SICK

8019237 0117

OD1000 COM3

8388904

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9239743 0117 (1.1.0)

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BZ.mk43

IO-Link

Please note the validity of the additional operating instructions for automation functions

ENGLISH

1. Physical layer

Note: The IO-Link Device's max. current consumption (inclusive load current) shall not exceed the the master port's max. output power current.

SIO Modus	yes
Min Cycle Time	400 µs
Baudrate[2]	COM3
Process Data Length	16 Bit

2. Process data

Integer 16: 2 Byte
Condition: ISDU: Process data structure, Index: 120, Subindex: 0, Value: 0

	15	14	13	12	11	10	9	8
Bitoffset								
Byte 0	Distance							
Type/Subindex	Integer 16							

	7	6	5	4	3	2	1	0
Bitoffset								
Byte 1								
Type/Subindex								

Unsigned Integer 16: 2 Byte
Condition: ISDU: Process data structure, Index: 120, Subindex: 0, Value: 1

	15	14	13	12	11	10	9	8
Bitoffset								
Byte 0	Level							
Type/Subindex	Unsigned Integer 16							

	7	6	5	4	3	2	1	0
Bitoffset								
Byte 1								
Type/Subindex								

Unsigned Integer 16: 2 Byte
Condition: ISDU: Process data structure, Index: 120, Subindex: 0, Value: 2

	15	14	13	12	11	10	9	8
Bitoffset								
Byte 0	Timer							
Type/Subindex	Unsigned Integer 16							

	7	6	5	4	3	2	1	0
Bitoffset								
Byte 1								
Type/Subindex								

Integer 16: 2 Byte
Condition: ISDU: Process data structure, Index: 120, Subindex: 0, Value: 3

	15	14	13	12	11	10	9	8
Bitoffset								
Byte 0	Edge heigth jump							
Type/Subindex	Integer 16							

	7	6	5	4	3	2	1	0
Bitoffset								
Byte 1								
Type/Subindex								

Record[3]: 2 Byte
Condition: ISDU: Process data structure, Index: 120, Subindex: 0, Value: 4

	15	14	13	12	11	10	9	8
Bitoffset								
Byte 0	Distance							
Type/Subindex	Integer 14							

	7	6	5	4	3	2	1	0
Bitoffset						2	1	0
Byte 1	Distance						Q1	Q2
Type/Subindex	Integer 14					3	Boolean 2	Boolean 1

Record[3]: 2 Byte
Condition: ISDU: Process data structure, Index: 120, Subindex: 0, Value: 5

	15	14	13	12	11	10	9	8
Bitoffset								
Byte 0	Level							
Type/Subindex	Unsigned Integer 14							

	7	6	5	4	3	2	1	0
Bitoffset						2	1	0
Byte 1	Level						Q1	Q2
Type/Subindex	Unsigned Integer 14					3	Boolean 2	Boolean 1

DEUTSCH

1. Physikalische Schicht

Hinweis: Max. Stromaufnahme des IO-Link Devices (inkl. Lastströme) darf max. Ausgangsstrom des Master-Ports nicht überschreiten.

SIO Modus	ja
Min. Zykluszeit	400 µs
Baudrate[2]	COM3
Prozessdatenlänge	16 Bit

2. Prozessdaten

Integer 16: 2 Byte
Condition: ISDU: Processdaten Struktur, Index: 120, Subindex: 0, Value: 0

	15	14	13	12	11	10	9	8
Bitoffset								
Byte 0	Distanz							
Type/Subindex	Integer 16							

	7	6	5	4	3	2	1	0
Bitoffset								
Byte 1								
Type/Subindex								

Unsigned Integer 16: 2 Byte
Condition: ISDU: Processdaten Struktur, Index: 120, Subindex: 0, Value: 1

	15	14	13	12	11	10	9	8
Bitoffset								
Byte 0	Pegel							
Type/Subindex	Unsigned Integer 16							

	7	6	5	4	3	2	1	0
Bitoffset								
Byte 1								
Type/Subindex								

Unsigned Integer 16: 2 Byte
Condition: ISDU: Processdaten Struktur, Index: 120, Subindex: 0, Value: 2

	15	14	13	12	11	10	9	8
Bitoffset								
Byte 0	Timer							
Type/Subindex	Unsigned Integer 16							

	7	6	5	4	3	2	1	0
Bitoffset								
Byte 1								
Type/Subindex								

Integer 16: 2 Byte
Condition: ISDU: Processdaten Struktur, Index: 120, Subindex: 0, Value: 3

	15	14	13	12	11	10	9	8
Bitoffset								
Byte 0	Kantenhöhensprung							
Type/Subindex	Integer 16							

	7	6	5	4	3	2	1	0
Bitoffset								
Byte 1								
Type/Subindex								

Record[3]: 2 Byte
Condition: ISDU: Processdaten Struktur, Index: 120, Subindex: 0, Value: 4

	15	14	13	12	11	10	9	8
Bitoffset								
Byte 0	Distanz							
Type/Subindex	Integer 14							

	7	6	5	4	3	2	1	0
Bitoffset						2	1	0
Byte 1	Distanz						Q1	Q2
Type/Subindex	Integer 14					3	Boolean 2	Boolean 1

Record[3]: 2 Byte
Condition: ISDU: Processdaten Struktur, Index: 120, Subindex: 0, Value: 5

	15	14	13	12	11	10	9	8
Bitoffset								
Byte 0	Pegel							
Type/Subindex	Unsigned Integer 14							

	7	6	5	4	3	2	1	0
Bitoffset						2	1	0
Byte 1	Pegel						Q1	Q2
Type/Subindex	Unsigned Integer 14					3	Boolean 2	Boolean 1

[1] ro = read only, wo = write only, rw = read/write / ro = nur lesen, wo = nur schreiben, rw = lesen/schreiben
[2] COM values specify the bitrate (see IO-Link specification) / COM Werte spezifizieren die Baudrate (s. IO-Link Spezifikation): COM1 (4,8 kbit/s), COM2 (38,4 kbit/s), COM3 (230,4 kbit/s)
[3] Subindex access not supported / Subindexzugriff nicht unterstützt

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IO-Link

Please note the validity of the additional operating instructions for automation functions

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Record[3]: 2 Byte
Condition: ISDU: Process data structure, Index: 120, Subindex: 0, Value: 6

		15	14	13	12	11	10	9	8			
Bitoffset												
Byte 0	Timer											
Type/Subindex	Unsigned Integer 14											

		7	6	5	4	3	2	1	0			
Bitoffset												
Byte 1	Timer							Q1	Q2			
Type/Subindex	Unsigned Integer 14						3	Boolean	Boolean	2	Boolean	1

Record[3]: 2 Byte
Condition: ISDU: Process data structure, Index: 120, Subindex: 0, Value: 7

		15	14	13	12	11	10	9	8			
Bitoffset												
Byte 0	Edge height jump											
Type/Subindex	Integer 14											

		7	6	5	4	3	2	1	0			
Bitoffset												
Byte 1	Edge height jump							Q1	Q2			
Type/Subindex	Integer 14						3	Boolean	Boolean	2	Boolean	1

3. Service data

The following ISDUs will not be saved via Data-Storage: Teach-In Channel, Device specific tag and Selection of I/O Link COM

IO-Link specific

Index dec (hex)	Name	Format (Offset)	Length	Access[1]	Default Value	Value / Range	Remark [Unit]
0 (0x00)	Direct Parameters 1	Record	16 Byte	rw			
1 (0x01)	Direct Parameters 2	Record	16 Byte	rw			
12 (0x0C)	Device Access Locks	Record[3]	2 Byte	rw			
1 (0x01)	Parameter (write) Access Lock	Bit (0)	1 Bit	rw			
2 (0x02)	Data Storage Lock	Bit (1)	1 Bit	rw			
3 (0x03)	Local Parameterization Lock	Bit (2)	1 Bit	rw			
4 (0x04)	Local User Interface Lock	Bit (3)	1 Bit	rw			
16 (0x10)	Vendor Name	String	64 Byte	ro	SICK AG		
17 (0x11)	Vendor Text	String	64 Byte	ro	SICK Sensors		
18 (0x12)	Product Name	String	64 Byte	ro	OD1000-6001R15		
19 (0x13)	Product ID	String	64 Byte	ro			
21 (0x15)	Serial Number	String	16 Byte	ro			
22 (0x16)	Hardware Version	String	64 Byte	ro			
23 (0x17)	Firmware Version	String	64 Byte	ro			
24 (0x18)	Application Specific Tag	String	32 Byte	rw	***		
40 (0x28)	Process Data Input	PD In	2 Byte	ro			

SICK device specific

Index dec (hex)	Name	Format (Offset)	Length	Access[1]	Default Value	Value / Range	Remark [Unit]
13 (0x0D)	Smart Sensore Profile Characteristics	Record[3]	6 Byte	ro			Smart Sensore Profile Characteristics
14 (0x0E)	PDInput Descriptor	Array[3]	6 Byte	ro		Octet String [6]	Smart Sensor Profile Process data description (only valid for distance+Q1+Q2; see index 120)
58 (0x3A)	Teach-In Channel	UInt	8 Bit	rw	0	0 = BDC0 (mapped to Q1) 1 = BDC1 (mapped to Q2)	
59 (0x3B)	Teach-In Status	Record[3]	1 Byte	ro			
1 (0x01)	Teach state	Bit (0)	4 Bit	ro		0 = IDLE 1 = SP1 success 2 = SP2 success 3 = SP12 success 4 = Wait for command 5 = Busy 6 = Reserved 7 = Error	
2 (0x02)	SP1 (far) TP1	Bit (4)	1 Bit	ro		true = Teachpoint successfully taught false = Teachpoint not taught	

DEUTSCH

Record[3]: 2 Byte
Condition: ISDU: Processdaten Struktur, Index: 120, Subindex: 0, Value: 6

		15	14	13	12	11	10	9	8			
Bitoffset												
Byte 0	Timer											
Type/Subindex	Unsigned Integer 14											

		7	6	5	4	3	2	1	0			
Bitoffset												
Byte 1	Timer							Q1	Q2			
Type/Subindex	Unsigned Integer 14						3	Boolean	Boolean	2	Boolean	1

Record[3]: 2 Byte
Condition: ISDU: Processdaten Struktur, Index: 120, Subindex: 0, Value: 7

		15	14	13	12	11	10	9	8			
Bitoffset												
Byte 0	Kantenhöhensprung											
Type/Subindex	Integer 14											

		7	6	5	4	3	2	1	0			
Bitoffset												
Byte 1	Kantenhöhensprung							Q1	Q2			
Type/Subindex	Integer 14						3	Boolean	Boolean	2	Boolean	1

3. Servicedaten

Die folgenden ISDUs werden nicht über Data-Storage gesichert: Teach Kanal, Gerätespezifische Marke und Auswahl IO-Link COM

IO-Link spezifisch

Index dez (hex)	Name	Format (Offset)	Länge	Zugriff[1]	Standard Wert	Wertebereich	Bemerkung [Einheit]
0 (0x00)	Direkte Parameter 1	Record	16 Byte	rw			
1 (0x01)	Direkte Parameter 2	Record	16 Byte	rw			
12 (0x0C)	Gerätezugriffssperren	Record[3]	2 Byte	rw			
1 (0x01)	Parameter (Schreib-)Zugriffssperre	Bit (0)	1 Bit	rw			
2 (0x02)	Datenspeicherungs-sperre	Bit (1)	1 Bit	rw			
3 (0x03)	Lokale Parameterisierungssperre	Bit (2)	1 Bit	rw			
4 (0x04)	Lokale Benutzerinterface-Sperre	Bit (3)	1 Bit	rw			
16 (0x10)	Herstellername	String	64 Byte	ro	SICK AG		
17 (0x11)	Herstellertext	String	64 Byte	ro	SICK Sensors		
18 (0x12)	Produktname	String	64 Byte	ro	OD1000-6001R15		
19 (0x13)	Produkt-ID	String	64 Byte	ro			
21 (0x15)	Seriennummer	String	16 Byte	ro			
22 (0x16)	Hardwareversion	String	64 Byte	ro			
23 (0x17)	Firmwareversion	String	64 Byte	ro			
24 (0x18)	Anwendungsspezifische Markierung	String	32 Byte	rw	***		
40 (0x28)	Prozessdaten Eingang	PD In	2 Byte	ro			

SICK spezifisch

Index dez (hex)	Name	Format (Offset)	Länge	Zugriff[1]	Standard Wert	Wertebereich	Bemerkung [Einheit]
13 (0x0D)	Smart Sensor Profil Charakteristik	Record[3]	6 Byte	ro			Smart Sensor Profil Charakteristik
14 (0x0E)	PDInput Beschreibung	Array[3]	6 Byte	ro		Octet String [6]	Smart Sensor Profil Prozessdatenbeschreibung (nur gültig für Distanz + Q1 + Q2; siehe index 120)
58 (0x3A)	Teach Kanal	UInt	8 Bit	rw	0	0 = BDC0 (entspricht Q1) 1 = BDC1 (entspricht Q2)	
59 (0x3B)	Teach Status	Record[3]	1 Byte	ro			
1 (0x01)	Teach Status	Bit (0)	4 Bit	ro		0 = IDLE 1 = SP1 erfolgreich 2 = SP2 erfolgreich 3 = SP12 erfolgreich 4 = Warte auf Kommando 5 = Busy 6 = Reserviert 7 = Fehler	

[1] ro = read only, wo = write only, rw = read/write / ro = nur lesen, wo = nur schreiben, rw = lesen/schreiben
[2] COM values specify the bitrate (see IO-Link specification) / COM Werte spezifizieren die Baudrate (s. IO-Link Spezifikation): COM1 (4,8 kbit/s), COM2 (38,4 kbit/s), COM3 (230,4 kbit/s)
[3] Subindex access not supported / Subindexzugriff nicht unterstützt

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IO-Link

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ENGLISH

SICK device specific

Index dec (hex)	Name	Format (Offset)	Length	Access[1]	Default Value	Value / Range	Remark [Unit]
3 (0x03)	SP1 (far) TP2	Bit (5)	1 Bit	ro		true = Teachpoint successfully taught false = Teach-point not taught	
4 (0x04)	SP2 (near) TP1	Bit (6)	1 Bit	ro		true = Teachpoint successfully taught false = Teach-point not taught	
5 (0x05)	SP2 (near) TP2	Bit (7)	1 Bit	ro		true = Teachpoint successfully taught false = Teach-point not taught	
60 (0x3C)	Q1 switching points	Record	4 Byte	rw			
1 (0x01)	Switching point 1 (far)	Bit (16)	16 Bit	rw	4000	-10000...10000	[1/10 mm]
2 (0x02)	Switching point 2 (near)	Bit (0)	16 Bit	rw	-4000	-10000...10000	[1/10 mm]
61 (0x3D)	Q1 switching point settings	Record	4 Byte	rw			
1 (0x01)	Active state	Bit (24)	8 Bit	rw	0	0 = high 1 = low	
2 (0x02)	Mode	Bit (16)	8 Bit	rw	1	1 = Distance to object 2 = Window 128 = Object between sensor and backround (ObSB) 130 = Alarm 131 = Signal level warning 132 = Edge height jump	
3 (0x03)	Hysteresis	Bit (0)	16 Bit	rw	10	0...10000	
62 (0x3E)	Q2 switching points	Record	4 Byte	rw			
1 (0x01)	Switching point 1 (far)	Bit (16)	16 Bit	rw	4000	-10000...10000	[1/10 mm]
2 (0x02)	Switching point 2 (near)	Bit (0)	16 Bit	rw	-4000	-10000...10000	[1/10 mm]
63 (0x3F)	Q2 switching point settings	Record	4 Byte	rw			
1 (0x01)	Active state	Bit (24)	8 Bit	rw	0	0 = high 1 = low	
2 (0x02)	Mode	Bit (16)	8 Bit	rw	1	1 = Distance to object 2 = Window 128 = Object between sensor and background (ObSB) 130 = Alarm 131 = Signal level warning 132 = Edge height jump 133 = Q2 = Q1 not	
3 (0x03)	Hysteresis	Bit (0)	16 Bit	rw	10	0...10000	
64 (0x40)	Device specific tag	String	32 Byte	rw	***		Device specific tag
65 (0x41)	Measurement value filter	UInt	8 Bit	rw	1	1 = no filter used 2 = Average filter 3 = Median filter	
66 (0x42)	Bit filter	Record	5 Byte	rw			
1 (0x01)	Filter function	Bit (32)	8 Bit	rw	0	0 = Bit filter 3 = no filter used	
2 (0x02)	Filter depth	Bit (0)	32 Bit	rw	2	1...32	
67 (0x43)	Distance range	Record[3]	8 Byte	rw			Setup for ROI near and far limit
1 (0x01)	Near limit	Bit (32)	32 Bit	rw	0		Near limit value have to be smaller then far limit value!
2 (0x02)	Far limit	Bit (0)	32 Bit	rw	3000		Far limit value have to be greater then near limit value!
68 (0x44)	Cycle time	UInt	16 Bit	rw	0	0 = auto 330 = 0.3 ms 500 = 0.5 ms 1000 = 1 ms 5000 = 5 ms 10000 = 10 ms	

DEUTSCH

SICK spezifisch

Index dez (hex)	Name	Format (Offset)	Länge	Zugriff[1]	Standard Wert	Wertebereich	Bemerkung [Einheit]
2 (0x02)	SP1 (fern) TP1	Bit (4)	1 Bit	ro		true = Teach-punkt gesetzt false = Teach-punkt nicht gesetzt	
3 (0x03)	SP1 (fern) TP2	Bit (5)	1 Bit	ro		true = Teach-punkt gesetzt false = Teach-punkt nicht gesetzt	
4 (0x04)	SP2 (nah) TP1	Bit (6)	1 Bit	ro		true = Teach-punkt gesetzt false = Teach-punkt nicht gesetzt	
5 (0x05)	SP2 (nah) TP2	Bit (7)	1 Bit	ro		true = Teach-punkt gesetzt false = Teach-punkt nicht gesetzt	
60 (0x3C)	Q1 Schaltpunkte	Record	4 Byte	rw			
1 (0x01)	Schaltpunkt 1 (fern)	Bit (16)	16 Bit	rw	4000	-10000...10000	[1/10 mm]
2 (0x02)	Schaltpunkt 2 (nah)	Bit (0)	16 Bit	rw	-4000	-10000...10000	[1/10 mm]
61 (0x3D)	Q1 Schaltpunkt Einstellungen	Record	4 Byte	rw			
1 (0x01)	Aktivstatus	Bit (24)	8 Bit	rw	0	0 = High 1 = Low	
2 (0x02)	Schaltfunktion	Bit (16)	8 Bit	rw	1	1 = Distanz zum Objekt 2 = Fenster 128 = Objekt zwischen Sensor und Hintergrund (ObSB) 130 = Alarm 131 = Signalpegel Warnung 132 = Kantenhöhensprung	
3 (0x03)	Hysterese	Bit (0)	16 Bit	rw	10	0...10000	
62 (0x3E)	Q2 Schaltpunkte	Record	4 Byte	rw			
1 (0x01)	Schaltpunkt 1 (fern)	Bit (16)	16 Bit	rw	4000	-10000...10000	[1/10 mm]
2 (0x02)	Schaltpunkt 2 (nah)	Bit (0)	16 Bit	rw	-4000	-10000...10000	[1/10 mm]
63 (0x3F)	Q2 Schaltpunkt Einstellungen	Record	4 Byte	rw			
1 (0x01)	Aktivstatus	Bit (24)	8 Bit	rw	0	0 = High 1 = Low	
2 (0x02)	Schaltfunktion	Bit (16)	8 Bit	rw	1	1 = Distanz zum Objekt 2 = Fenster 128 = Objekt zwischen Sensor und Hintergrund (ObSB) 130 = Alarm 131 = Signalpegel Warnung 132 = Kantenhöhensprung 133 = Q2 = Q1 nicht	
3 (0x03)	Hysterese	Bit (0)	16 Bit	rw	10	0...10000	
64 (0x40)	Gerätespezifische Marke	String	32 Byte	rw	***		Gerätespezifische Marke
65 (0x41)	Messwertfilter	UInt	8 Bit	rw	1	1 = keinen Filter verwenden 2 = Mittelwertfilter 3 = Medianfilter	
66 (0x42)	Bit Filter	Record	5 Byte	rw			
1 (0x01)	Filterfunktion	Bit (32)	8 Bit	rw	0	0 = Bit filter 3 = kein Filter	
2 (0x02)	Filtertiefe Bitfilter	Bit (0)	32 Bit	rw	2	1...32	
67 (0x43)	Distanzbereich	Record[3]	8 Byte	rw			Einstellung für ROI (region of interest) nahe Grenze und ferne Grenze
1 (0x01)	Nahe Grenze	Bit (32)	32 Bit	rw	0		Wert für die nahe Grenze muss kleiner sein als der Wert für die ferne Grenze!
2 (0x02)	Ferne Grenze	Bit (0)	32 Bit	rw	3000		Wert für die ferne Grenze muss größer sein als der Wert für die nahe Grenze!

[1] ro = read only, wo = write only, rw = read/write / ro = nur lesen, wo = nur schreiben, rw = lesen/schreiben
[2] COM values specify the bitrate (see IO-Link specification) / COM Werte spezifizieren die Baudrate (s. IO-Link Spezifikation): COM1 (4,8 kbit/s), COM2 (38,4 kbit/s), COM3 (230,4 kbit/s)
[3] Subindex access not supported / Subindexzugriff nicht unterstützt

SICK

8019237 0117

OD1000 COM3

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Please note the validity of the additional operating instructions for automation functions

ENGLISH

SICK device specific

Index dec (hex)	Name	Format (Offset)	Length	Access[1]	Default Value	Value / Range	Remark [Unit]
69 (0x45)	Processdata resolution	UInt	16 Bit	rw	10	1 = 10 um 10 = 100 um 100 = 1000 um	
70 (0x46)	Edge height jump	Record	17 Byte	rw			
1 (0x01)	Cycle offset	Bit (104)	32 Bit	rw	8	1...256	
2 (0x02)	Min. height jump	Bit (72)	32 Bit	rw	100		
3 (0x03)	Max. height jump	Bit (40)	32 Bit	rw	1000		
4 (0x04)	Hysteresis	Bit (8)	32 Bit	rw	5		
5 (0x05)	jump direction	Bit (0)	8 Bit	rw	2	0 = positive 1 = negative 2 = both edges	
71 (0x47)	Q1 ObSB tolerance	Int	32 Bit	rw	40	0...10000	
72 (0x48)	Q2 ObSB tolerance	Int	32 Bit	rw	40	0...10000	
73 (0x49)	Average filter	UInt	16 Bit	rw	4	4 = 4 8 = 8 16 = 16 32 = 32 64 = 64 512 = 512	
74 (0x4A)	Median filter	UInt	16 Bit	rw	3	3 = 3 7 = 7 15 = 15 31 = 31 63 = 63 511 = 511	
75 (0x4B)	Measurement direction	UInt	8 Bit	rw	0	0 = positive 1 = negative	
76 (0x4C)	Measurement value offset	Int	32 Bit	rw	-6000	-10000...10000	
77 (0x4D)	error suppression time	UInt	32 Bit	rw	1	1...100000	
78 (0x4E)	user-defined substitute values	Int	16 Bit	rw	32767		
79 (0x4F)	Mismeasurement behavior	UInt	8 Bit	rw	0	0 = Substitute value error 1 = hold last distance value 2 = hold last distance value for defined time	
84 (0x54)	User Tag 1	UInt	32 Bit	rw	0		
85 (0x55)	User Tag 2	UInt	16 Bit	rw	0		
88 (0x58)	device state	Record[3]	4 Byte	ro			
1 (0x01)	no signal detected	Bit (0)	1 Bit	ro		true = true false = false	
2 (0x02)	internal error 1	Bit (1)	1 Bit	ro		true = true false = false	
3 (0x03)	internal error 2	Bit (2)	1 Bit	ro		true = true false = false	
4 (0x04)	temperature error	Bit (3)	1 Bit	ro		true = true false = false	
5 (0x05)	internal error 3	Bit (4)	1 Bit	ro		true = true false = false	
6 (0x06)	internal error 4	Bit (5)	1 Bit	ro		true = true false = false	
7 (0x07)	laser error 1	Bit (6)	1 Bit	ro		true = true false = false	
8 (0x08)	laser error 2	Bit (7)	1 Bit	ro		true = true false = false	
9 (0x09)	laser error 3	Bit (8)	1 Bit	ro		true = true false = false	
10 (0x0A)	reserved1	Bit (9)	1 Bit	ro			
11 (0x0B)	reserved2	Bit (10)	1 Bit	ro			
12 (0x0C)	reserved3	Bit (11)	1 Bit	ro			
13 (0x0D)	reserved4	Bit (12)	1 Bit	ro			
14 (0x0E)	reserved5	Bit (13)	1 Bit	ro			
15 (0x0F)	reserved6	Bit (14)	1 Bit	ro			
16 (0x10)	reserved7	Bit (15)	1 Bit	ro			
17 (0x11)	termperature warning	Bit (16)	1 Bit	ro		true = true false = false	
18 (0x12)	laser warning	Bit (17)	1 Bit	ro		true = true false = false	
19 (0x13)	laser switched off	Bit (18)	1 Bit	ro		true = true false = false	

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SICK spezifisch

Index dez (hex)	Name	Format (Offset)	Länge	Zugriff[1]	Standard Wert	Wertebereich	Bemerkung [Einheit]
2 (0x02)	Ferne Grenze	Bit (0)	32 Bit	rw	3000		Wert für die ferne Grenze muss größer sein als der Wert für die nahe Grenze!
68 (0x44)	Messzykluszeit	UInt	16 Bit	rw	0	0 = auto 330 = 0.3 ms 500 = 0.5 ms 1000 = 1 ms 5000 = 5 ms 10000 = 10 ms	
69 (0x45)	Prozessdaten Auflösung	UInt	16 Bit	rw	10	1 = 10 um 10 = 100 um 100 = 1000 um	
70 (0x46)	Kantenhöhensprung	Record	17 Byte	rw			
1 (0x01)	Zyklenversatz	Bit (104)	32 Bit	rw	8	1...256	
2 (0x02)	min. Höhensprung	Bit (72)	32 Bit	rw	100		
3 (0x03)	max. Höhensprung	Bit (40)	32 Bit	rw	1000		
4 (0x04)	Hysterese	Bit (8)	32 Bit	rw	5		
5 (0x05)	Sprungrichtung	Bit (0)	8 Bit	rw	2	0 = positiv 1 = negativ 2 = beide	
71 (0x47)	Q1 ObSB Toleranz	Int	32 Bit	rw	40	0...10000	
72 (0x48)	Q2 ObSB Toleranz	Int	32 Bit	rw	40	0...10000	
73 (0x49)	Mittelwertfilter	UInt	16 Bit	rw	4	4 = 4 8 = 8 16 = 16 32 = 32 64 = 64 512 = 512	
74 (0x4A)	Medianfilter	UInt	16 Bit	rw	3	3 = 3 7 = 7 15 = 15 31 = 31 63 = 63 511 = 511	
75 (0x4B)	Messrichtung	UInt	8 Bit	rw	0	0 = positiv 1 = negativ	
76 (0x4C)	Messwertoffset	Int	32 Bit	rw	-6000	-10000...10000	
77 (0x4D)	Fehlerunterdrückungszeit	UInt	32 Bit	rw	1	1...100000	
78 (0x4E)	Ersatzwert bei Fehler	Int	16 Bit	rw	32767		
79 (0x4F)	Verhalten bei Fehlmessung	UInt	8 Bit	rw	0	0 = Ersatzwert bei Fehler 1 = letzten Distanzwert halten 2 = letzten Distanzwert für definierte Zeit halten	
84 (0x54)	Benutzerspezifische Marke 1	UInt	32 Bit	rw	0		
85 (0x55)	Benutzerspezifische Marke 2	UInt	16 Bit	rw	0		
88 (0x58)	Gerätestatus	Record[3]	4 Byte	ro			
1 (0x01)	kein Signal erkannt	Bit (0)	1 Bit	ro		true = true false = false	
2 (0x02)	interner Fehler 1	Bit (1)	1 Bit	ro		true = true false = false	
3 (0x03)	interner Fehler 2	Bit (2)	1 Bit	ro		true = true false = false	
4 (0x04)	Temperarurfehler	Bit (3)	1 Bit	ro		true = true false = false	
5 (0x05)	interner Fehler 3	Bit (4)	1 Bit	ro		true = true false = false	
6 (0x06)	interner Fehler 4	Bit (5)	1 Bit	ro		true = true false = false	
7 (0x07)	Laserfehler 1	Bit (6)	1 Bit	ro		true = true false = false	
8 (0x08)	Laserfehler 2	Bit (7)	1 Bit	ro		true = true false = false	
9 (0x09)	Laserfehler 3	Bit (8)	1 Bit	ro		true = true false = false	
10 (0x0A)	reserved1	Bit (9)	1 Bit	ro			
11 (0x0B)	reserved2	Bit (10)	1 Bit	ro			
12 (0x0C)	reserved3	Bit (11)	1 Bit	ro			
13 (0x0D)	reserved4	Bit (12)	1 Bit	ro			
14 (0x0E)	reserved5	Bit (13)	1 Bit	ro			

[1] ro = read only, wo = write only, rw = read/write / ro = nur lesen, wo = nur schreiben, rw = lesen/schreiben
[2] COM values specify the bitrate (see IO-Link specification) / COM Werte spezifizieren die Baudrate (s. IO-Link Spezifikation): COM1 (4,8 kbit/s), COM2 (38,4 kbit/s), COM3 (230,4 kbit/s)
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SICK device specific

Index dec (hex)	Name	Format (Offset)	Length	Access[1]	Default Value	Value / Range	Remark [Unit]
20 (0x14)	reserved9	Bit (19)	1 Bit	ro			
21 (0x15)	reserved10	Bit (20)	1 Bit	ro			
22 (0x16)	reserved11	Bit (21)	1 Bit	ro			
23 (0x17)	reserved12	Bit (22)	1 Bit	ro			
24 (0x18)	reserved13	Bit (23)	1 Bit	ro			
25 (0x19)	reserved14	Bit (24)	1 Bit	ro			
26 (0x1A)	reserved15	Bit (25)	1 Bit	ro			
27 (0x1B)	reserved16	Bit (26)	1 Bit	ro			
28 (0x1C)	reserved17	Bit (27)	1 Bit	ro			
29 (0x1D)	reserved18	Bit (28)	1 Bit	ro			
30 (0x1E)	reserved19	Bit (29)	1 Bit	ro			
31 (0x1F)	reserved20	Bit (30)	1 Bit	ro			
32 (0x20)	reserved21	Bit (31)	1 Bit	ro			
89 (0x59)	Error history	Array[3]	130 Byte	ro		Unsigned Integer8 [130]	Error history
90 (0x5A)	Count error	UInt	32 Bit	ro			
91 (0x5B)	Count warning	UInt	32 Bit	ro			
92 (0x5C)	Q1 signal level warning threshold	Int	16 Bit	rw	112	0...5000	Q1 switching point for signal level warning mode
93 (0x5D)	Q2 signal level warning threshold	Int	16 Bit	rw	112	0...5000	Q2 switching point for signal level warning mode
97 (0x61)	Measuring laser	UInt	8 Bit	rw	1	0 = off 1 = on	
99 (0x63)	In1 input	Record[3]	3 Byte	rw			
1 (0x01)	Active state	Bit (16)	8 Bit	rw	0	0 = high 1 = low	
2 (0x02)	Confirm teach	Bit (8)	8 Bit	rw	0	0 = No 1 = Yes	
3 (0x03)	debouncing active	Bit (0)	1 Bit	rw	1	true = Yes false = No	
100 (0x64)	In1 Trigger Setup	Record	5 Byte	rw			
1 (0x01)	In1 Trigger Mode	Bit (32)	8 Bit	rw	0	0 = Trigger 1 = Trigger and Time	
2 (0x02)	Trigger Time	Bit (0)	32 Bit	rw	100	0...100000	
120 (0x78)	Process data structure	UInt	8 Bit	rw	0	0 = Distance 1 = Level 2 = Timer 3 = Edge height jump 4 = Distance + Q1 + Q2 5 = Level + Q1 + Q2 6 = Timer + Q1 + Q2 7 = Height jump + Q1/Q2 status	
121 (0x79)	Qa/Q2 Output	UInt	8 Bit	rw	1	0 = Off 1 = Current output 4-20 mA 2 = Voltage output 0-10 V 3 = Digital output	Configure the output function
122 (0x7A)	In1 function	UInt	8 Bit	rw	6	0 = Off 1 = Sample HOLD 2 = Peak HOLD 3 = Bottom HOLD 4 = Peak-to-Peak HOLD 5 = Average HOLD 6 = Teach 7 = Laser on/off 8 = Zero point teach	

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SICK spezifisch

Index dez (hex)	Name	Format (Offset)	Länge	Zugriff[1]	Standard Wert	Wertebereich	Bemerkung [Einheit]
15 (0x0F)	reserved6	Bit (14)	1 Bit	ro			
16 (0x10)	reserved7	Bit (15)	1 Bit	ro			
17 (0x11)	Temperaturwarnung	Bit (16)	1 Bit	ro		true = true false = false	
18 (0x12)	Laserwarnung	Bit (17)	1 Bit	ro		true = true false = false	
19 (0x13)	Laser ausgeschaltet	Bit (18)	1 Bit	ro		true = true false = false	
20 (0x14)	reserved9	Bit (19)	1 Bit	ro			
21 (0x15)	reserved10	Bit (20)	1 Bit	ro			
22 (0x16)	reserved11	Bit (21)	1 Bit	ro			
23 (0x17)	reserved12	Bit (22)	1 Bit	ro			
24 (0x18)	reserved13	Bit (23)	1 Bit	ro			
25 (0x19)	reserved14	Bit (24)	1 Bit	ro			
26 (0x1A)	reserved15	Bit (25)	1 Bit	ro			
27 (0x1B)	reserved16	Bit (26)	1 Bit	ro			
28 (0x1C)	reserved17	Bit (27)	1 Bit	ro			
29 (0x1D)	reserved18	Bit (28)	1 Bit	ro			
30 (0x1E)	reserved19	Bit (29)	1 Bit	ro			
31 (0x1F)	reserved20	Bit (30)	1 Bit	ro			
32 (0x20)	reserved21	Bit (31)	1 Bit	ro			
89 (0x59)	Fehlerhistorie	Array[3]	130 Byte	ro		Unsigned Integer8 [130]	Fehlerhistorie
90 (0x5A)	Anzahl Fehler	UInt	32 Bit	ro			
91 (0x5B)	Anzahl Warnungen	UInt	32 Bit	ro			
92 (0x5C)	Q1 Signalpegelwarnung Grenzwert	Int	16 Bit	rw	112	0...5000	Q1 Schaltpunkt für Modus Signalpegel Warnung
93 (0x5D)	Q2 Signalpegelwarnung Grenzwert	Int	16 Bit	rw	112	0...5000	Q2 Schaltpunkt für Modus Signalpegel Warnung
97 (0x61)	Messlaser ein/aus	UInt	8 Bit	rw	1	0 = Aus 1 = An	
99 (0x63)	In1 Eingang	Record[3]	3 Byte	rw			
1 (0x01)	Aktivstatus	Bit (16)	8 Bit	rw	0	0 = High 1 = Low	
2 (0x02)	Teach Bestätigung	Bit (8)	8 Bit	rw	0	0 = Nein 1 = Ja	
3 (0x03)	Entprellung aktiv	Bit (0)	1 Bit	rw	1	true = Ja false = Nein	
100 (0x64)	In1 Trigger Einstellung	Record	5 Byte	rw			
1 (0x01)	In1 Trigger Mode	Bit (32)	8 Bit	rw	0	0 = Trigger 1 = Trigger und Zeit	
2 (0x02)	Triggerzeit	Bit (0)	32 Bit	rw	100	0...100000	
120 (0x78)	Processdaten Struktur	UInt	8 Bit	rw	0	0 = Distanz 1 = Pegel 2 = Timer 3 = Kantenhöhensprung 4 = Distanz + Q1 + Q2 5 = Pegel + Q1 + Q2 6 = Timer + Q1 + Q2 7 = Kantenhöhensprung + Q1 + Q2	
121 (0x79)	Qa/Q2 Ausgang	UInt	8 Bit	rw	1	0 = Aus 1 = Stromausgang 4-20 mA 2 = Spannungsausgang 0-10 V 3 = Digitalausgang	Konfiguration der Ausgangsfunktion

[1] ro = read only, wo = write only, rw = read/write / ro = nur lesen, wo = nur schreiben, rw = lesen/schreiben
[2] COM values specify the bitrate (see IO-Link specification) / COM Werte spezifizieren die Baudrate (s. IO-Link Spezifikation): COM1 (4,8 kbit/s), COM2 (38,4 kbit/s), COM3 (230,4 kbit/s)
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SICK device specific

Index dec (hex)	Name	Format (Offset)	Length	Access[1]	Default Value	Value / Range	Remark [Unit]
124 (0x7C)	Selection of I/O Link COM	UInt	8 Bit	rw	1	0 = COM2 1 = COM3	Select the IO-Link baudrate (NOTE: Changes the DeviceId!! Requires powercycle)
153 (0x99)	Temperature	Int	16 Bit	ro			
190 (0xBE)	Operating hours	Record	8 Byte	ro			
1 (0x01)	Sensor	Bit (32)	32 Bit	ro			
2 (0x02)	Laser	Bit (0)	32 Bit	ro			
204 (0xCC)	Findme	UInt	8 Bit	wo	0	0 = do nothing 1 = stop 2 = start	
205 (0xCD)	SICK Profile Version	String	4 Byte	ro			
212 (0xD4)	Delay mode for switching output Q1	UInt	8 Bit	rw	4	0 = ON delay 1 = OFF delay 2 = ON/OFF delay 3 = 1 shot 4 = Off	
213 (0xD5)	Delay mode for switching output Q2	UInt	8 Bit	rw	4	0 = ON delay 1 = OFF delay 2 = ON/OFF delay 3 = 1 shot 4 = Off	
214 (0xD6)	Time for delay mode Q1	UInt	16 Bit	rw	100		
215 (0xD7)	Time for delay mode Q2	UInt	16 Bit	rw	100		
228 (0xE4)	Display user level	UInt	8 Bit	rw	0	0 = easy 1 = advanced	
229 (0xE5)	Display language	UInt	8 Bit	rw	1	0 = german 1 = english	Selects the display language
230 (0xE6)	Display On/Off	UInt	8 Bit	rw	0	0 = auto 1 = Off 2 = On	
231 (0xE7)	Display brightness	UInt	8 Bit	rw	48	0...100 = brightness	
232 (0xE8)	Display orientation	UInt	8 Bit	rw	0	0 = 0° 1 = 180°	
233 (0xE9)	Display inversion	UInt	8 Bit	rw	0	0 = normal 1 = inverted	
234 (0xEA)	Firmware verfication	Record[3]	38 Byte	ro			Verification code and build date for verification of all firmware parts
1 (0x01)	Firmware verification	Bit (152)	19 Byte	ro			
2 (0x02)	Firmware build date	Bit (0)	19 Byte	ro			

Standard command

Index dec (hex)		Access[1]	Value	Name	Remark [Unit]
2 (0x02)	Standard Command	wo	65	SP1 (far) Single Value Teach	
			66	SP2 (near) Single Value Teach	
			130	Restore Factory Settings	
			192	Save Customer Settings	
			193	Restore Customer Settings	
			194	Zero point teach	
			195	Zero point reset	

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SICK spezifisch

Index dez (hex)	Name	Format (Offset)	Länge	Zugriff[1]	Standard Wert	Wertebereich	Bemerkung [Einheit]
122 (0x7A)	In1 Funktion	UInt	8 Bit	rw	6	0 = Aus 1 = Sample halten 2 = Spitzenwert halten 3 = Tiefstwert halten 4 = Spitze-Spitze-Wert halten 5 = Mittelwert halten 6 = Teach 7 = Laser ein/aus 8 = Nullpunkt einlernen	
124 (0x7C)	Auswahl IO-Link COM	UInt	8 Bit	rw	1	0 = COM2 1 = COM3	Auswahl der IO-Link Datenrate (ACHTUNG: Änderung der DeviceId!! Aktiv nach Geräteneustart)
153 (0x99)	Temperatur	Int	16 Bit	ro			
190 (0xBE)	Betriebsstunden	Record	8 Byte	ro			
1 (0x01)	Sensor	Bit (32)	32 Bit	ro			
2 (0x02)	Laser	Bit (0)	32 Bit	ro			
204 (0xCC)	Findme	UInt	8 Bit	wo	0	0 = do nothing 1 = Stop 2 = Start	
205 (0xCD)	SICK Profil Version	String	4 Byte	ro			
212 (0xD4)	Verzugsmodus für Schaltausgang Q1	UInt	8 Bit	rw	4	0 = Einschaltverzögerung 1 = Ausschaltverzögerung 2 = Ein-/Ausschaltverzögerung 3 = 1 shot 4 = Aus	
213 (0xD5)	Verzugsmodus für Schaltausgang Q2	UInt	8 Bit	rw	4	0 = Einschaltverzögerung 1 = Ausschaltverzögerung 2 = Ein-/Ausschaltverzögerung 3 = 1 shot 4 = Aus	
214 (0xD6)	Zeit für Verzugsmodus Q1	UInt	16 Bit	rw	100		
215 (0xD7)	Zeit für Verzugsmodus Q2	UInt	16 Bit	rw	100		
228 (0xE4)	Display Benutzerlevel	UInt	8 Bit	rw	0	0 = Einfach 1 = Fortgeschritten	
229 (0xE5)	Display-Sprache	UInt	8 Bit	rw	1	0 = deutsch 1 = englisch	Auswahl der Displaysprache
230 (0xE6)	Display Ein-/Ausschalten	UInt	8 Bit	rw	0	0 = auto 1 = Aus 2 = An	
231 (0xE7)	Display-Helligkeit	UInt	8 Bit	rw	48	0...100 = Helligkeit	
232 (0xE8)	Display-Ausrichtung	UInt	8 Bit	rw	0	0 = 0° 1 = 180°	
233 (0xE9)	Display-Invertierung	UInt	8 Bit	rw	0	0 = normal 1 = invertiert	
234 (0xEA)	Firmwareverifikation	Record[3]	38 Byte	ro			Verifikatonsschlüssel und Builddatum zur Verifikation aller Firmwarebestandteile
1 (0x01)	Firmwareverfikation	Bit (152)	19 Byte	ro			
2 (0x02)	Firmware Build Datum	Bit (0)	19 Byte	ro			

Standardkommando

Index dez (hex)		Zugriff[1]	Wert	Name	Bemerkung [Einheit]
2 (0x02)	Standardkommando	wo	65	SP1 (fern) Einzelwert Teach	
			66	SP2 (nah) Einzelwert Teach	
			130	Auslieferungszustand wiederherstellen	
			192	Kundeneinstellungen speichern	
			193	Kundeneinstellungen zurücksetzen	
			194	Zeroing ausführen	
			195	Zeroing zurücksetzen	

[1] ro = read only, wo = write only, rw = read/write / ro = nur lesen, wo = nur schreiben, rw = lesen/schreiben
[2] COM values specify the bitrate (see IO-Link specification) / COM Werte spezifizieren die Baudrate (s. IO-Link Spezifikation): COM1 (4,8 kbit/s), COM2 (38,4 kbit/s), COM3 (230,4 kbit/s)
[3] Subindex access not supported / Subindexzugriff nicht unterstützt

SICK

8019237 0117

OD1000 COM3

8388904

199297776

9239743 0117 (1.1.0)

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BZ.mk3

IO-Link

Please note the validity of the additional operating instructions for automation functions

ENGLISH

DEUTSCH

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