

Photoelectric Reflex Sensor
with Teach-in
Operating Instructions

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 WL4-3 / WLG4-3 photoelectric reflex sensor is an optoelectronic sensor and is used for detection of optical, non-contact detection of objects, animals, and people. A reflector is required for operation.

Starting Operation

① WL(G)4-3E___ und WL(G)4-3F___

D: dark-switching, output (Q) switches on if an object is in the light beam.

WL(G)4-3P21___ und WL(G)4-3N21___

WL(G)4-3P31___ und WL(G)4-3N31___

WL(G)4-3P13___ und WL(G)4-3N13___

L: light-switching, output (Q) switches off if an object is in the light beam.

WL(G)4-3P22_0 und WL(G)4-3N22_0

Antivalent outputs

WL(G)4-3P___4 und WL(G)4-3N___4

Output Q light-switching. Additional ET: Teach function per cable.

WL(G)4-3E___4 und WL(G)4-3F___4

Output Q dark-switching. Additional ET: Teach function per cable.

② Mount sensor using the threaded bush with M3 screws. Mount reflector at a right angle to the sensor according to reserve / range chart. Light spot must be clearly detectable on the reflector.

③ Sensitivity setting:

There are three operating modes:

a) Glass mode: detection of transparent objects with automatic tracking of threshold switching:

Sensor must have free view of reflector; no object may be in the light beam path. Keep teach-in button pressed down > 2 ... < 5 s – yellow reception LED lights. The sensor detects objects, which attenuate the light by at least 8 %. The switching threshold is adapted to the ambient conditions automatically (e.g., temperature drift & soiling).

b) 50 % Switching threshold without automatic tracking:

Sensor must have free view of reflector; no object may be in the light beam path. Keep teach-in button pressed down > 8 s until yellow reception LED lights.

50 % switching threshold is set. Switching threshold is not tracked.

c) Maximum sensitivity without tracking of the switching threshold:

Sensor is directed into the open and not to the reflector. Keep teach-in button pressed down > 8 s until maximum sensitivity is set.

Setting via cable (ET):

Connect white cable or PIN 2 to L+ (PNP) or to M (NPN) in line with the desired sensitivity > 2 ... < 8 s or > 8 s.

④ LED indicator blinks:

Sensor still works perfectly, but it is shortly before the switch-off threshold. Clean the lens surfaces, align the sensor/ reflector better or check the range according to the reserve / range chart.

Maintenance

SICK photoelectric 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.

Reflexions-Lichtschanke
mit Teach-in
Betriebsanleitung

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 Reflexions-Lichtschanke WL4-3 / WLG4-3 ist ein optoelektronischer Sensor und wird zum optischen, berührungslosen Erfassen von Sachen, Tieren und Personen eingesetzt. Zum Betrieb ist ein Reflektor erforderlich.

Inbetriebnahme

① WL(G)4-3E___ und WL(G)4-3F___

D: dunkelschaltend, Ausgang Q schaltet ein, wenn sich ein Objekt im Strahlengang befindet.

WL(G)4-3P21___ und WL(G)4-3N21___

WL(G)4-3P31___ und WL(G)4-3N31___

WL(G)4-3P13___ und WL(G)4-3N13___

L: hellschaltend, Ausgang Q schaltet aus, wenn sich ein Objekt im Strahlengang befindet.

WL(G)4-3P22_0 und WL(G)4-3N22_0

Ausgänge antivalent

WL(G)4-3P___4 und WL(G)4-3N___4

Ausgang Q hellschaltend. Zusätzlich ET: Teachfunktion über Leitung.

WL(G)4-3E___4 und WL(G)4-3F___4

Ausgang Q dunkelschaltend. Zusätzlich ET: Teachfunktion über Leitung.

② Sensor unter Verwendung der Gewindebuchsen mit M3-Schrauben montieren. Reflektor gemäß Reserve- / Reichweitendiagramm rechtwinklig zum Sensor montieren. Lichtfleck muss deutlich auf dem Reflektor erkennbar sein.

SICK

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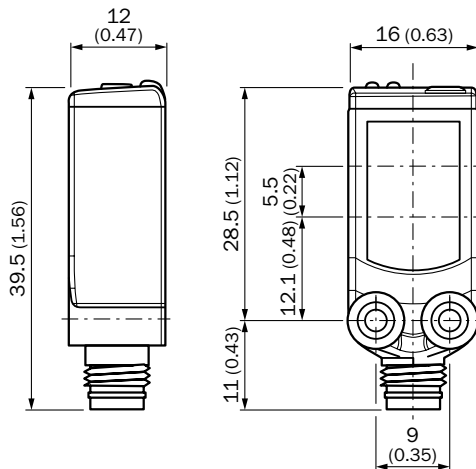
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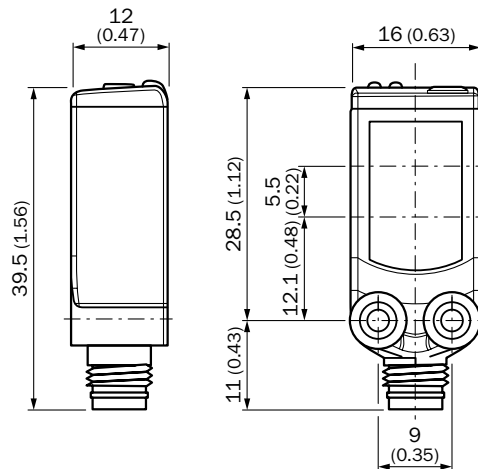
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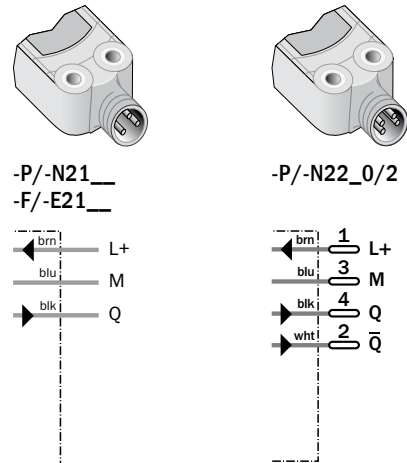
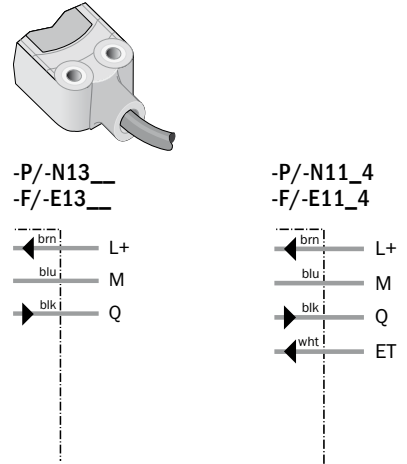
A WL4-3



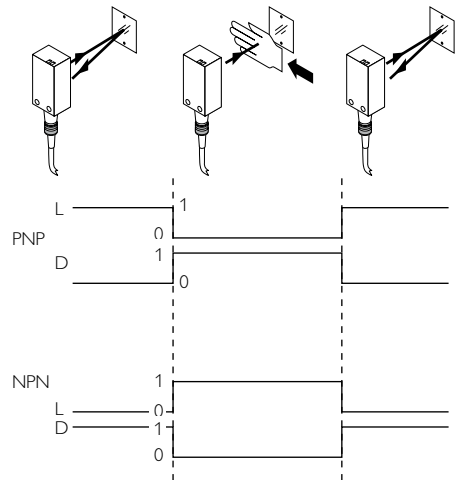
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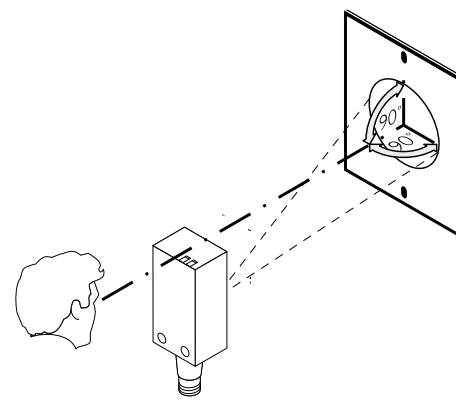
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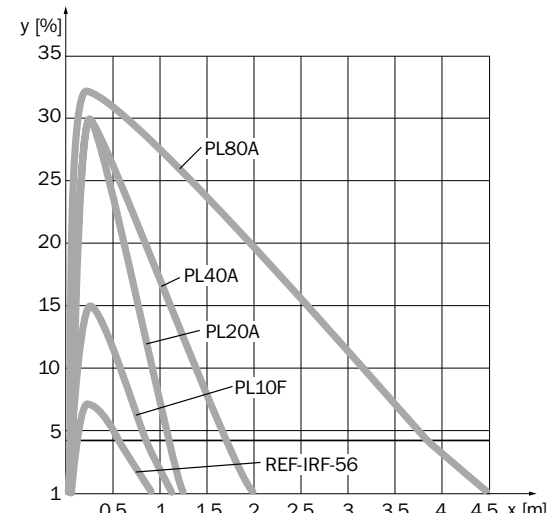
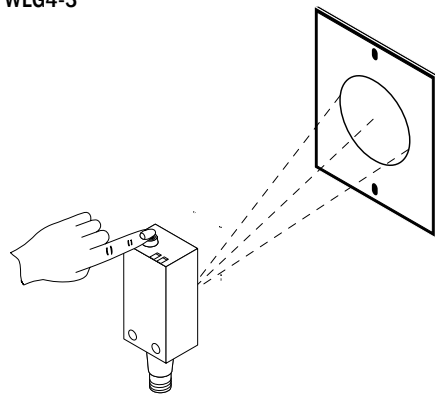
①



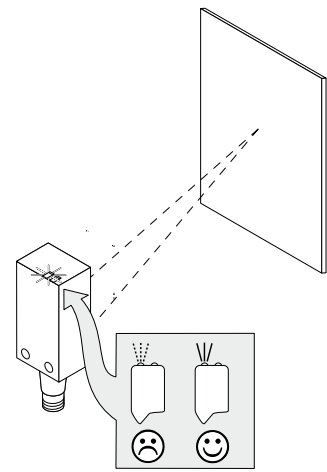
②



③ WL64-3



④



Please consider:

Sensors with datecode < 1243 do have different teach-in mode!

Bitte beachten Sie:

Sensoren mit Datecode < 1243 haben einen anderen Teach-in-Modus!

Remarque :

Les capteurs avec date code < 1243 ont un mode Teach-in différent !

Por favor, tenha em consideração:

Os sensores com código de data < 1243 tem um modo teach-in diferente!

Nota:

Sensori con un codice data < 1243 hanno un modo di apprendimento diverso!

Por favor tenga en cuenta:

Los sensores con el código data < 1243 tienen un modo de teach-in diferente!

请您考虑到：

日期代码 < 1243 的传感器有不同的示教模式！

次の点にご注意ください：

データコードが 1243 未満であるセンサーは、ティーチインモードが異なります！

WL4-3 / WLG4-3	WL4-3Xxx3x WLG4-3Xxx3x
SR sensing range (with PL80A reflector)	Reichweite RW (auf Reflektor PL80A)
Light spot diameter / distance	Lichtfleckdurchmesser / Entfernung
Supply voltage V _s	Versorgungsspannung U _s
Output current I _{max}	Ausgangsstrom I _{max}
Signal sequence min.	Signalfolge min.
Response time	Ansprechzeit
Enclosure rating	Schutzart
Protection class	Schutzklasse
Circuit protection	Betriebsumgebungstemperatur
Ambient operating temperature	1) Limits Ripple max. 5 V _{pp} Operation in short-circuit protected network: max 8 A 2) A = V _s connections reverse polarity protected B = Outputs protected against short-circuits C = Interference pulse suppression
	1) Valores límites Ondulation résiduelle maxi 5 V _{pp} Fonctionnement en réseau protégé contre des courts-circuits à 8 A maxi 2) A = Raccordements U _s protégés contre les inversions de polarité B = Sorties protégées contre les courts-circuits C = Suppression des impulsions parasites
	1) Valores limite/ondulação residual máx. 5 V _{pp} Operação em rede protegida contra curto-circuitos máx. 8 A 2) A = Conexões U _s protegidas contra inversão de polos B = Sai das protegidas contra curto circuito C = Supressão de impulsos parasitas

WL4-3 / WLG4-3

Portata RW (con riflettore PL80A)	Alcance RW (con reflector PL80A)	有効感距 RW (带反射片PL80A)	検出距離範圍 RW (リフレクタ PL80A 上にて)
Diametro punto luminoso	Diámetro / distancia de mancha de luz	光点直径	スポット径 / 距離
Tensione di alimentazione U _s	Tensión de alimentación U _s	电源电压 U _s	供給電圧 V _s
Corrente di uscita max. I _{max}	Corriente de salida I _{max}	输出电流 I _{max}	最大出力電流 I _{max}
Sequenza segnali min.	Secuencia de señales min.i	信号流 min	信号伝達時間 min.
Tempo di risposta	Tiempo de reacción	触发时间	応答時間
Tipo di protezione	Tipo de protección	保护种类	保護等級
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
Temperatura ambiente circostante	Temperatura ambiente de servicio	工作环境-温度	動作周囲温度

1) Valori limite ondulazione
Residua max. 5 V_{pp}
Funcionamento en red con proteccion da cortocircuitos máx 8 A
2) A = U_s-collegamenti con protez. contro inversione di poli
B = Uscite a prova di corto circuito
C = Soppressione impulsi di disturbo

1) Valores limite
Ondulación residual máx. 5 V_{pp}
Servicio en red a prueba de cortocircuito máx 8 A
2) A = Conexiones U_s a prueba de inversión de polaridad
B = Salida protegida contra cortocircuito
C = Represión de impulso de interferencia

1) 級限値剩余波
残度 max.5 V_{pp}
Servicio en red a prueba de cortocircuito máx 8 A
2) A = Conexões U_s a prova de inversão de polaridade
B = Saída protegida contra cortocircuito
C = Supressão de impulsos parasitas

1) 級限値：リップル 最大 5 V_{pp}
短絡保護された回路での使用最大 8 A
2) A = 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

