

SICK

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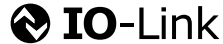
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Please note the validity of the additional operating instructions for automation functions

ENGLISH

1. Physical layer

| | |
|---------------------|---------|
| SIO Modus | yes |
| Min Cycle Time | 2300 µs |
| Baudrate | COM2 |
| Process Data Length | 16 Bit |

2. Process data

Record²: 2 Byte
Condition: ISDU: TimeStampMode, Index: 106, Subindex: 0, Value: 0

| | | | | | | | | | | | | | | | | |
|-----------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| Bitoffset | [15] [14] [13] [12] [11] [10] [9] [8] | | | | | | | | | | | | | | | |
| Byte 0 | [7] [6] [5] [4] [3] [2] [1] [0] | | | | | | | | | | | | | | | |
| Subindex | [7] [6] [5] [4] [3] [2] [1] [0] | | | | | | | | | | | | | | | |
| Bitoffset | [7] [6] [5] [4] [3] [2] [1] [0] | | | | | | | | | | | | | | | |
| Byte 1 | Teach Busy 4 Teach Successful 3 Quality of Run A 2 Q2 Switching Ou 1 Q1 Switching Ou 0 | | | | | | | | | | | | | | | |
| Subindex | Boolean 5 Boolean 4 Boolean 3 Boolean 2 Boolean 1 | | | | | | | | | | | | | | | |

Record²: 2 Byte
Condition: ISDU: TimeStampMode, Index: 106, Subindex: 0, Value: 1

| | | | | | | | | | | | | | | | | |
|-----------|---|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| Bitoffset | [15] [14] [13] [12] [11] [10] [9] [8] | | | | | | | | | | | | | | | |
| Byte 0 | TimeStamp [7] [6] [5] [4] [3] [2] [1] [0] | | | | | | | | | | | | | | | |
| Subindex | Unsigned Integer 14 | | | | | | | | | | | | | | | |
| Bitoffset | [7] [6] [5] [4] [3] [2] [1] [0] | | | | | | | | | | | | | | | |
| Byte 1 | TimeStamp [7] [6] [5] [4] [3] [2] [1] [0] Q2 Switching Ou 1 Q1 Switching Ou 0 | | | | | | | | | | | | | | | |
| Subindex | Unsigned Integer 14 Boolean 2 Boolean 1 | | | | | | | | | | | | | | | |

3. Service data

| Index dec (hex) | Name | Format (Offset) | Length | Access ¹ | Default Value | Value / Range | Remark [Unit] |
|-----------------|---------------------------|-----------------|---------|---------------------|--|-------------------------------------|---------------|
| 0 (0x00) | Direct Parameters 1 | Record | 16 Byte | rw | | see IO-Link Interface Specification | |
| 1 (0x01) | Direct Parameters 2 | Record | 16 Byte | rw | | see IO-Link Interface Specification | |
| 16 (0x10) | Vendor Name | String | 7 Byte | ro | SICK AG | | |
| 18 (0x12) | Product Name | String | 18 Byte | ro | | | |
| 19 (0x13) | Product ID | String | 7 Byte | ro | | | |
| 20 (0x14) | Product Text | String | 64 Byte | ro | Dedicated to glossy presence detection | | |
| 21 (0x15) | Serial Number | String | 8 Byte | ro | | | |
| 22 (0x16) | Hardware Version | String | 4 Byte | ro | | | |
| 23 (0x17) | Firmware Version | String | 20 Byte | ro | | | |
| 24 (0x18) | Application Specific Name | String | 32 Byte | rw | | | |
| 40 (0x28) | Process Data Input | PD In | 2 Byte | ro | | | |

| Index dec (hex) | Name | Format (Offset) | Length | Access ¹ | Default Value | Value / Range | Remark [Unit] |
|-----------------|--------------------------|-----------------|---------|---------------------|---------------|---|--|
| 13 (0x0D) | Profile Characteristic | Record | 14 Byte | ro | | see IO-Link Smart Sensor Profile | |
| 14 (0x0E) | PDInput Descriptor | Record | 6 Byte | ro | | see IO-Link Smart Sensor Profile | |
| 58 (0x3A) | Teach-in Channel | UInt | 8 Bit | rw | 0 | 0 = Default Setting (BDC1 / Q1) | see IO-Link Smart Sensor Profile |
| 59 (0x3B) | Teach-in Status | UInt | 8 Bit | ro | | | see IO-Link Smart Sensor Profile |
| 60 (0x3C) | Setpoint (BDC1 / Q1) | Record | 2 Byte | rw | | see IO-Link Smart Sensor Profile | |
| 1 (0x01) | Sensitivity (Setpoint 1) | Bit (8) | 8 Bit | ro | 2 | 0 = fine 1 = middle 2 = coarse | Possibility to choose (Fine / Middle / Coarse) |
| 2 (0x02) | not used (Setpoint 2) | Bit (0) | 8 Bit | ro | | | |
| 61 (0x3D) | Switchpoint (BDC1 / Q1) | Record | 4 Byte | rw | | see IO-Link Smart Sensor Profile | |
| 1 (0x01) | Logic | Bit (24) | 8 Bit | ro | 0 | 0 = not inverted (defined by teach = switch on taught material) 1 = inverted | Possibility to invert the output Q1 |
| 2 (0x02) | Mode | Bit (16) | 8 Bit | ro | 1 | 0 = Deactivated 1 = Single Point Mode | Possibility to deactivate the output Q1 |
| 3 (0x03) | Hysteresis | Bit (0) | 16 Bit | ro | 0 | 0 = vendor specific default | |
| 62 (0x3E) | Setpoint (BDC2 / Q2) | Record | 2 Byte | rw | | see IO-Link Smart Sensor Profile | |
| 1 (0x01) | Sensitivity (Setpoint 1) | Bit (8) | 8 Bit | ro | 0 | 0 = like Setpoint 1 (BDC1 / Q1) | Same Sensitivity like Setpoint Q1 |
| 2 (0x02) | not used (Setpoint 2) | Bit (0) | 8 Bit | ro | | | |

¹ro = read only (nur lesen), wo = write only (nur schreiben), rw = read/write (lesen/schreiben)

DEUTSCH

1. Physikalische Schicht

| | |
|-------------------|---------|
| SIO Modus | ja |
| Min. Zykluszeit | 2300 µs |
| Baudrate | COM2 |
| Prozessdatenlänge | 16 Bit |

2. Prozessdaten

Record²: 2 Byte
Condition: ISDU: TimeStampMode, Index: 106, Subindex: 0, Value: 0

| | | | | | | | | | | | | | | | | |
|-----------|---|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| Bitoffset | [15] [14] [13] [12] [11] [10] [9] [8] | | | | | | | | | | | | | | | |
| Byte 0 | [7] [6] [5] [4] [3] [2] [1] [0] | | | | | | | | | | | | | | | |
| Subindex | [7] [6] [5] [4] [3] [2] [1] [0] | | | | | | | | | | | | | | | |
| Bitoffset | [7] [6] [5] [4] [3] [2] [1] [0] | | | | | | | | | | | | | | | |
| Byte 1 | Teachvorgang de 4 Teach erfolgreich 3 Alarmschwelle P 2 Q2 Schaltausgar 1 Q1 Schaltausgar 0 | | | | | | | | | | | | | | | |
| Subindex | Boolean 5 Boolean 4 Boolean 3 Boolean 2 Boolean 1 | | | | | | | | | | | | | | | |

Record²: 2 Byte
Condition: ISDU: TimeStampMode, Index: 106, Subindex: 0, Value: 1

| | | | | | | | | | | | | | | | | |
|-----------|---|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| Bitoffset | [15] [14] [13] [12] [11] [10] [9] [8] | | | | | | | | | | | | | | | |
| Byte 0 | Zeitstempel [7] [6] [5] [4] [3] [2] [1] [0] | | | | | | | | | | | | | | | |
| Subindex | Unsigned Integer 14 | | | | | | | | | | | | | | | |
| Bitoffset | [7] [6] [5] [4] [3] [2] [1] [0] | | | | | | | | | | | | | | | |
| Byte 1 | Zeitstempel [7] [6] [5] [4] [3] [2] [1] [0] Q2 Schaltausgar 1 Q1 Schaltausgar 0 | | | | | | | | | | | | | | | |
| Subindex | Unsigned Integer 14 Boolean 2 Boolean 1 | | | | | | | | | | | | | | | |

3. Servicedaten

| Index dez (hex) | Name | Format (Offset) | Länge | Zugriff ¹ | Standard Wert | Wertebereich | Bemerkung [Einheit] |
|-----------------|-----------------------------|-----------------|---------|----------------------|--|---------------------------------------|---------------------|
| 0 (0x00) | Direkte Parameter 1 | Record | 16 Byte | rw | | siehe IO-Link Interface Spezifikation | |
| 1 (0x01) | Direkte Parameter 2 | Record | 16 Byte | rw | | siehe IO-Link Interface Spezifikation | |
| 16 (0x10) | Herstellername | String | 7 Byte | ro | SICK AG | | |
| 18 (0x12) | Produktname | String | 18 Byte | ro | | | |
| 19 (0x13) | Produkt-ID | String | 7 Byte | ro | | | |
| 20 (0x14) | Produkttext | String | 64 Byte | ro | Dedicated to glossy presence detection | | |
| 21 (0x15) | Seriennummer | String | 8 Byte | ro | | | |
| 22 (0x16) | Hardwareversion | String | 4 Byte | ro | | | |
| 23 (0x17) | Firmwareversion | String | 20 Byte | ro | | | |
| 24 (0x18) | Anwendungsspezifischer Name | String | 32 Byte | rw | | | |
| 40 (0x28) | Prozessdaten Eingang | PD In | 2 Byte | ro | | | |

| Index dez (hex) | Name | Format (Offset) | Länge | Zugriff ¹ | Standard Wert | Wertebereich | Bemerkung [Einheit] |
|-----------------|------------------------------|-----------------|---------|----------------------|---------------|---|--|
| 13 (0x0D) | Profilcharakteristik | Record | 14 Byte | ro | | siehe IO-Link Interface Spezifikation | |
| 14 (0x0E) | PDInput Descriptor | Record | 6 Byte | ro | | siehe IO-Link Interface Spezifikation | |
| 58 (0x3A) | Teach-in Kanal | UInt | 8 Bit | rw | 0 | 0 = Werkseinstellung (BDC1/Q1) | siehe IO-Link Smart Sensor Profile |
| 59 (0x3B) | Teach-In Status | UInt | 8 Bit | ro | | | siehe IO-Link Smart Sensor Profile |
| 60 (0x3C) | Sollwert (BDC1 / Q1) | Record | 2 Byte | rw | | siehe IO-Link Smart Sensor Profile | |
| 1 (0x01) | Empfindlichkeit (Sollwert 1) | Bit (8) | 8 Bit | ro | 2 | 0 = Fein 1 = Mittel 2 = Grob | Einstellmöglichkeiten sind: Fein, Mittel, Grob |
| 2 (0x02) | nicht verwendet (Sollwert 2) | Bit (0) | 8 Bit | ro | | | |
| 61 (0x3D) | Schaltpunkt (BDC1 / Q1) | Record | 4 Byte | rw | | siehe IO-Link Smart Sensor Profile | |
| 1 (0x01) | Logik | Bit (24) | 8 Bit | ro | 0 | 0 = nicht invertiert (festgelegt im Teach = Schaltet auf eingelerntem Material) 1 = invertiert | Möglichkeit, den Schaltausgang Q1 zu invertieren. |
| 2 (0x02) | Modus | Bit (16) | 8 Bit | ro | 1 | 0 = Deaktiviert 1 = 1-Punkt Modus | Möglichkeit, den Schaltausgang Q1 zu deaktivieren. |
| 3 (0x03) | Hysteresis | Bit (0) | 16 Bit | ro | 0 | 0 = herstellerspezifische Voreinstellung | |
| 62 (0x3E) | Sollwert (BDC2 / Q2) | Record | 2 Byte | rw | | siehe IO-Link Smart Sensor Profile | |

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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) |
| 2 (0x02) | not used (Setpoint 2) | Bit (0) | 8 Bit | ro | | | |
| 63 (0x3F) | Switchpoint (BDC2/ Q2) | Record | 4 Byte | rw | | see IO-Link Smart Sensor Profile | |
| 1 (0x01) | Logic | Bit (24) | 8 Bit | ro | 0 | 0 = not inverted (defined by teach =switch on teached material) 1 = inverted | Possibility to invert the output Q2 |
| 2 (0x02) | Mode | Bit (16) | 8 Bit | ro | 1 | 0 = Deactivated 1 = Single point mode | Possibility to deactivate the output Q2 |
| 3 (0x03) | Hysteresis | Bit (0) | 16 Bit | ro | 0 | 0 = vendor specific default | |
| 64 (0x40) | Device Specific Tag | String | 32 Byte | rw | | | |
| 65 (0x41) | Device Mode | UInt | 8 Bit | rw | 0 | 0 = Standard Operation Mode 128 = Standby Mode 129 = Alignment Help Mode | |
| 81 (0x51) | Key Lock | UInt | 8 Bit | rw | 1 | 0 = Key unlock 1 = Key lock | This function allows to activate or deactivate the sensor-key s. If pin 5 Configuration (0x7A) = key lock: Key lock on object 0x51 acts only when the key lock on Pin 5 is unlocked. |
| 101 (0x65) | TimeStampRev | UInt | 8 Bit | ro | | | see TimeStamp Specification |
| 102 (0x66) | MasterCycleTime | UInt | 16 Bit | ro | | 0...65535 = Device timer ticks | see TimeStamp Specification |
| 103 (0x67) | TLDevice | UInt | 16 Bit | ro | | 0...65535 = Unit in 10ns | see TimeStamp Specification |
| 104 (0x68) | TBase | UInt | 16 Bit | ro | | 1222...65535 = Unit in 1ns | see TimeStamp Specification |
| 105 (0x69) | PDType | UInt | 8 Bit | ro | 1 | 1 = Sensor | see TimeStamp Specification Defines the TimeStamp process data type |
| 106 (0x6A) | TimeStampMode | UInt | 8 Bit | ro | 0 | 0 = TimeStamp mode PDin off and PDout off 1 = TimeStamp mode PDin on and PDout off | see TimeStamp Specification Defines the process data format (Standard or TimeStamp) |
| 122 (0x7A) | Pin 5 Configuration | UInt | 8 Bit | rw | 17 | 0 = Deactivated 17 = Teach-in 18 = Key lock | Key lock on pin 5 acts only when the key lock is unlocked via object 0x51. |

¹ ro = read only (nur lesen), wo = write only (nur schreiben), rw = read/write (lesen/schreiben)

| DEUTSCH | | | | | | | |
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| SICK spezifisch | | | | | | | |
| Index dez (hex) | Name | Format (Offset) | Länge | Zugriff ¹ | Standard Wert | Wertebereich | Bemerkung (Einheit) |
| 1 (0x01) | Empfindlichkeit (Sollwert 1) | Bit (8) | 8 Bit | ro | 0 | 0 = wie Sollwert 1 BDC1 (Q1) | Gleiche Empfindlichkeit wie Sollwert Q1 |
| 2 (0x02) | nicht verwendet (Sollwert 2) | Bit (0) | 8 Bit | ro | | | |
| 63 (0x3F) | Schaltpunkt (BDC2/ Q2) | Record | 4 Byte | rw | | siehe IO-Link Smart Sensor Profile | |
| 1 (0x01) | Logik | Bit (24) | 8 Bit | ro | 0 | 0 = nicht invertiert (festgelegt im Teach = Schaltet auf eingelerntem Material) 1 = invertiert | Möglichkeit, den Schaltausgang Q2 zu invertieren. |
| 2 (0x02) | Modus | Bit (16) | 8 Bit | ro | 1 | 0 = Deaktiviert 1 = 1-Punkt Modus | Möglichkeit, den Schaltausgang Q2 zu deaktivieren. |
| 3 (0x03) | Hysterese | Bit (0) | 16 Bit | ro | 0 | 0 = herstellerspezifische Voreinstellung | |
| 64 (0x40) | Gerätespezifischer Name | String | 32 Byte | rw | | | |
| 65 (0x41) | Betriebsmodus | UInt | 8 Bit | rw | 0 | 0 = Standard Betriebsmodus 128 = Standby Modus 129 = Justagehilfe | |
| 81 (0x51) | Tastensperre | UInt | 8 Bit | rw | 1 | 0 = Tasten frei 1 = Tasten gesperrt | Diese Funktion ermöglicht das Sperren der Tasten. Falls Pin 5 Konfiguration (0x7A) = Tastensperre: Die Tastensperre über Objekt 0x51 wirkt erst, wenn die Tastensperre über Pin 5 entsperrt wurde. |
| 101 (0x65) | TimeStampRev | UInt | 8 Bit | ro | | | siehe TimeStamp Spezifikation |
| 102 (0x66) | MasterCycleTime | UInt | 16 Bit | ro | | 0...65535 = Zeiteinheiten | siehe TimeStamp Spezifikation |
| 103 (0x67) | TLDevice | UInt | 16 Bit | ro | | 0...65535 = Einheit in 10ns | siehe TimeStamp Spezifikation |
| 104 (0x68) | TBase | UInt | 16 Bit | ro | | 1222...65535 = Einheit in 1ns | siehe TimeStamp Spezifikation |
| 105 (0x69) | PDType | UInt | 8 Bit | ro | 1 | 1 = Sensor | siehe TimeStamp Spezifikation |
| 106 (0x6A) | TimeStampMode | UInt | 8 Bit | ro | 0 | 0 = Zeitstempel Modus ausgeschaltet (PD in aus und PDout aus) 1 = Zeitstempel Modus eingeschaltet (PD in an und PDout aus) | siehe TimeStamp Spezifikation Definiert das Datenformat der Zeitstempel-Prozessdaten |



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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 |
| 204 (0xCC) | Find Me | UInt | 8 Bit | rw | 0 | 0 = Deactivated 1 = Active (yellow LED blinks with 1 Hz) 16 = Active (yellow LED blinks with 1 Hz, Q1 switches with 1 Hz) |
| 205 (0xCD) | SICK-Profile Version | String | 4 Byte | ro | 0.02 | |
| 212 (0xD4) | Delay Mode Q1 | UInt | 8 Bit | rw | 0 | 0 = Ton Delay 1 = Toff Delay 2 = Ton + Toff Delay (Shift) 3 = Impulse (one Shot) |
| 213 (0xD5) | Delay Mode Q2 | UInt | 8 Bit | rw | 0 | 0 = Ton delay 1 = Toff delay 2 = Ton + Toff Delay (Shift) 3 = Impulse (one Shot) |
| 214 (0xD6) | Delay Time Q1 | UInt | 16 Bit | rw | 0 | 0...30000 = delay time in ms |
| 215 (0xD7) | Delay Time Q2 | UInt | 16 Bit | rw | 0 | 0...30000 = delay time in ms |

¹ ro = read only (nur lesen), wo = write only (nur schreiben), rw = read/write (lesen/schreiben)

| DEUTSCH | | | | | | |
|-----------------|----------------------|-----------------|--------|----------------------|---------------|---|
| SICK spezifisch | | | | | | |
| Index dez (hex) | Name | Format (Offset) | Länge | Zugriff ¹ | Standard Wert | Wertebereich |
| 122 (0x7A) | Pin 5 Konfiguration | UInt | 8 Bit | rw | 17 | 0 = Deaktiviert 17 = Teach-in 18 = Tastensperre |
| 204 (0xCC) | Find Mich | UInt | 8 Bit | rw | 0 | 0 = Inaktive 1 = Aktiv (gelbe LED blinkt mit 1 Hz) 16 = Aktiv (gelbe LED blinkt mit 1 Hz, Q1 schaltet mit 1 Hz) |
| 205 (0xCD) | SICK-Profil Version | String | 4 Byte | ro | 0.02 | |
| 212 (0xD4) | Verzögerungsmodus Q1 | UInt | 8 Bit | rw | 0 | 0 = Einschaltverzögerung 1 = Ausschaltverzögerung 2 = Einschaltverzögerung + Ausschaltverzögerung (Verschiebung) 3 = Impuls (one shot) |
| 213 (0xD5) | Verzögerungsmodus Q2 | UInt | 8 Bit | rw | 0 | 0 = Einschaltverzögerung 1 = Ausschaltverzögerung 2 = Einschaltverzögerung + Ausschaltverzögerung (Verschiebung) 3 = Impuls (one shot) |
| 214 (0xD6) | Verzögerungszeit Q1 | UInt | 16 Bit | rw | 0 | 0...30000 = Verzögerungszeit in ms |
| 215 (0xD7) | Verzögerungszeit Q2 | UInt | 16 Bit | rw | 0 | 0...30000 = Verzögerungszeit in ms |

Die Tastensperre über Pin 5 wirkt erst, wenn die Tastensperre über Objekt 0x51 entsperrt wurde.

Wenn aktiviert, dann blinken LEDs am Sensor, um den Sensor einfacher in der Maschine zu lokalisieren.

Betrifft Q1 und gelbe LED; Impuls: definiert eine Zeitdauer, während derer der Schaltausgang das detektierte Objekt darstellt.

Betrifft Q2; Impuls: definiert eine Zeitdauer, während derer der Schaltausgang das detektierte Objekt darstellt.

Betrifft Q1 und gelbe LED

Betrifft Q2



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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] |
| 226 (0xE2) | Quality of Run Alarm | UInt | 8 Bit | rw | | 0...100 = Threshold Position | Set point to control the Quality of Run. If the Quality of Run is below your defined Set point (Quality of Run Alarm) the Sensor sets an alarm bit in the process data and generates an event. |
| 227 (0xE3) | Alignment help | Record | 2 Byte | ro | | | The Alignment help (alpha- / beta - direction) send real-time information's about the positioning of the sensor. This function can help to improve the set up time of the sensor. (only possible on glossy material) |
| 1 (0x01) | Alignment in alpha direction | Bit (8) | 8 Bit | ro | 0 | -128 = invalid -127...127 = degrees in 1/16° steps | SINT data type; value range 7,94° .. -7,94°; invalid value = too little gloss or > 7,94° or < -7,94° |
| 2 (0x02) | Alignment in beta direction | Bit (0) | 8 Bit | ro | 0 | -128 = invalid -127...127 = degrees in 1/16° steps | SINT data type; value range 7,94° .. -7,94°; invalid value = too little gloss or > 7,94° or < -7,94° |
| 228 (0xE4) | Quality score of alignment | UInt | 8 Bit | ro | | 0...100 = Quality value 255 = invalid (too little gloss) | Quality score of alignment gives information about the alignment of the sensor and the material during the process. (Only possible on glossy material) |

| DEUTSCH | | | | | | | |
|-----------------|-------------------------------|-----------------|--------|----------------------|---------------|--|--|
| SICK spezifisch | | | | | | | |
| Index dez (hex) | Name | Format (Offset) | Länge | Zugriff ¹ | Standard Wert | Wertebereich | Bemerkung [Einheit] |
| 226 (0xE2) | Alarmschwelle Prozessqualität | UInt | 8 Bit | rw | | 0...100 = Schaltschwellen-Position | Einstellbare Alarmschwelle der Prozessqualität. Wird dies unterschritten, wird ein Alarmbit in den Prozessdaten gesetzt und ein Event gesendet. |
| 227 (0xE3) | Justagehilfe | Record | 2 Byte | ro | | | Die Justagehilfe beinhaltet Informationen über die aktuelle Positionierung des Sensors. Damit kann der Sensor schneller korrekt installiert werden. (Nur möglich auf glänzendem Material) |
| 1 (0x01) | Justage in Alpha Richtung | Bit (8) | 8 Bit | ro | 0 | -128 = ungültig -127...127 = Grad in 1/16° | SINT Datenformat; Wertebereich 7,94° .. -7,94°; ungültig = zu wenig Glanz oder > 7,94° bzw. < -7,94° |
| 2 (0x02) | Justage in Beta Richtung | Bit (0) | 8 Bit | ro | 0 | -128 = ungültig -127...127 = Grad in 1/16° | SINT Datenformat; Wertebereich 7,94° .. -7,94°; ungültig = zu wenig Glanz oder > 7,94° bzw. < -7,94° |
| 228 (0xE4) | Justage-Qualität | UInt | 8 Bit | ro | | 0...100 = Qualitätszahl 255 = ungültig (zu wenig Glanz) | Die Justage-Qualität gibt an, wie gut das Material in den laufenden Betrieb geführt wird bzw. weist auf Positionsänderungen des Sensors hin. Wichtig hierbei ist, dass diese Information nur bei glänzendem Material ausgegeben werden kann. |

¹ ro = read only (nur lesen), wo = write only (nur schreiben), rw = read/write (lesen/schreiben)

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

| ENGLISH | | | | |
|------------------|------------------|---------------------|-----------|------------------------------|
| Standard command | | | | |
| Index dec (hex) | Standard Command | Access ¹ | Value | Remark [Unit] |
| 2 (0x02) | Standard Command | wo | 0 - 63 | Reserved |
| | | | 65 | 1-Point Teach-in |
| | | | 67 | 2-Point Teach-in: Material 1 |
| | | | 68 | 2-Point Teach-in: Material 2 |
| | | | 71 | Dynamic Teach-in: Start |
| | | | 72 | Dynamic Teach-in: Stop |
| | | | 75 | 3-Point Teach-in: Material 1 |
| | | | 76 | 3-Point Teach-in: Material 2 |
| | | | 77 | 3-point Teach-in: Background |
| | | | 79 | Cancel Teach-in |
| | | | 130 | Restore Factory Settings |
| | | | 131 - 159 | Reserved |
| | | | 176 | TimeStampReset |
| | | | 177 | TimeStampOff |
| | | | 178 | TimeStampSensor |

| Events | | | |
|----------------|-------------------------|--------------|-------------------------|
| Code dec (hex) | Name | Type | Remark [Unit] |
| 6144 (0x1800) | Teach failure | Notification | Teach-in failure |
| 6145 (0x1801) | Teach successful | Notification | Teach-in successful |
| 6146 (0x1802) | Quality of Run Alarm | Notification | Quality of Run Alarm |
| 6147 (0x1803) | Hardware Error | Error | Hardware Error |
| 6148 (0x1804) | Output is short-circuit | Notification | Output is short-circuit |
| 6149 (0x1805) | Over Temperature | Notification | Output is short-circuit |
| 6150 (0x1806) | Factory Reset executed | Notification | Factory Reset executed |

| DEUTSCH | | | | |
|------------------|------------------|----------------------|-----------|---------------------------------------|
| Standardkommando | | | | |
| Index dez (hex) | Standardkommando | Zugriff ¹ | Wert | Bemerkung [Einheit] |
| 2 (0x02) | Standardkommando | wo | 0 - 63 | Reserviert |
| | | | 65 | 1-Punkt Teach-in |
| | | | 67 | 2-Punkt Teach-in: Material 1 |
| | | | 68 | 2-Punkt Teach-in: Material 2 |
| | | | 71 | Dynamischer Teach-in: Start |
| | | | 72 | Dynamischer Teach-in: Stopp |
| | | | 75 | 3-Punkt Teach-in: Material 1 |
| | | | 76 | 3-Punkt Teach-in: Material 2 |
| | | | 77 | 3-Punkt Teach-in: Hintergrund |
| | | | 79 | Abbruch Teach-In |
| | | | 130 | Auslieferungszustand wiederherstellen |
| | | | 131 - 159 | Reserviert |
| | | | 176 | TimeStampReset |
| | | | 177 | TimeStampOff |
| | | | 178 | TimeStampSensor |

| Events | | | |
|----------------|---|--------------|---|
| Code dez (hex) | Name | Typ | Bemerkung [Einheit] |
| 6144 (0x1800) | Teach Fehler | Notification | Teach-in fehlerhaft |
| 6145 (0x1801) | Teach erfolgreich | Notification | Teach-in erfolgreich |
| 6146 (0x1802) | Alarmschwelle Prozessqualität | Notification | Alarmschwelle Prozessqualität |
| 6147 (0x1803) | Hardware Fehler | Error | Hardware Fehler |
| 6148 (0x1804) | Schaltausgang ist kurzgeschlossen | Notification | Schaltausgang kurzgeschlossen |
| 6149 (0x1805) | Übertemperatur | Notification | Schaltausgang kurzgeschlossen |
| 6150 (0x1806) | Reset auf Werkseinstellungen durchgeführt | Notification | Reset auf Werkseinstellungen durchgeführt |

¹ r = read only (nur lesen), w = write only (nur schreiben), rw = read/write (lesen/schreiben)