	32	33	34	35	36	37	38	39
bit offset	255 - 248	247 - 240	239 - 232	231 - 224	223 - 216	215 - 208	207 - 200	199 - 192

octet	40	41	42	43	44	45	46	47
bit offset	191 - 184	183 - 176	175 - 168	167 - 160	159 - 152	151 - 144	143 - 136	135 - 128

octet	48	49	50	51	52	53	54	55
bit offset	127 - 120	119 - 112	111 - 104	103 - 96	95 - 88	87 - 80	79 - 72	71 - 64

octet	56	57	58	59	60	61	62	63
bit offset	63 - 56	55 - 48	47 - 40	39 - 32	31 - 24	23 - 16	15 - 8	7 - 0

Standard Variable "Product Name" index=18 id=V_ProductName

data type: 64-octet String UTF-8
access rights: ro

octet	0	1	2	3	4	5	6	7
bit offset	511 - 504	503 - 496	495 - 488	487 - 480	479 - 472	471 - 464	463 - 456	455 - 448

octet	8	9	10	11	12	13	14	15
bit offset	447 - 440	439 - 432	431 - 424	423 - 416	415 - 408	407 - 400	399 - 392	391 - 384

octet	16	17	18	19	20	21	22	23
bit offset	383 - 376	375 - 368	367 - 360	359 - 352	351 - 344	343 - 336	335 - 328	327 - 320

octet	24	25	26	27	28	29	30	31
bit offset	319 - 312	311 - 304	303 - 296	295 - 288	287 - 280	279 - 272	271 - 264	263 - 256

octet	32	33	34	35	36	37	38	39
bit offset	255 - 248	247 - 240	239 - 232	231 - 224	223 - 216	215 - 208	207 - 200	199 - 192

octet	40	41	42	43	44	45	46	47
bit offset	191 - 184	183 - 176	175 - 168	167 - 160	159 - 152	151 - 144	143 - 136	135 - 128

octet	48	49	50	51	52	53	54	55
bit offset	127 - 120	119 - 112	111 - 104	103 - 96	95 - 88	87 - 80	79 - 72	71 - 64

octet	56	57	58	59	60	61	62	63
bit offset	63 - 56	55 - 48	47 - 40	39 - 32	31 - 24	23 - 16	15 - 8	7 - 0

Standard Variable "Product ID" index=19 id=V_ProductID

data type: 64-octet String UTF-8

access rights: ro

octet	0	1	2	3	4	5	6	7
bit offset	511 - 504	503 - 496	495 - 488	487 - 480	479 - 472	471 - 464	463 - 456	455 - 448

octet	8	9	10	11	12	13	14	15
bit offset	447 - 440	439 - 432	431 - 424	423 - 416	415 - 408	407 - 400	399 - 392	391 - 384

octet	16	17	18	19	20	21	22	23
bit offset	383 - 376	375 - 368	367 - 360	359 - 352	351 - 344	343 - 336	335 - 328	327 - 320

octet	24	25	26	27	28	29	30	31
bit offset	319 - 312	311 - 304	303 - 296	295 - 288	287 - 280	279 - 272	271 - 264	263 - 256

octet	32	33	34	35	36	37	38	39
bit offset	255 - 248	247 - 240	239 - 232	231 - 224	223 - 216	215 - 208	207 - 200	199 - 192

octet	40	41	42	43	44	45	46	47
bit offset	191 - 184	183 - 176	175 - 168	167 - 160	159 - 152	151 - 144	143 - 136	135 - 128

octet	48	49	50	51	52	53	54	55
bit offset	127 - 120	119 - 112	111 - 104	103 - 96	95 - 88	87 - 80	79 - 72	71 - 64

octet	56	57	58	59	60	61	62	63
bit offset	63 - 56	55 - 48	47 - 40	39 - 32	31 - 24	23 - 16	15 - 8	7 - 0

Standard Variable "Product Text" index=20 id=V_ProductText

data type: 64-octet String UTF-8
access rights: ro

octet	0	1	2	3	4	5	6	7
bit offset	511 - 504	503 - 496	495 - 488	487 - 480	479 - 472	471 - 464	463 - 456	455 - 448

octet	8	9	10	11	12	13	14	15
bit offset	447 - 440	439 - 432	431 - 424	423 - 416	415 - 408	407 - 400	399 - 392	391 - 384

octet	16	17	18	19	20	21	22	23
bit offset	383 - 376	375 - 368	367 - 360	359 - 352	351 - 344	343 - 336	335 - 328	327 - 320

octet	24	25	26	27	28	29	30	31
bit offset	319 - 312	311 - 304	303 - 296	295 - 288	287 - 280	279 - 272	271 - 264	263 - 256

octet	32	33	34	35	36	37	38	39
bit offset	255 - 248	247 - 240	239 - 232	231 - 224	223 - 216	215 - 208	207 - 200	199 - 192

octet	40	41	42	43	44	45	46	47
bit offset	191 - 184	183 - 176	175 - 168	167 - 160	159 - 152	151 - 144	143 - 136	135 - 128

octet	48	49	50	51	52	53	54	55
bit offset	127 - 120	119 - 112	111 - 104	103 - 96	95 - 88	87 - 80	79 - 72	71 - 64

octet	56	57	58	59	60	61	62	63
bit offset	63 - 56	55 - 48	47 - 40	39 - 32	31 - 24	23 - 16	15 - 8	7 - 0

Standard Variable "Serial Number" index=21 id=V_SerialNumber

data type: 16-octet String UTF-8

access rights: ro

octet	0	1	2	3	4	5	6	7
bit offset	127 - 120	119 - 112	111 - 104	103 - 96	95 - 88	87 - 80	79 - 72	71 - 64

octet	8	9	10	11	12	13	14	15
bit offset	63 - 56	55 - 48	47 - 40	39 - 32	31 - 24	23 - 16	15 - 8	7 - 0

Standard Variable "Firmware Version" index=23 id=V_FirmwareRevision

data type: 64-octet String UTF-8

access rights: ro

octet	0	1	2	3	4	5	6	7
bit offset	511 - 504	503 - 496	495 - 488	487 - 480	479 - 472	471 - 464	463 - 456	455 - 448

octet	8	9	10	11	12	13	14	15
bit offset	447 - 440	439 - 432	431 - 424	423 - 416	415 - 408	407 - 400	399 - 392	391 - 384

octet	16	17	18	19	20	21	22	23
bit offset	383 - 376	375 - 368	367 - 360	359 - 352	351 - 344	343 - 336	335 - 328	327 - 320

octet	24	25	26	27	28	29	30	31
bit offset	319 - 312	311 - 304	303 - 296	295 - 288	287 - 280	279 - 272	271 - 264	263 - 256

octet	32	33	34	35	36	37	38	39
bit offset	255 - 248	247 - 240	239 - 232	231 - 224	223 - 216	215 - 208	207 - 200	199 - 192

octet	40	41	42	43	44	45	46	47
bit offset	191 - 184	183 - 176	175 - 168	167 - 160	159 - 152	151 - 144	143 - 136	135 - 128

octet	48	49	50	51	52	53	54	55
bit offset	127 - 120	119 - 112	111 - 104	103 - 96	95 - 88	87 - 80	79 - 72	71 - 64

octet	56	57	58	59	60	61	62	63
bit offset	63 - 56	55 - 48	47 - 40	39 - 32	31 - 24	23 - 16	15 - 8	7 - 0

Standard Variable "Application Specific Tag" index=24 id=V_ApplicationSpecificTag

data type: 32-octet String UTF-8
access rights: rw

octet	0	1	2	3	4	5	6	7
bit offset	255 - 248	247 - 240	239 - 232	231 - 224	223 - 216	215 - 208	207 - 200	199 - 192

octet	8	9	10	11	12	13	14	15
bit offset	191 - 184	183 - 176	175 - 168	167 - 160	159 - 152	151 - 144	143 - 136	135 - 128

octet	16	17	18	19	20	21	22	23
bit offset	127 - 120	119 - 112	111 - 104	103 - 96	95 - 88	87 - 80	79 - 72	71 - 64

octet	24	25	26	27	28	29	30	31
bit offset	63 - 56	55 - 48	47 - 40	39 - 32	31 - 24	23 - 16	15 - 8	7 - 0

Standard Variable "Device Status" index=36 id=V_DeviceStatus

data type: 8-bit UInteger
allowed values: 0 = Device is OK, 1 = Maintenance required, 2 = Out of specification, 3 = Functional check, 4 = Failure, 5..255 = Reserved
access rights: ro
dynamic

octet	0	
bit offset	7 - 0	
element bit	7 - 0	

Standard Variable "Detailed Device Status" index=37 id=V_DetailedDeviceStatus

data type: Array[6] of 3-octet OctetString (subindex access not supported)
access rights: ro
dynamic

octet	0	1	2	3	4	5	6	7
bit offset	143 - 136	135 - 128	127 - 120	119 - 112	111 - 104	103 - 96	95 - 88	87 - 80
subindex	1	1	1	2	2	2	3	3

octet	8	9	10	11	12	13	14	15
bit offset	79 - 72	71 - 64	63 - 56	55 - 48	47 - 40	39 - 32	31 - 24	23 - 16
subindex	3	4	4	4	5	5	5	6

octet	16	17	
bit offset	15 - 8	7 - 0	
subindex	6	6	

Standard Variable "Process Data Input" index=40 id=V_ProcessDataInput

data type: see ProcessDataIn!
access rights: ro
dynamic

Variable "Teach Status" index=59 id=V_TeachStatus

description: Provides feedback on the status and the results of the teach-in activities (See IOL Smart Sensor Profile 12.4)
data type: 8-bit Record (subindex access not supported)
access rights: ro

subindex	bit offset	data type	allowed values	default value	acc. restr.	mod. other var.	excl. from DS	name	description
1	0	4-bit UInteger	0 = Idle, 1 = SP1 Success, 2 = SP2 Success, 3 = SP12 Success, 4 = Wait for Command, 5 = Busy, 7 = Error					Teach State	Provides feedback on the status and the results of the teach-in activities
2	4	Boolean						SP1 TP1 Flag	
3	5	Boolean						SP1 TP2 Flag	
4	6	Boolean						SP2 TP2 Flag	
6	7	Boolean						SP2 TP2 Flag	

Octet 0

bit offset	7	6	5	4	3	2	1	0
subindex	6	4	3	2	1			
element bit					3	2	1	0

Variable "BDC1 Setpoints" index=60 id=V_BDC1_Setpoints

description: The reference value used for sensor switching (See IOL Smart Sensor Profile 9.2.5)
 data type: 32-bit Record (subindex access not supported)
 access rights: rw
 dynamic

subindex	bit offset	data type	allowed values	default value	acc. restr.	mod. other var.	excl. from DS	name	description
1	16	16-bit Integer		0				SP1	Switch point
2	0	16-bit Integer		4000				SP2	Unused

octet	0	1	2	3
bit offset	31 - 24	23 - 16	15 - 8	7 - 0
subindex	1	1	2	2
element bit	15 - 8	7 - 0	15 - 8	7 - 0

Variable "BDC1 Configuration" index=61 id=V_BDC1_Configuration

description: Parameter coding of the Setpoint and Switchpoint parameter. (See IOL Smart Sensor Profile 9.2.6)
 data type: 32-bit Record
 access rights: rw
 dynamic

subindex	bit offset	data type	allowed values	default value	acc. restr.	mod. other var.	excl. from DS	name	description
1	24	8-bit UInteger	0 = Light Operate, 1 = Dark Operate, 128 = Switch Select					BDC Logic	Override behavior of LO/DO Switch
2	16	8-bit UInteger	1 = Single Point, 128 = Window SET, 129 = Light SET, 130 = Dark SET					BDC Mode	Defines how the binary switching information is created depending on Setpoint parameters (SP1, SP2) and the current measurement value
3	0	16-bit UInteger	0 = 1.0x, 1 = 1.5x, 2 = 2.5x					Hysteresis	User selectable hysteresis. Selectable as a multiple of the minimum possible hysteresis level

octet	0	1	2	3	
bit offset	31 - 24	23 - 16	15 - 8	7 - 0	
subindex	1	2	3	3	
element bit	7 - 0	7 - 0	15 - 8	7 - 0	

Variable "Configuration" index=64 id=V_Configuration

description: Vender specific user configuration options
data type: 288-bit Record
access rights: rw

subindex	bit offset	data type	allowed values	default value	acc. restr.	mod. other var.	excl. from DS	name	description
11	48	Boolean	false = Numeric, true = ercentage					Signal/Threshold Readout	Numeric (1234) or % (123P)
12	49	Boolean	false = Disabled, true = Enabled					ECO Mode	Dims the displays to reduce current consumption by 25%
13	50	Boolean	false = Normal, true = Flipped					Display Orientation	The display orientation can be reversed to accomidate any mounting orientation
16	56	6-bit UInteger	0 = Gain 1, 1 = Gain 2, 2 = Gain 3, 3 = Gain 4, 4 = Gain 5, 5 = Gain 6, 6 = Gain 7, 7 = Gain 8					Gain Level	Current gain setting. In auto-gain this will be changed to reflect the optimal gain found during the TEACH/SET method
17	62	2-bit UInteger	0 = Fixed Gain, 2 = Auto Gain					Gain Mode	In Auto Gain, the DF-G1 optimizes the gain during a TEACH/SET method for the presented condition(s)
18	64	8-bit UInteger	0 = 200 μS, 1 = 500 μS, 2 = 2000 μS, 3 = 5000 μS					Response Speed	The smallest sensing event the sensor is guaranteed to register
19	72	8-bit UInteger	0 = Two-Point TEACH, 1 = Dynamic TEACH, 2 = Window SET,					TEACH Selection	The teach method to be used for a TEACH/SET performed from from the front panel

Octet 8

bit offset	223	222	221	220	219	218	217	216
subindex	35							
element bit	15	14	13	12	11	10	9	8

Octet 9

bit offset	215	214	213	212	211	210	209	208
subindex	35							
element bit	7	6	5	4	3	2	1	0

Octet 10

bit offset	207	206	205	204	203	202	201	200
subindex	34							
element bit	7	6	5	4	3	2	1	0

Octet 11

bit offset	199	198	197	196	195	194	193	192
subindex	//////	//////	//////	//////	//////	//////	//////	//////

Octet 12

bit offset	191	190	189	188	187	186	185	184
subindex	//////	//////	//////	//////	//////	//////	//////	//////

Octet 13

bit offset	183	182	181	180	179	178	177	176
subindex	33							
element bit	15	14	13	12	11	10	9	8

Octet 14

bit offset	175	174	173	172	171	170	169	168
subindex	33							
element bit	7	6	5	4	3	2	1	0

Octet 2

bit offset	127	126	125	124	123	122	121	120
subindex	//////	//////	//////	//////	//////	//////	17	//////

Octet 3

bit offset	119	118	117	116	115	114	113	112
subindex	//////	//////	//////	//////	//////	//////	//////	//////

Octet 4

bit offset	111	110	109	108	107	106	105	104
subindex	7							
element bit	15	14	13	12	11	10	9	8

Octet 5

bit offset	103	102	101	100	99	98	97	96
subindex	7							
element bit	7	6	5	4	3	2	1	0

Octet 6

bit offset	95	94	93	92	91	90	89	88
subindex	6							
element bit	15	14	13	12	11	10	9	8

Octet 7

bit offset	87	86	85	84	83	82	81	80
subindex	6							
element bit	7	6	5	4	3	2	1	0

Octet 8

bit offset	79	78	77	76	75	74	73	72
subindex	5							
element bit	15	14	13	12	11	10	9	8

Octet 9

bit offset	71	70	69	68	67	66	65	64
subindex	5							
element bit	7	6	5	4	3	2	1	0

Octet 10

bit offset	63	62	61	60	59	58	57	56
subindex	/////	/////	/////	/////	/////	/////	/////	/////

Octet 11

bit offset	55	54	53	52	51	50	49	48
subindex	/////	/////	/////	/////	/////	/////	/////	/////

Octet 12

bit offset	47	46	45	44	43	42	41	40
subindex	3							
element bit	15	14	13	12	11	10	9	8

Octet 13

bit offset	39	38	37	36	35	34	33	32
subindex	3							
element bit	7	6	5	4	3	2	1	0

Octet 14

bit offset	31	30	29	28	27	26	25	24
subindex	2							
element bit	15	14	13	12	11	10	9	8

Octet 15

bit offset	23	22	21	20	19	18	17	16
subindex	2							
element bit	7	6	5	4	3	2	1	0

Octet 16

bit offset	15	14	13	12	11	10	9	8
subindex	//////	//////	//////	//////	//////	//////	//////	//////

Octet 17

bit offset	7	6	5	4	3	2	1	0
subindex	//////	//////	//////	//////	//////	//////	//////	//////

Variable "Statistics" index=66 id=V_Statistics

description: - All statistics are reset on every read - Only the first 32767 samples after the last read (approximately 3 seconds) are entered into the Sum, SumSquared, and Number of Samples - All samples since the last read are entered into the Transition Counts and Min/Max Signals - Example statistics procedure: - Read the statistics to reset the statistics - Read the statistics again, or periodically - Compute the Mean Signal as: $Mean = Sum / Number\ of\ Samples$ - Compute the Standard Deviation as: $StandardDeviation = (Sum\ Squared / Number\ of\ Samples - (Sum / Number\ of\ Samples)^2)^{1/2}$
 data type: 176-bit Record (subindex access not supported)
 access rights: ro
 dynamic

subindex	bit offset	data type	allowed values	default value	acc. restr.	mod. other var.	excl. from DS	name	description
1	0	16-bit Integer						Number of Samples	Number of samples present in Sum and Sum-Squared
2	16	32-bit Integer						Sum	Sum of Signals in Counts
3	48	64-bit Integer						Sum Squared	Sum of Signals Squared in Counts
4	112	16-bit Integer						Min	Minimal signal measured since last read
5	128	16-bit Integer						Max	Maximum signal measured since last read
6	144	16-bit Integer						Light->Dark Transition Count	Number of times sensor's sensing state transitioned from the light to the dark state (will not incorporate on/off delays)
7	160	16-bit Integer						Dark->Light Transition Count	Number of times sensor's sensing state transitioned from the dark to the light state (will not incorporate on/off delays)

octet	0	1	2	3	4	5	6	7
bit offset	175 - 168	167 - 160	159 - 152	151 - 144	143 - 136	135 - 128	127 - 120	119 - 112
subindex	7	7	6	6	5	5	4	4
element bit	15 - 8	7 - 0	15 - 8	7 - 0	15 - 8	7 - 0	15 - 8	7 - 0

octet	8	9	10	11	12	13	14	15
bit offset	111 - 104	103 - 96	95 - 88	87 - 80	79 - 72	71 - 64	63 - 56	55 - 48
subindex	3	3	3	3	3	3	3	3
element bit	63 - 56	55 - 48	47 - 40	39 - 32	31 - 24	23 - 16	15 - 8	7 - 0

octet	16	17	18	19	20	21		
bit offset	47 - 40	39 - 32	31 - 24	23 - 16	15 - 8	7 - 0		
subindex	2	2	2	2	1	1		
element bit	31 - 24	23 - 16	15 - 8	7 - 0	15 - 8	7 - 0		

Variable "Teachable Limits" index=68 id=V_TeachLimits

description: The minimum/maximum signal level that can be used for a teach or adjustment for a given sensor configuration (In auto-gain it may be possible to perform a teach when outside the allowed signal range)

data type: 64-bit Record

access rights: ro

subindex	bit offset	data type	allowed values	default value	acc. restr.	mod. other var.	excl. from DS	name	description
1	0	16-bit UInteger						Min Teachable Reference	
2	16	16-bit UInteger						Max Teachable Reference	
3	32	16-bit UInteger						Min Adjustable Reference	
4	48	16-bit Integer						Max Adjustable Reference	

octet	0	1	2	3	4	5	6	7
bit offset	63 - 56	55 - 48	47 - 40	39 - 32	31 - 24	23 - 16	15 - 8	7 - 0
subindex	4	4	3	3	2	2	1	1
element bit	15 - 8	7 - 0	15 - 8	7 - 0	15 - 8	7 - 0	15 - 8	7 - 0

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Events

Code	Type	Name	Description
36096 (0x8d00)	Warning	IOL_THRESHOLD_ALERT_EVENT_CODE	The threshold(s) cannot be optimized, but the sensor's output will still continue to function
36097 (0x8d01)	Error	IOL_THRESHOLD_ERROR_EVENT_CODE	The threshold(s) cannot be optimized, and the sensor's output will stop functioning
36098 (0x8d02)	Error	IOL_TEACH_FAILED_EVENT_CODE	The latest TEACH/SET method failed.
36112 (0x8d10)	Error	IOL_EEPROM_ERROR_EVENT_CODE	The sensor's internal eeprom had a critical failure

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V_Configuration.Signal/Threshold Readout

V_Configuration.ECO Mode

V_Configuration.Display Orientation

V_Configuration.Gain Level

V_Configuration.Gain Mode

V_Configuration.Response Speed

V_Configuration.TEACH Selection

V_Configuration.Auto Threshold

V_Configuration.Offset Percent * 0.1 %

V_Configuration.Auto-Threshold Response Time

V_Configuration.Process Data Filter Update Time * 0.1 ms

V_Configuration.Delay Mode

V_Configuration.On Delay/Off Oneshot Time ms

V_Configuration.Off Delay/On Oneshot Time ms

V_BDC1_Setpoints

V_BDC1_Configuration

V_SystemCommand, Button:=65

V_SystemCommand, Button:=130

V_SystemCommand, Button:=67

V_SystemCommand, Button:=68

V_SystemCommand, Button:=71

V_SystemCommand, Button:=72

V_SystemCommand, Button:=79

V_SystemCommand, Button:=160

V_SystemCommand, Button:=161

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V_Configuration.Response Speed

V_Configuration.TEACH Selection

V_Configuration.Auto Threshold

V_Configuration.Offset Percent * 0.1 %

V_Configuration.Auto-Threshold Response Time

V_Configuration.Process Data Filter Update Time * 0.1 ms

V_Configuration.Delay Mode

V_Configuration.On Delay/Off Oneshot Time ms

V_Configuration.Off Delay/On Oneshot Time ms

V_BDC1_Setpoints

V_BDC1_Configuration

V_SystemCommand, Button:=65

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V_SystemCommand, Button:=161

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