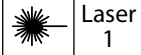


**ENGLISH**

Through-beam Photoelectric Sensor  
with visible redlight  
Operating Instructions

<b>LASERKLASSE 1</b>

EN/IEC 60825-1:2014 IEC60825-1:2007
Maximum pulse power < 2,5 mW Puls length: 4 µs Wavelength: 650 - 670 nm
Complies with 21 CFR 1040.10 and 1040.11 except for deviations pursuant to Laser Notice No. 50, dated June 24, 2007

**Safety Specifications**

- Read the operating instructions before starting operation.
- Connection, assembly, and settings only by competent technicians.
- Protect the device against moisture and soiling when operating.
- No safety component in accordance with EU machine guidelines.

**Proper Use**

The WSE9LC-3Pxxxx(Axx) through-beam photoelectric sensor is an optoelectronic sensor, that operates using a transmission unit (WS) and reception unit (WE). It is used for optical, non-contact detection of objects.

**Starting Operation**

- Fit the sender (WS) and receiver (WE) in suitable brackets. Suitable mounting brackets can be found in the SICK accessories range, for example.

Operation in standard I/O-Mode (SIO): The sensors must be connected in a voltage-free state (VS = 0 V). The information in the graphics **B** must be observed, depending on the type of connection:

- Male connector connection: pin assignment
- Cable: core color

Operation in IO-Link mode (IOL): Connect the device to a suitable IO-Link master and integrate it into the control system via IODD / Function Block. Device-specific IODD and Function Block are available to download under the sensor order number at www.sick.com.

**Adjustment light reception:**

Note maximum sensing distance. Determine the receiver (WE) switch on/off point by means of horizontal and vertical adjustment of the sender (WS). Select the center point such that the red emitted light beam hits the receiver. If light receiving is optimum, the light receiver display (WE) lights up.

If the light receiver display does not light up or flashes, no light or too little light is being received. If this is the case, readjust the photoelectric sensor, clean it or check the application conditions.

- PNP (Load --> M)  
C = communication (e.g. IO-Link)  
MF = Multifunction input / output (e.g. alarm output)

**Maintenance**

SICK sensors do not require any maintenance.

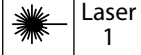
We recommend that you clean

- the external lens surfaces and check the screw connections and plug-in connections at regular intervals.

Modifications of devices may not be made.

**DEUTSCH**

Einweg-Lichtschranke  
mit sichtbarem Rotlicht (Laser)  
Betriebsanleitung

<b>LASERKLASSE 1</b>

EN/IEC 60825-1:2014 IEC60825-1:2007
Maximale Pulsleistung: < 2,5 mW Impulsdauer: 4 µs Wellenlänge: 650 - 670 nm
Entspricht 21 CFR 1040.10 und 1040.11 mit Ausnahme von Abweichungen nach Laser-Hinweis 50, 24, Juni 2007

**Sicherheitshinweise**

- Vor der Inbetriebnahme die Betriebsanleitung lesen.
- Anschluss, Montage und Einstellung nur durch Fachpersonal.
- Gerät bei Inbetriebnahme vor Feuchte und Verunreinigung schützen.
- Kein Sicherheitsbauteil gemäß EU-Maschinenrichtlinie.

**Bestimmungsgemäße Verwendung**

Die Einweg-Lichtschranke WSE9LC-3Pxxxx(Axx) ist ein optoelektronischer Sensor, der mit einer Sende- (WS) und Empfangseinheit (WE) arbeitet. Sie wird zum optischen, berührungslosen Erfassen von Objekten eingesetzt.

**Inbetriebnahme**

- Montieren Sie Sender (WS) und Empfänger (WE) an geeigneten Halterungen. Geeignete Haltewinkel finden Sie z. B. im Zubehör-Programm von SICK.

Betrieb im Standard I/O-Modus (SIO): Anschluss der Sensoren muss spannungsfrei (U<sub>s</sub> = 0 V) erfolgen. Je nach Anschlussart sind die Informationen in den Grafiken (vgl. B) zu beachten:

- Steckanschluss: Pinbelegung
- Leitung: Adernfarbe

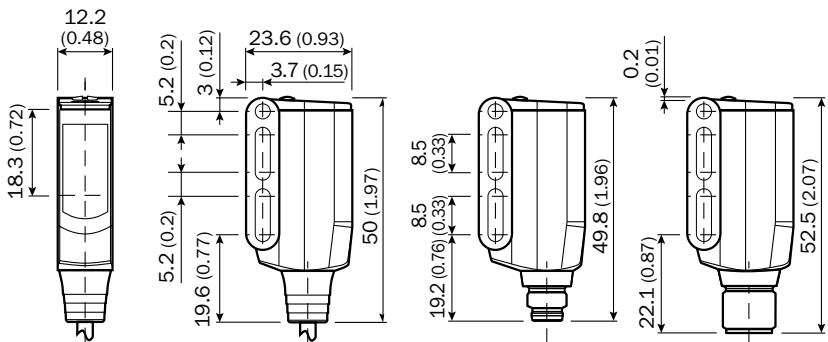
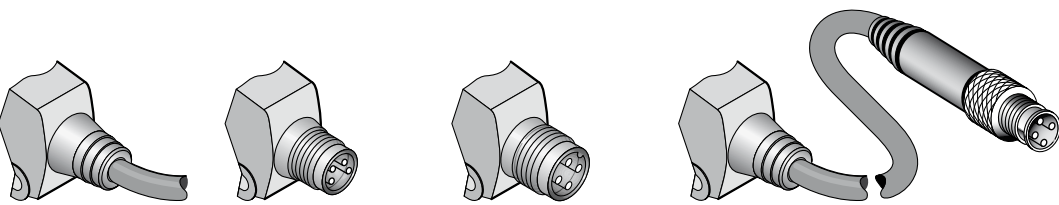
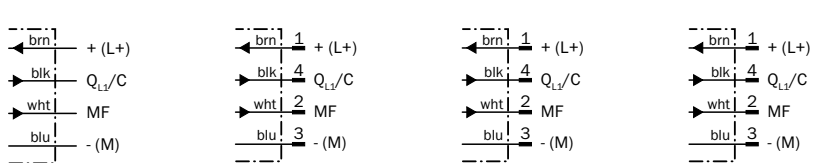
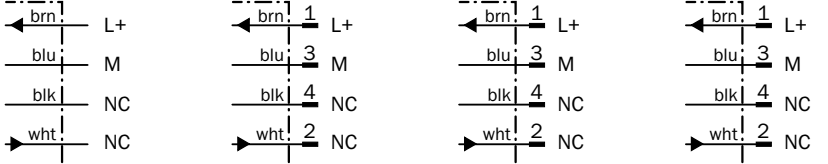
**SICK**

8020414.ZM22 1118 COMAT

**WSE9LC-3Pxxxx(Axx)**

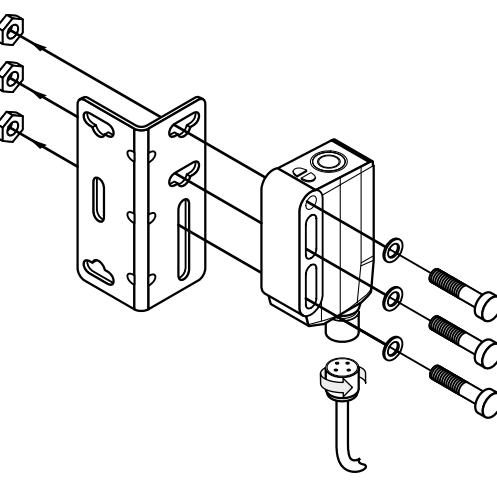
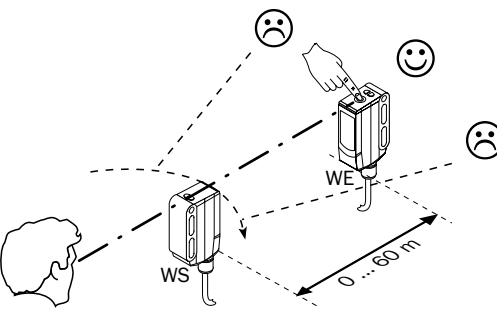
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Please find detailed addresses and further locations in all major industrial nations at [www.sick.com](http://www.sick.com)

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**A****WSE9LC-3Pxxxx(Axx)****B****WSE9xxL(G)C-3P1xxx WSE9xxL(G)C-3P22xx WSE9xxL(G)C-3P24xx WSE9xxL(G)C-3P3xxx****WSE9LC-3 (Empfänger/Receiver)****WSE9LC-3 (Sender)**

<b>WSE9LC</b>	<b>Laserklasse</b>	<b>Laser de classe</b>	<b>Classe de laser</b>	<b>-3Pxxxx(Axx)</b>
Operating range RW max.	Betriebsreichweite RW max.	Portée de travail RW max.	Alcance operacional RW max.	0 ... 60 m
Light spot diameter/distance	Lichtfleckdurchmesser/Entfernung	Diamètre de la tache lumineuse/Distance	Diâmetro do ponto de luz/distância	< 1,0 mm/500 mm
Supply voltage V <sub>s</sub>	Versorgungsspannung U <sub>s</sub>	Tension d'alimentation U <sub>s</sub>	Tensão de força U <sub>s</sub>	10 ... 30 V DC <sup>1)</sup>
Output current I <sub>max</sub>	Ausgangsstrom I <sub>max</sub>	Courant de sortie I <sub>max</sub>	Corrente de saída I <sub>max</sub>	≤ 100 mA
Communication mode	Kommunikationsmodus	Mode de communication	Modo de comunicação	COM2
IO-Link	IO-Link	IO-Link	IO-Link	1.1
Signal sequence min.	Signalfolge min.	Fréquence mini	Seqüência mín. de sinais	1000/s <sup>2)</sup>
Response time	Anspruchzeit	Temps de réponse	Tempo de reação	300 ... 450 µs <sup>2)</sup>
Enclosure rating	Schutzart	Type de protection	Tipo de proteção	IP 66, IP 67, IP 69K
Protection class	Schutzklasse	Classe de protection	Classe de proteção	◇
Circuit protection	Schutzschaltungen <sup>4)</sup>	Circuits de protection	Circuitos protetores	A, B, C <sup>3)</sup>
Ambient operating temperature	Betriebsumgebungstemperatur	Température ambiante	Temperatura ambiente de operação	-10 ... +50 °C
Extended ambient operating temperature	Erweiterte Betriebsumgebungstemperatur	Température ambiante de service étendue	Temperatura ambiente operacional ampliada	-30 ... +55 °C <sup>4)</sup>
<sup>1)</sup> Limits, reverse polarity protected, Operation in short-circuit protected network max. 8 A	<sup>1)</sup> Grenzwerte, verpolsicher, Betrieb im kurzschlussgeschützten Netz max. 8 A	<sup>1)</sup> Valeurs limites, protégé contre l'inversion de polarité, Service dans un réseau protégé contre les courts-circuits 8 A au maximum	<sup>1)</sup> Valores limite, proteção contra polaridade reversa, Operação em rede protegida contra curto-circuitos máx. 8 A	
<sup>2)</sup> Valid for Q <sub>1</sub> on Pin2, if configured with software	<sup>2)</sup> Gültig für Q <sub>1</sub> auf Pin2, wenn per Software konfiguriert	<sup>2)</sup> Valable pour Q <sub>1</sub> sur la broche 2 en cas de configuration logicielle	<sup>2)</sup> Válido para Q <sub>1</sub> no pino 2, quando configurado por software	
<sup>3)</sup> A = V <sub>s</sub> connections reverse polarity protected B = inputs/outputs reverse polarity protected C = interference pulse suppression	<sup>3)</sup> A = U <sub>s</sub> -Anschlüsse verpolsichert B = Ein-/Ausgänge verpolsichert C = Störpulsunterdrückung	<sup>3)</sup> A = Raccordements U <sub>s</sub> protégés contre les inversions de polarité B = Entrées/Sorties protégées contre les inversions de polarité C = Suppression des impulsions parasites	<sup>3)</sup> A = Conexões U <sub>s</sub> protegidas contra inversão de polos B = Entradas/saídas protegidas contra inversão de polos C = Supressão de impulsos parasitas	
<sup>4)</sup> As of T <sub>0</sub> = 50 °C a supply voltage of V <sub>max</sub> = 24 V and max. output current of I <sub>max</sub> = 50 mA is permissible... Operation below T <sub>0</sub> = -10 °C is possible if the sensor is already switched on at T <sub>0</sub> > -10 °C, then cools down and the supply voltage is subsequently not switched off. Switching on below T <sub>0</sub> = -10 °C is not permissible.	<sup>4)</sup> Ab T <sub>0</sub> = 50 °C ist eine Versorgungsspannung V <sub>max</sub> = 24 V und ein max. Ausgangsstrom I <sub>max</sub> = 50 mA zulässig... Ein Betrieb unter T <sub>0</sub> = -10 °C ist möglich, wenn der Sensor bereits bei T <sub>0</sub> > -10 °C eingeschaltet wird, dann abkühlt und nicht mehr von der Versorgungsspannung getrennt wird. Ein Einschalten unter T <sub>0</sub> = -10 °C ist nicht zulässig.	<sup>4)</sup> A partir d'une température de 50 °C, une tension d'alimentation de V <sub>max</sub> = 24 V et un courant de sortie maxi. I <sub>max</sub> = 50 mA sont autorisés... Un fonctionnement à une température inf. à -10 °C est possible si le capteur avait déjà été allumé à une temp. > -10 °C, s'il s'est ensuite refroidi et s'il n'a pas été entre temps débranché de la tension d'alimentation. Une mise en marche à une température inf. à -10 °C n'est pas autorisée.	<sup>4)</sup> A partir de uma temperatura ambiente de 50 °C é permitida uma tensão de alimentação V <sub>max</sub> = 24 V e uma corrente máxima de saída I <sub>max</sub> = 50 mA... Um funcionamento abaixo da temperatura ambiente de -10 °C é possível quando o sensor é ligado a uma temperatura ambiente > -10 °C, em seguida é arrefecido e não mais desconectado da tensão de alimentação. Não é permitido ligá-lo a uma temperatura abaixo de -10°C.	

<b>WSE9LC</b>	<b>Clase de láser</b>	<b>級激光产品</b>	<b>クラス レーザ製品</b>	<b>-3Pxxxx(Axx)</b>
Distanza di lavoro RW massima	Alcance de servicio RW max.	最大有效工作距离 RW	動作範囲 RW、最大値	0 ... 60 m
Diámetro luminoso/distancia	Diámetro de mancha de luz/distancia de mancha de luz	光点直径 / 距離	スポット径 / 距離	< 1,0 mm/500 mm
Tensione di alimentazione U <sub>s</sub>	Tensión de alimentación U <sub>s</sub>	电源电压 U <sub>s</sub>	供給電圧 U <sub>s</sub>	10 ... 30 V DC <sup>1)</sup>
Corrente di uscita max. I <sub>max</sub>	Corriente de salida I <sub>max</sub>	输出电流 I <sub>max</sub>	最大出力電流 I <sub>max</sub>	≤ 100 mA
Modalità di comunicazione	Modo de comunicación	通信模式	通信モード	COM2
IO-Link	IO-Link	IO-Link	IO-Link	1.1
Sequenza segnali min.	Secuencia de señales min.i	信号流 min	信号伝達時間 min.	1000/s <sup>2)</sup>
Tiempo de risposta	Tiempo de reacción	触发时间	応答時間	300 ... 450 µs <sup>2)</sup>
Tipo di protezione	Tipo de protección	保护种类	保護等級	IP 66, IP 67, IP 69K
Classe di protezione	Protección clase	保护级别	保護クラス	◇
Commutazioni di protezione	Circuitos de protección	保护电路	保護回路	A, B, C <sup>3)</sup>
Temperatura ambiente circostante	Temperatura ambiente de servicio	工作环境-温度	動作周囲温度	-10 ... +50 °C
Temperatura di funzionamento ambientale estesa	Temperatura ambiente de servicio ampliada	更大的运行环境-温度范围	動作周囲温度の拡大	-30 ... +55 °C <sup>4)</sup>
<sup>1)</sup> Valori limite, Funzionamento dall'inversione di polarità., Funzionamento in rete con protezione dai cortocircuiti max. 8 A	<sup>1)</sup> Valores limite, Protección contra polarización inversa, Funcionamiento en red con protección contra cortocircuito, máx. 8 A	<sup>1)</sup> 极限值, 反极性保护, 在防短路电路中进行, 最大 8 A	<sup>1)</sup> 限界値, 逆極保護, 短絡保護された回路での使用最大 8 A	
<sup>2)</sup> Valid for Q <sub>1</sub> on Pin2, se configurato tramite software	<sup>2)</sup> Válido para Q <sub>1</sub> en Pin2, se configurado por software	<sup>2)</sup> 若通过软件完成配置, 则适用于引脚 2 的 Q <sub>1</sub>	<sup>2)</sup> ピン2のQ <sub>1</sub> に有効、ソフトウェアを介して設定する場合	
<sup>3)</sup> A = U <sub>s</sub> -collegamenti con protez. contro inversione di poli B = entrate/uscite con protezione contro inversione di poli C = soppressione impuls di disturbo	<sup>3)</sup> A = Conexiones U <sub>s</sub> a prueba de inversión de polaridad B = Entradas/salida a prueba de inversión de polaridad C = Represión de impulso de interferencia	<sup>3)</sup> A = U <sub>s</sub> -接头防反接 B = 输入/输出反接 C = 消除干扰脉冲	<sup>3)</sup> A = V <sub>s</sub> 電源電圧逆接保護 B = 出力回路逆接保護 C = 干渉パルス抑制	
<sup>4)</sup> A partire da una temperatura di 50 °C sono consentite una tensione di approvvigionamento V <sub>max</sub> = 24 V e una corrente in uscita massima I <sub>max</sub> = 50 mA È possibile un funzionamento sotto i -10 °C, se il sensore viene acceso a una temperatura > -10 °C, quindi viene raffreddato e non viene più scattato dalla tensione di approvvigionamento. Non è consentita l'accensione sotto i -10 °C	<sup>4)</sup> A partir de una temperatura de 50 °C se permite una tensión de alimentación V <sub>max</sub> = 24 V y una corriente de salida I <sub>max</sub> = 50 mA . Puede funcionar con T <sub>0</sub> = -10 °C si el sensor se conecta con T <sub>0</sub> > -10 °C, a continuación se enfría y no se vuelve a separar de la tensión de alimentación. No está permitida la conexión a valores inferiores de T <sub>0</sub> = -10 °C	<sup>4)</sup> 超过 50 °C 时允许的最大电源电压 V <sub>max</sub> 为 24 V, 最大输出电流 I <sub>max</sub> 为 50 mA... 可在低于 Y10 °C 时运行, 前提是传感器已在高于 Y10 °C 时开启, 然后降温且不间断。不得在低于 Y10 °C 时开启。	<sup>4)</sup> T <sub>0</sub> (周囲温度) = 50 °C 以上は、供給電圧 V <sub>max</sub> = 24 V および最大出力電流 I <sub>max</sub> = 50 mA が許可されています。 T <sub>0</sub> > -10 °C 以下での動作は、センサがすでに T <sub>0</sub> > -10 °C でオンにされた後冷却され、供給電源から切断されていない場合に可能となります。T <sub>0</sub> = -10 °C 以下でスイッチをオンにすることは許可されていません。	
				<sup>1)</sup> Valores límite, explotación en protección de un cortocircuito de red máx. 8 A
				<sup>2)</sup> Válido para Q <sub>1</sub> en Pin2, se configurado por software
				<sup>3)</sup> A = U <sub>s</sub> -podkonečenia s ochranou proti prepätovaniu pomocou B = vstupy a výstupy s ochranou proti prepätovaniu pomocou C = podávanie impulsných pomoch
				<sup>4)</sup> Iniciando em T <sub>0</sub> = 50 °C é permitido o tensão de alimentação V <sub>max</sub> = 24 V e máx. saída de corrente I <sub>max</sub> = 50 mA... T <sub>0</sub> > -10 °C, o sensor é ligado a uma temperatura ambiente > -10 °C, depois é resfriado e não é mais desconectado da tensão de alimentação. Não é permitida a conexão a valores inferiores de T <sub>0</sub> = -10 °C.

**1****2****3**