

## Photoelectric Reflex Sensor without continuous treshold adaption 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 opto-electronic sensor WL12G-3 is designed for non-contact detection of transparent targets with attenuation > 10%.

A reflector is required for operation.

### Starting Operation

#### 1 WL12G-3P/N/V/W only:

- Q<sub>D</sub>, L = light-switching at light reception, output HIGH.
- Q<sub>N</sub>, D = dark-switching, if light interrupted, output HIGH.
- Q<sub>N</sub>, L = light-switching at light reception, output LOW.
- Q<sub>N</sub>, D = dark-switching, if light interrupted, output LOW.

2 Align WL12G-3P2582S04/-P04 on reflector. In the horizontal/vertical direction determine on/off switching point of the signal strength indicator and select central position.

The yellow status LED indicator must light up.

#### 3 Object detection

Move object into the beam; Status LED yellow is "off".

If LED does not switch off or continues to blink, repeat Teach-in procedure until status LED is "off".

It should switch on again, after the object is removed.

If it does not switch off on again, repeat Teach-in procedure until switching threshold is set correctly.

#### 4 Teach-in functions and status LED monitoring

You can select different functions by Teach-in.

Teach-in can be activated as followed:

Press Teach button or activate ext. Teach-in "ET".

##### Function 1 = Sensitivity adjustment

Align WL12G-3P2582S04/-P04 on reflector.

Press Teach-button > 3 s/activate ext. Teach-in "ET" >

Status LED yellow is blinking = Teach-in procedure is activated.

##### Function 2 = Operation mode selection

Operation Mode I: 40 %

Press Teach button = 3 ... 6 s or activate ext. Teach-in "ET" 50 ms ... 100 ms.

Status LED is green = monitoring Mode I

Status LED yellow is blinking = Teach-in procedure is activated.

Release Teach button/stop ext. Teach-in "ET" = Teach mode I acknowledge.

Operation Mode II: 18 %

Press Teach button 6 ... 9 s, or activate ext. Teach-in "ET" 100 ms ... 150 ms.

Status LED is blue = monitoring Mode II

Status LED yellow is blinking = Teach-in procedure is activated.

Release Teach button/stop ext. Teach-in "ET" = Teach mode II acknowledge.

Wait until yellow status LED is "on" (approx: 50 ms).

Operation Mode III: 10 %

Press Teach button 9 ... 12 s, or activate ext. Teach-in "ET" 150 ms ... 200 ms.

Status LED is bright blue (white) = monitoring Mode III

Status LED yellow is blinking = Teach-in procedure is activated.

Release Teach button/stop ext. Teach-in "ET" = Teach mode II acknowledge.

Wait until yellow status LED is "on" (approx: 50 ms).

Function 3 = change pin 4 and pin 2 assignments

Factory assignment is PIN 4 = Q and PIN 2 = Q<sub>toff</sub>.

Press Teach button > 12 s.

Status LED green/blue is blinking (frequency 0,5 Hz/50 ms off) = monitoring assignment Pin 4 and Pin 2 changed.

Status LED yellow is blinking = Teach-in procedure is activated.

Release Teach button/stop ext. Teach-in "ET" = Teach mode II acknowledge.

Reset original factory assignment = Repeat this procedure.

Status LED green/blue is on = monitoring factory pin assignment.

Wait until yellow status LED is "on" (approx: 50 ms).

### 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.

# SICK

8015091.128Q.1218 COMAT

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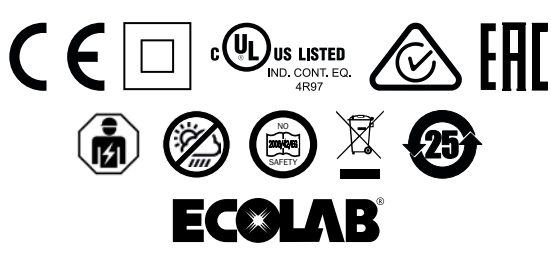
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2 WL12G-3P2582S04/-P04 mit dem Reflektor ausrichten. Bestimmen Sie den Ein-/Ausschaltpunkt des Signalstärkenanzeigers in horizontaler/vertikaler Richtung und markieren Sie die Mittelposition. Die gelbe Anzeige-LED muss aufleuchten.

### 3 Objekterfassung

Rücken Sie das Objekt in den Strahl: das gelbe Licht der Statusanzeige ist „aus“. Wenn die Anzeige-LED nicht ausschaltet oder weiterhin blinkt, Teach-in-Vorgang wiederholen bis die Statusanzeige-LED „aus“ ist. Nachdem das Objekt entfernt ist, sollte sie wieder einschalten. Wenn sie wiederum nicht ein-/ausschaltet, Teach-in-Vorgang wiederholen, bis die Schaltschwelle korrekt eingestellt ist.

### 4 Teach-in-Funktionen und Kontrolle der Statusanzeige-LED.

Durch Teach-in können Sie verschiedene Funktionen wählen. Das Teach-in wird folgendermaßen aktiviert:  
Drücken Sie die Schaltfläche Teach oder aktivieren Sie das externe „ET“ Teach-in.

#### Funktion 1 = Einstellung der Empfindlichkeit

Richten Sie den WL12G-3P2582S04/-P04 am Spiegel aus. Drücken Sie die Schaltfläche Teach > 3 s/aktivieren Sie das externe „ET“ Einlernen > Die gelbe Statusanzeige blinkt = Der Teach-in-Vorgang ist aktiviert.

Funktion 2 = Auswahl des Betriebsmodus

Betriebsmodus I: 40 %

Drücken Sie die Schaltfläche Teach = 3 ... 6 s oder aktivieren Sie ext. „ET“ Teach-in 50 ms ... 100 ms.

Statusanzeige ist grün = Kontrollmodus I

Die gelbe Statusanzeige blinkt = Der Teach-in-Vorgang ist aktiviert.

Betriebsmodus II: 18 %

Drücken Sie die Schaltfläche Teach 6 ... 9 s, oder aktivieren Sie ext. „ET“ Teach-in 100 ms ... 150 ms.

Statusanzeige ist grün = Kontrollmodus I

Die gelbe Statusanzeige blinkt = Der Teach-in-Vorgang ist aktiviert.

Betriebsmodus III: 10 %

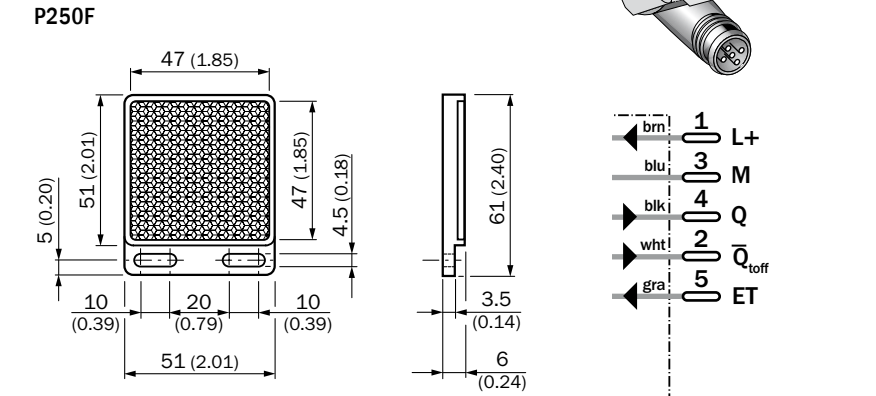
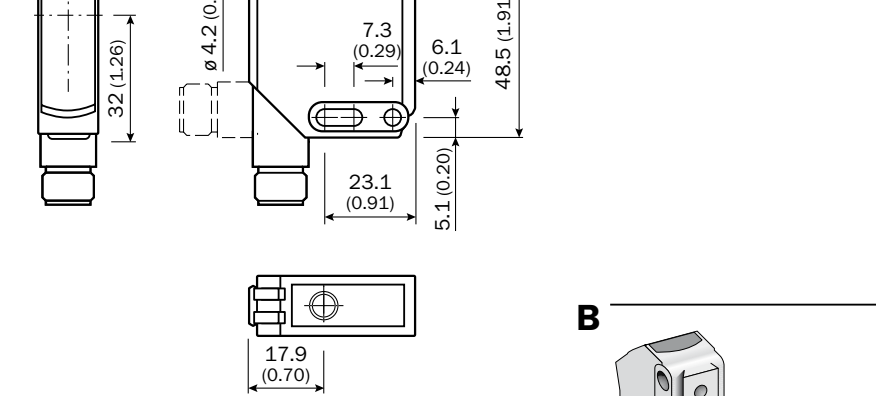
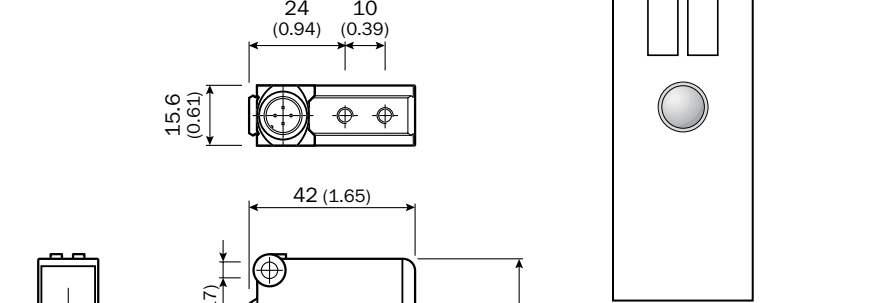
Drücken Sie die Schaltfläche Teach 9 ... 12 s, oder aktivieren Sie ext. „ET“ Teach-in 150 ms ... 200 ms.

Statusanzeige ist hellblau (weiß) = Kontrollmodus III

Status LED yellow is blinking = Teach-in procedure is activated.

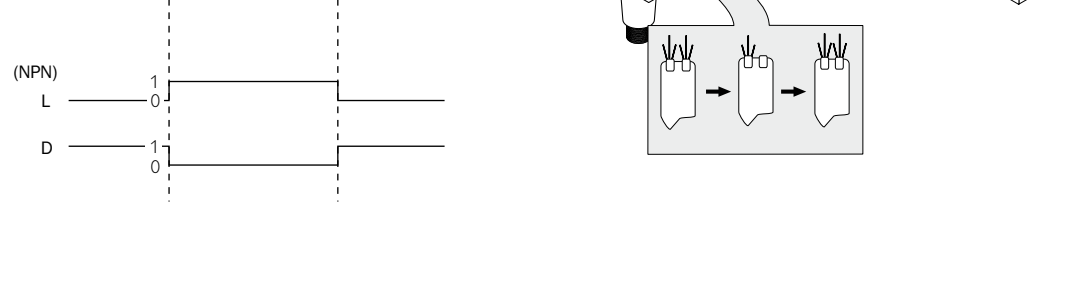
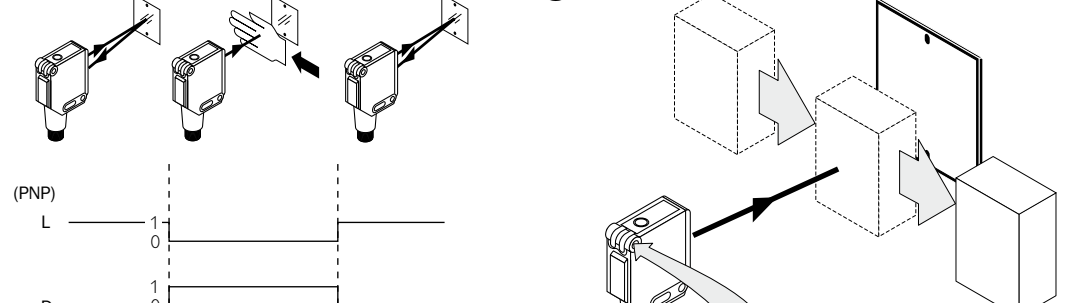
Release Teach button/stop ext. Teach-in "ET" = Teach mode II acknowledge.

## A

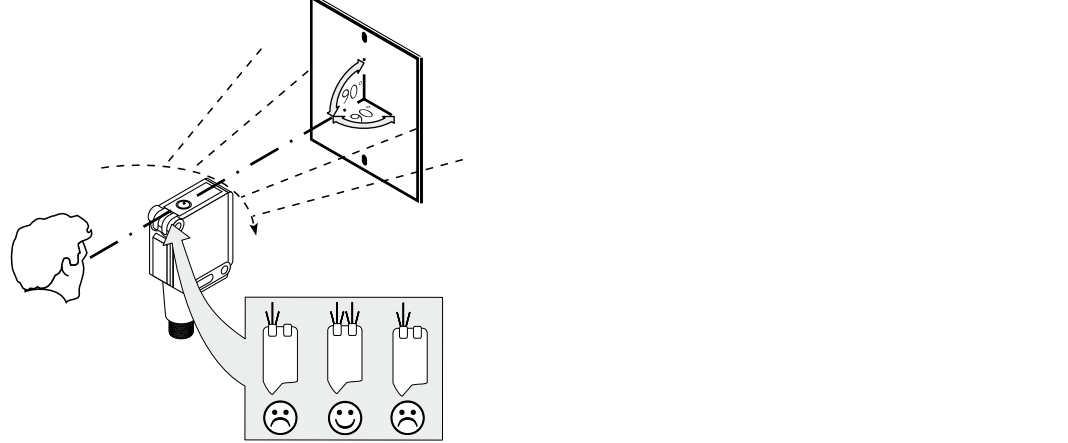


All dimensions in mm (inch)

## 1



## 2



WL12G-3			P2582S04	P2582P04
Operating distance adjustable <sup>1)</sup>	Einstellbare Betriebstastweite <sup>1)</sup>	Distancia de service réglable <sup>1)</sup>	Distância de operação ajustável <sup>1)</sup> 0 ... 4m <sup>2)</sup>	
Threshold adaption static, no automatic adaption	Schaltswellenanpassung statisch, keine automatische Nachführung	Adaptation de seuil fixe, pas d'adaptation automatique	Estática de adaptação limiar, sem adaptação automática ✓	
Threshold operation mode	Schaltswellenbetriebsmodus	Mode de service seuil	Modo de operação limiar	
Sender light IR, wave length	Sende-Licht IR, Wellenlänge	Longueur d'ondes de l'émetteur lumineux IR	Luz emissora IR, comprimento de onda 850 nm	
Light spot diameter/distance	Lichtfleckdurchmesser/Entfernung	Diamètre de la tache lumineuse/distance	Diâmetro do ponto de luz/distância 25 mm/1,5 mm	
Supply voltage V <sub>s</sub>	Versorgungsspannung U <sub>s</sub> <sup>1)</sup>	Tension d'alimentation U <sub>s</sub> <sup>1)</sup>	Tensão de força U <sub>s</sub> <sup>1)</sup> 10 ... 30 V DC <sup>3)</sup>	
Output Q, light and Q <sub>toff</sub>	Ausgang, Q, Licht und Q <sub>toff</sub>	Sortie Q, faisceau et Q <sub>toff</sub>	Saída Q, luz e Q <sub>toff</sub>	
Pin 4 and Pin 2 assignment	Pinbelegung 4 und 2	Attribution des broches 4 et 2	Pinagem pino 4 e pino 2	
Changeable by Teach-in via button	kann über die Teach-in-Taste geändert werden	Modifiable par Teach-in via le bouton	Cambiável pelo botão do Teach-in ✓	
Output current I <sub>max</sub> (without delay, without Toff)	Ausgangsstrom I <sub>max</sub> (unverzögert, ohne Toff)	Courant de sortie I <sub>max</sub> (non retardé, sans Toff)	Corrente de saída I <sub>max</sub> (sem atraso, sem Toff) 100 mA	
Response time (without toff)	Ansprechzeit (ohne Toff)	Temps de réponse (sans Toff)	Tempo de reação (sem Toff) < 600 µs <sup>4)</sup>	
Switching frequency	Schaltfolge max.	Fréquence max.	Sequência max. de sinais < 1500 Hz <sup>5)</sup>	
Enclosure rating (IEC 60529)	Schutzart (IEC 60529)	Type de protection (IEC60529)	Tipo de proteção (IEC60529) IP 67, IP 66	
Protection class	Schutzklasse	Classe de protection	Classe de proteção IP 67, IP 66	
Circuit protection <sup>7)</sup>	Schutzschaltungen	Circuits de protection	Circuitos protetores A, B, C <sup>7)</sup>	
Ambient operating temperature	Betriebsumgebungstemperatur	Température ambiante	Temperatura ambiente de operação -40 ... +60 °C	
Reflector P250F included	P250F-Reflektor unbegriffen	Réflecteur P250F inclus	Refletor P250F incluído ✓	
<sup>1)</sup> Teach-in (button or external)	<sup>1)</sup> Teach-in (Taste oder extern)	<sup>1)</sup> Teach-in (bouton ou disp. externe)	<sup>1)</sup> Teach-in (botão ou externo)	
<sup>2)</sup> With reflector PL80A	<sup>2)</sup> Mit Reflektor PL80A	<sup>2)</sup> Avec réflecteur PL80A	<sup>2)</sup> Com refletor PL80A	
<sup>3)</sup> Limit values: Operation in short-circuit protected network; max. 8 A ripple max. 5 V <sub>pp</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 limites: Operação em rede protegida contra curto-circuitos máx. 8 A; Ondulação residual máx. 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> Bernessungsspannung DC 50 V	<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> A = U <sub>s</sub> -Anschlüsse verpolischer	<sup>6)</sup> Tension de calcul 50 V c.c.	<sup>6)</sup> Tensão de dimensionamento DC 50 V	
<sup>7)</sup> A = U <sub>s</sub> -Anschlüsse verpolischer	<sup>7)</sup> B = Ausgänge kurzschlussfest	<sup>7)</sup> A = Raccordements U <sub>s</sub> protégés contre les inversions de polarité	<sup>7)</sup> A = Conexões U <sub>s</sub> protegidas contra inversão de polos	
<sup>7)</sup> B = Outputs short-circuit protected	<sup>7)</sup> C = Störimpulsenunterdrückung	<sup>7)</sup> B = Sorties protégées contre les courts-circuits	<sup>7)</sup> B = Saídas protegidas contra curto circuito	
<sup>7)</sup> C = Interference pulse suppression		<sup>7)</sup> C = Suppression des impulsions parasites	<sup>7)</sup> C = Supressão de impulsos parasitas	

WL12G-3			P2582S04	P2582P04
Distanza operativa regolabile <sup>1)</sup>	Distancia de funcionamiento ajustable <sup>1)</sup>	工作距离可调整 <sup>1)</sup>	調整可能な作動距離 <sup>1)</sup> 0 ... 4m <sup>2)</sup>	
Adattamento statico della soglia, nessun adattamento automatico	Umbral de adaptación estático, adaptación no automática	阈值调整统计, 没有自适应	静的なきしい値適応, 自動適応なし ✓	
Modalità operativa soglia	Modo de funcionamiento en umbral	阈值工作模式	しきい値操作モード	
Emettitore luce IR, lunghezza d'onda	Luz IR del emisor, longitudud de onda	紅外線发射器, 波长	赤外線送信機, 波長 850 nm	
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 25 mm/1,5 mm	
Tensione di alimentazione U <sub>s</sub> <sup>1)</sup>	Tensión de alimentación U <sub>s</sub> <sup>1)</sup>	电源电压 U <sub>s</sub> <sup>1)</sup>	供給電圧 V <sub>s</sub> 10 ... 30 V DC <sup>3)</sup>	
Uscita Q, luce e Q <sub>toff</sub>	Salida Q, luz y Q <sub>toff</sub>	输出 Q, 光线和 Q <sub>toff</sub>	出力 Q、ライトおよび Q <sub>toff</sub>	
Assegnazione PIN 4 e PIN 2	Asignación de las patillas 4 y 2	Se puede modificar con un botón mediante pulsante	PIN 4 和 PIN 2 分配通过示教按钮的可变性及	
Modificabile con Teach-in tramite pulsante	Modifiable with Teach-in via button	Modifiable par Teach-in via le bouton	Cambiável pelo botão do Teach-in ✓	
Corrente di uscita max. I <sub>max</sub> (senza ritardo, senza Toff)	Corriente de salida I <sub>max</sub> (sin retardo, sin Toff)	输出电流 I <sub>max</sub> (无延迟, 无断开延时定时器)	出力電流 (遲延なし、Toffなし) 100 mA	
Tempo di risposta (senza Toff)	Tiempo de reacción (sin Toff)	触发时间 (无断开延时定时器)	レスポンス時間 (Toffなし) < 600 µs <sup>4)</sup>	
Sequenza segnali max.	Secuencia de señales max.	信号流max	スイッチング周波数 < 1500 Hz <sup>5)</sup>	
Tipo di protezione (IEC60529)	Tipo de protección (IEC60529)	保护种类 (IEC60529)	保護等級 (IEC60529) IP 67, IP 66	
Classe di protezione	Protección clase	保护级别	保護クラス IP 67, IP 66	
Commutazioni di protezione	Circuitos de protección	保护电路	回路保護 IP 67, IP 66	
Temperatura ambiente circostante	Temperatura ambiente de servicio	工作?防?温度	周辺温度 (作動中) -40 ... +60 °C	
Rifletore P250F incluso	Reflector P250F incluido	リフレクタ P250F を含む	リフレクタ P250F を含む ✓	
<sup>1)</sup> Teach-in (pulsante o esterno)	<sup>1)</sup> Programacion (botón o externa)	<sup>1)</sup> 示教(按钮或外部)	<sup>1)</sup> ティーチン (ボタンまたは外部)	
<sup>2)</sup> Con reflector PL80A	<sup>2)</sup> Con reflector PL80A	<sup>2)</sup> 包括反射器 PL80A	<sup>2)</sup> リフレクタ PL80A つき	
<sup>3)</sup> Valori limite: Funzionamento in rete con protezione dai cortocircuiti max. 8 A; ondulatione residua max. 5 V <sub>ss</sub>	<sup>3)</sup> Valores limite: Funcionamiento en la red protegida contra cortocircuito, máx. 8 A; ondulatione residual max. 5 V <sub>ss</sub>	<sup>3)</sup> 极限值: 在已采取防短路措施的电路中运行最大为8A; 残纹余波最大为5V <sub>ss</sub>	<sup>3)</sup> 限界値: 短絡保護された回路での使用最大8A、リツル 最大 5V <sub>pp</sub>	
<sup>4)</sup> Con relatio chiaro/scuro 1:1	<sup>4)</sup> Con una relación claro/oscuro 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> Tempo di continuare de segnale a resistenza ohmica	<sup>5)</sup> Duración de la señal con carga óhmica	<sup>5)</sup> Duración de la señal con carga óhmica	<sup>5)</sup> 負荷のある信号経過時間	
<sup>6)</sup> Tensione di taratura DC 50 V	<sup>6)</sup> Tensión tolerable DC 50 V	<sup>6)</sup> Tensión tolerable DC 50 V	<sup>6)</sup> 基準電圧 50VDC	
<sup>7)</sup> A = U <sub>s</sub> -collegamenti con protezione contro inversión de poli	<sup>7)</sup> A = Conexiones U <sub>s</sub> a prueba de inversión de polaridad	<sup>7)</sup> A = U <sub>s</sub> -Anschlüsse verpolsicher	<sup>7)</sup> A = U <sub>s</sub> 電源電圧逆接保護	
<sup>7)</sup> B = uscita a provadi corto circuito	<sup>7)</sup> B = salidas a prueba de cortocircuitos	<sup>7)</sup> B = Outputs short-circuit protected	<sup>7)</sup> B = 出力回路逆接保護	
<sup>7)</sup> C = soppressione impulsi di disturbo	<sup>7)</sup> C = Represión de impulse de interferencia	<sup>7)</sup> C = C = Störimpulsenunterdrückung	<sup>7)</sup> C = 干渉パルス抑制	



