SICK

IO-Link

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

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ENGLISH	DEUTSCH

1. Physical layer / 1. Physikalische Schicht

ENGLISH		DEUTSCH	
SIO Modus	yes	SIO Modus	ja
Min Cycle Time	5000 µs	Min. Zykluszeit	5000 µs
Baudrate	COM2	Baudrate	COM2
Process Data Length	32 Bit	Prozessdatenlänge	32 Bit

2. Process data / 2. Prozessdaten

Record: 4 Byte

Byte 0	Bitoffset	31	30	29	28	27	26	25	24
	Analog value								
	Type/Subindex	Unsigned Integer 16							

Byte 1	Bitoffset	23	22	21	20	19	18	17	16
	Analog value								
	Type/Subindex	Unsigned Integer 16							5

Byte 2	Bitoffset	15	14	13	12	11	10	9	8
	Type/Subindex								

Byte 3	Bitoffset	7	6	5	4	3	2	1	0
						Qint.4	Qint.3	QL2	QL1
	Type/Subindex					Boolean 4	Boolean 3	Boolean 2	Boolean 1

(Deutsch — Analogwert / Unsigned Integer 16, identical layout)

3. Service data / 3. Servicedaten

The following ISDUs will not be saved via Data-Storage: Direct Parameters 1, Direct Parameters 2, Teach-In Channel and Device Specific Name

Die folgenden ISDUs werden nicht über Data-Storage gesichert: Direkte Parameter 1, Direkte Parameter 2, Teach-in-Kanal und Gerätespezifischer Eintrag

IO-Link specific / IO-Link spezifisch

Index dec (hex)	Name	Format (Offset)	Length	Access[1]	Default Value	Value / Range	Remark [Unit]
12 (0x0C)	Device Access Locks	Record	2 Byte	rw			
2 (0x02)	Data Storage Lock	Bit (1)	1 Bit	rw			
16 (0x10)	Vendor Name	String	64 Byte	ro	SICK AG		
18 (0x12)	Product Name	String	64 Byte	ro			
19 (0x13)	Product ID	String	64 Byte	ro			
20 (0x14)	Product Text	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	***		
36 (0x24)	Device Status	UInt	8 Bit	ro	0	0 = Device is OK 1 = Maintenance required 2 = Out of specification 3 = Functional check 4 = Failure 5...255 = Reserved	

Index dez (hex)	Name	Format (Offset)	Länge	Zugriff[1]	Standard Wert	Wertebereich	Bemerkung [Einheit]
12 (0x0C)	Gerätezugriffssperren	Record	2 Byte	rw			
2 (0x02)	Datenspeicherungs- sperre	Bit (1)	1 Bit	rw			
16 (0x10)	Herstellername	String	64 Byte	ro	SICK AG		
18 (0x12)	Produktname	String	64 Byte	ro			
19 (0x13)	Produkt-ID	String	64 Byte	ro			
20 (0x14)	Produkttext	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	***		
36 (0x24)	Gerätestatus	UInt	8 Bit	ro	0	0 = Gerät ist OK 1 = Wartung erforderlich 2 = Außerhalb der Spezifikation 3 = Funktionsprüfung 4 = Fehler 5...255 = Reserviert	

SICK device specific / SICK spezifisch

Index dec (hex)	Name	Format (Offset)	Length	Access[1]	Default Value	Value / Range	Remark [Unit]
14 (0x0E)	PDInputDescriptor	Record	6 Byte	ro			
58 (0x3A)	Teach-In Channel	UInt	8 Bit	rw	0	0 = default BDC = Qint.1 1 = Qint.1 2 = Qint.2 3 = Qint.3 4 = Qint.4	
59 (0x3B)	Teach-In state	UInt	8 Bit	ro	0	0 = IDLE 1 = SP1 SUCCESS 2 = SP2 SUCCESS 3 = SP12 SUCCESS 4 = WAIT FOR COMMAND 5 = BUSY 6 = RESERVED 7 = ERROR	

Index dez (hex)	Name	Format (Offset)	Länge	Zugriff[1]	Standard Wert	Wertebereich	Bemerkung [Einheit]
14 (0x0E)	PDInputDescriptor	Record	6 Byte	ro			
58 (0x3A)	Teach-in-Kanal	UInt	8 Bit	rw	0	0 = Standard-BDC = Qint.1 1 = Qint.1 2 = Qint.2 3 = Qint.3 4 = Qint.4	
59 (0x3B)	Teach-in-Status	UInt	8 Bit	ro	0	0 = Bereit 1 = SP1 erfolgreich 2 = SP2 erfolgreich 3 = SP12 erfolgreich 4 = Warte auf Befehl 5 = In Arbeit 6 = Reserve 7 = Fehler	

[1] ro = read only, wo = write only, rw = read/write / ro = nur lesen, wo = nur schreiben, rw = lesen/schreiben

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SICK device specific

Index dec (hex)	Name	Format (Offset)	Length	Access[1]	Default Value	Value / Range	Remark [Unit]
60 (0x3C)	Qint.1 SP1 / SP2	Record	4 Byte	rw		(Hysteresis < |SP1-SP2|) & (SP1 + Hysteresis < Sensing range limit) & (SP2 + Hysteresis < Sensing range limit)	
1 (0x01)	SP1 Sensing range	Bit (16)	16 Bit	rw			
2 (0x02)	SP2 Sensing range	Bit (0)	16 Bit	rw			
61 (0x3D)	Qint.1 configuration	Record	4 Byte	rw			
1 (0x01)	Switchpoint logic	Bit (24)	8 Bit	rw	0	0 = not inverted	
2 (0x02)	Switchpoint mode	Bit (16)	8 Bit	rw	1	0 = deactivated 1 = Single point mode 2 = Window mode 3 = Two point mode 128 = Visual installation aid	
3 (0x03)	Switchpoint hysteresis	Bit (0)	16 Bit	rw		See remark index 60	
62 (0x3E)	Qint.2 SP1 / SP2	Record	4 Byte	rw		See remark index 60	
1 (0x01)	SP1 Sensing range	Bit (16)	16 Bit	rw			
2 (0x02)	SP2 Sensing range	Bit (0)	16 Bit	rw			
63 (0x3F)	Qint.2 configuration	Record	4 Byte	rw			
1 (0x01)	Switchpoint logic	Bit (24)	8 Bit	rw	0	0 = not inverted	
2 (0x02)	Switchpoint mode	Bit (16)	8 Bit	rw	1	0 = deactivated 1 = Single point mode 2 = Window mode 3 = Two point mode 128 = Visual installation aid	
3 (0x03)	Switchpoint hysteresis	Bit (0)	16 Bit	rw		See remark index 60	
64 (0x40)	Device Specific Name	String	32 Byte	rw		***	
74 (0x4A)	Sensing range limit	UInt	16 Bit	ro			
76 (0x4C)	Reference value 1	Record	6 Byte	ro			
1 (0x01)	Reference value	Bit (32)	16 Bit	ro			[digits]
2 (0x02)	Reference value	Bit (0)	4 Byte	ro			[mm]
77 (0x4D)	Reference value 2	Record	6 Byte	ro			
1 (0x01)	Reference value	Bit (32)	16 Bit	ro			[digits]
2 (0x02)	Reference value	Bit (0)	4 Byte	ro			[mm]
78 (0x4E)	Reference value 3	Record	6 Byte	ro			
1 (0x01)	Reference value	Bit (32)	16 Bit	ro			[digits]
2 (0x02)	Reference value	Bit (0)	4 Byte	ro			[mm]
79 (0x4F)	Reference value 4	Record	6 Byte	ro			
1 (0x01)	Reference value	Bit (32)	16 Bit	ro			[digits]
2 (0x02)	Reference value	Bit (0)	4 Byte	ro			[mm]
121 (0x79)	PIN2 configuration	UInt	8 Bit	rw	1	0 = Deactivated 1 = External input 17 = Teach-in 34 = Switching signal QL2 35 = Qint.1 36 = Qint.2	
153 (0x99)	Internal temperature	Int	16 Bit	ro			[°C]
226 (0xE2)	System state	Record	1 Byte	ro			
1 (0x01)	Detection output Qint. 1	Bit (0)	1 Bit	ro		true = Object detected false = No object detected	
2 (0x02)	Detection output Qint.2	Bit (1)	1 Bit	ro		true = Object detected false = No object detected	
3 (0x03)	Detection output Qint.3	Bit (2)	1 Bit	ro		true = Object detected false = No object detected	
4 (0x04)	Detection output Qint.4	Bit (3)	1 Bit	ro		true = Object detected false = No object detected	
6 (0x06)	Signal state external input	Bit (7)	1 Bit	ro		true = External input HIGH false = External input LOW	
1080 (0x438)	SLTI Version	String	5 Byte	ro		1.1.0	

SICK spezifisch

Index dez (hex)	Name	Format (Offset)	Länge	Zugriff[1]	Standard Wert	Wertebereich	Bemerkung [Einheit]
60 (0x3C)	Qint.1 SP1 / SP2	Record	4 Byte	rw		(Hysterese < |SP1-SP2|) & (SP1 + Hysterese < Schaltabstands Limit) & (SP2 + Hysterese < Schaltabstands Limit)	
1 (0x01)	SP1 Schaltabstand	Bit (16)	16 Bit	rw			
2 (0x02)	SP2 Schaltabstand	Bit (0)	16 Bit	rw			
61 (0x3D)	Qint.1 Konfiguration	Record	4 Byte	rw			
1 (0x01)	Switchpoint Logik	Bit (24)	8 Bit	rw	0	0 = Nicht invertiert	
2 (0x02)	Switchpoint Modus	Bit (16)	8 Bit	rw	1	0 = deaktiviert 1 = Single point mode 2 = Window mode 3 = Two point mode 128 = Einstellhilfe	
3 (0x03)	Switchpoint Hysterese	Bit (0)	16 Bit	rw		Siehe Bemerkung Index 60	
62 (0x3E)	Qint.2 SP1 / SP2	Record	4 Byte	rw		Siehe Bemerkung Index 60	
1 (0x01)	SP1 Schaltabstand	Bit (16)	16 Bit	rw			
2 (0x02)	SP2 Schaltabstand	Bit (0)	16 Bit	rw			
63 (0x3F)	Qint.2 Konfiguration	Record	4 Byte	rw			
1 (0x01)	Switchpoint Logik	Bit (24)	8 Bit	rw	0	0 = Nicht invertiert	
2 (0x02)	Switchpoint Modus	Bit (16)	8 Bit	rw	1	0 = deaktiviert 1 = Single point mode 2 = Window mode 3 = Two point mode 128 = Einstellhilfe	
3 (0x03)	Switchpoint Hysterese	Bit (0)	16 Bit	rw		Siehe Bemerkung Index 60	
64 (0x40)	Gerätespezifischer Eintrag	String	32 Byte	rw		***	
74 (0x4A)	Schaltabstands Limit	UInt	16 Bit	ro			
76 (0x4C)	Referenzwert 1	Record	6 Byte	ro			
1 (0x01)	Referenzwert	Bit (32)	16 Bit	ro			[digits]
2 (0x02)	Referenzwert	Bit (0)	4 Byte	ro			[mm]
77 (0x4D)	Referenzwert 2	Record	6 Byte	ro			
1 (0x01)	Referenzwert	Bit (32)	16 Bit	ro			[digits]
2 (0x02)	Referenzwert	Bit (0)	4 Byte	ro			[mm]
78 (0x4E)	Referenzwert 3	Record	6 Byte	ro			
1 (0x01)	Referenzwert	Bit (32)	16 Bit	ro			[digits]
2 (0x02)	Referenzwert	Bit (0)	4 Byte	ro			[mm]
79 (0x4F)	Referenzwert 4	Record	6 Byte	ro			
1 (0x01)	Referenzwert	Bit (32)	16 Bit	ro			[digits]
2 (0x02)	Referenzwert	Bit (0)	4 Byte	ro			[mm]
121 (0x79)	PIN2 Konfiguration	UInt	8 Bit	rw	1	0 = Deaktiviert 1 = externer Eingang 17 = Teach-in 34 = Schaltsignal QL2 35 = Qint.1 36 = Qint.2	
153 (0x99)	Interne Temperatur	Int	16 Bit	ro			[°C]
226 (0xE2)	Systemstatus	Record	1 Byte	ro			
1 (0x01)	Detektionsausgang Qint.1	Bit (0)	1 Bit	ro		true = Objekt detektiert false = Kein Objekt detektiert	
2 (0x02)	Detektionsausgang Qint.2	Bit (1)	1 Bit	ro		true = Objekt detektiert false = Kein Objekt detektiert	
3 (0x03)	Detektionsausgang Qint.3	Bit (2)	1 Bit	ro		true = Objekt detektiert false = Kein Objekt detektiert	
4 (0x04)	Detektionsausgang Qint.4	Bit (3)	1 Bit	ro		true = Objekt detektiert false = Kein Objekt detektiert	
6 (0x06)	Signalstatus Externer Eingang	Bit (7)	1 Bit	ro		true = Externer Eingang HIGH false = Externer Eingang LOW	
1080 (0x438)	SLTI Version	String	5 Byte	ro		1.1.0	

SICK

IO-Link

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]
1081 (0x439)	Input Selector 1	UInt	8 Bit	rw	0	0 = Qint.1 1 = Qint.2 2 = Qint.3 3 = Qint.4 6 = External Input	
1082 (0x43A)	Input Selector 2	UInt	8 Bit	rw	0	0 = External Input 2 = Qint.1 3 = Qint.2 4 = Qint.3 5 = Qint.4	
1083 (0x43B)	Logic 1	UInt	8 Bit	rw	0	0 = DIRECT 1 = AND 2 = OR 3 = XOR 4 = Hysteresis	
1084 (0x43C)	Logic 2	UInt	8 Bit	rw	0	0 = DIRECT 1 = AND 2 = OR 3 = XOR 4 = Hysteresis	
1085 (0x43D)	Timer 1 Mode	UInt	8 Bit	rw	0	0 = deactivated 1 = T-on delay 2 = T-off delay 3 = T-on/T-off delay 4 = Impulse (one shot)	
1086 (0x43E)	Timer 2 Mode	UInt	8 Bit	rw	0	0 = deactivated 1 = T-on delay 2 = T-off delay 3 = T-on/T-off delay 4 = Impulse (one shot)	
1087 (0x43F)	Timer 1 Setup	UInt	16 Bit	rw	1		[ms]
1088 (0x440)	Timer 2 Setup	UInt	16 Bit	rw	1		[ms]
1089 (0x441)	Inverter 1	UInt	8 Bit	rw	0	0 = not inverted 1 = inverted	
1090 (0x442)	Inverter 2	UInt	8 Bit	rw	0	0 = not inverted 1 = inverted	
16384 (0x4000)	Qint.3 SP1 / SP2	Record	4 Byte	rw		See remark index 60	
1 (0x01)	SP1 Sensing range	Bit (16)	16 Bit	rw			
2 (0x02)	SP2 Sensing range	Bit (0)	16 Bit	rw			
16385 (0x4001)	Qint.3 configuration	Record	4 Byte	rw			
1 (0x01)	Switchpoint logic	Bit (24)	8 Bit	rw	0	0 = not inverted	
2 (0x02)	Switchpoint mode	Bit (16)	8 Bit	rw	1	0 = deactivated 1 = Single point mode 2 = Window mode 3 = Two point mode	
3 (0x03)	Switchpoint hysteresis	Bit (0)	16 Bit	rw		See remark index 60	
16386 (0x4002)	Qint.4 SP1 / SP2	Record	4 Byte	rw		See remark index 60	
1 (0x01)	SP1 Sensing range	Bit (16)	16 Bit	rw			
2 (0x02)	SP2 Sensing range	Bit (0)	16 Bit	rw			
16387 (0x4003)	Qint.4 configuration	Record	4 Byte	rw			
1 (0x01)	Switchpoint logic	Bit (24)	8 Bit	rw	0	0 = not inverted	
2 (0x02)	Switchpoint mode	Bit (16)	8 Bit	rw	1	0 = deactivated 1 = Single point mode 2 = Window mode 3 = Two point mode	
3 (0x03)	Switchpoint hysteresis	Bit (0)	16 Bit	rw		See remark index 60	

DEUTSCH						
SICK spezifisch						
Index dez (hex)	Name	Format (Offset)	Länge	Zugriff[1]	Standard Wert	Wertebereich	Bemerkung [Einheit]
1081 (0x439)	Input-Selektor 1	UInt	8 Bit	rw	0	0 = Qint.1 1 = Qint.2 2 = Qint.3 3 = Qint.4 6 = External Input	
1082 (0x43A)	Input-Selektor 2	UInt	8 Bit	rw	0	0 = Externer Eingang 2 = Qint.1 3 = Qint.2 4 = Qint.3 5 = Qint.4	
1083 (0x43B)	Logik 1	UInt	8 Bit	rw	0	0 = DIREKT 1 = AND 2 = OR 3 = XOR 4 = Hysterese	
1084 (0x43C)	Logik 2	UInt	8 Bit	rw	0	0 = DIREKT 1 = AND 2 = OR 3 = XOR 4 = Hysterese	
1085 (0x43D)	Timer 1 Modus	UInt	8 Bit	rw	0	0 = deaktiviert 1 = Einschaltverzögerung 2 = Ausschaltverzögerung 3 = Ein- / Ausschaltvzögerung 4 = Impulse (one shot)	
1086 (0x43E)	Timer 2 Modus	UInt	8 Bit	rw	0	0 = deaktiviert 1 = Einschaltverzögerung 2 = Ausschaltverzögerung 3 = Ein- / Ausschaltvzögerung 4 = Impulse (one shot)	
1087 (0x43F)	Timer 1 Zeitwert	UInt	16 Bit	rw	1		[ms]
1088 (0x440)	Timer 2 Zeitwert	UInt	16 Bit	rw	1		[ms]
1089 (0x441)	Invert 1	UInt	8 Bit	rw	0	0 = Nicht invertiert 1 = Invertiert	
1090 (0x442)	Invert 2	UInt	8 Bit	rw	0	0 = Nicht invertiert 1 = Invertiert	
16384 (0x4000)	Qint.3 SP1 / SP2	Record	4 Byte	rw		Siehe Bemerkung Index 60	
1 (0x01)	SP1 Schaltabstand	Bit (16)	16 Bit	rw			
2 (0x02)	SP2 Schaltabstand	Bit (0)	16 Bit	rw			
16385 (0x4001)	Qint.3 Konfiguration	Record	4 Byte	rw			
1 (0x01)	Switchpoint Logik	Bit (24)	8 Bit	rw	0	0 = Nicht invertiert	
2 (0x02)	Switchpoint Modus	Bit (16)	8 Bit	rw	1	0 = deaktiviert 1 = Single point mode 2 = Window mode 3 = Two point mode	
3 (0x03)	Switchpoint Hysterese	Bit (0)	16 Bit	rw		Siehe Bemerkung Index 60	
16386 (0x4002)	Qint.4 SP1 / SP2	Record	4 Byte	rw		Siehe Bemerkung Index 60	
1 (0x01)	SP1 Schaltabstand	Bit (16)	16 Bit	rw			
2 (0x02)	SP2 Schaltabstand	Bit (0)	16 Bit	rw			
16387 (0x4003)	Qint.4 Konfiguration	Record	4 Byte	rw			
1 (0x01)	Switchpoint Logik	Bit (24)	8 Bit	rw	0	0 = Nicht invertiert	
2 (0x02)	Switchpoint Modus	Bit (16)	8 Bit	rw	1	0 = deaktiviert 1 = Single point mode 2 = Window mode 3 = Two point mode	
3 (0x03)	Switchpoint Hysterese	Bit (0)	16 Bit	rw		Siehe Bemerkung Index 60	

[1] ro = read only, wo = write only, rw = read/write / ro = nur lesen, wo = nur schreiben, rw = lesen/schreiben

SICK

IMC...A00

IO-Link

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

ENGLISH					
Standard command					
Index dec (hex)		Access[1]	Value	Name	Remark [Unit]
2 (0x02)	Standard Command	wo	65	Single Value Teach SP1	
			66	Single Value Teach SP2	
			130	Restore Factory Settings	

DEUTSCH					
Standardkommando					
Index dez (hex)		Zugriff[1]	Wert	Name	Bemerkung [Einheit]
2 (0x02)	Standardkommando	wo	65	Einzelpunkt-Teach SP1	
			66	Einzelpunkt-Teach SP2	
			130	Auslieferungszustand wieder-herstellen	

[1] ro = read only, wo = write only, rw = read/write / ro = nur lesen, wo = nur schreiben, rw = lesen/schreiben