

English
Photoelectric proximity sensor
Operating instructions

Safety notes

- Read the operating instructions before commissioning.
- Connection, mounting, and setting may only be performed by trained specialists.
- Not a safety component in accordance with the EU Machinery Directive.
- UL: The device shall be supplied from an isolating transformer having a secondary overvoltage protective device that complies with UL 248 to be installed in the field rated either:
 - a) max 5 amps for voltages 0 – 20 V (0 – 28.3 V peak), or
 - b) 100 / Vp for voltages of 20 – 30 V (28.3 – 42.4 V peak).
Alternatively, they can be supplied from a Class 2 power supply.
- UL Environmental Rating: Enclosure type 1
- When commissioning, protect the device from moisture and contamination.
- These operating instructions contain information required during the life cycle of the sensor.

Correct use

The WTB9(M4)-3 is an opto-electronic photoelectric proximity sensor (referred to as "sensor" in the following) for the optical, non-contact detection of objects, animals, and persons. If the product is used for any other purpose or modified in any way, any warranty claim against SICK AG shall become void.

Photoelectric proximity sensor with background suppression.

Commissioning

1 Check the application conditions: Adjust the sensing range and distance to the object or background and the emission capability of the object according to the corresponding diagram [H] (x = sensing range, y = transition range between the set sensing range and suppression of the background and z = the sensing range / object remission / background remission). Remission: 6% = black (0), 18% = grey (2), 90% = white (3) (referring to standard white as per DIN 5033). The minimum distance (= y) for background suppression can be determined from diagram [H] as follows:

Example: x = 200 mm, y = 20% => 20 % of 200 mm = 40 mm. That is, the background is suppressed at a distance of > 240 mm from the sensor.

2 Mount the sensor using a suitable mounting bracket (see the SICK range of accessories).

Note the sensor's maximum permissible tightening torque of 0.6 Nm.

Note the preferred direction of the object relative to the sensor (see [A]).

3 The sensors must be connected in a voltage-free state (V_s = 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

Only apply voltage / switch on the power supply (V_s > 0 V) once all electrical connections have been completed. The green LED indicator lights up on the sensor.

Explanations of the connection diagram (graphic B):

Switching outputs Q and / Q (according to graphic B):

WTB9(M4)-3P (PNP: load -> M)

WTB9(M4)-3N (NPN: load -> L+)

4 WTB9(M4)-3xxx6x: Align the sensor with the object. Select the position so that the red emitted light beam hits the center of the object. You must ensure that the optical opening (front screen) of the sensor is completely clear [E]. We recommend making the adjustments using an object with a low remission.

WTB9(M4)-3xxx1x: Align the sensor with the object. Select the position so that the infrared light (not visible) hits the center of the object. The correct alignment can only be detected via the LED indicators. Please refer to Graphics C and E. You must ensure that the optical opening (front screen) of the sensor is completely clear. We recommend making the adjustments using an object with a low remission.

5 Sensor with potentiometer:

The sensing range is adjusted with the potentiometer (type: 5-tum). Clockwise rotation: sensing range increased; counterclockwise rotation: sensing range reduced. We recommend placing the switching state in the object, e. g., see graphic F. Once the sensing range has been adjusted, the object is removed from the path of the beam, which causes the background to be suppressed and the switching output to change (see graphic C).

The sensor is adjusted and ready for operation. Refer to graphics C and G to check the function. If the switching output fails to behave in accordance with graphic C, check application conditions. See section fault diagnosis.

Devices with special features

WTF9-3P2461: Photoelectric proximity sensor with foreground suppression

WTF9-3P2261S01: Photoelectric proximity sensor with foreground suppression, sensing range max. 500 mm, switching frequency 200 Hz

WTF9-3P2261P03: Photoelectric proximity sensor with foreground suppression, sensing range max. 500 mm, switching frequency 200 Hz, with DOL-0804-W02M

WTB9-3P3461S06: Pin 4 = Q (dark switching), pin 2 = NC (not assigned)

WTB9-3P3161: 3 pins; pin 1 = L+, pin 3 = M, pin 4 = Q (light switching)

WTB9-3P3461S13: Pin 4 = Q (light switching), pin 2 = NC (not assigned)

WTB9-3P2400S03: dummy cover which it is not possible to set, sensing range preset to 98 mm

WTB9-3F3111: Cable with M8 male connector, 3-pin 120 mm, pin 2 = Q dark switching

WTB9M4-3P3461S19: Increased sensing range 400 mm on white 90%, switching frequency 750 Hz

Fault diagnosis

Table I indicates which measures are to be taken if the sensor stops working.

Disassembly and disposal

The sensor must be disposed of according to the applicable country-specific regulations. Efforts should be made during the disposal process to recycle the constituent materials (particularly precious metals).

Maintenance

SICK sensors are maintenance-free.

We recommend doing the following regularly:

- clean the external lens surfaces
- check the screw connections and plug-in connections

No modifications may be made to devices.

Subject to change without notice. Specified product properties and technical data are not written guarantees.

Deutsch
SICK
 801715.1D5W 0322 COMAT

WTB9(M4)-3

Reflexions-Lichttaster
Betriebsanleitung

Australia Phone +61 (3) 9457 0600
 1800 33 48 02
 tollfree
 Austria Phone +43 (0) 2236 62288-0
 Belgium/Luxembourg Phone +32 (0) 2 468 55 66
 Brazil Phone +55 11 3215-4900
 Canada Phone +1 905.771.1444
 Czech Republic Phone +420 234 719 500
 Chile Phone +56 (2) 2274 7430
 China Phone +86 20 2882 3600
 Denmark Phone +45 48 82 64 00
 Finland Phone +358-9-25 15 800
 France Phone +33 1 64 62 35 00
 Germany Phone +49 (0) 211 53 010
 Greece Phone +30 210 6825100
 Hong Kong Phone +852 2153 6300
 Hungary Phone +36 1 371 2680
 India Phone +91-22-6119 8900
 Israel Phone +972 97110 11
 Italy Phone +39 02 27 43 41
 Japan Phone +81 3 5309 2112
 Malaysia Phone +603-8080 7425
 Mexico Phone +52 (472) 748 9451

Netherlands Phone +31 (0) 30 229 25 44
 New Zealand Phone +64 9 415 0459
 0800 222 278 - tollfree
 Norway Phone +47 67 81 50 00
 Poland Phone +48 22 539 41 00
 Romania Phone +40 356-17 11 20
 Russia Phone +7 495 283 09 90
 Singapore Phone +65 6744 3732
 Slovakia Phone +421 482 901 201
 Slovenia Phone +386 591 78849
 South Africa Phone +27 10 060 0550
 South Korea Phone +82 2 786 6321/4
 Spain Phone +34 93 480 31 00
 Sweden Phone +46 10 110 10 00
 Switzerland Phone +41 41 619 29 39
 Taiwan Phone +886-2-2375-6288
 Thailand Phone +66 2 645 0009
 Turkey Phone +90 (216) 528 50 00
 United Arab Emirates Phone +971 (0) 4 88 65 878
 United Kingdom Phone +44 (0)1278 31121
 USA Phone +1 800.325.7425
 Vietnam Phone +65 6744 3732

SICK AG, Erwin-Sick-Strasse 1, DE-79183 Waldkirch
 Detailed addresses and further locations at www.sick.com

More representatives and agencies at www.sick.com. Subject to change without notice - The specified product features and technical data do not represent any guarantee.
 Weitere Niederlassungen finden Sie unter www.sick.com - Irrtümer und Änderungen vorbehalten - Angegebene Produkteigenschaften und technische Daten stellen keine Garantieerklärung dar.
 Plus de représentations et agences à l'adresse www.sick.com - Sujet à modification sans préavis - Les caractéristiques de produit et techniques indiquées ne constituent pas de déclaration de garantie.
 Para mais representantes e agências, consulte www.sick.com - Alterações poderão ser feitas sem prévio aviso - As características do produto e os dados técnicos apresentados não constituem declaração de garantia.
 Altri rappresentanti ed agenzie si trovano su www.sick.com - Contenuti soggetti a modifiche senza preavviso - Le caratteristiche del prodotto e i dati tecnici non rappresentano una dichiarazione di garanzia.
 Más representantes y agencias en www.sick.com - Sujeto a cambio sin previo aviso - Las características y los datos técnicos especificados no constituyen ninguna declaración de garantía.

欲了解更多代表机构和代理商信息，请登录 www.sick.com • 如有更改，不另行通知 • 对所给出的产品特性和技术参数 的准确性不予保证。
 その他の営業所はwww.sick.com よりご確認ください • 予告なしに変更されることがあります • 記載されている製品機能 および技術データは保証を明示するものではありません。

Other technical data and drawings are available at www.sick.com

Other technical data and drawings are available at www.sick.com

Other technical data and drawings are available at www.sick.com

Other technical data and drawings are available at www.sick.com

Other technical data and drawings are available at www.sick.com

Other technical data and drawings are available at www.sick.com

Other technical data and drawings are available at www.sick.com

Other technical data and drawings are available at www.sick.com

Other technical data and drawings are available at www.sick.com

Other technical data and drawings are available at www.sick.com

Other technical data and drawings are available at www.sick.com

Other technical data and drawings are available at www.sick.com

Other technical data and drawings are available at www.sick.com

Other technical data and drawings are available at www.sick.com

Other technical data and drawings are available at www.sick.com

Other technical data and drawings are available at www.sick.com

Other technical data and drawings are available at www.sick.com

Other technical data and drawings are available at www.sick.com

Other technical data and drawings are available at www.sick.com

Other technical data and drawings are available at www.sick.com

Other technical data and drawings are available at www.sick.com

Other technical data and drawings are available at www.sick.com

Other technical data and drawings are available at www.sick.com

Other technical data and drawings are available at www.sick.com

Other technical data and drawings are available at www.sick.com

Other technical data and drawings are available at www.sick.com

Other technical data and drawings are available at www.sick.com

Other technical data and drawings are available at www.sick.com

Other technical data and drawings are available at www.sick.com

Other technical data and drawings are available at www.sick.com

Other technical data and drawings are available at www.sick.com

Other technical data and drawings are available at www.sick.com

Other technical data and drawings are available at www.sick.com

Other technical data and drawings are available at www.sick.com

Other technical data and drawings are available at www.sick.com

Other technical data and drawings are available at www.sick.com

Other technical data and drawings are available at www.sick.com

Deutsch
Reflexions-Lichttaster
Betriebsanleitung

Sicherheitshinweise

- Vor der Inbetriebnahme die Betriebsanleitung lesen.
- Anschluss, Montage und Einstellung nur durch Fachpersonal.
- Kein Sicherheitsbauteil gemäß EU-Maschinenrichtlinie.
- UL: The device shall be supplied from an isolating transformer having a secondary overvoltage protective device that complies with UL 248 to be installed in the field rated either:
 - a) max 5 amps for voltages 0 – 20 V (0 – 28.3 V peak), or
 - b) 100 / Vp for voltages of 20 – 30 V (28.3 – 42.4 V peak).
Alternatively, they can be supplied from a Class 2 power supply.
- UL Environmental Rating: Enclosure type 1
- Gerät bei Inbetriebnahme vor Feuchte und Verunreinigung schützen.
- Diese Betriebsanleitung enthält Informationen, die während des Lebenszyklus des Sensors notwendig sind.

Bestimmungsgemäße Verwendung

Die WTB9(M4)-3 ist ein optoelektronischer Reflexions-Lichttaster (im Folgenden Sensor genannt) und wird zum optischen, berührungsgelosen Erfassen von Sachen, Tieren und Personen eingesetzt. Bei jeder anderen Verwendung und bei Veränderungen am Produkt verfällt jeglicher Gewährleistungsanspruch gegenüber der SICK AG.

Reflexionslichttaster mit Hintergrundausbildung.

Inbetriebnahme

1 Einsatzbedingungen prüfen: Schaltabstand und Distanz zum Objekt bzw. Hintergrund sowie Remissionsvermögen des Objektes mit dem zugehörigen Diagramm [vgl. H] abgleichen (x = Schaltabstand, y = Übergangsbereich zwischen eingestelltem Schaltabstand und Ausblendung des Hintergrundes in % des Schaltabstands (Remission Objekt / Remission Hintergrund)). Remission: 6 % = schwarz (1), 18 % = grau (2), 90 % = weiß (3) (bezogen auf Standardweiß nach DIN 5033).

Die minimale Distanz (= y) für die Hintergrundausbildung kann aus dem Diagramm [vgl. H] wie folgt ermittelt werden:
 Beispiel: x = 200 mm, y = 20 % => 20 % von 200 mm = 40 mm. D. h. der Hintergrund wird ab einer Distanz von > 240 mm vom Sensor ausgeblendet.

2 Den Sensor an einen geeigneten Befestigungswinkel montieren (siehe SICK-Zubehör-Programm).

Maximal zulässiges Anzugsdrehmoment des Sensors von 0,6 Nm beachten.

Vorzugsrichtung des Objektes zum Sensor beachten [vgl. A].

3 Anschluss der Sensoren muss spannungsfrei (U_s = 0 V) erfolgen. Je nach Anschlussart sind die Informationen in den Grafiken [vgl. B] zu beachten:

- Steckeranschluss: Pinbelegung
- Leitung: Aderfarbe

Erst nach Anschluss aller elektrischen Verbindungen die Spannungsvorsorgung (U_s > 0 V) anlegen bzw. einschalten. Am Sensor leuchtet die grüne Anzeige-LED.

Erläuterungen zum Anschlussschema (Grafik B):

Schaltausgänge Q bzw. / Q (gemäß Grafik B):

WTB9(M4)-3P (PNP: Last -> M)

WTB9(M4)-3N (NPN: Last -> L+)

4 WTB9(M4)-3xxx6x: Sensor auf Objekt ausrichten. Positionierung so wählen, dass der rote Sendelichtstrahl in der Mitte des Objekts auftrifft. Es ist darauf zu achten, dass die optische Öffnung (Frontscheibe) des Sensors vollständig frei ist [vgl. E]. Wir empfehlen, die Einstellung mit einem Objekt von niedriger Remission vorzunehmen.

WTB9(M4)-3xxx1x: Sensor auf Objekt ausrichten. Positionierung so wählen, dass das Infrarotlicht (nicht sichtbar) in der Mitte des Objekts auftrifft. Die korrekte Ausrichtung kann nur über die Anzeige-LEDs erkannt werden. Siehe dazu Grafiken C und E. Es ist darauf zu achten, dass die optische Öffnung (Frontscheibe) des Sensors vollständig frei ist. Wir empfehlen, die Einstellung mit einem Objekt von niedriger Remission vorzunehmen.

5 Sensor mit Potentiometer:

Mit dem Potentiometer (Art: 5-Gang) wird der Schaltabstand eingestellt. Drehung nach rechts: Erhöhung des Schaltabstands. Drehung nach links: Verringerung des Schaltabstands. Wir empfehlen, den Schaltabstand in das Objekt zu legen, z. B. siehe Grafik F. Nachdem der Schaltabstand eingestellt worden ist, das Objekt aus dem Strahlengang entfernen, der Hintergrund wird dabei ausgeblendet und der Schaltausgang ändert sich (siehe Grafik C).

Sensor ist eingestellt und betriebsbereit. Zur Überprüfung der Funktion Grafik C und G heranziehen. Verhält sich der Schaltausgang nicht gemäß Grafik C, Einsatzbedingungen prüfen. Siehe Abschnitt Fehlerdiagnose.

Geräte mit besonderen Merkmalen

WTF9-3P2461: Reflexions-Lichttaster mit Vordergrundausbildung

WTF9-3P2261S01: Reflexions-Lichttaster mit Vordergrundausbildung, Schaltabstand max. 500 mm, Schaltfrequenz 200 Hz

WTF9-3P2261P03: Reflexions-Lichttaster mit Vordergrundausbildung, Schaltabstand max. 500 mm, Schaltfrequenz 200 Hz, mit DOL-0804-W02M

WTB9-3P3461S06: Pin 4 = Q (dunkelschaltend), Pin 2 = NC (nicht belegt)

WTB9-3P3161: 3 Pin, Pin 1 = L+, Pin 3 = M, Pin 4 = Q (hellschaltend)

WTB9-3P3461S13: Pin 4 = Q (hellschaltend), Pin 2 = NC (nicht belegt)

WTB9-3P2400S03: Blinddeckel ohne Einstellmöglichkeit, Schaltabstand auf 98 mm voreingestellt

WTB9-3F3111: Leitung mit Stecker M8, 3-polig 120 mm, Pin 2 = Q dunkelschaltend

WTB9M4-3P3461S19: Gesteigerter Schaltabstand 400 mm auf weiß 90%, Schaltfrequenz 750 Hz

Fehlerdiagnose

Tabelle I zeigt, welche Maßnahmen durchzuführen sind, wenn die Funktion des Sensors nicht mehr gegeben ist.

Demontage und Entsorgung

Die Entsorgung des Sensors hat gemäß den länderspezifisch anwendbaren Vorschriften zu erfolgen. Für die enthaltenen Werkstoffe (insbesondere Edelmetalle) ist im Rahmen der Entsorgung eine Verwertung anzustreben.

Wartung

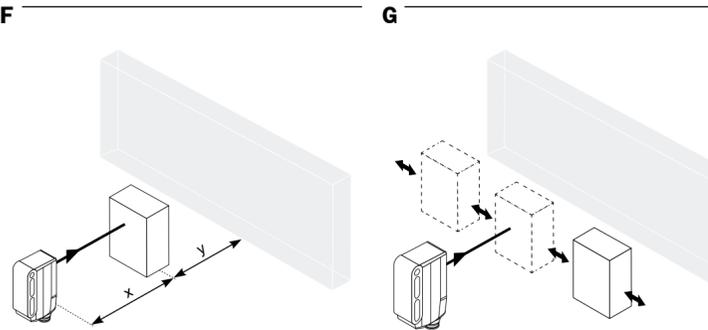
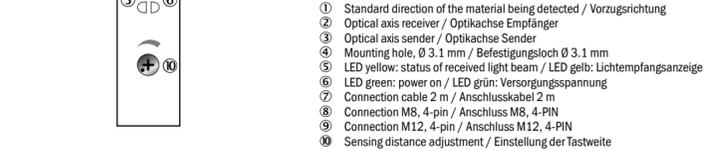
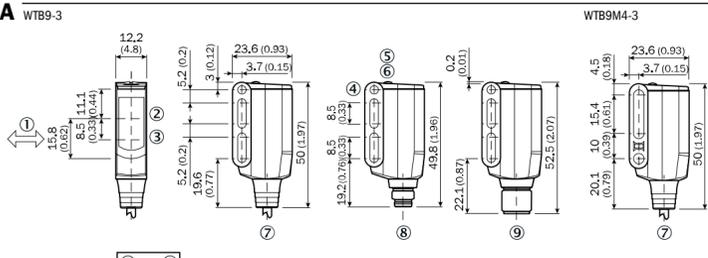
SICK-Sensoren sind wartungsfrei.

Wir empfehlen, in regelmäßigen Abständen

- die optischen Grenzflächen zu reinigen
- Verschraubungen und Steckverbindungen zu überprüfen

Veränderungen an Geräten dürfen nicht vorgenommen werden.

Irrtümer und Änderungen vorbehalten. Angegebene Produkteigenschaften und technische Daten stellen keine Garantieerklärung dar.



Other technical data and drawings are available at www.sick.com

Other technical data and drawings are available at www.sick.com

Other technical data and drawings are available at www.sick.com

Other technical data and drawings are available at www.sick.com

Other technical data and drawings are available at www.sick.com

Other technical data and drawings are available at www.sick.com

Other technical data and drawings are available at www.sick.com

Other technical data and drawings are available at www.sick.com

Other technical data and drawings are available at www.sick.com

Other technical data and drawings are available at www.sick.com

Other technical data and drawings are available at www.sick.com

Other technical data and drawings are available at www.sick.com

Other technical data and drawings are available at www.sick.com

Other technical data and drawings are available at www.sick.com

Other technical data and drawings are available at www.sick.com

Other technical data and drawings are available at www.sick.com

Other technical data and drawings are available at www.sick.com

Other technical data and drawings are available at [www.sick.com</](http://www.sick.com)

Français	Português	Italiano	Español	中文	日本語	Русский язык
Détecteur en réflexion directe <p>Notice d'instruction</p>	Sensor de reflexão <p>Manual de instruções</p>	Sensore di luce a riflessione <p>Istruzioni per l'uso</p>	Sensor fotoeléctrico de reflexión <p>Instrucciones de uso</p>	反射式光电传感器 <p>操作说明</p>	反射形光電センサ <p>取扱説明書</p>	Отражательный световой датчик <p>Руководство по эксплуатации</p>
Consignes de sécurité <ul style="list-style-type: none">Lire la notice d'instruction avant la mise en service. Contra le raccordement, le montage et le réglage uniquement à un personnel spécialisé. Il ne s'agit pas d'un composant de sécurité au sens de la directive machines CE. UL: The device shall be supplied from an isolating transformer having a secondary overcurrent protective device that complies with UL 248 to be installed in the field rated either: <ul style="list-style-type: none">a) max 5 amps for voltages 0 ~ 20 V (0 ~ 28.3 V peak), or b) 100 V Ip for voltages of 20 ~ 30 V (28.3 ~ 42.4 V peak). Alternatively, they can be supplied from a Class 2 power supply. UL Environmental Rating: Enclosure type 1 Protéger l'appareil contre l'humidité et les impuretés lors de la mise en service. Cette notice d'instruction contient des informations nécessaires pendant toute la durée de vie du capteur.	Notas de segurança <ul style="list-style-type: none">Las as instrucciones de operación antes de la colocación en funcionamiento. A conexão, a montagem e o ajuste devem ser executados somente por pessoal técnico qualificado. Os componentes de segurança não se encontram em conformidade com a Diretiva Europeia de Máquinas. UL: The device shall be supplied from an isolating transformer having a secondary overcurrent protective device that complies with UL 248 to be installed in the field rated either: <ul style="list-style-type: none">a) max 5 amps for voltages 0 ~ 20 V (0 ~ 28.3 V peak), or b) 100 V Ip for voltages of 20 ~ 30 V (28.3 ~ 42.4 V peak). Alternatively, they can be supplied from a Class 2 power supply. UL Environmental Rating: Enclosure type 1 Durante o funcionamento, manter o aparelho protegido contra im-purezas e umidade. Este manual de instruções contém informações necessárias para toda a vida útil do sensor.	Notas de sicurezza <ul style="list-style-type: none">Prima della messa in funzionamento leggere le istruzioni per l'uso. Allacciamento, montaggio e regolazione solo a cura di personale tecnico specializzato. Nessun componente di sicurezza ai sensi della direttiva macchine UE. UL: The device shall be supplied from an isolating transformer having a secondary overcurrent protective device that complies with UL 248 to be installed in the field rated either: <ul style="list-style-type: none">a) max 5 amps for voltages 0 ~ 20 V (0 ~ 28.3 V peak), or b) 100 V Ip for voltages of 20 ~ 30 V (28.3 ~ 42.4 V peak). Alternatively, they can be supplied from a Class 2 power supply. UL Environmental Rating: Enclosure type 1 Alla messa in funzionamento proteggere l'apparecchio dall'umidità e dalla sporcizia. Queste istruzioni per l'uso contengono le informazioni che sono necessa-rie durante il ciclo di vita del sensore fotoelettrico.	Instrucciones de seguridad <ul style="list-style-type: none">Lea las instrucciones de uso antes de efectuar la puesta en servicio. La conexión, el montaje y el ajuste deben ser efectuados exclusivamente por técnicos especialistas. No se trata de un componente de seguridad según la Directiva de máqui-nas de la UE. UL: The device shall be supplied from an isolating transformer having a secondary overcurrent protective device that complies with UL 248 to be installed in the field rated either: <ul style="list-style-type: none">a) max 5 amps for voltages 0 ~ 20 V (0 ~ 28.3 V peak), or b) 100 V Ip for voltages of 20 ~ 30 V (28.3 ~ 42.4 V peak). Alternatively, they can be supplied from a Class 2 power supply. UL Environmental Rating: Enclosure type 1 Protéja el equipo contra la humedad y la suciedad durante la puesta en servicio. Las presentes instrucciones de uso contienen información que puede serle necesaria durante todo el ciclo de vida del sensor.	安全須知 <ul style="list-style-type: none">调试前请阅读操作说明。 仅允许由专业人员进行操作、安装和设置。 本设备并非欧规指令中定义的安规部件。 UL: The device shall be supplied from an isolating transformer having a secondary overcurrent protective device that complies with UL 248 to be installed in the field rated either: <ul style="list-style-type: none">a) max 5 amps for voltages 0 ~ 20 V (0 ~ 28.3 V peak), or b) 100 V Ip for voltages of 20 ~ 30 V (28.3 ~ 42.4 V peak). Alternatively, they can be supplied from a Class 2 power supply. UL Environmental Rating: Enclosure type 1 调试前防止设备受潮污染。 本操作说明中包含了传感器生命周期中必需的各项信息。 <p>指定用途</p> <p>WTB9 (M4)-3 是一种漫反射式光电传感器（下文称为传感器），用于物体、动物和人体的非接触光学检测如果采用本产品或擅自更改产品，则 SICK AG 公司所作之质保承诺均将失效。</p>	注意事項 <ul style="list-style-type: none">ご使用前に必ず取扱説明書をお読みください。 本製品の接続・取付け・設定は、訓練を受けた技術者が行って下さい。 本製品は EU 機械指令の要件を満たす安全コマーセントではありません。 UL: The device shall be supplied from an isolating transformer having a secondary overcurrent protective device that complies with UL 248 to be installed in the field rated either: <ul style="list-style-type: none">a) max 5 amps for voltages 0 ~ 20 V (0 ~ 28.3 V peak), or b) 100 V Ip for voltages of 20 ~ 30 V (28.3 ~ 42.4 V peak). Alternatively, they can be supplied from a Class 2 power supply. UL Environmental Rating: Enclosure type 1 使用開始前に、湿気や汚れから機器を保護して下さい。 本取扱説明書には、センサのライフサイクル中に必要となる情報が記載されています。 <p>正しい使用方法</p> <p>WTB9(M4)-3 は反射形光電センサ（以下「センサ」）で、物体、動物または人などを光学の技術により非接触で検知するための装置です。本製品が本家の使用用途以外の目的で使用されたら、得られた方法で改造された場合、SICK AG に対するいかなる保証要求も無効になります。</p>	Указания по безопасности <ul style="list-style-type: none">Перед вводом в эксплуатацию изучите руководство по эксплуатации. Подключение, монтаж и установка поручать только специалистам. Не является оборудованием для обеспечения безопасности в соответствии с Директивой ЕС по работе с машинным оборудованием. UL: The device shall be supplied from an isolating transformer having a secondary overcurrent protective device that complies with UL 248 to be installed in the field rated either: <ul style="list-style-type: none">a) max 5 amps for voltages 0 ~ 20 V (0 ~ 28.3 V peak), or b) 100 V Ip for voltages of 20 ~ 30 V (28.3 ~ 42.4 V peak). Alternatively, they can be supplied from a Class 2 power supply. UL Environmental Rating: Enclosure type 1 При вводе в эксплуатацию защищать устройство от попадания грязи в сервис. Данное руководство по эксплуатации содержит информацию, которая необходима во время всего жизненного цикла сенсора.
Utilisation conforme						Использование по назначению

WTB9(M4)-3 est un détecteur à réflexion directe optélectronique (appelé capteur dans ce document) qui permet la détection optique sans contact d'objets, d'animaux et de personnes. Toute autre utilisation ou modification du produit annule la garantie de SICK AG.

Détecteur à réflexion directe avec élimination d'arrière-plan.

Mise en service

1 Vérifier les conditions d'utilisation : comparer la portée et la distance à l'objet au r'arrière-plan et les caractéristiques de réflectivité avec le diagramme de commutation (schéma B) et la portée, y = zone de transition entre la portée réglée et le masquage de l'arrière-plan et % de la portée (réflectivité de l'objet / réflectivité de l'arrière-plan).
Réflectivité : 6 % = noir (1), 18 % = gris (2), 90 % = blanc (3) (par rapport au blanc standard selon DIN 5033).
La distance minimale (=y) pour l'élimination d'arrière-plan peut être calculée à partir du diagramme [E] comme suit :

Exemple : x = 200 mm, y = 20 % => 20 de 200 mm = 40 mm.
C'est à dire que l'arrière-plan est masqué à partir d'une distance du capteur > 240 .

2 Monter le capteur sur une équerre de fixation adaptée (voir la gamme d'accessoires SICK).
Respecter le couple de serrage maximum autorisé du capteur de 0.6 Nm
Tenir compte de la direction préférentielle de l'objet par rapport au capteur [voir A].

3 Le raccordement des capteurs doit s'effectuer hors tension (U1 = 0 V). Selon le mode de raccordement, respecter les informations contenues dans les schémas [B] :

- Raccordement du connecteur : affectation des broches
- Câble : couleur des fils

Après avoir terminé tous les raccordements électriques, enclencher l'alimentation électrique (U1 > 0 V). La LED verte s'allume sur le capteur.
Explications relatives au schéma de raccordement (schéma B) :
Sorties de commutation Q ou / Q (selon le schéma B) :
WTB9(M4)-3P (PNP : charge -> M)
WTB9(M4)-3N (NPN : charge -> M)

4 WTB9-3(QM4)-3X0xG : Aligner le capteur sur l'objet. Sélectionner la position de sorte que le faisceau lumineux émis rouge touche l'objet en plein milieu. S'assurer que l'ouverture optique (vitre frontale) du capteur est parfaitement dégagée [voir E]. Nous recommandons de procéder au réglage avec un objet peu réfléchissant.
WTB9-3(M4)-3X0x1 : Aligner le capteur sur l'objet. Sélectionner la position de sorte que le faisceau infrarouge (invisible) touche l'objet en plein milieu. Seules les LED permettent de savoir si l'alignement est correct. Pour cela voir les schémas C et E. S'assurer que l'ouverture optique (vitre frontale) du capteur est parfaitement dégagée. Nous recommandons de procéder au réglage avec un objet peu réfléchissant.

5 Capteur avec potentiomètre :
La portée se règle avec le potentiomètre (réf. : à 5 vitesses). Rotation vers la droite : augmentation de la portée, rotation vers la gauche : réduction de la portée.
Giro para derecha : aumento de la distancia de rotación. Giro para izquierda : reducción de la distancia de comutación.
Recomendamos posicionar a distancia de comutación no objeto, por ex., como no gráfico F. Após o ajuste da distância de comutação, o objeto é removido do caminho óptico, o fundo é suprimido e a saída de comutação se altera (ver gráfico G).
O sensor está ajustado e operacional. Utilizar os gráficos C e G para verificar o funcionamento. Se a saída de comutação não se comportar de acordo com o gráfico C, verificar as condições de uso. Ver seção Diagnóstico de erros.

6 Sensor con potenciómetro:
A distância de comutação é ajustada com o potenciômetro (tipo: 5 vitesses). Giro para direita: aumento da distância de comutação. Giro para esquerda: redução da distância de comutação.
Recomendamos posicionar a distância de comutação no objeto, por ex., como no gráfico F. Após o ajuste da distância de comutação, o objeto é removido do caminho óptico, o fundo é suprimido e a saída de comutação se altera (ver gráfico G).
O sensor está ajustado e operacional. Utilizar os gráficos C e G para verificar o funcionamento. Se a saída de comutação não se comportar de acordo com o gráfico C, verificar as condições de uso. Ver seção Diagnóstico de erros.

Appareils avec caractéristiques spécifiques

WTF9-3P2461 : détecteur à réflexion directe avec élimination de premier plan
WTF9-3P2261S01 : détecteur à réflexion directe avec élimination de premier plan, portée max. de 500 mm, fréquence de commutation de 200 Hz
WTF9-3P2261P03 : détecteur à réflexion directe avec élimination de premier plan, portée max. de 500 mm, fréquence de commutation de 200 Hz, avec DOL-0804-W02M

WTB9-3P3461S06 : broche 4 = Q \ (commutation sombre), broche 2 = NC (non affecté)
WTB9-3P3161 : 3 broches, broche 1 = L+, broche 3 = M, broche 4 = Q (commutation claire)
WTB9-3P3461S13 : broche 4 = Q (commutation claire), broche 2 = NC (non affecté)
WTB9-3P2400S03 : couvercle borg sans possibilité de réglage, portée réglable sur 98 mm
WTB9-3F3111 : câble avec connecteur mâle M8, 3 pôles 120 mm, broche 2 = Q commutation sombre
WTB9M4-3P3461S19 : portée étendue de 400 mm sur du blanc à 90 %, fréquence de commutation de 750 Hz

Diagnostico

Le tableau I présente les mesures à appliquer si le capteur ne fonctionne plus.

Démontage et mise au rebut

La mise au rebut du capteur doit respecter la réglementation nationale en vigueur. Dans le cadre de la mise au rebut, veiller à recycler les matériaux (notamment les métaux précieux).

Maintenance

Les capteurs SICK ne nécessitent aucune maintenance.
Nous vous recommandons de procéder régulièrement

– au nettoyage des surfaces optiques
– au contrôle des vissages et des connexions enfichables

Ne procéder à aucune modification sur les appareils.
Sujet à modification sans préavis. Les caractéristiques du produit et techniques fournies ne sont pas une déclaration de garantie.

Français	Português	Italiano	Español	中文	日本語	Русский язык
Détecteur en réflexion directe <p>Notice d'instruction</p>	Sensor de reflexão <p>Manual de instruções</p>	Sensore di luce a riflessione <p>Istruzioni per l'uso</p>	Sensor fotoeléctrico de reflexión <p>Instrucciones de uso</p>	反射式光电传感器 <p>操作说明</p>	反射形光電センサ <p>取扱説明書</p>	Отражательный световой датчик <p>Руководство по эксплуатации</p>
Consignes de sécurité <ul style="list-style-type: none">Lire la notice d'instruction avant la mise en service. Contra le raccordement, le montage et le réglage uniquement à un personnel spécialisé. Il ne s'agit pas d'un composant de sécurité au sens de la directive machines CE. UL: The device shall be supplied from an isolating transformer having a secondary overcurrent protective device that complies with UL 248 to be installed in the field rated either: <ul style="list-style-type: none">a) max 5 amps for voltages 0 ~ 20 V (0 ~ 28.3 V peak), or b) 100 V Ip for voltages of 20 ~ 30 V (28.3 ~ 42.4 V peak). Alternatively, they can be supplied from a Class 2 power supply. UL Environmental Rating: Enclosure type 1 Protéger l'appareil contre l'humidité et les impuretés lors de la mise en service. Cette notice d'instruction contient des informations nécessaires pendant toute la durée de vie du capteur.	Notas de segurança <ul style="list-style-type: none">Las as instrucciones de operación antes de la colocación en funcionamiento. A conexão, a montagem e o ajuste devem ser executados somente por pessoal técnico qualificado. Os componentes de segurança não se encontram em conformidade com a Diretiva Europeia de Máquinas. UL: The device shall be supplied from an isolating transformer having a secondary overcurrent protective device that complies with UL 248 to be installed in the field rated either: <ul style="list-style-type: none">a) max 5 amps for voltages 0 ~ 20 V (0 ~ 28.3 V peak), or b) 100 V Ip for voltages of 20 ~ 30 V (28.3 ~ 42.4 V peak). Alternatively, they can be supplied from a Class 2 power supply. UL Environmental Rating: Enclosure type 1 Durante o funcionamento, manter o aparelho protegido contra im-purezas e umidade. Este manual de instruções contém informações necessárias para toda a vida útil do sensor.	Notas de sicurezza <ul style="list-style-type: none">Prima della messa in funzionamento leggere le istruzioni per l'uso. Allacciamento, montaggio e regolazione solo a cura di personale tecnico specializzato. Nessun componente di sicurezza ai sensi della direttiva macchine UE. UL: The device shall be supplied from an isolating transformer having a secondary overcurrent protective device that complies with UL 248 to be installed in the field rated either: <ul style="list-style-type: none">a) max 5 amps for voltages 0 ~ 20 V (0 ~ 28.3 V peak), or b) 100 V Ip for voltages of 20 ~ 30 V (28.3 ~ 42.4 V peak). Alternatively, they can be supplied from a Class 2 power supply. UL Environmental Rating: Enclosure type 1 Alla messa in funzionamento proteggere l'apparecchio dall'umidità e dalla sporcizia. Queste istruzioni per l'uso contengono le informazioni che sono necessa-rie durante il ciclo di vita del sensore fotoelettrico.	Instrucciones de seguridad <ul style="list-style-type: none">Lea las instrucciones de uso antes de efectuar la puesta en servicio. La conexión, el montaje y el ajuste deben ser efectuados exclusivamente por técnicos especialistas. No se trata de un componente de seguridad según la Directiva de máqui-nas de la UE. UL: The device shall be supplied from an isolating transformer having a secondary overcurrent protective device that complies with UL 248 to be installed in the field rated either: <ul style="list-style-type: none">a) max 5 amps for voltages 0 ~ 20 V (0 ~ 28.3 V peak), or b) 100 V Ip for voltages of 20 ~ 30 V (28.3 ~ 42.4 V peak). Alternatively, they can be supplied from a Class 2 power supply. UL Environmental Rating: Enclosure type 1 Protéja el equipo contra la humedad y la suciedad durante la puesta en servicio. Las presentes instrucciones de uso contienen información que puede serle necesaria durante todo el ciclo de vida del sensor.	安全須知 <ul style="list-style-type: none">调试前请阅读操作说明。 仅允许由专业人员进行操作、安装和设置。 本设备并非欧规指令中定义的安规部件。 UL: The device shall be supplied from an isolating transformer having a secondary overcurrent protective device that complies with UL 248 to be installed in the field rated either: <ul style="list-style-type: none">a) max 5 amps for voltages 0 ~ 20 V (0 ~ 28.3 V peak), or b) 100 V Ip for voltages of 20 ~ 30 V (28.3 ~ 42.4 V peak). Alternatively, they can be supplied from a Class 2 power supply. UL Environmental Rating: Enclosure type 1 调试前防止设备受潮污染。 本操作说明中包含了传感器生命周期中必需的各项信息。 <p>指定用途</p> <p>WTB9 (M4)-3 是一种漫反射式光电传感器（下文称为传感器），用于物体、动物和人体的非接触光学检测如果采用本产品或擅自更改产品，则 SICK AG 公司所作之质保承诺均将失效。</p>	注意事項 <ul style="list-style-type: none">ご使用前に必ず取扱説明書をお読みください。 本製品の接続・取付け・設定は、訓練を受けた技術者が行って下さい。 本製品は EU 機械指令の要件を満たす安全コマーセントではありません。 UL: The device shall be supplied from an isolating transformer having a secondary overcurrent protective device that complies with UL 248 to be installed in the field rated either: <ul style="list-style-type: none">a) max 5 amps for voltages 0 ~ 20 V (0 ~ 28.3 V peak), or b) 100 V Ip for voltages of 20 ~ 30 V (28.3 ~ 42.4 V peak). Alternatively, they can be supplied from a Class 2 power supply. UL Environmental Rating: Enclosure type 1 使用開始前に、湿気や汚れから機器を保護して下さい。 本取扱説明書には、センサのライフサイクル中に必要となる情報が記載されています。 <p>正しい使用方法</p> <p>WTB9(M4)-3 は反射形光電センサ（以下「センサ」）で、物体、動物または人などを光学の技術により非接触で検知するための装置です。本製品が本家の使用用途以外の目的で使用されたら、得られた方法で改造された場合、SICK AG に対するいかなる保証要求も無効になります。</p>	Указания по безопасности <ul style="list-style-type: none">Перед вводом в эксплуатацию изучите руководство по эксплуатации. Подключение, монтаж и установка поручать только специалистам. Не является оборудованием для обеспечения безопасности в соответствии с Директивой ЕС по работе с машинным оборудованием. UL: The device shall be supplied from an isolating transformer having a secondary overcurrent protective device that complies with UL 248 to be installed in the field rated either: <ul style="list-style-type: none">a) max 5 amps for voltages 0 ~ 20 V (0 ~ 28.3 V peak), or b) 100 V Ip for voltages of 20 ~ 30 V (28.3 ~ 42.4 V peak). Alternatively, they can be supplied from a Class 2 power supply. UL Environmental Rating: Enclosure type 1 При вводе в эксплуатацию защищать устройство от попадания грязи в сервис. Данное руководство по эксплуатации содержит информацию, которая необходима во время всего жизненного цикла сенсора.
Utilisation conforme						Использование по назначению

O WTB9(M4)-3 é um sensor fotoeletrico de proximidade utilizado para a detecção óptica, sem contato, de objetos, animais e pessoas. Qualquer utilização diferente ou alteração do produto provocará a perda da garantia da SICK AG.

Sensor de luz de reflexão com supressão de fundo.

Colocação em funcionamento

1 Verificar as condições de uso: equiparar a distância de comutação e distância até o objeto ou plano de fundo, bem como a refletividade do objeto, com o respectivo diagrama [B] (x = distância de comutação, y = área de transição entre a distância de comutação ajustada e a supressão do fundo em % da distância de comutação (luminância do objeto / luminância do fundo)).
Luminância: 6% = preto (1), 18% = cinza (2), 90% = branco (3) (com base no padrão branco da norma DIN 5033).

A distância mínima (=y) para a supressão de fundo pode ser determinada com o base no diagrama [c].
Exemplo: x = 200 mm, y = 20 % => 20 de 200 mm = 40 mm. Isto significa que, o sensor suprime o plano de fundo a partir de uma distância > 240 mm.

2 Montar o sensor numa cantoneira de fixação adequada (ver linha de acessórios da SICK).
Respeitar o torque de aperto máximo permitido de 0.6 Nm para o sensor.
Observar a direção preferencial do objeto em relação ao sensor [c].
Observar a direção preferencial do objeto em relação ao sensor [c].
A conexão dos sensores deve ser realizada em estado desenergizado (U1 = 0 V). Conforme o tipo de conexão, devem ser observadas as seguintes informações [B] :

• Conector: Pin-out
• Cabo: Cor dos fios

Instalar ou ligar a alimentação de tensão (U1 > 0 V) somente após a conclusão de todas as conexões elétricas. O indicador LED verde está aceso no sensor.

3 Explicações relativas ao esquema de conexões (Gráfico B) :
Saídas de comutação Q ou / Q (conforme o gráfico B) :
WTB9(M4)-3P (PNP: carga -> M)
WTB9(M4)-3N (NPN: carga -> M)
WTB9(M4)-3N (NPN: carga -> L+)
WTB9(M4)-3X0xG : Alinhar o sensor ao objeto. Posicionar, de forma que o feixe da luz de emissão vermelha incida sobre o centro do objeto. Certificar-se de que a abertura óptica (vidro frontal) do sensor esteja completamente livre [c].
E). Recomendamos efetuar o ajuste com um objeto de baixa reflexão.
WTB9(M4)-3X0x1 : Alinhar o sensor ao objeto. Posicionar, de forma que a luz infravermelha (invisible) incida sobre o centro do objeto. O alinhamento correto só pode ser verificado através dos indicadores LED. Ver os gráficos C e G. Certificar-se de que a abertura óptica (vidro frontal) do sensor esteja completamente livre. Recomendamos efetuar o ajuste com um objeto de baixa luminância.

6 Sensor con potenciómetro:
A distância de comutação é ajustada com o potenciômetro (tipo: 5 vitesses). Giro para direita: aumento da distância de comutação. Giro para esquerda: redução da distância de comutação.
Recomendamos posicionar a distância de comutação no objeto, por ex., como no gráfico F. Após o ajuste da distância de comutação, o objeto é removido do caminho óptico, o fundo é suprimido e a saída de comutação se altera (ver gráfico G).
O sensor está ajustado e operacional. Utilizar os gráficos C e G para verificar o funcionamento. Se a saída de comutação não se comportar de acordo com o gráfico C, verificar as condições de uso. Ver seção Diagnóstico de erros.

6 Dispositivos com características especiales
WTF9-3P2461 : Sensor de reflexión con supresión de primeiro plano
WTF9-3P2261S01 : Sensor de reflexión con supresión de primeiro plano, distancia de comutación máx. 500 mm, frecuencia de comutación 200 Hz
WTF9-3P2261P03 : Sensor de reflexión con supresión de primeiro plano, distancia de comutación máx. 500 mm, frecuencia de comutación 200 Hz, con DOL-0804-W02M
WTB9-3P3461S06 : Pino 4 = Q \ (comutação por sombra), pino 2 = NC (não conectado)
WTB9-3P3161 : 3 pines, pino 1 = L+, pino 3 = M, pino 4 = Q (comutação por luz)
WTB9-3P3461S13 : Pino 4 = Q (funzionamento light on), pino 2 = NC (non occupato)
WTB9-3P2400S03 : Tampa falsa sem possibilidade de ajuste, distância de comutação pré-ajustada para 98 mm
WTB9-3F3111 : Cabo com conector M8, de 3 pines 120 mm, pino 2 = Q comutação por sombra
WTB9M4-3P3461S19 : Distância de comutação aumentada de 400 mm para branco 90%, frequência de comutação 750 Hz

Diagnóstico de erros

A tabela I mostra as medidas a serem executadas, quando o sensor não estiver funcionando.

Desmontagem e descarte

O descarte do sensor deve ser efetuado de acordo com as normas aplicáveis específicas de cada país. No âmbito do descarte, deve-se procurar o aproveitamento dos materiais recicláveis contidos (principalmente metais nobres).

Manutenção

Os sensores SICK não requerem manutenção.
Recomendamos que se efetue em intervalos regulares

– uma limpeza das superfícies óticas
– uma verificação das conexões rosçadas e dos conectores

Não são permitidas modificações no aparelho.

Français	Português	Italiano	Español	中文	日本語	Русский язык
Détecteur en réflexion directe <p>Notice d'instruction</p>	Sensor de reflexão <p>Manual de instruções</p>	Sensore di luce a riflessione <p>Istruzioni per l'uso</p>	Sensor fotoeléctrico de reflexión <p>Instrucciones de uso</p>	反射式光电传感器 <p>操作说明</p>	反射形光電センサ <p>取扱説明書</p>	Отражательный световой датчик <p>Руководство по эксплуатации</p>
Consignes de sécurité <ul style="list-style-type: none">Lire la notice d'instruction avant la mise en service. Contra le raccordement, le montage et le réglage uniquement à un personnel spécialisé. Il ne s'agit pas d'un composant de sécurité au sens de la directive machines CE. UL: The device shall be supplied from an isolating transformer having a secondary overcurrent protective device that complies with UL 248 to be installed in the field rated either: <ul style="list-style-type: none">a) max 5 amps for voltages 0 ~ 20 V (0 ~ 28.3 V peak), or b) 100 V Ip for voltages of 20 ~ 30 V (28.3 ~ 42.4 V peak). Alternatively, they can be supplied from a Class 2 power supply. UL Environmental Rating: Enclosure type 1 Protéger l'appareil contre l'humidité et les impuretés lors de la mise en service. Cette notice d'instruction contient des informations nécessaires pendant toute la durée de vie du capteur.	Notas de segurança <ul style="list-style-type: none">Las as instrucciones de operación antes de la colocación en funcionamiento. A conexão, a montagem e o ajuste devem ser executados somente por pessoal técnico qualificado. Os componentes de segurança não se encontram em conformidade com a Diretiva Europeia de Máquinas. UL: The device shall be supplied from an isolating transformer having a secondary overcurrent protective device that complies with UL 248 to be installed in the field rated either: <ul style="list-style-type: none">a) max 5 amps for voltages 0 ~ 20 V (0 ~ 28.3 V peak), or b) 100 V Ip for voltages of 20 ~ 30 V (28.3 ~ 42.4 V peak). Alternatively, they can be supplied from a Class 2 power supply. UL Environmental Rating: Enclosure type 1 Durante o funcionamento, manter o aparelho protegido contra im-purezas e umidade. Este manual de instruções contém informações necessárias para toda a vida útil do sensor.	Notas de sicurezza <ul style="list-style-type: none">Prima della messa in funzionamento leggere le istruzioni per l'uso. Allacciamento, montaggio e regolazione solo a cura di personale tecnico specializzato. Nessun componente di sicurezza ai sensi della direttiva macchine UE. UL: The device shall be supplied from an isolating transformer having a secondary overcurrent protective device that complies with UL 248 to be installed in the field rated either: <ul style="list-style-type: none">a) max 5 amps for voltages 0 ~ 20 V (0 ~ 28.3 V peak), or b) 100 V Ip for voltages of 20 ~ 30 V (28.3 ~ 42.4 V peak). Alternatively, they can be supplied from a Class 2 power supply. UL Environmental Rating: Enclosure type 1 Alla messa in funzionamento proteggere l'apparecchio dall'umidità e dalla sporcizia. Queste istruzioni per l'uso contengono le informazioni che sono necessa-rie durante il ciclo di vita del sensore fotoelettrico.	Instrucciones de seguridad <ul style="list-style-type: none">Lea las instrucciones de uso antes de efectuar la puesta en servicio. La conexión, el montaje y el ajuste deben ser efectuados exclusivamente por técnicos especialistas. No se trata de un componente de seguridad según la Directiva de máqui-nas de la UE. UL: The device shall be supplied from an isolating transformer having a secondary overcurrent protective device that complies with UL 248 to be installed in the field rated either: <ul style="list-style-type: none">a) max 5 amps for voltages 0 ~ 20 V (0 ~ 28.3 V peak), or b) 100 V Ip for voltages of 20 ~ 30 V (28.3 ~ 42.4 V peak). Alternatively, they can be supplied from a Class 2 power supply. UL Environmental Rating: Enclosure type 1 Protéja el equipo contra la humedad y la suciedad durante la puesta en servicio. Las presentes instrucciones de uso contienen información que puede serle necesaria durante todo el ciclo de vida del sensor.	安全須知 <ul style="list-style-type: none">调试前请阅读操作说明。 仅允许由专业人员进行操作、安装和设置。 本设备并非欧规指令中定义的安规部件。 UL: The device shall be supplied from an isolating transformer having a secondary overcurrent protective device that complies with UL 248 to be installed in the field rated either: <ul style="list-style-type: none">a) max 5 amps for voltages 0 ~ 20 V (0 ~ 28.3 V peak), or b) 100 V Ip for voltages of 20 ~ 30 V (28.3 ~ 42.4 V peak). Alternatively, they can be supplied from a Class 2 power supply. UL Environmental Rating: Enclosure type 1 调试前防止设备受潮污染。 本操作说明中包含了传感器生命周期中必需的各项信息。 <p>指定用途</p> <p>WTB9 (M4)-3 是一种漫反射式光电传感器（下文称为传感器），用于物体、动物和人体的非接触光学检测如果采用本产品或擅自更改产品，则 SICK AG 公司所作之质保承诺均将失效。</p>	注意事項 <ul style="list-style-type: none">ご使用前に必ず取扱説明書をお読みください。 本製品の接続・取付け・設定は、訓練を受けた技術者が行って下さい。 本製品は EU 機械指令の要件を満たす安全コマーセントではありません。 UL: The device shall be supplied from an isolating transformer having a secondary overcurrent protective device that complies with UL 248 to be installed in the field rated either: <ul style="list-style-type: none">a) max 5 amps for voltages 0 ~ 20 V (0 ~ 28.3 V peak), or b) 100 V Ip for voltages of 20 ~ 30 V (28.3 ~ 42.4 V peak). Alternatively, they can be supplied from a Class 2 power supply. UL Environmental Rating: Enclosure type 1 使用開始前に、湿気や汚れから機器を保護して下さい。 本取扱説明書には、センサのライフサイクル中に必要となる情報が記載されています。 <p>正しい使用方法</p> <p>WTB9(M4)-3 は反射形光電センサ（以下「センサ」）で、物体、動物または人などを光学の技術により非接触で検知するための装置です。本製品が本家の使用用途以外の目的で使用されたら、得られた方法で改造された場合、SICK AG に対するいかなる保証要求も無効になります。</p>	Указания по безопасности <ul style="list-style-type: none">Перед вводом в эксплуатацию изучите руководство по эксплуатации. Подключение, монтаж и установка поручать только специалистам. Не является оборудованием для обеспечения безопасности в соответствии с Директивой ЕС по работе с машинным оборудованием. UL: The device shall be supplied from an isolating transformer having a secondary overcurrent protective device that complies with UL 248 to be installed in the field rated either: <ul style="list-style-type: none">a) max 5 amps for voltages 0 ~ 20 V (0 ~ 28.3 V peak), or b) 100 V Ip for voltages of 20 ~ 30 V (28.3 ~ 42.4 V peak). Alternatively, they can be supplied from a Class 2 power supply. UL Environmental Rating: Enclosure type 1 При вводе в эксплуатацию защищать устройство от попадания грязи в сервис. Данное руководство по эксплуатации содержит информацию, которая необходима во время всего жизненного цикла сенсора.
Utilisation conforme						Использование по назначению

La WTB9(M4)-3 è una fotocellula a riflessione optoelettronica (di seguito nominato sensore) utilizzata per il rilevamento ottico senza contatto di oggetti, animali e persone. Se viene utilizzata diversamente e in caso di modifiche sul prodotto, decade qualsiasi diritto di garanzia nei confronti di SICK.
Relè fotoelettrico a riflessione con soppressione dello sfondo.

Messa in funzione

1 Controllare le condizioni d'impiego: verificare le condizioni di l'impiego: predisporre la distanza di commutazione e la distanza dall'oggetto o dallo sfondo nonché il fattore di riflessione dell'oggetto in base al relativo diagramma [B] (x = distanza di commutazione, y = area di transizione tra distanza di commutazione impostata e espressione dello sfondo in % della distanza di commutazione (emissione oggetto / remissione sfondo)).
Remissione: 6% = nero (1), 18% = grigio (2), 90% = bianco (3) (riferito al standard secondo DIN 5033).
La distanza minima (=y) per la soppressione dello sfondo può essere rilevata dal diagramma [c].
Esempio: x = 200 mm, y = 20 % => 20 di 200 mm = 40 mm. Questo significa che lo sfondo viene soppresso a partire da una distanza > 240 mm dal sensore.