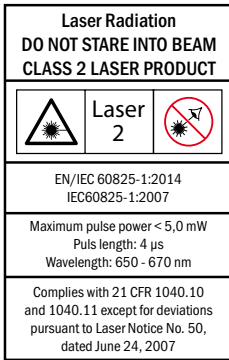


Photoelectric Reflex Sensor  
with laser light  
Operating Instructions



### Safety Specifications

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

### Proper Use

The WL12L-2 photoelectric reflex sensor is an optoelectronic sensor and is used for optical, non-contact detection of objects. A reflector is required for operation.

### Starting Operation

- L: light-switching; if light received, output (Q) switches;  
D: dark-switching; if light interrupted, output (Q) switches.  
Select desired operating mode externally and connect as per connection diagram **B** (L/D = control wire).
- The following apply for connection in B: brn = brown, blu = blue, blk = black, gra = gray, wht = white.  
Connect cables.
- Mount suitable reflector opposite photoelectric sensor and align roughly. Adjust for scanning range (see technical data at end of these operating instructions and see diagram; x = scanning range, y = operating reserve).  
Connect sensor to operating voltage (see type label).  
Adjustment of light reception:  
Determine on/off points of signal strength indicator by swivelling photoelectric sensor horizontally and vertically. Select middle position so that red sender beam hits centre of reflector. With optimum light reception, signal strength indicator lights up. If it does not light up or if it flashes, not enough light is being received: readjust and/or clean photoelectric sensor and reflector.

### Object detection check:

- Position the object.  
Remove the object.  
Move object into beam; signal strength indicator should go out.

### 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. No modifications may be made to devices.

# SICK

8015125.10DC 1218 COMAT

# WL12L-2 B530S05/ B530P02/ B530S06

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# CDRH

- Geeigneten Reflektor gegenüber der Lichtschranke montieren und grob ausrichten. Dabei Reichweite beachten (s. technische Daten am Ende dieser Betriebsanleitung und s. Diagramm; x = Reichweite, y = Funktionsreserve).  
Sensor an Betriebsspannung legen (s. Typenaufdruck).  
Justage Lichtempfang:

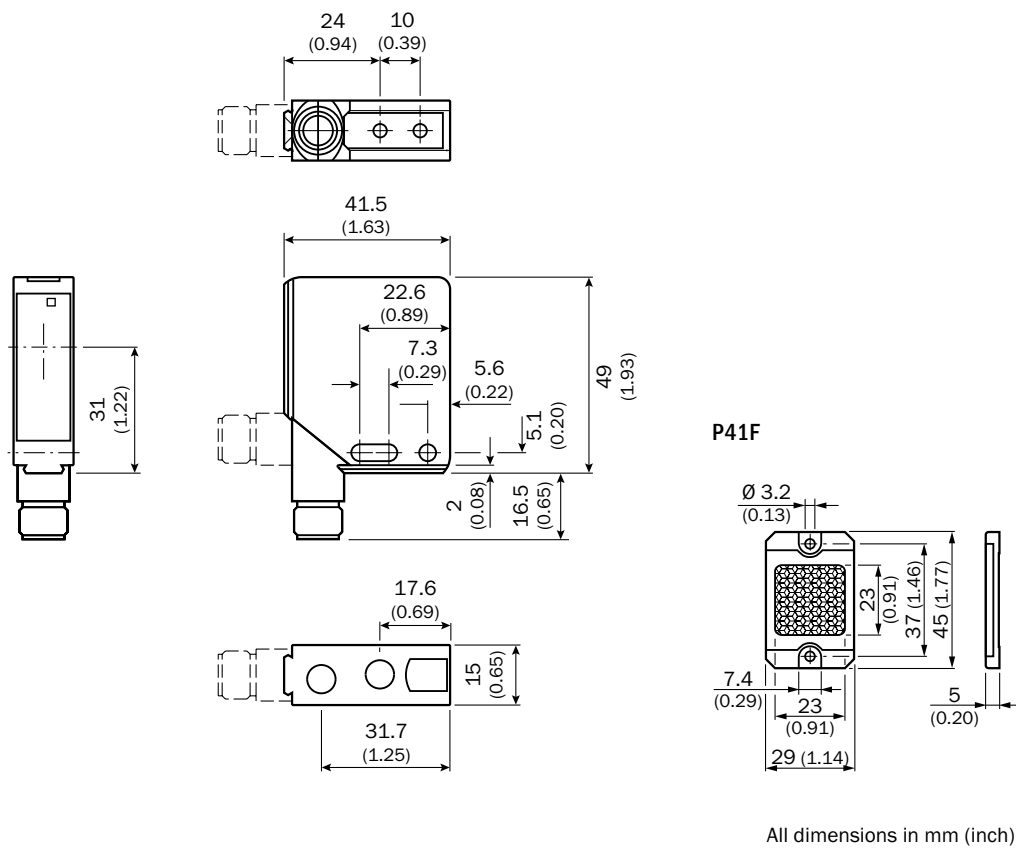
Ein-/Ausstattpunkte der Empfangsanzeige durch horizontales und vertikales Schwenken der Lichtschranke ermitteln. Mittelstellung so wählen, dass der rote Sendelichtstrahl in der Reflektormitte auftrifft. Bei optimalem Lichtempfang leuchtet die Empfangsanzeige permanent. Leuchtet sie nicht oder blinkt sie, wird kein oder zuwenig Licht empfangen: Lichtschranke und Reflektor neu justieren bzw. reinigen.

- Kontrolle Objekterfassung:  
Objekt positionieren.  
Objekt entfernen.  
Objekt in den Strahlengang bringen; die Empfangsanzeige muss erlöschen.

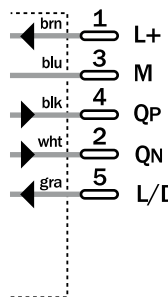
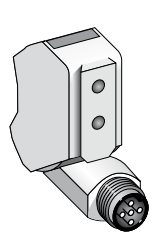
### Wartung

SICK-Lichtschranken sind wartungsfrei. Wir empfehlen, in regelmäßigen Abständen  
– die optischen Grenzflächen zu reinigen,  
– Verschraubungen und Steckverbindungen zu überprüfen.  
Veränderungen an Geräten dürfen nicht vorgenommen werden.

A



B



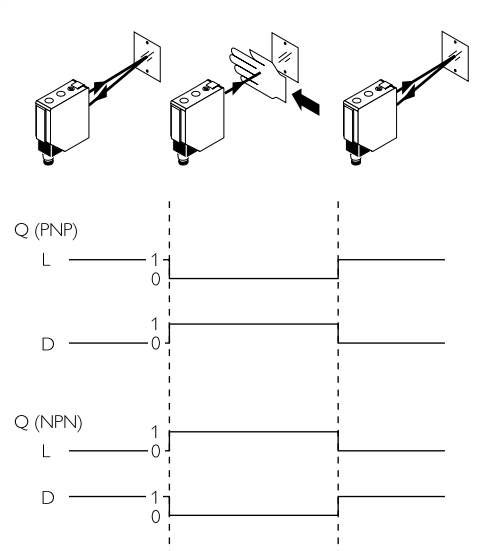
### WL12L-2

Operating distance RW, typ. max. <sup>1)</sup>	Reichweite RW, typ. max. <sup>1)</sup>	Distance de service RW maxi. type <sup>1)</sup>	Alcance da luz RW, tip. máx. <sup>1)</sup>	B530S05	B530P02	B530S06
Focal position, fixed	Fokusslage, fix	Position de mise au point, fixe	Posição do foco, fixa	0 ... 530 mm <sup>2)</sup>	290 mm	0 ... 600 mm <sup>2)</sup>
Light spot diameter/distance	Lichtfleckdurchmesser/Entfernung	Diamètre de la tache lumineuse/distance	Diâmetro do ponto de luz/distância	Min. 0,5 mm	240 mm	240 mm
Supply voltage V <sub>s</sub>	Versorgungsspannung U <sub>v</sub>	Tension d'alimentation U <sub>v</sub> <sup>3)</sup>	Tensão de força U <sub>v</sub> <sup>3)</sup>	10 ... 30 V DC <sup>3)</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		
Response time	Ansprechzeit	Temps de réponse	Tempo de reação	< 200 µs <sup>4)</sup>		
Max. switching frequency	Schaltfolge max.	Fréquence max.	Sequência max. de sinais	2500 Hz <sup>2)</sup>		
Enclosure rating	Schutzart	Type de protection	Tipo de proteção	IP 67		
Protection class	Schutzklasse	Classe de protection	Classe de proteção	IP 67		
Circuit protection	Schutzschaltungen	Circuits de protection	Circuitos protetores	A, B, C <sup>7)</sup>		
Ambient operating temperature	Betriebsumgebungstemperatur	Température ambiante	Temperatura ambiente de operação	-10 ... +50 °C		
Reflector P41F, included in package*	Reflektor P41F im Lieferumfang	Réflecteur P41F, contenu dans l'emballage	Refletor P41F incluído na embalagem		✓	
<sup>1)</sup> Potentiometer, RW preset and fixed	<sup>1)</sup> Poti, RW voreingestellt und fixiert	<sup>1)</sup> Potentiomètre, RW pré-ajusté et fixé	<sup>1)</sup> Potenciômetro, RW pré-ajustado e fixado			
<sup>2)</sup> With P41F reflector	<sup>2)</sup> Mit Reflektor P41F	<sup>2)</sup> Avec réflecteur P41F	<sup>2)</sup> Com refletor P41F			
<sup>3)</sup> Limit values: Operation in short-circuit protected network max. 8 A ripple max. 5 V <sub>ss</sub>	<sup>3)</sup> Grenzwerte: Betrieb im kurzschlussgeschützten Netz max. 8 A; Restwelligkeit max. 5 V <sub>ss</sub>	<sup>3)</sup> Valeurs limites: Service dans un réseau protégé contre les courts-circuits 8 A au maximum; Ondulation résiduelle max. 5 V <sub>ss</sub>	<sup>3)</sup> Valores limite: Operação em rede protegida contra curto-circuitos máx. 8 A; Ondulação residual max. 5 V <sub>ss</sub>			
<sup>4)</sup> With light/dark ratio 1:1	<sup>4)</sup> Bei Hell/Dunkelverhältnis 1:1	<sup>4)</sup> Pour un rapport clair/sombre 1:1	<sup>4)</sup> Com uma relação luminoso/escuro de 1:1			
<sup>5)</sup> Signal transit time with resistive load	<sup>5)</sup> Signallaufzeit bei ohmscher Last	<sup>5)</sup> Durée du signal en charge ohmique	<sup>5)</sup> Tempo de transição do sinal com carga ôhmica			
<sup>6)</sup> Reference voltage 50 V DC	<sup>6)</sup> Bemessungsspannung DC 50 V	<sup>6)</sup> Tension de calcul 50 V c.c.	<sup>6)</sup> Tensão de dimensionamento DC 50 V			
<sup>7)</sup> A = V <sub>s</sub> connections reverse-polarity protected B = Outputs short-circuit protected C = Interference pulse suppression	<sup>7)</sup> A = U <sub>v</sub> -Anschlüsse verpolsicher B = Ausgänge kurzschlussfest C = Störimpulsunterdrückung	<sup>7)</sup> A = Raccordements U <sub>v</sub> protégés contre les inversions de polarité B = Sorties protégées contre les courts-circuits C = Suppression des impulsions parasites	<sup>7)</sup> A = Conexões U <sub>v</sub> protegidas contra inversão de polos B = Saídas protegidas contra curto circuito C = Supressão de impulsos parasitas			

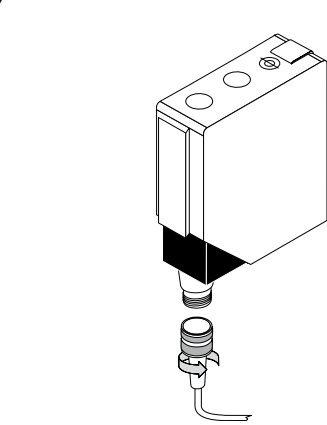
### WL12L-2

Distanza di funzionamento RW, tipica massima <sup>1)</sup>	Distancia de funcionamiento RW, tip. máx. <sup>1)</sup>	有效距離 RW、最大典型値 <sup>1)</sup>	検出距離 RW、代表的最大値 <sup>1)</sup>	B530S05	B530P02	B530S06
Posizione focale fissa	Posición del enfoque, fija	焦点位置、固定	焦点位置、固定	290 mm		240 mm
Diametro punto luminoso/distanza	Diámetro/distancia de mancha de luz	光点直径/距離	光点のスポット径/距離	Min. 0,5 mm		
Tensione di alimentazione U <sub>v</sub> <sup>1)</sup>	Tensión de alimentación U <sub>v</sub> <sup>1)</sup>	电源电压U <sub>v</sub> <sup>1)</sup>	供給電圧 U <sub>v</sub>	10 ... 30 V DC <sup>3)</sup>		
Corrente di uscita max. I <sub>max</sub>	Corriente de salida I <sub>max</sub>	输出电流I <sub>max</sub>	出力電流 I <sub>max</sub>	100 mA		
Tempo di risposta	Tiempo de reacción	触発時間	レスポンス時間	< 200 µs <sup>4)</sup>		
Sequenza segnali max.	Secuencia de señales max.	信号流max	最大スイッチング周波数	2500 Hz <sup>2)</sup>		
Tipo di protezione	Tipo de protección	保护种类	保護等級	IP 67		
Classe di protezione	Protección clase	保护级别	保護クラス	IP 67		
Commutazioni di protezione	Circuitos de protección	保护电路	回路保護	A, B, C <sup>7)</sup>		
Temperatura ambiente circostante	Temperatura ambiente de servicio	工作?防?温度	周辺温度 (作動中)	-10 ... +50 °C		
Riflettore P41F incluso nella confezione	Reflektor P41F, incluido en el paquete	反射器 P41F、包含在包装中	リフレクタはパッケージに含まれています		✓	
<sup>1)</sup> Potentiometro, RW, preimpostato e fissato	<sup>1)</sup> Potenciômetro, RW preajustado y fijado	<sup>1)</sup> 电位器，已预设RW并已固定	<sup>1)</sup> ボテンシヨメータ、検出距離はプリセットおよび固定済み			
<sup>2)</sup> Con riflettore P41F	<sup>2)</sup> Con reflector P41F	<sup>2)</sup> 带反射片 P41F	<sup>2)</sup> リフレクタ P41F 使用			
<sup>3)</sup> Valori limite: Funzionamento in rete con protezione dai cortocircuiti max. 8 A ondulazione residua max. 5 V <sub>ss</sub> Con relatio chiaro/scuro 1:1	<sup>3)</sup> Valores límite: Funcionamiento en la red protegida contra cortocircuito, máx. 8 A ondulación residual máx. 5 V <sub>ss</sub> Con una relación claro/oscuro de 1:1	<sup>3)</sup> 极限值：在已采取短路措施的电路中进行 最大为 8 A，残余纹波最大为 5 V <sub>ss</sub>	<sup>3)</sup> 限界値：短絡保護された回路での使用 最大 8 A、リップル 最大 5 V <sub>ss</sub>			
<sup>4)</sup> Tempo di continuare de segnale a resistenza ohmica	<sup>4)</sup> Con una relación claro/oscuro de 1:1	<sup>4)</sup> 亮 / 暗比 1 : 1	<sup>4)</sup> ライト/ダークの比率 1:1			
<sup>5)</sup> Tensione di taratura DC 50 V	<sup>5)</sup> Duración de la señal con carga ôhmica	<sup>5)</sup> 电阻性负载时，传感器检测到变化时输出信号的转换时间	<sup>5)</sup> 負荷のある信号経過時間			
<sup>6)</sup> A = U <sub>v</sub> -collegamenti con protezione contro inversione di poli B = uscite a provadi corto circuito C = soppressione impulsi di disturbo	<sup>6)</sup> Tensión tolerable DC 50 V	<sup>6)</sup> 限定电压DC50V	<sup>6)</sup> 基準電圧 50 V DC			
	<sup>7)</sup> A = Conexiones U <sub>v</sub> a prueba de inversión de polaridad B = salidas a prueba de cortocircuitos C = Represión de impulsos de interferencia	<sup>7)</sup> A = U <sub>v</sub> -接头防反接 B = 輸出短路保护 C = 消除干扰脉冲	<sup>7)</sup> A = U <sub>v</sub> 電源電圧逆接保護 B = 出力回路逆接保護 C = 干涉パルス抑制			

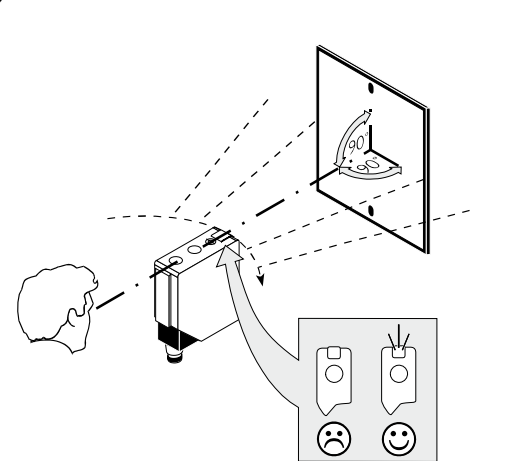
1



2



3



4

