



8021209 1017

LFV200

2213024958
9262346 1017 (1.0.1)

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

ENGLISH

1. Physical layer

- Power-on time: < 6s
- Return time SIO-mode: 0ms < TDSIO < 300ms

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 | 2,3 ms |
| Baudrate ² | COM2 |
| Process Data Length | 1 Byte |
| IODD version | V1.01 |
| Valid for IO-Link version | 1.0.1 |

2. Process data

Record: 1 Byte

Bitoffset

| | | | | | | | | | | |
|---------------|---|---|---|---|---|---|---|---|----------|---|
| Byte 0 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 | Q Signal | 0 |
| Type/Subindex | | | | | | | | | Boolean | 1 |

3. Service data

| 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 | | | |
| 16 (0x10) | Vendor Name | String | 64 Byte | ro | SICK AG | | |
| 17 (0x11) | Vendor Text | String | 64 Byte | ro | www.sick.com | | |
| 18 (0x12) | Product Name | String | 64 Byte | ro | LFV200 | | |
| 19 (0x13) | Product ID | String | 64 Byte | ro | LFV200-xxxxlxx | | |
| 20 (0x14) | Product Text | String | 64 Byte | ro | Tuning Fork for fluid | | |
| 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 Name | String | 20 Byte | rw | *** | | |
| 40 (0x28) | Process Data Input | PD In | 1 Byte | ro | | | |

| SICK device specific | | | | | | | |
|----------------------|-----------------------------|-----------------|--------|---------------------|---------------|----------------------------------|---|
| Index dec (hex) | Name | Format (Offset) | Length | Access ¹ | Default Value | Value / Range | Remark [Unit] |
| 80 (0x50) | Frequency value max | UInt | 16 Bit | rw | 1180 | 500...2500 = frequency threshold | Upper threshold for Frequency failure [Hz] |
| 81 (0x51) | Frequency value min | UInt | 16 Bit | rw | 523 | 500...2500 = frequency threshold | Lower threshold for Frequency failure [Hz] |
| 82 (0x52) | Frequency - switching point | UInt | 16 Bit | rw | 969 | 500...2500 = frequency threshold | Frequency switching point or covered (lower frequency) [Hz] |
| 83 (0x53) | Frequency - reset point | UInt | 16 Bit | rw | 999 | 500...2500 = frequency threshold | Frequency reset point or uncovered (higher frequency) [Hz] |
| 84 (0x54) | Switching delay | UInt | 16 Bit | rw | 50 | 0...3000 = delay threshold | Switching delay in 10ms steps (max 30 sec) "cover delay" [s] |
| 85 (0x55) | Reset delay | UInt | 16 Bit | rw | 50 | 0...3000 = delay threshold | Reset delay in 10ms steps (max 30 sec) "cover delay" [s] |

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

²COM 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)

DEUTSCH

1. Physikalische Schicht

- Power-on time: < 6s
- Return time SIO-mode: 0ms < TDSIO < 300ms

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

| | |
|----------------------------|--------|
| SIO Modus | ja |
| Min. Zykluszeit | 2,3 ms |
| Baudrate ² | COM2 |
| Prozessdatenlänge | 1 Byte |
| IODD Version | V1.01 |
| Gültig für IO-Link Version | 1.0.1 |

2. Prozessdaten

Record: 1 Byte

Bitoffset

| | | | | | | | | | | |
|---------------|---|---|---|---|---|---|---|---|----------|---|
| Byte 0 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 | Q Signal | 0 |
| Type/Subindex | | | | | | | | | Boolean | 1 |

3. Servicedaten

| 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 | | | | | |
| 16 (0x10) | Herstellername | String | 64 Byte | ro | SICK AG | | | | |
| 17 (0x11) | Herstellertext | String | 64 Byte | ro | www.sick.com | | | | |
| 18 (0x12) | Produktname | String | 64 Byte | ro | LFV200 | | | | |
| 19 (0x13) | Produkt-ID | String | 64 Byte | ro | LFV200-xxxxlxx | | | | |
| 20 (0x14) | Produkttext | String | 64 Byte | ro | Tuning Fork for fluid | | | | |
| 21 (0x15) | Seriennummer | String | 16 Byte | ro | | | | | |
| 22 (0x16) | Hardwareversion | String | 64 Byte | ro | | | | | |
| 23 (0x17) | Firmwareversion | String | 64 Byte | ro | | | | | |
| 24 (0x18) | Anwendungsspezifischer Name | String | 20 Byte | rw | *** | | | | |
| 40 (0x28) | Prozessdaten Eingang | PD In | 1 Byte | ro | | | | | |

| SICK spezifisch | | | | | | | | | |
|-----------------|-------------------------|-----------------|--------|----------------------|---------------|-------------------------------------|---|--|--|
| Index dez (hex) | Name | Format (Offset) | Länge | Zugriff ¹ | Standard Wert | Wertebereich | Bemerkung [Einheit] | | |
| 80 (0x50) | Frequenzgrenzwert max | UInt | 16 Bit | rw | 1180 | 500...2500 = Frequenzgrenzbereich | Oberer Grenzwert für Frequenzfehler [Hz] | | |
| 81 (0x51) | Frequenzgrenzwert min | UInt | 16 Bit | rw | 523 | 500...2500 = Frequenzgrenzbereich | Unterer Grenzwert für Frequenzfehler [Hz] | | |
| 82 (0x52) | Schaltpunktfrequenz | UInt | 16 Bit | rw | 969 | 500...2500 = Frequenzgrenzbereich | Schaltpunktfrequenz bzw. bedeckt (tiefere Frequenz) [Hz] | | |
| 83 (0x53) | Rückschaltpunktfrequenz | UInt | 16 Bit | rw | 999 | 500...2500 = Frequenzgrenzbereich | Rückschaltpunktfrequenz bzw. unbedeckt (höhere Frequenz) [Hz] | | |
| 84 (0x54) | Schaltverzögerung | UInt | 16 Bit | rw | 50 | 0...3000 = Grenzbereich Verzögerung | Schaltverzögerung in 10ms Schritten (max 30 sek) "Bedeckverzögerung" [s] | | |
| 85 (0x55) | Rückschaltverzögerung | UInt | 16 Bit | rw | 50 | 0...3000 = Grenzbereich Verzögerung | Rückschaltverzögerung in 10ms Schritten (max 30 sek) "Unbedeckverzögerung" [s] | | |



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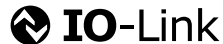
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Please note the validity of the additional operating instructions for automation functions

ENGLISH

| SICK device specific | | | | | | | |
|----------------------|-------------------------------|-----------------|--------|---------------------|---------------|--|---|
| Index dec (hex) | Name | Format (Offset) | Length | Access ¹ | Default Value | Value / Range | Remark [Unit] |
| 86 (0x56) | Delay - error output active | UInt | 16 Bit | rw | 50 | 0...3000 = delay threshold | Delay failure output to active "red LED on" in 10ms steps [s] |
| 87 (0x57) | Delay - error output inactive | UInt | 16 Bit | rw | 50 | 0...3000 = delay threshold | Delay failure output to inactive "red LED on" in 10ms steps [s] |
| 88 (0x58) | Operatingmode SIO | UInt | 16 Bit | rw | | 0 = Min mode in SIO 1 = Max mode in SIO | Min or Max mode (normally open or closed) |
| 99 (0x63) | Temperature | Int | 16 Bit | ro | | -500...1500 = Temperature range | Temperature on board in ten-degree Celcius steps [°C] |
| 100 (0x64) | Frequency | UInt | 16 Bit | ro | | | Measuring Frequency in Hz [Hz] |
| 101 (0x65) | Amplitude | UInt | 16 Bit | ro | | | measuring amplitude in % (notice: indicates the viscosity) [%] |
| 150 (0x96) | Drag pointer min frequency | UInt | 16 Bit | ro | | | lasting minimum of frequency [Hz] |
| 151 (0x97) | Drag pointer max frequency | UInt | 16 Bit | ro | | | lasting minimum of frequency [Hz] |
| 152 (0x98) | Drag pointer min amplitude | UInt | 16 Bit | ro | | | lasting minimum of amplitude [%] |
| 153 (0x99) | Drag pointer max amplitude | UInt | 16 Bit | ro | | | lasting maximum of amplitude [%] |
| 154 (0x9A) | Drag pointer min temperature | Int | 16 Bit | ro | | -500...1500 = temperature range | lasting minimum of temperature [°C] |
| 155 (0x9B) | Drag pointer max temperature | Int | 16 Bit | ro | | -500...1500 = temperature range | lasting maximum of temperature [°C] |

| Events | | | |
|----------------|---------------------|--------------|----------------------------------|
| Code dec (hex) | Name | Type | Remark [Unit] |
| 65520 (0xFFFO) | FREQUENCY_INVALID | Notification | Error on frequency measurement |
| 65521 (0xFFFD) | AMPLITUDE_INVALID | Warning | amplitude outside of threshold |
| 65522 (0xFFFC) | TEMPERATURE_INVALID | Warning | temperature outside of threshold |

DEUTSCH

| SICK spezifisch | | | | | | | | |
|-----------------|-------------------------------|-----------------|--------|----------------------|---------------|--|---|--|
| Index dez (hex) | Name | Format (Offset) | Länge | Zugriff ¹ | Standard Wert | Wertebereich | Bemerkung [Einheit] | |
| 86 (0x56) | Verzögerung Fehlerausgabe | UInt | 16 Bit | rw | 50 | 0...3000 = Grenzbereich Verzögerung | Verzögerung Fehlerausgabe nach aktiv "rote LED an" in 10ms Schritten [s] | |
| 87 (0x57) | Verzögerung nach Fehler | UInt | 16 Bit | rw | 50 | 0...3000 = Grenzbereich Verzögerung | Verzögerung Fehlerausgabe nach inaktiv "rote LED aus" in 10ms Schritten [s] | |
| 88 (0x58) | Betriebsmode SIO | UInt | 16 Bit | rw | | 0 = Min mode im SIO 1 = Max mode im SIO | Min oder Max Mode (Schließer oder Öffner) | |
| 99 (0x63) | Temperatur | Int | 16 Bit | ro | | -500...1500 = Temperatur Bereich | Temperatur an Board, in zehn Grad Celcius Schritten [°C] | |
| 100 (0x64) | Frequenz | UInt | 16 Bit | ro | | | Messfrequenz in Hz [Hz] | |
| 101 (0x65) | Amplitude | UInt | 16 Bit | ro | | | gemessene Amplitude in % (Hinweis: gibt die Viskosität an) [%] | |
| 150 (0x96) | Schleppzeiger min. Frequenz | UInt | 16 Bit | ro | | | Dauerhaftes Minimum der Frequenz [Hz] | |
| 151 (0x97) | Schleppzeiger max. Frequenz | UInt | 16 Bit | ro | | | andauerndes Maximum der Frequenz [Hz] | |
| 152 (0x98) | Schleppzeiger min. Amplitude | UInt | 16 Bit | ro | | | andauerndesMinimum der Amplitude [%] | |
| 153 (0x99) | Schleppzeiger max. Amplitude | UInt | 16 Bit | ro | | | andauerndesMaximum der Amplitude [%] | |
| 154 (0x9A) | Schleppzeiger min. Temperatur | Int | 16 Bit | ro | | -500...1500 = Temperatur Bereich | andauerndesMinimum der Temperatur [°C] | |
| 155 (0x9B) | Schleppzeiger max. Temperatur | Int | 16 Bit | ro | | -500...1500 = Temperatur Bereich | andauerndesMaximum der Temperatur [°C] | |

| Events | | | |
|----------------|---------------------|--------------|--------------------------------|
| Code dez (hex) | Name | Typ | Bemerkung [Einheit] |
| 65520 (0xFFFO) | Frequenz ungültig | Notification | Fehler bei der Frequenzmessung |
| 65521 (0xFFFD) | Amplitude ungültig | Warning | Amplitude außerhalb Grenzwert |
| 65522 (0xFFFC) | Temperatur ungültig | Warning | Temperatur außerhalb Grenzwert |

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)