

SICK

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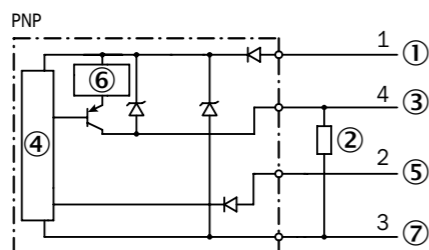
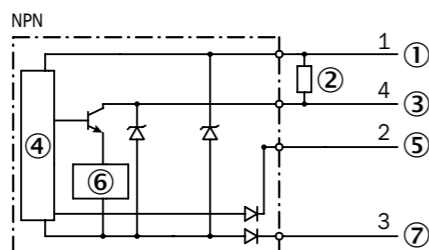
WLL180T

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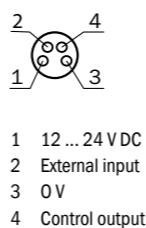
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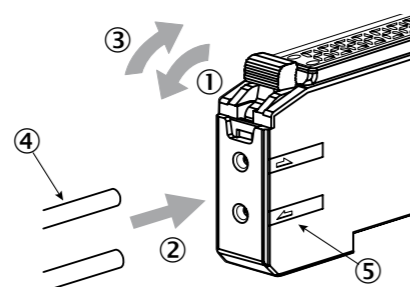
A Input/Output Schematic



- ① Brown: 12 ... 24 V DC
- ② Load
- ③ Black: Control output
- ④ Main circuit
- ⑤ White: External input
- ⑥ Protection circuit
- ⑦ Blue: 0 V

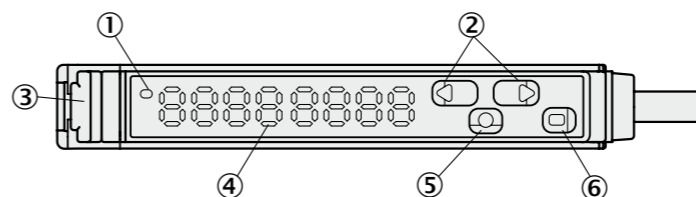


D Interconnection



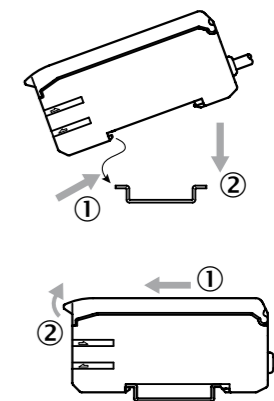
BZ int46

B Base unit

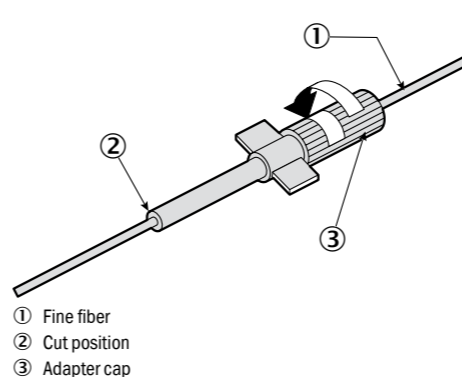


- ① Output Indicator (orange)
- ② Select button
- ③ Lock lever
- ④ Display
- ⑤ Mode button
- ⑥ Teach-in button

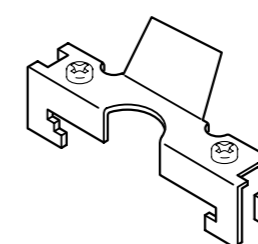
C Attaching and Removing to/from DIN rail



E How to use fine fiber



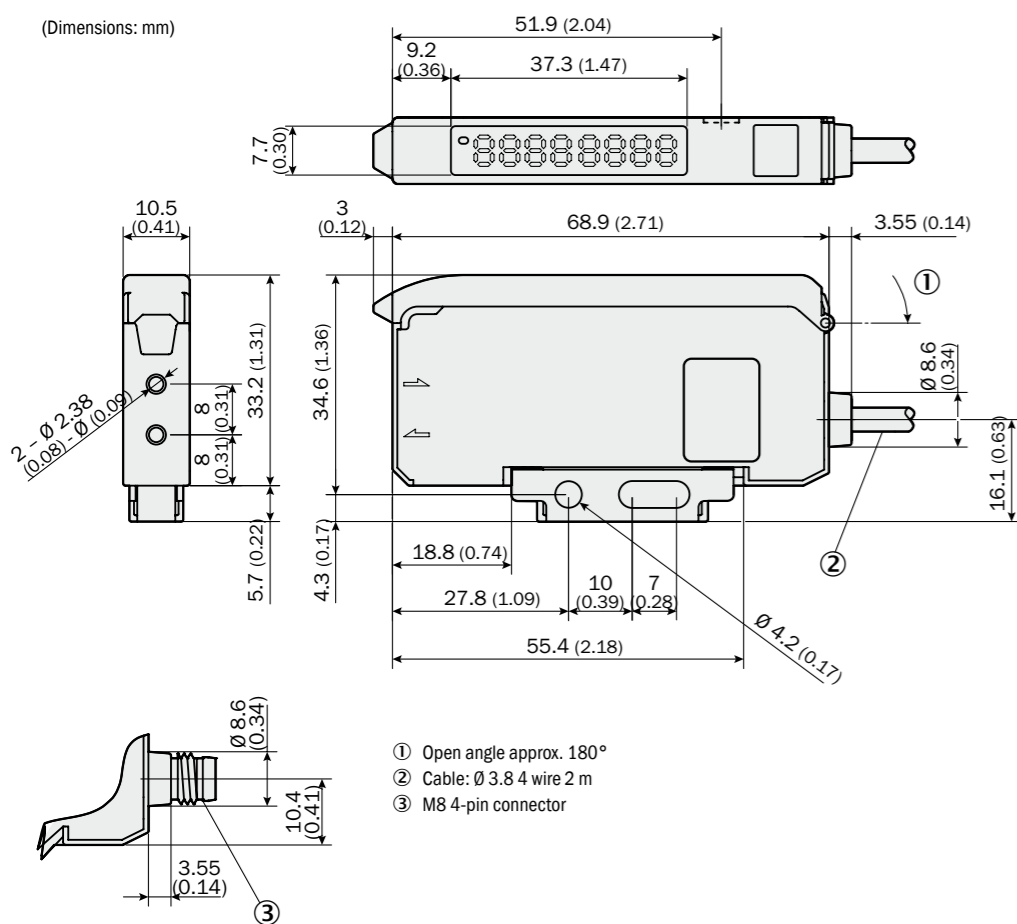
F End unit



G WLL180T

English

(Dimensions: mm)



- ① Open angle approx. 180°
- ② Cable: Ø 3.8 4 wire 2 m
- ③ M8 4-pin connector

	WLL180T-P/N432	WLL180T-P/N434 (red LED) WLL180T-P/N474 (infrared-LED)
Connection type	Cable	M8 4-pin
Control output	NPN/PNP open collector 100 mA/≤ 30 V DC resistive Load current: ≤ 100 mA Residual voltage ≤ 1.8 V	NPN/PNP open collector 100 mA/≤ 30 V DC resistive Load current: ≤ 100 mA Residual voltage ≤ 1.8 V
Power source, voltag	12 ... 24 V DC ± 10 % incl. ripple ¹⁾	12 ... 24 V DC ± 10 % incl. ripple ¹⁾
Consumption current	≤ 50 mA/24 V	≤ 50 mA/24 V
Response time	16 µs/70 µs/250 µs/2 ms/8 ms	16 µs/70 µs/250 µs/2 ms/8 ms
Output method	Light on/Dark on switching type in the function	Light on/Dark on switching type in the function
Short-circuit protection	✓	✓
Light source	Red LED	Red LED: WLL180T-P/N434 Infrared-LED: WLL180T-P/N474
Indicator light/ Display	Output indicator light: Orange (Q ₁) 7-segment 8-digit display	Output indicator light: Orange (Q ₁) 7-segment 8-digit display
Sensitivity setting	Teach-in/Manual adjustment	Teach-in/Manual adjustment
Timer function	Switch-off delay, Switch-on delay, One shot, On/Off delay, One shot delay	Switch-off delay, Switch-on delay, One shot, On/Off delay, One shot delay
Timer time	0,1 ms ... 9999 ms	0,1 ms ... 9999 ms
Setting input	External input setting (Teach-in/Test/Sync)	External input setting (Teach-in/Test/Sync)
Operating temperature/humidity	-25 ... +55 °C/35 ... 85% RF (No freezing and no condensation) ²⁾	-25 ... +55 °C/35 ... 85% RF (No freezing and no condensation) ²⁾
Store temperature/humidity	-40 ... +70 °C/35 ... 85% RF (No freezing and no condensation)	-40 ... +70 °C/35 ... 85% RF (No freezing and no condensation)
Shock resistance	10 ... 55 Hz amplitude 1.5 mm 2 hours for each direction x, y, z	10 ... 55 Hz amplitude 1.5 mm 2 hours for each direction x, y, z
Protective category	IP 50 ³⁾	IP 50 ³⁾
Material	PC	PC
Weight	Cable type: 71 g, M8 connector type: 25 g	Cable type: 71 g, M8 connector type: 25 g

¹⁾ 12 ... 24 V DC ± 10 %, class 2 power supply
²⁾ Max. ambient temperature: +55 °C
³⁾ UL enclosure type 1

Safety Precautions

Carefully read and understand the safety precautions before operation. The important information is provided to protect your health and property. Do not apply any other installing or operating procedure other than that described in these operating instructions.

- It is dangerous to wire or attach/remove the connector with the power on. Make sure to turn off the power before operation.
- Make sure to use the product with the protective cover attached and closed.
- Installing in the following places may result in malfunction:
 - A dusty or steamy place.
 - A place generating corrosive gas.
 - A place directly receiving scattering water or oil.
 - A place suffered from heavy vibration or impact.
- The product is not designed for outdoor use.
- This product is not an explosion-proof construction. Do not use the product under flammable, explosive gas or liquid environment.
- Do not use the product in water.
- Do not disassemble, repair, or convert the product. Failure to do this may cause failure, fire, or electric shock.
- Operate within the rated range.
- Keep the packing box carefully.
- No safety component in accordance with EU machine guidelines.

⚠ This product must not be used as a safety device to protect human body.

A Input/Output schematic

Manual adjustment

Pressing the select button flashes the threshold. It indicates that adjustment is possible. Adjust to any value using the select buttons.

- Normal
- Automatically returns to the normal display 5 s after completion of the setting (no operation).



Error display in Teach-in

An error message is displayed in the event of error during adjustment. Refer to the table below for readjustment.

Err 1	Sensing level is too low
Err 2	Sensing level is saturated
Err 3	Difference of sensing level between two points is too small

Function setting

Press the mode button for 3 s.

1. Operation setting
 Select an operation mode.
 Select by using \leftarrow and \rightarrow and fix by \square .
 The screen returns to the top of operation setting.

Lon	ON when light comes in. ¹⁾
dOn	OFF when light is blocked.

2. Response speed setting
 Select a response speed.
 Select by using \leftarrow and \rightarrow and fix by \square .
 The screen returns to the top of response speed setting.

High	Fastest setting 16 μ s
Fast	Fast setting 70 μ s
Std	Standard setting 250 μ s ¹⁾
Long	High accuracy 2 ms
Supr	Super long range 8 ms

3. Timer setting
 Select a timer and the time.
 Select by using \leftarrow and \rightarrow and fix by \square .
 OFF moves to the top of timer setting and others move to the timer setting.

oFF	Timer off ¹⁾
oFdy	Off delay
oNdy	On delay
ShoT	One shot
oNoF	On/Off delay
oNSh	One shot delay

Timer time setting 0.1 ... 9999 (0.1 ms ... 9999 ms)
 \leftarrow is for time changing and \rightarrow is to fix. Then the screen returns to timer setting top.

4. Detailed setting (Expert mode)
 Select by using \leftarrow and \rightarrow and fix by \square .
 The screen returns to the top of detailed setting menu.

5. Initialization setting (Initial reset)
 Select by using \leftarrow and \rightarrow and fix by \square .
 The screen returns to the top of initialization setting.

n o	Not initialize ¹⁾
y E S	Initialize

6. End of setting
 Returns to the normal display.

B Each part

C Installation of amplifier

Attaching and removing to/from DIN rail

Attachment of sensor unit:

- Hook the claw on the connecting side of fiber cable to the DIN rail.
- Then press down the hook until it locks.

Removal of sensor unit:

- Pushing the unit to the direction of the arrow.
- Hold up the connecting side of fiber cable and remove the unit.

D How to connect the fiber cables

- Open fiber lock lever (see ①).
- Insert fiber into holes to stop. (see ② - approximately 15 mm).
- Return fiber lock lever until it stops (see ③).

Caution

⚠ When using a proximity variant with coaxial fiber arrangement, connect the core fibers or fibers with white marking to the sender. Connect the second fibers to the receiver.

4.1 Zero-reset setting
 Set the displayed value on the main monitor to „0.“
 Select by using \leftarrow and \rightarrow and fix by \square .
 The screen returns to the top of zero reset setting.

oFF	Turn off zero reset. ¹⁾
oN	Turn on zero reset.

4.2 Display setting
 Select a display method of normal main sub monitor.
 Select by using \leftarrow and \rightarrow and fix by \square .
 The screen returns to the top of display setting.

dig	Displayed in numeric display. ¹⁾
bAr	Displayed in bar display.
Pct	Displayed in percent (%) display.

4.3 Eco mode
 Activate energy saving mode.
 Select by using \leftarrow and \rightarrow and fix by \square .
 The screen returns to the top of eco mode setting.

oFF	Deactivate energy saving mode ¹⁾
oN	Activate energy saving mode

Nominal value display is switched off after 20 sec. to activate press any button.

4.4 Reverse display
 Display is reversed.
 Select by using \leftarrow and \rightarrow and fix by \square .
 The screen returns to the top of reverse display setting.

oFF	Normal display ¹⁾
oN	Display upside-down

4.5 Hysteresis setting
 Select hysteresis.
 Select by using \leftarrow and \rightarrow and fix by \square .
 \leftarrow for change of numbers and \rightarrow to fix. The screen returns to the top of hysteresis setting.

P 5	Hysteresis 1 ... 40% from nominal value.
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4.6 Input setting
 Selection of input function
 Select by using \leftarrow and \rightarrow and fix by \square .

Ext	Ext. Teach-in ¹⁾
tEst	Test input
SynC	Synchronization

The screen returns to the top of extern input function setting.

4.7 ASC setting
 Set up ASC (Automatic Sensitivity Control).
 Select by using \leftarrow and \rightarrow and fix by \square .
 Return to the top of ASC setting.

oFF	Non-use of ASC ¹⁾
oN	Automatically adjust threshold along with the surroundings.

TIP Automatically set threshold even after sensors are cleaned.

E How to use fine fiber

Turn adapter cap anticlockwise completely, then appropriately insert the fiber. Be locked by turning adapter cap clockwise (see ①). Cut the excess fiber with fiber cutter.

Adjustment

1 1-Point Teach-in
 Press Teach-in button for 3 s.
 Select the 1-Point Teach-in.
 Press Teach-in button.
 The threshold flashes and the display returns to normal.

2 2-Point Teach-in
 Press Teach-in button for 3 s.
 Select the 2-Point Teach-in.
 1. Point: Press the Teach-in button.
 2. Point: Press the Teach-in button.
 The threshold flashes and the display returns to normal.

4.8 Floodlight power setting
 Light intensity can be chosen from the three levels.
 Select by using \leftarrow and \rightarrow and fix by \square .
 Return to the top of floodlight power setting.

	Set on standard ¹⁾
	Set in the middle power
	Set in the low power

TIP Avoid saturation of the amount of light received.

4.9 Lock Level
 Key-lock level
 Select by using \leftarrow and \rightarrow and fix by \square .
 Return to the top of lock level setting.

L1	All inputs locked
L2	All inputs locked, except external input.

4.10 End of Detail Setting (Expert mode)
 Returns to the top of detail setting (Expert mode).

Precautions for function setting

- ¹⁾ means factory default setting
- Hold down the operation button for approx. 0.3 s if not especially specified.
- The display flashes when the setting selection is available.

Returning to normal display with one button

Pressing the \square button for 2 s or more in setting a function returns to normal display (RUN mode) without using the menu point End.

Key lock

Locks all inputs according to the selected Level in 4.9. Useful to prevent accidental operation.

Hold down the \leftarrow and \rightarrow buttons for 2 s or more simultaneously in the RUN mode. Operate in the same way to cancel as well.



SAM Circuit (ASC = Automatic Sensitivity Control)

Threshold value will be automatically reset as the sensor continuously monitors returned light. Sudden change of returned light, like cleaning of lens, will trigger reset of the best threshold computed in the circuit (SAM circuit).

External Teach-in

The external teach-input must be activated for > 200 ms to perform a teach-in (ET to > 10 V ... < U_i for PNP devices; ET to 0 V for NPN devices).

3 Auto Teach-in

Press Teach-in button for 3 s.
 Select the auto Teach-in.
 Start: Press the Teach-in button.
 End: Press the Teach-in button.
 The threshold flashes and the display returns to normal.

5 Teach-in transparent object

Press Teach-in button for 3 s.
 Press the Teach-in button.
 Press the Teach-in button.
 The threshold flashes and the display returns to normal.

Options

F End unit
BEF-EB01-W190

- Specifications and equipment are subject to change without any obligations on the part of manufacture.
- For further information regarding configuration menu and Teach-in function please take note of the application manual or www.sick.com.

4 Zone Teach-in

Press Teach-in button for 3 s.
 Select the zone Teach-in.
 Press the Teach-in button.
 The threshold flashes and the display returns to normal.

1 1-Point Teach-in

Proximity variant:
 Run teach-in on the background without an object.

Through beam variant:
 Perform adjustment when there is an object.

The switching threshold is set to 10% above the received light value.

2 2-Point Teach-in

Proximity variant:
 1st step: set to an existing object..
 2nd step: set on the background without an object.

Set the threshold at the center between the 1st and 2nd point.

3 Auto Teach-in

Through beam variant/Proximity variant
 Start and End: Perform adjustment while the object is passing.

4 Zone Teach-in

Proximity variant:
 Set to the existing object.

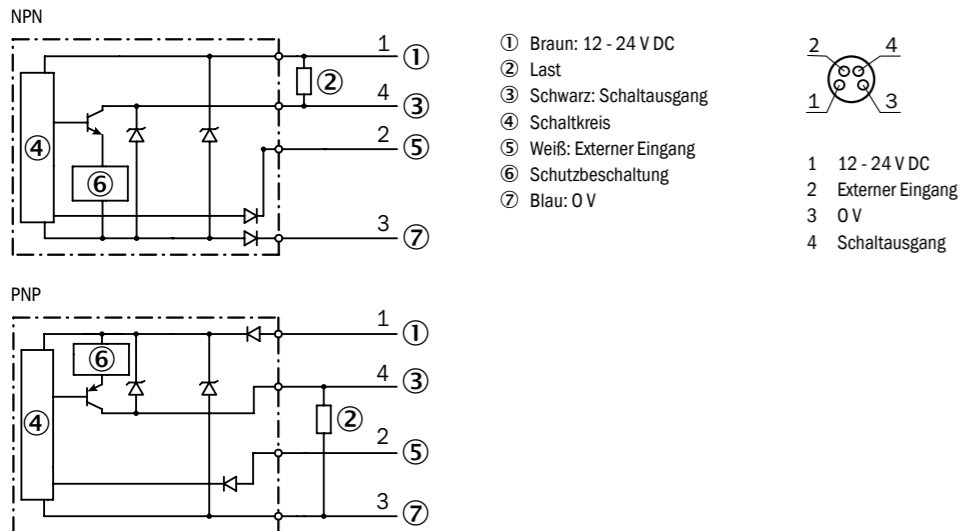
Set the zone (detection range) to $\pm 10\%$.

5 Teach-in transparent objects

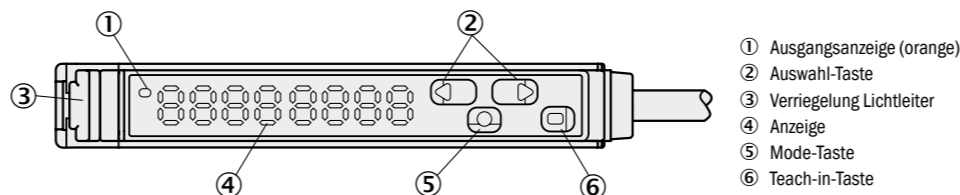
Reflection variant:
 Execute Teach-in without object. Use reflector.
 The switching threshold is set to 90% of the received light.

Through beam variant/Proximity variant:
 Execute Teach-in without object.
 The switching threshold is set to 90% of the received light.

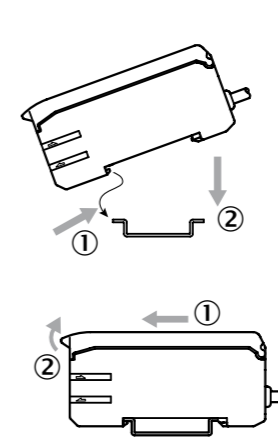
A Anschlussschema



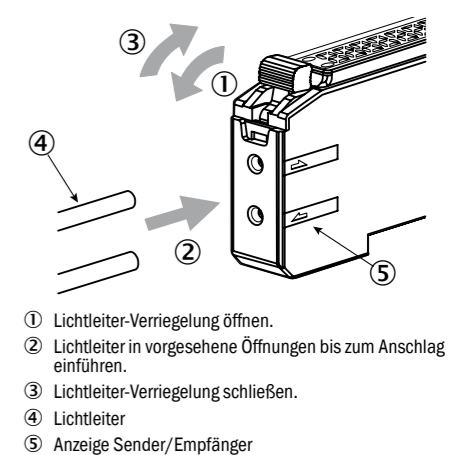
B Basiseinheit



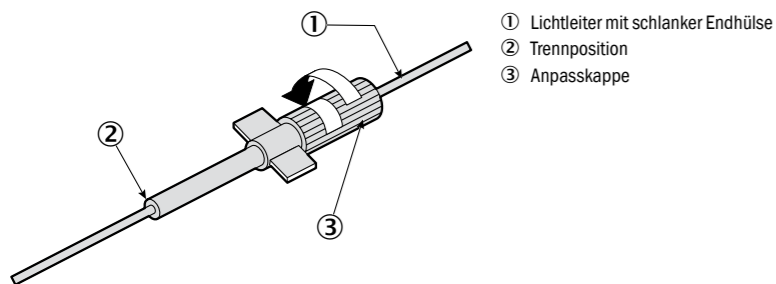
C Anbringung auf/Entfernen von der Montageschiene



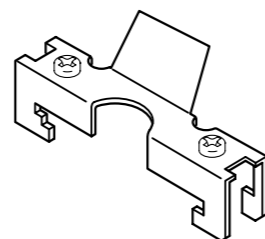
D Verbindung der Lichtleiter



E Einsatz von Lichtleitern mit schlanken Endhülsen

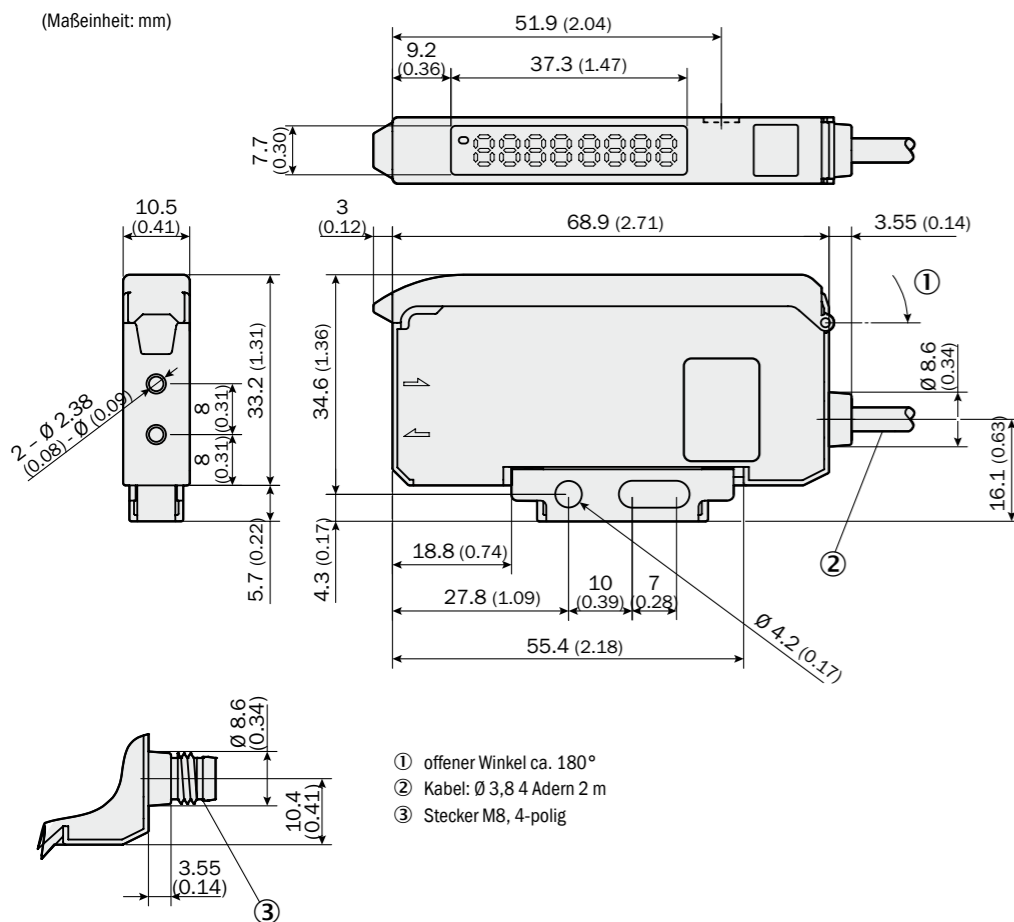


F Endstück



G WLL180T

(Maßeinheit: mm)



	WLL180T-P/N432	WLL180T-P/N434 (Rote LED) WLL180T-P/N474 (Infrarot-LED)
Anschlussart	Leitung	Stecker, M8, 4-pin
Schaltausgang	NPN/PNP Open Collector 100 mA/≤ 30 V DC resistiv Laststrom: ≤ 100 mA Restspannung: ≤ 1,8 V	NPN/PNP Open Collector 100 mA/≤ 30 V DC resistiv Laststrom: ≤ 100 mA Restspannung: ≤ 1,8 V
Versorgungsspannung	12 ... 24 V DC ± 10 % inkl. Restwelligkeit ¹⁾	12 ... 24 V DC ± 10 % inkl. Restwelligkeit ¹⁾
Stromverbrauch	≤ 50 mA/24 V	≤ 50 mA/24 V
Ansprechzeit	16 µs/70 µs/250 µs/2 ms/8 ms	16 µs/70 µs/250 µs/2 ms/8 ms
Ausgang	Hell-/dunkelschaltend	Hell-/dunkelschaltend
Kurzschlusschutz	✓	✓
Lichtquelle	Rote LED	Rote LED: WLL180T-P/N434 Infrarot-LED: WLL180T-P/N474
Betriebsanzeige/ Display	Ausgangsanzeige: Orange (Q _i) 2 x 4-stellige 7-Segment-Anzeige	Ausgangsanzeige: Orange (Q _i) 2 x 4-stellige 7-Segment-Anzeige
Empfindlichkeitseinstellung	Teach-in/Manuelle Einstellung	Teach-in/Manuelle Einstellung
Zeitstufe	Ausschaltverzögerung, Einschaltverzögerung, One shot, Ein-/Ausschaltverzögerung, One shot delay	Ausschaltverzögerung, Einschaltverzögerung, One shot, Ein-/Ausschaltverzögerung, One shot delay
Ein-/Ausschaltverzögerung	0,1 ms ... 9999 ms	0,1 ms ... 9999 ms
Einstellung Eingang	Einstellung externer Eingang (Teach-in/Test/Sync)	Einstellung externer Eingang (Teach-in/Test/Sync)
Umgebungstemperatur/Betrieb	-25 ... +55 °C/35 ... 85 % RF (kein Frost, keine Kondensation) ²⁾	-25 ... +55 °C/35 ... 85 % RF (kein Frost, keine Kondensation) ²⁾
Umgebungstemperatur/Lager	-40 ... +70 °C/35 ... 85 % RF (kein Frost, keine Kondensation)	-40 ... +70 °C/35 ... 85 % RF (kein Frost, keine Kondensation)
Schockfestigkeit	10 ... 55 Hz Doppelamplitude 1,5 mm 2 Std. in jede Richtung x, y, z	10 ... 55 Hz Doppelamplitude 1,5 mm 2 Std. in jede Richtung x, y, z
Schutzart	IP 50 ³⁾	IP 50 ³⁾
Gehäusematerial	PC	PC
Gewicht	Leitungstyp: 71 g, M8-Typ: 25 g	Leitungstyp: 71 g, M8-Typ: 25 g

¹⁾ 12 ... 24 V DC ± 10 %, Klasse 2 Spannungsversorgung

²⁾ Max. Umgebungstemperatur: +55 °C

³⁾ UL Gehäuse Typ 1

Deutsch

Sicherheitshinweise

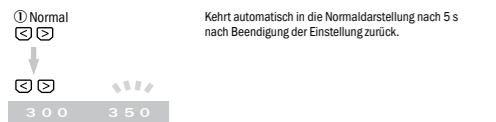
Vor Inbetriebnahme die Bedienungsanleitung lesen. Reflektor verwenden. Reflektor Warnhinweise sollen Sie vor Gefahren schützen oder helfen Ihnen, eine Beschädigung des Sensors oder der Anlage zu vermeiden. Wenden Sie keine andere Installations- oder Bedienungsprozedur wie hier beschrieben an.

- Sensor bei abgeschalteter Versorgungsspannung anschließen
- Verwenden Sie den Sensor nicht ohne Schutzabdeckung.
- Ein Betrieb in folgenden Umgebungen kann zu:
- Fehlfunktionen führen:
 1. staubige oder feuchte Umgebung.
 2. Bereiche mit korrosiven Gasen.
 3. Bereiche mit spritzendem Wasser oder Öl.
 4. Bereiche mit stark bewegtem Untergrund.
- Verwenden Sie den Sensor nicht im Freien.
- Keine Verwendung im Umfeld von Feuer, explosiven Gasen oder brennbaren Flüssigkeiten.
- Nicht im Wasser verwenden.
- Sensor nicht zerlegen, reparieren oder umbauen. Dieses kann zu Feuer und Elektroschock führen.
- Nur im vorgeschriebenen Bereich anwenden.
- Verpackung aufbewahren.
- Kein Sicherheitsbauteil gemäß EU-Maschinenrichtlinie.

⚠ Dieser Sensor darf nicht als Sicherheitsgerät verwendet werden, um den menschlichen Körper zu schützen.

ANSCHLUSSSCHEMA

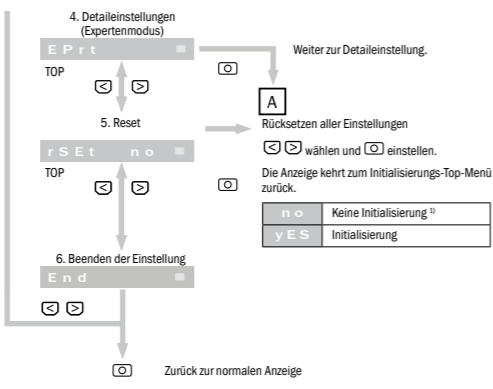
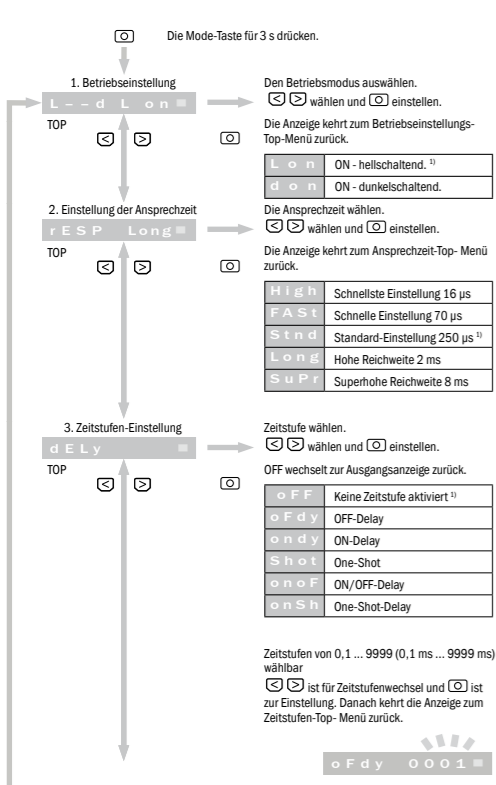
Manuelle Einstellung
Drücken Sie eine der Auswahl-tasten: Die Schaltschwellenanzeige blinkt. Einstellung ist nun möglich. Anpassung über die Auswahl-tasten.



Fehlerausgabe während des Teach-in
Eine Fehlermeldung wird bei fehlerhafter Eingabe während der Einstellung ausgegeben. Siehe nachfolgende Tabelle.

Err 1	Empfangswert ist zu niedrig
Err 2	Empfangswert ist zu niedrig
Err 3	Differenz zwischen zwei Empfangswerten ist zu klein

Funktionseinstellung



B Funktionstasten der Auswerteeinheit

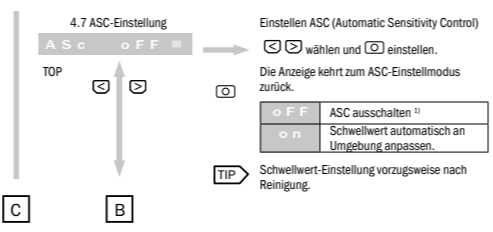
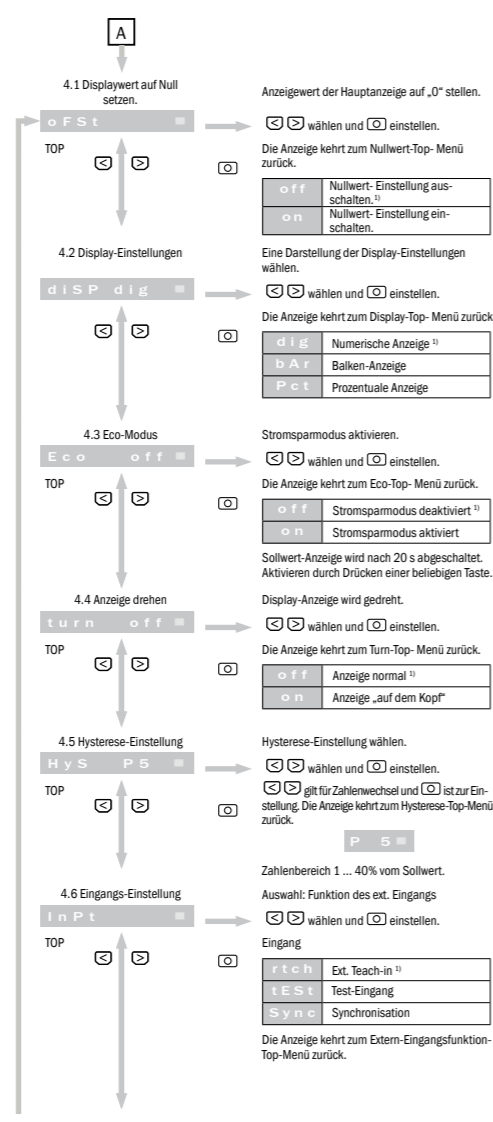
C Installation der Auswerteeinheit

- Anbringung auf/Entfernen von der Montageschiene
Anbringen des Sensors:
- 1 Den Sensor in die Montageschiene einhaken.
 - 2 Zum Arretieren von oben drücken.
- Entfernen des Sensors:
- 1 Den Sensor in Pfeilrichtung schieben.
 - 2 Anschlussseite für die Lichtleiter nach oben kippen und Sensor entfernen.

D Verbindung der Lichtleiter

- Lichtleiter-Verriegelung öffnen (siehe ①).
- Lichtleiter in vorgesehene Öffnungen bis zum Anschlag einführen (siehe ② - ca. 15 mm).
- Lichtleiter-Verriegelung schließen (siehe ③).

⚠ Bitte beachten
Bei Verwendung einer Tastervariante mit koaxialer Lichtleiteranordnung, den Kern-Lichtleiter oder weiß-gekennzeichneten Lichtleiter mit dem Sender verbinden. Den zweiten Lichtleiter mit dem Empfänger verbinden.

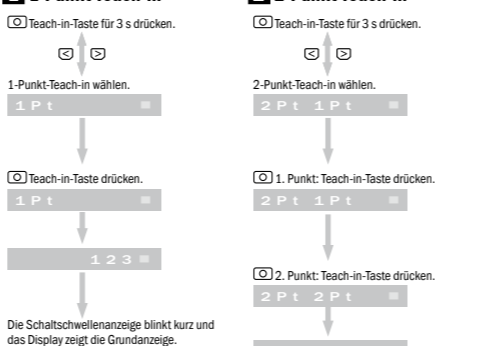


E Einsatz von Lichtleitern mit schlanken Endhülsen

- Adapterstück vollständig gegen den Uhrzeigersinn drehen und Lichtleiter einführen.
- Verschluss durch Drehung in Uhrzeigersinn.
- Abtrennen des überschüssigen Lichtleiters.

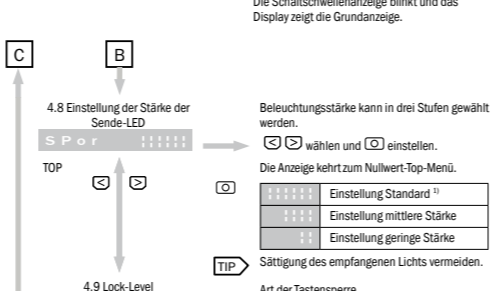
Einstellung

1 1-Punkt Teach-in

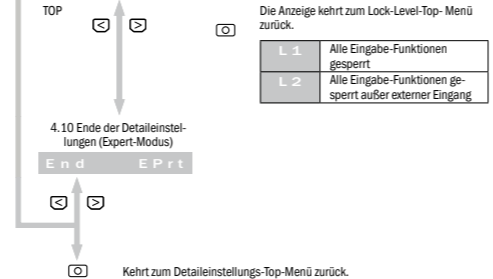


Die Schaltschwellenanzeige blinkt kurz und das Display zeigt die Grundanzeige.

2 2-Punkt Teach-in



Die Schaltschwellenanzeige blinkt und das Display zeigt die Grundanzeige.



Hinweise zur Funktionseinstellung

- ¹⁾ bedeutet Werkseinstellung.
- Einstelltaste ca. 0,3 s drücken, falls nichts anderes genannt wird.
- Die Anzeige blinkt, wenn die Einstellungs-Auswahl verfügbar ist.

Rückkehr zur Normaleinstellung mit einer Taste

Die [] Taste für 2 s oder länger gedrückt halten, um zur Normaleinstellung (Betriebsmodus) zurückzukehren ohne den Menüpunkt End zu verwenden.

Sperren der Bedienelemente

Sperrt alle Eingabe-Funktionen wie in 4.9 ausgewählt (Manipulationsschutz).
Beide [] Tasten im RUN-Mode gleichzeitig 2 s oder länger drücken. Zum Entsperren analog verfahren (Manipulationsschutz).



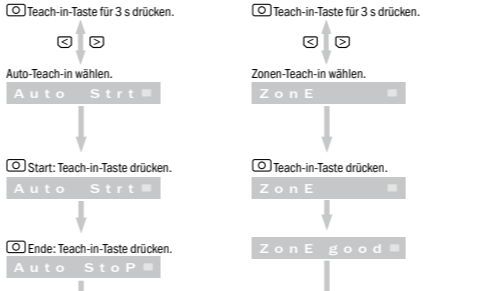
SAM Circuit (ASC = Automatic Sensitivity Control)

Schwellenwert wird automatisch zurückgesetzt, während der Sensor laufend das empfangene Licht prüft. Ein plötzlicher Wechsel der Lichtmenge wie z. B. die Reinigung der Linse, stellt den Schwellenwert zurück.

Externer Teach-in

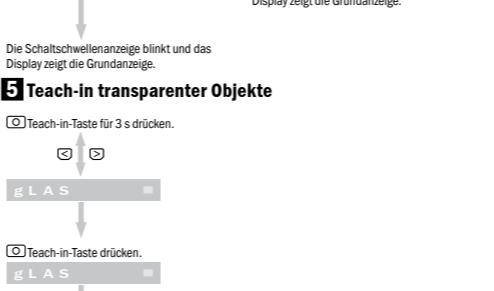
Der Teach-in-Eingang (ET) muss für > 200 ms aktiviert werden um einen Teach-in-Vorgang durchzuführen (ET an > 10 V ... < U_v für PNP-Geräte; ET an 0 V für NPN-Geräte).

3 Auto-Teach-in



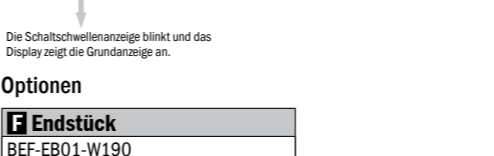
Die Schaltschwellenanzeige blinkt und das Display zeigt die Grundanzeige.

4 Zone Teach-in



Die Schaltschwellenanzeige blinkt und das Display zeigt die Grundanzeige.

5 Teach-in transparenter Objekte



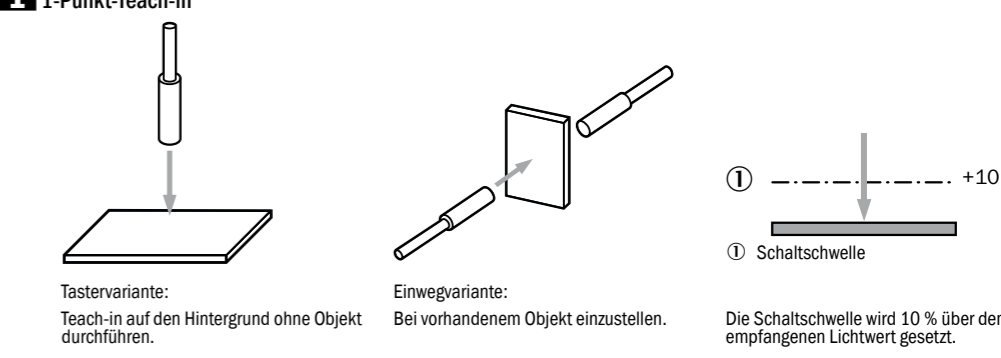
Die Schaltschwellenanzeige blinkt und das Display zeigt die Grundanzeige an.

Optionen

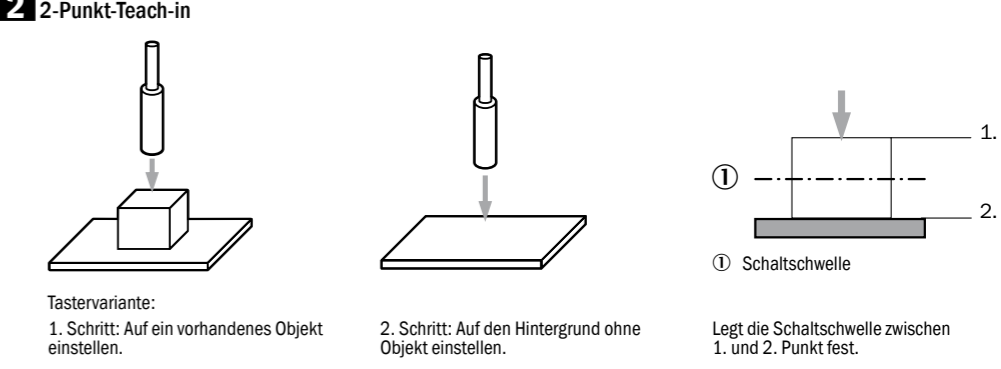
F Endstück
BEF-EB01-W190

Änderungen vorbehalten.
Für weitergehende Informationen bzgl. Konfigurationsmenü und Teach-in-Funktionen siehe Anwenderhandbuch oder www.sick.com.

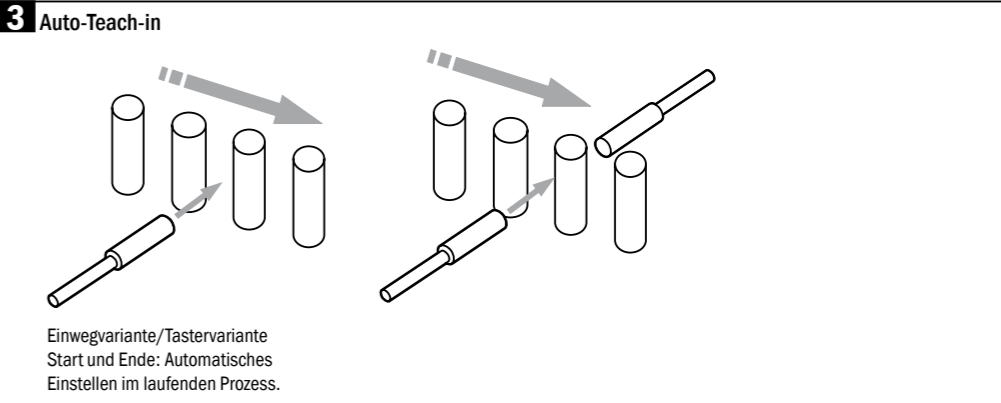
1 1-Punkt-Teach-in



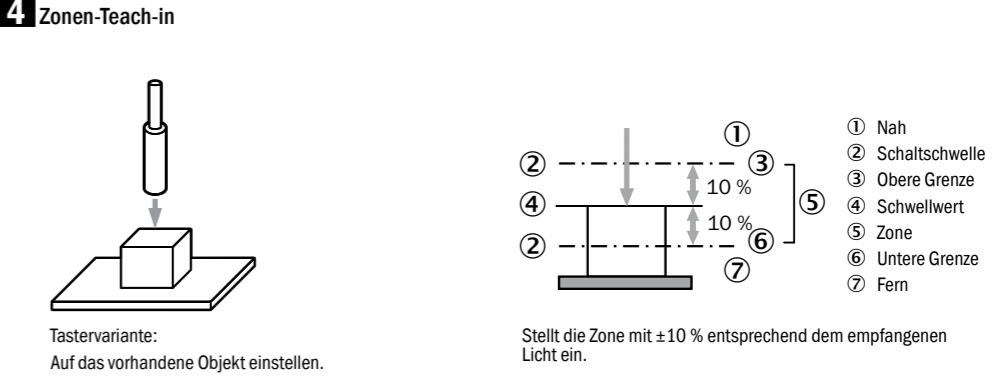
2 2-Punkt-Teach-in



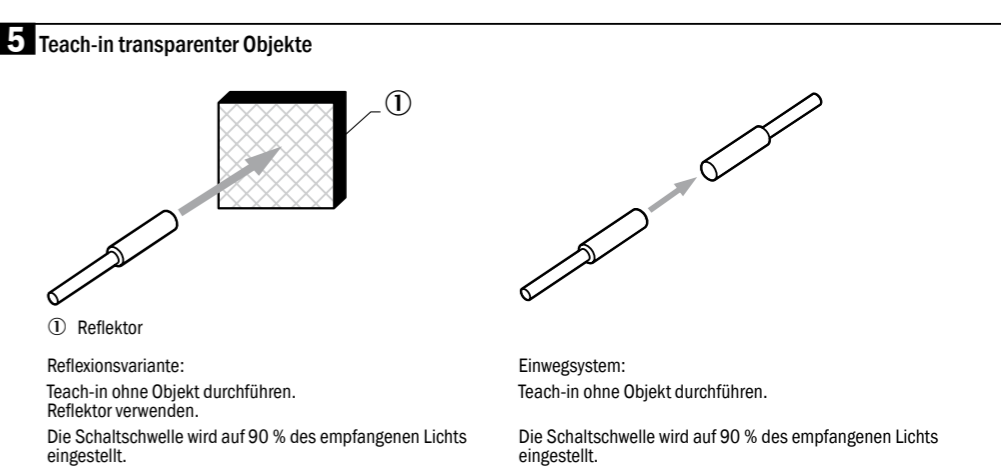
3 Auto-Teach-in



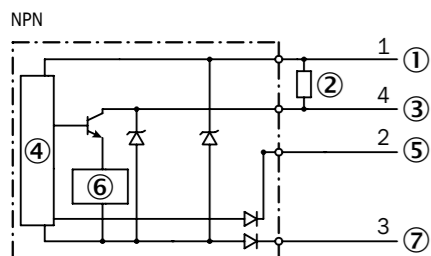
4 Zonen-Teach-in



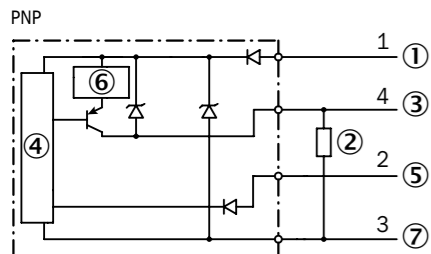
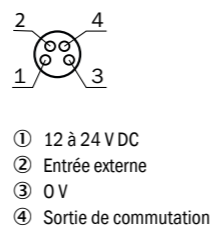
5 Teach-in transparenter Objekte



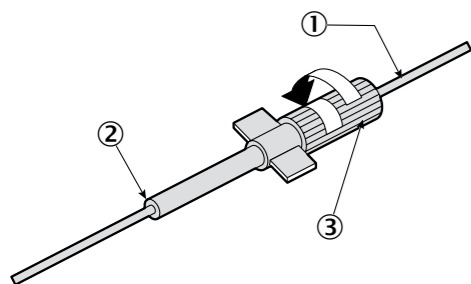
A Schéma de raccordement



- ① Marron : 12 à 24 V DC
- ② Charge
- ③ Noir : sortie de commutation
- ④ Circuit
- ⑤ Blanc : entrée externe
- ⑥ Antiparasite
- ⑦ Bleu : 0 V

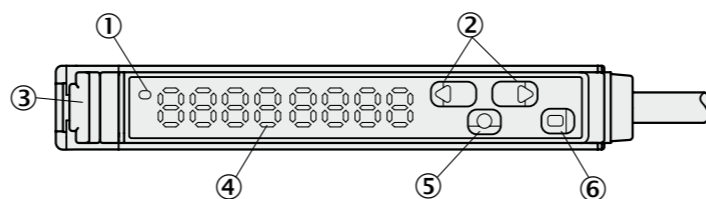


E Utilisation des fibres optiques avec des embouts minces



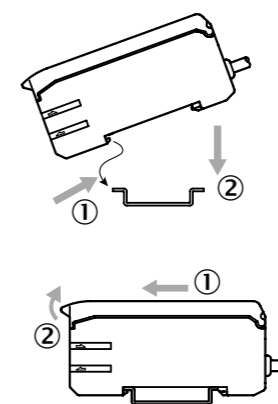
- ① Fibres optiques à embout mince
- ② Position de séparation
- ③ Capuchon d'adaptation

B Unité de base

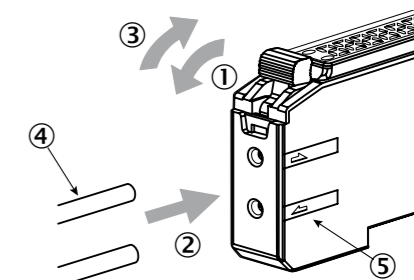


- ① Affichage de la sortie (orange)
- ② Touche de sélection
- ③ Verrouillage des fibres optiques
- ④ Affichage
- ⑤ Touche mode
- ⑥ Bouton d'apprentissage

C Pose sur / retrait du rail de montage

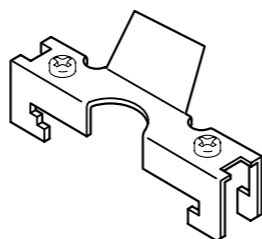


D Raccordement des fibres optiques



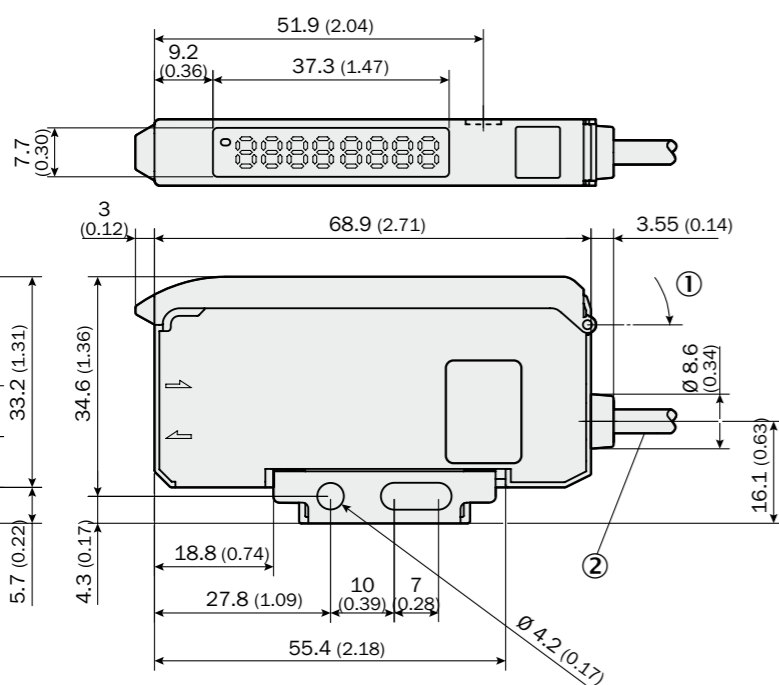
- ① Ouvrir le verrouillage des fibres optiques.
- ② Introduire les fibres optiques dans les ouvertures prévues jusqu'en butée.
- ③ Fermer le verrouillage des fibres optiques.
- ④ Fibres optiques
- ⑤ Affichage émetteur / récepteur

F Embout terminal



G WLL180T

(Unité de mesure : mm)



- ① angle ouvert env. 180°
- ② Câble : Ø 3,8 4 conducteurs 2 m
- ③ Connecteur mâle M8, 4 pôles

	WLL180T-P/N432	WLL180T-P/N434 (LED rouge) WLL180T-P/N474 (LED infrarouge)
Mode de raccordement	Câble	Connecteur mâle M8, 4 broches
Sortie de commutation	NPN/PNP Open Collector 100 mA/≤30 V DC résistif Courant de charge : ≤ 100 mA Tension résiduelle : ≤ 1,8 V	NPN/PNP Open Collector 100 mA/≤30 V DC résistif Courant de charge : ≤ 100 mA Tension résiduelle : ≤ 1,8 V
Tension d'alimentation	12 ... 24 V DC y compris ondulation résiduelle de ± 10 %	12 ... 24 V DC y compris ondulation résiduelle de ± 10 %
Consommation électrique	≤ 50 mA / 24 V	≤ 50 mA / 24 V
Temps de réponse	16 µs / 70 µs / 250 µs / 2 ms / 8 ms	16 µs / 70 µs / 250 µs / 2 ms / 8 ms
Sortie	commutation clair/sombre	commutation clair/sombre
Protection contre les courts-circuits	✓	✓
Source lumineuse	LED rouge	LED rouge : WLL180T-P/N434 LED infrarouge : WLL180T-P/N474
Afficheur d'état / écran	Affichage de sortie : orange (Q ₁ , Q ₂) 2 x 4 afficheurs à 7 segments	Affichage de sortie : orange (Q ₁ , Q ₂) 2 x 4 afficheurs à 7 segments
Réglage de sensibilité	Apprentissage / réglage manuel	Apprentissage / réglage manuel
Incrément de temps	Retard au déclenchement, Retard à la mise sous tension, One shot, Retard à l'enclenchement / au déclenchement, One shot delay	Retard au déclenchement, Retard à la mise sous tension, One shot, Retard à l'enclenchement / au déclenchement, One shot delay
Retard à l'enclenchement / au déclenchement	0,1 ms ... 9999 ms	0,1 ms ... 9999 ms
Réglage de l'entrée	Réglage de l'entrée externe (apprentissage/test/sync)	Réglage de l'entrée externe (apprentissage/test/sync)
Température ambiante/fonctionnement	-25 ... + 55 °C / 35 ... 85 % HR (pas de gel, pas de condensation)	-25 ... + 55 °C / 35 ... 85 % HR (pas de gel, pas de condensation)
Température ambiante/entrepôt	-40 ... + 70 °C / 35 ... 85 % HR (pas de gel, pas de condensation)	-40 ... + 70 °C / 35 ... 85 % HR (pas de gel, pas de condensation)
Immunité aux chocs	10 ... 55 Hz, amplitude double 1,5 mm, 2 h sur tous les axes x, y, z	10 ... 55 Hz, amplitude double 1,5 mm, 2 h sur tous les axes x, y, z
Indice de protection	IP 50	IP 50
Matériau du boîtier	PC	PC
Poids	Type de câble : 71 g, type M8 : 25 g	Type de câble : 71 g, type M8 : 25 g

¹⁾ 12 ... 24 V DC ± 10 %, classe 2 alimentation électrique

²⁾ Température ambiante maxi. : +55 °C

³⁾ UL boîtier de 1

Consignes de sécurité

Lire la notice d'utilisation avant la mise en service. Utiliser le réflecteur. Les avertissements du réflecteur doivent vous protéger contre les dangers et empêcher l'endommagement du capteur ou de l'installation. Ne suivez pas d'autre procédure d'installation ou d'utilisation que celle décrite ici.

- Brancher le capteur lorsque la tension d'alimentation est coupée
- Ne pas utiliser le capteur sans couvercle de protection.
- L'utilisation dans les environnements suivants peut entraîner des dysfonctionnements :
 - 1 environnement poussiéreux ou humide
 - 2 zones où règnent des gaz corrosifs.
 - 3 Zones soumises à des projections d'eau ou d'huile.
 - 4 Zones avec un sous-sol fortement meuble.
- Ne pas utiliser le capteur à l'extérieur.
- Ne pas utiliser à proximité du feu, de gaz explosifs ou de liquides inflammables.
- Ne pas utiliser dans l'eau.
- Ne pas démonter, réparer ni transformer le capteur. Ceci peut causer un incendie ou un choc électrique.
- Utiliser uniquement dans la zone prescrite.
- Conserver l'emballage.
- Il ne s'agit pas d'un composant de sécurité au sens de la directive machines CE.

⚠ Ne pas utiliser ce capteur comme un appareil de sécurité permettant de protéger le corps humain.

A Schéma de raccordement

Réglage manuel

Appuyez sur l'une des touches de sélection : l'affichage du seuil de commutation clignote. Le réglage est désormais possible. Modification avec les touches de sélection.

① Normal
 Revient automatiquement à l'affichage normal 5 secondes après la fin du réglage.

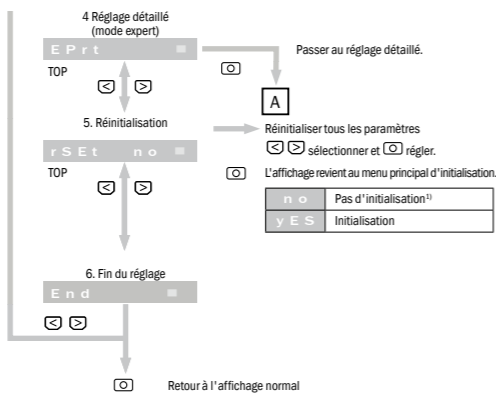
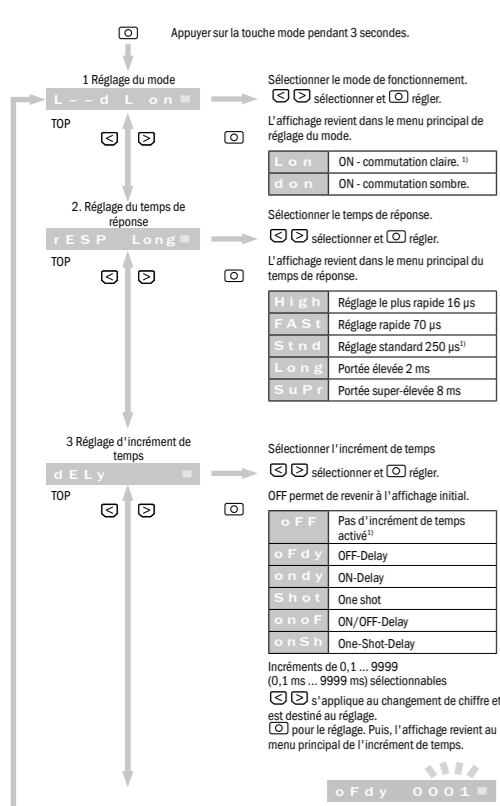


Erreur pendant l'apprentissage

Un message d'erreur s'affiche en cas de saisie incorrecte pendant le réglage. Voir le tableau suivant.

Err 1	La valeur de réception est trop faible
Err 2	La valeur de réception est trop faible
Err 3	La différence entre les deux valeurs de réception est trop faible

Réglage de fonction



B Touches de fonction de l'unité d'évaluation

C Installation de l'unité d'évaluation

Pose sur/retrait du rail de montage

Pose du capteur :

- 1 Accrocher le capteur au rail de montage.
- 2 Appuyer par le haut pour le bloquer.

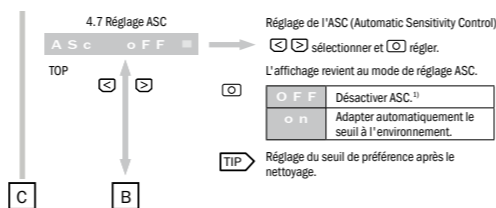
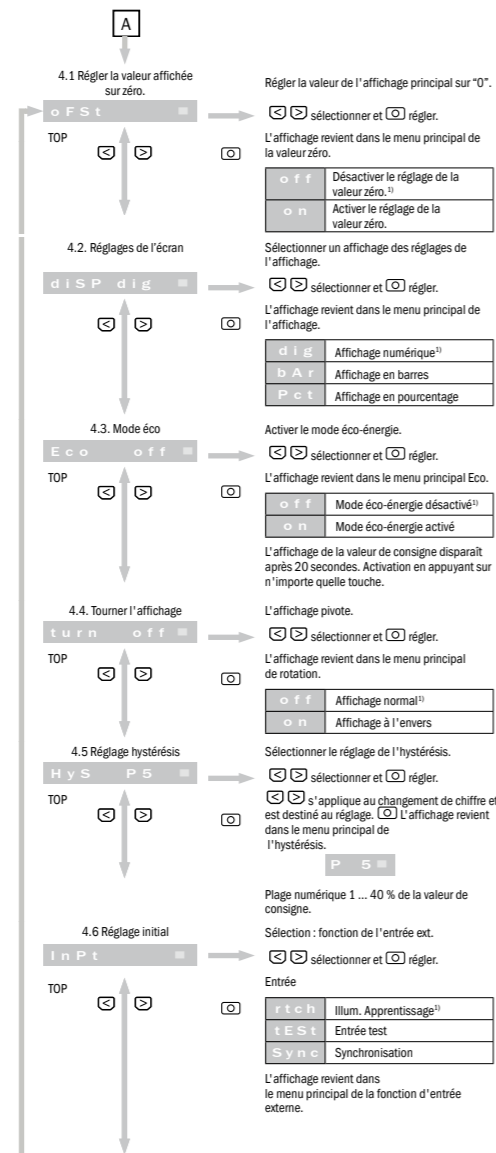
Retrait du capteur :

- 1 Pousser le capteur dans le sens de la flèche.
- 2 Basculer vers le haut le côté raccordement pour les fibres optiques et retirer le capteur.

D Raccordement des fibres optiques

- Ouvrir le verrouillage des fibres optiques (voir ①).
- Introduire les fibres optiques dans les ouvertures prévues jusqu'en butée (voir ② - env. 15 mm).
- Fermer le verrouillage des fibres optiques (voir ③).

⚠ Attention
 Si la version avec touche et fibres optiques coaxiales est utilisée, raccorder les fibres optiques du noyau ou les fibres optiques marquées en blanc à l'émetteur. Raccorder les secondes fibres optiques au récepteur.



E Utilisation des fibres optiques avec des embouts minces

- Tourner l'adaptateur à fond dans le sens inverse des aiguilles d'une montre et introduire les fibres optiques. Fermeture en tournant dans le sens des aiguilles d'une montre.
- Couper les fibres optiques superflues.

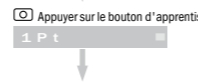
Réglage

1 Apprentissage 1 point

Appuyer sur le bouton d'apprentissage pendant 3 secondes.



Appuyer sur le bouton d'apprentissage.



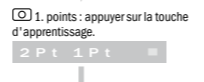
L'affichage du seuil de commutation clignote rapidement et l'affichage de base apparaît.

2 Apprentissage 2 points

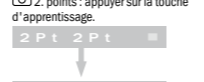
Appuyer sur le bouton d'apprentissage pendant 3 secondes.



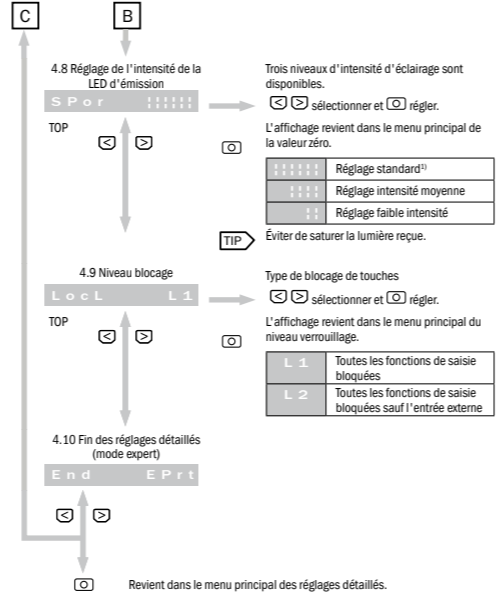
1. points : appuyer sur la touche d'apprentissage.



2. points : appuyer sur la touche d'apprentissage.



L'affichage du seuil de commutation clignote et l'affichage de base apparaît.



Remarques sur le réglage de fonction

- ¹⁾ signifie réglage d'usine.
- Appuyer sur la touche de réglage pendant 0,3 seconde si aucune autre instruction n'est fournie.
- L'affichage clignote lorsque la sélection du réglage est disponible.

Retour au réglage normal avec une touche

Maintenir la touche enfoncée pendant 2 secondes minimum pour revenir dans le réglage normal (mode de fonctionnement) sans utiliser l'option de menu Fin.

Blocage des éléments de commande

Bloque toutes les fonctions de saisie comme indiqué sous 4.9 (protection contre la neutralisation frauduleuse).

Appuyer sur les deux touches en même temps en mode RUN pendant au moins 2 secondes. Procéder de la même façon pour le déblocage (protection contre la neutralisation frauduleuse).



Circuit SAM (ASC = Automatic Sensitivity Control)

Le seuil est automatiquement réinitialisé lorsque le capteur contrôle la lumière reçue en continu. La variation soudaine de la quantité de lumière, par exemple pendant le nettoyage de la lentille, réinitialise le seuil.

Apprentissage externe

L'entrée d'apprentissage (ET) doit être activée pendant > 200 ms pour effectuer un apprentissage (ET > 10 V ... < UV pour appareils PNP ; ET 0 V pour appareils NPN).

3 Auto-apprentissage

Appuyer sur la touche d'apprentissage pendant 3 secondes.



Démarrage : appuyer sur le bouton d'apprentissage.



Fin : appuyer sur le bouton d'apprentissage



L'affichage du seuil de commutation clignote et l'affichage de base apparaît.

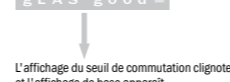
L'affichage du seuil de commutation clignote et l'affichage de base apparaît.

L'affichage du seuil de commutation clignote et l'affichage de base apparaît.

Appuyer sur la touche d'apprentissage pendant 3 secondes.



Appuyer sur le bouton d'apprentissage.



L'affichage du seuil de commutation clignote et l'affichage de base apparaît.

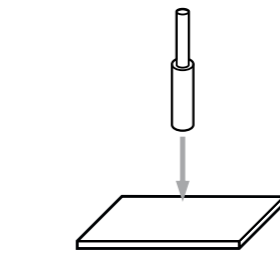
Options

F Embout terminal

BEF-EB01-W190

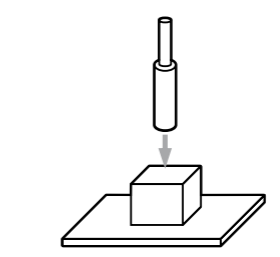
- Sous réserve de modifications.
- Pour obtenir des informations complémentaires sur le menu de configuration et les fonctions d'apprentissage, voir le manuel d'utilisation ou www.sick.com.

1 Apprentissage 1 point



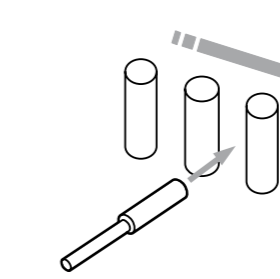
Version avec touche :
 Procéder à l'apprentissage sur l'arrière-plan sans objet.

2 Apprentissage 2 points



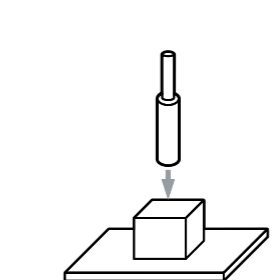
Version avec touche :
 1ère étape : régler sur un objet existant.

3 Auto-apprentissage



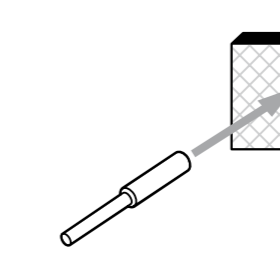
Version à une seule voie / Version avec touche
 Démarrage et fin : réglage automatique en cours de fonctionnement.

4 Zone d'apprentissage



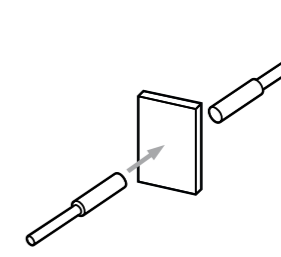
Version avec touche :
 Régler sur l'objet existant.

5 Apprentissage des objets transparents

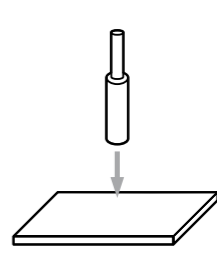


① Réflecteur

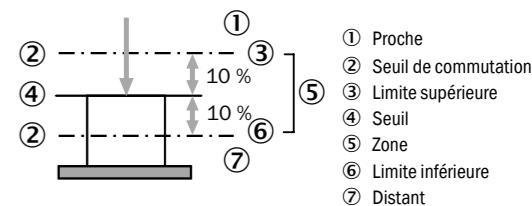
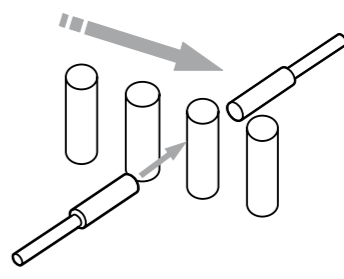
Version avec réflexion :
 Effectuer l'apprentissage sans objet.
 Le seuil de commutation est réglé à 90 % de la lumière reçue.



Version à une seule voie :
 Régler si un objet est présent.



2e étape : régler sur l'arrière-plan sans objet.



Règle la zone avec ±10 % selon la lumière reçue.

① Seuil de commutation

Le réglage du seuil de commutation est supérieur de 10 % à la valeur de lumière reçue.

① Seuil de commutation

Règle le seuil de commutation entre 1 et 2 points.

① Seuil de commutation

① Seuil de commutation

① Seuil de commutation

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① Seuil de commutation

① Seuil de commutation

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① Seuil de commutation

① Seuil de commutation

① Seuil de commutation

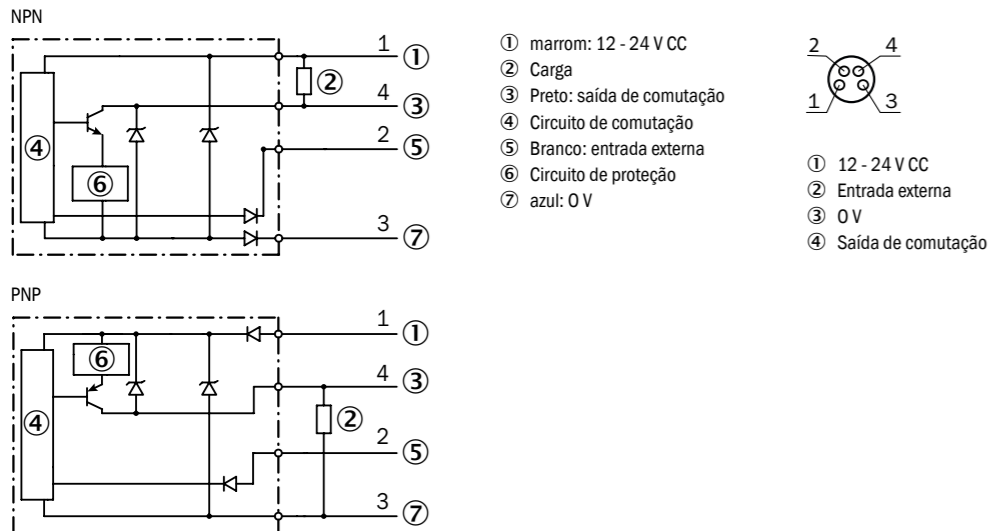
① Seuil de commutation

① Seuil de commutation

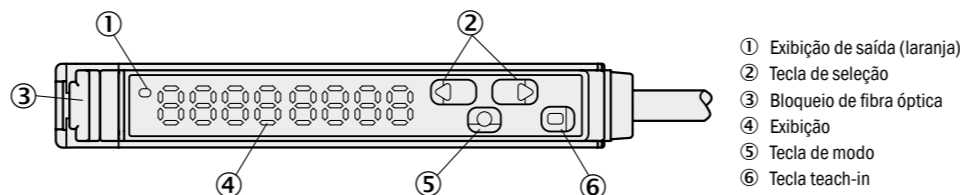
① Seuil de commutation

① Seuil de commutation

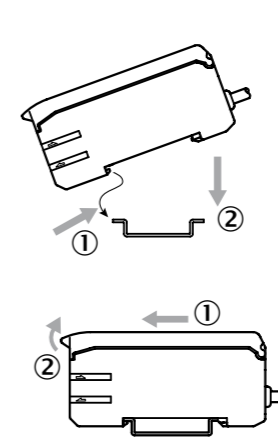
A Esquema de conexão



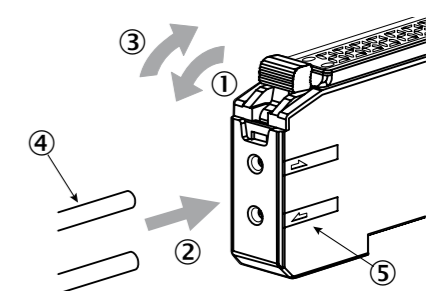
B Unidade básica



C Instalação sobre/remoção do trilho de montagem

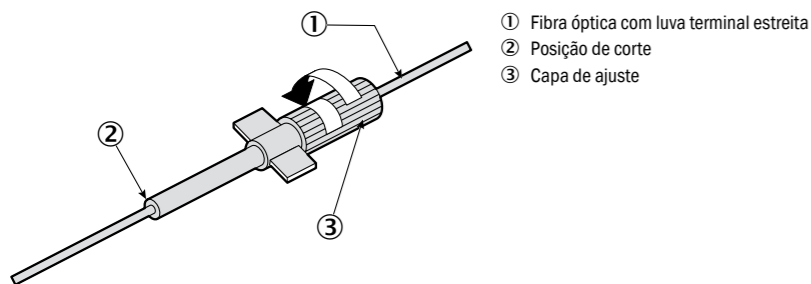


D Conexão fibra óptica

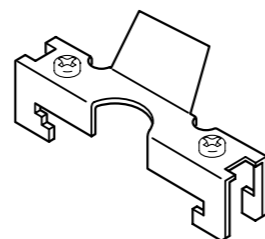


- ① Abrir o bloqueio de fibras ópticas.
- ② Introduzir as fibras ópticas nas aberturas previstas até encostar.
- ③ Fechar o bloqueio de fibras ópticas.
- ④ Fibra óptica
- ⑤ Exibição emissor/receptor

E Utilização de fibras ópticas com luvas terminais finas

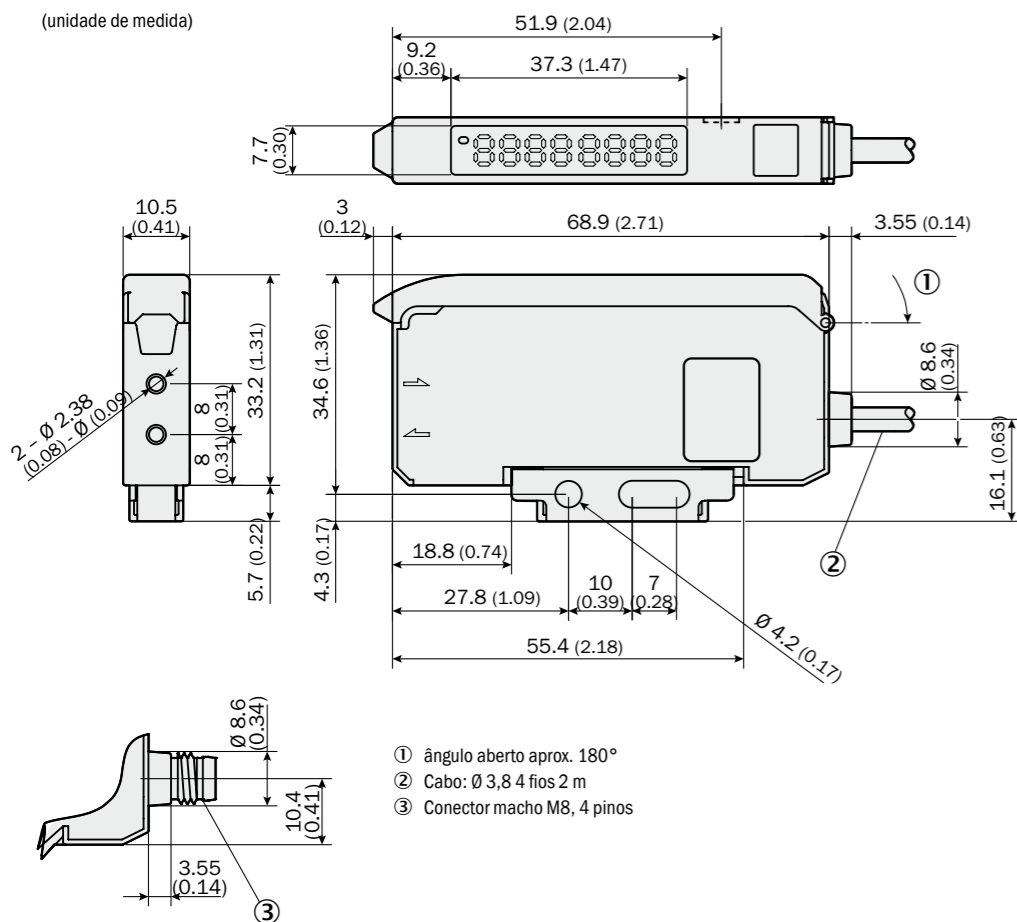


F Peça terminal



G WLL180T

(unidade de medida)



	WLL180T-P/N432	WLL180T-P/N434 (LED vermelho) WLL180T-P/N474 (LED infravermelho)
Tipo de conexão	Cabo	Conector macho M8, 4 pinos
Saída de comutação	NPN/PNP Open Collector 100 mA/≤ 30 V CC resistivo Corrente de carga: ≤ 100 mA Tensão residual ≤ 1,8 V	NPN/PNP Open Collector 100 mA/≤ 30 V CC resistivo Corrente de carga: ≤ 100 mA Tensão residual ≤ 1,8 V
Tensão de alimentação	12 ... 24 V CC ± 10% incl. ondulação residual	12 ... 24 V CC ± 10% incl. ondulação residual
Consumo de corrente	≤ 50 mA/24 V	≤ 50 mA/24 V
Tempo de resposta	16 µs/70 µs/250 µs/2 ms/8 ms	16 µs/70 µs/250 µs/2 ms/8 ms
Saída	Comutação por sombra/luz	Comutação por sombra/luz
Proteção contra curto-circuito	✓	✓
Fonte de luz	LED vermelho	LED vermelho: WLL180T-P/N434 LED infravermelho: WLL180T-P/N474
Indicador de operação/ display	Exibição de saída: laranja (Q ₁ , Q ₂) 2 x indicador de 7 segmentos de 4 posições	Exibição de saída: laranja (Q ₁ , Q ₂) 2 x indicador de 7 segmentos de 4 posições
Ajuste da sensibilidade	Teach-in/configuração manual	Teach-in/configuração manual
Escala de tempo	Atraso de desligamento, Atraso de ligação, One shot, exibir/ocultar, One shot delay	Atraso de desligamento, Atraso de ligação, One shot, exibir/ocultar, One shot delay
exibir/ocultar	0,1 ms ... 9999 ms	0,1 ms ... 9999 ms
Configuração entrada	Configuração entrada externa (teach-in/teste/sincr)	Configuração entrada externa (teach-in/teste/sincr)
Temperatura ambiente, operação	-25 ... +55 °C/35 ... 85% RF (sem congelamento, sem condensação)	-25 ... +55 °C/35 ... 85% RF (sem congelamento, sem condensação)
Temperatura ambiente/depósito	-40 ... +70 °C/35 ... 85% RF (sem congelamento, sem condensação)	-40 ... +70 °C/35 ... 85% RF (sem congelamento, sem condensação)
Resistência a choques mecânicos	10 ... 55 Hz, dupla amplitude 1,5 mm, 2 horas em cada direção x, y, z	10 ... 55 Hz, dupla amplitude 1,5 mm, 2 horas em cada direção x, y, z
Tipo de proteção	IP 50	IP 50
Material da carcaça	PC	PC
Peso	Tipo de potência: 71 g, tipo M8: 25 g	Tipo de potência: 71 g, tipo M8: 25 g

¹⁾ 12 ... 24 V CC ± 10%, alimentação de tensão classe 2

²⁾ Temperatura ambiente máx.: +55 °C

³⁾ UL tipo de carcaça 1

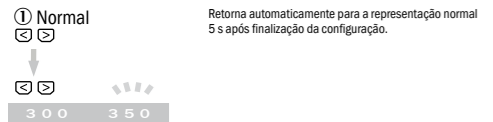
Avisos de segurança

- Ler o manual de instruções antes da colocação em operação. Utilizar refletor. Os avisos de advertência do refletor têm por fim protegê-lo de riscos ou ajudá-lo a evitar uma danificação do sensor ou da instalação. Não utilize outro procedimento de instalação ou de operação a não ser o aqui descrito.
- Conectar o sensor com a tensão de alimentação desligada
 - Não utilize o sensor sem cobertura de proteção.
 - A operação sob as seguintes condições ambientais pode resultar
 - falhas de funcionamento:
 1. ambiente com poeira e umidade.
 2. áreas contendo gases corrosivos.
 3. áreas com respingos de água e óleo.
 4. áreas com base de movimentação intensa.
 - Não utilize o sensor ao ar livre.
 - Não utilizar em ambientes com fogo, gases explosivos ou líquidos inflamáveis.
 - Não utilizar em água.
 - Não decompor o sensor, nem reparar ou modificar. Isto pode produzir fogo e choque elétrico.
 - Utilizar exclusivamente na área especificada.
 - Guardar a embalagem.
 - Este não é um componente de segurança conforme a Diretriz de Máquinas Europeia.

⚠ Este sensor não deve ser utilizado como dispositivo de segurança para proteger o corpo humano.

A Esquema de conexões

Configuração manual
 Pressione uma das teclas de seleção: a exibição do limiar de comutação pisca. Agora a configuração é possível. Ajuste por meio das teclas de seleção.

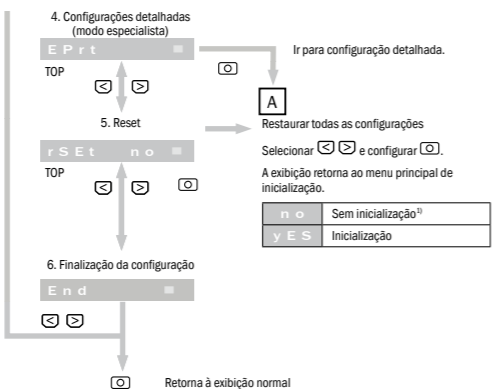
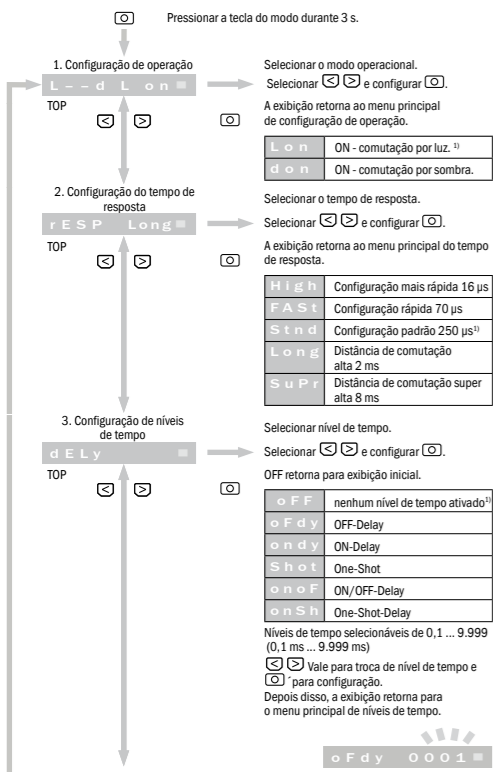


Edição de erros durante o teach-in

Se for executada uma inserção errada durante a configuração, será editado um aviso de erro. Veja a tabela a seguir.

Err 1	Valor de recepção é muito baixo
Err 2	Valor de recepção é muito alto
Err 3	Diferença entre dois valores de recepção é muito pequena

Configuração de funções



B Teclas de funções da unidade de avaliação

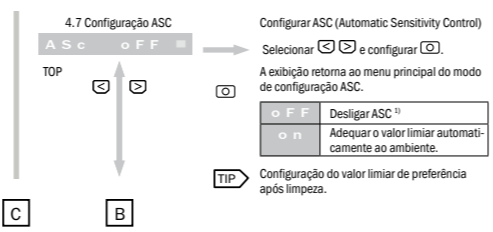
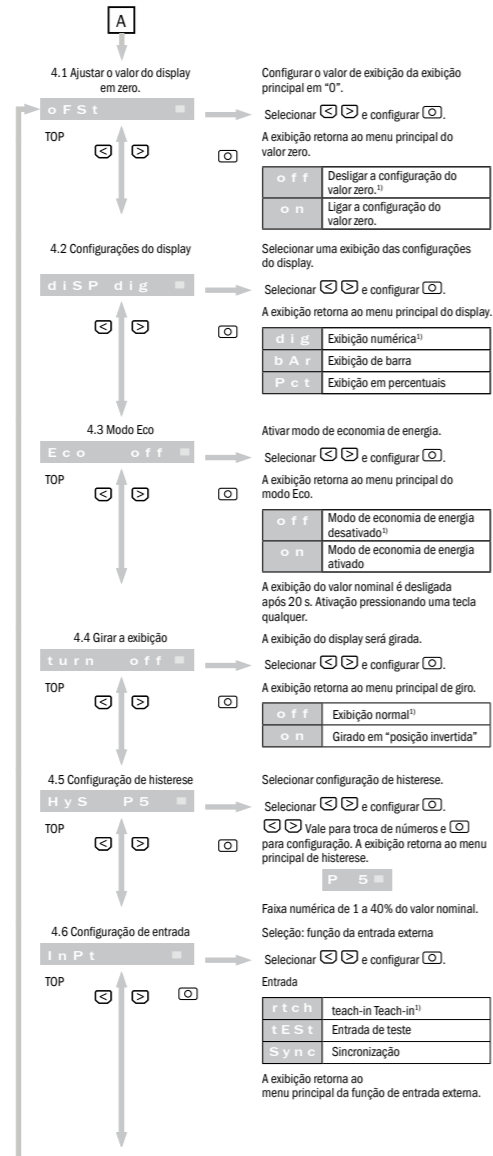
C Instalação da unidade de avaliação

Instalação sobre/remoção do trilho de montagem
 Instalação do sensor:
 1 Encaixar o sensor no trilho de montagem.
 2 Para fixar, pressionar pela parte superior.
 Remoção do sensor:
 1 Deslocar o sensor na direção da seta.
 2 Virar o lado da conexão da fibra óptica para cima e remover o sensor.

D Conexão das fibras ópticas

- Abrir o travamento das fibras ópticas (ver 1).
- Introduzir as fibras ópticas nas aberturas previstas até encostar (ver 2 - aprox. 15 mm).
- Fechar o travamento das fibras ópticas (ver 3).

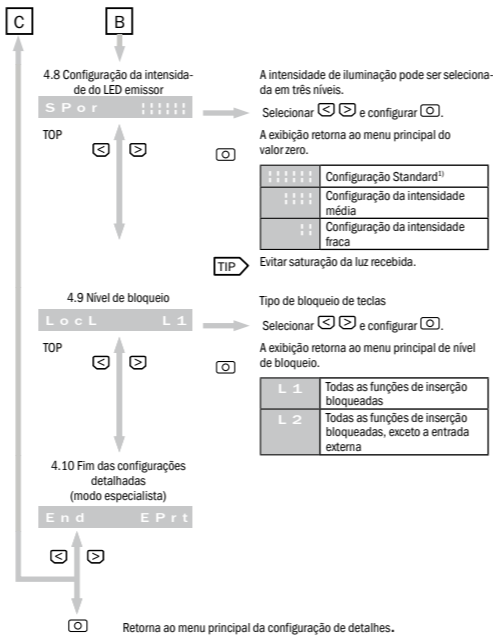
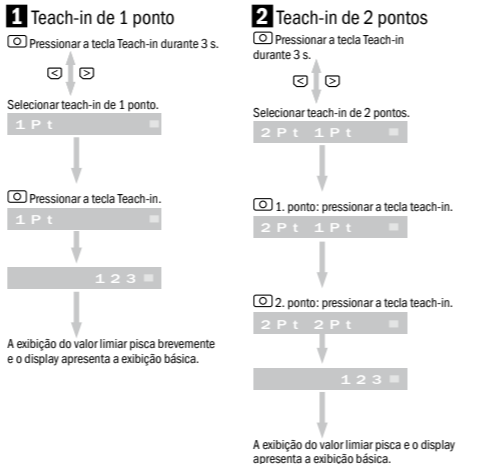
⚠ Observar
Na utilização de uma variante do botão com disposição coaxial das fibras ópticas, unir a fibra óptica de núcleo ou a fibra óptica identificada com branco com o emissor. Unir a segunda fibra óptica com o receptor.



E Utilização de fibras ópticas com luvas terminais finas

- Girar o adaptador totalmente em sentido anti-horário e introduzir a fibra óptica.
- Fechamento mediante giro em sentido horário.
- Corte da fibra óptica excedente.

Configuração



Indicações sobre a configuração de funções

- ¹⁾significa configuração de fábrica.
- Pressionar tecla de configuração por aprox. 0,3 s, caso não houver outra especificação.
- A exibição pisca se a seleção de configuração estiver disponível.

Retornar à configuração normal com uma tecla

Manter pressionada a tecla por 2 s ou mais para voltar à configuração normal (modo operacional) sem utilizar o item do menu Fim.

Bloqueio dos elementos de comando

Bloqueia todas as funções de inserção como selecionado no item 4.9 (proteção contra manipulação).

Pressionar as duas teclas simultaneamente no modo RUN durante 2 s ou mais. Para desbloquear, proceder de modo análogo (proteção contra manipulação).



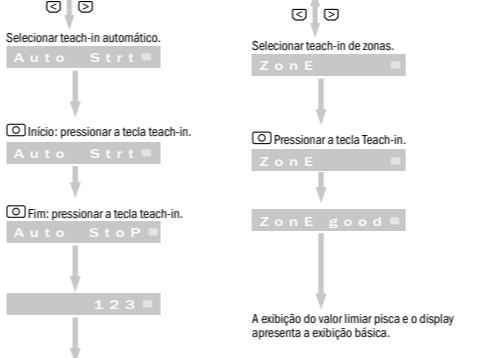
Circuito SAM (ASC = Automatic Sensitivity Control)

O valor limiar é restaurado automaticamente enquanto o sensor verifica continuamente a luz recebida. Uma troca súbita da quantidade de luz, por exemplo, a limpeza da lente, restaura o valor limiar.

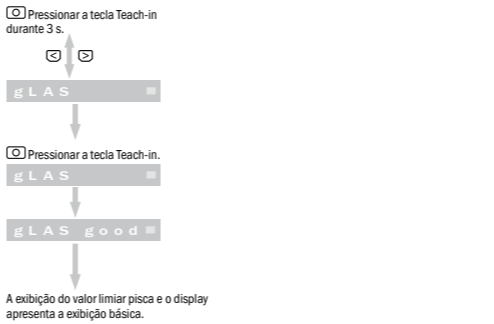
Teach-in externo

A entrada teach-in (ET) deve ser ativada durante > 200 ms para executar o procedimento teach-in (ET em > 10 V a < U_v para dispositivos PNP; ET em 0 V para dispositivos NPN).

3 Teach-in automático



5 Teach-in de objetos transparentes

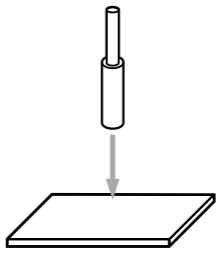


Opções

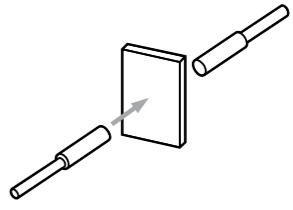
F Peça terminal BEF-EB01-W190

- Manter alteração.
- Para mais informações sobre o menu de configuração e as funções de teach-in, ver Manual do usuário ou www.sick.com.

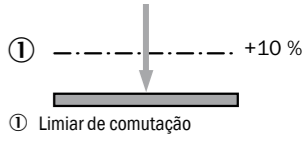
1 Teach-in de 1 ponto



Variante de botão: executar o teach-in no fundo sem objeto.

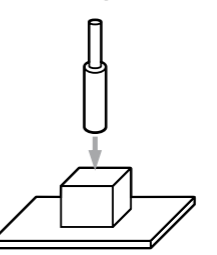


Variante descartável: A ser configurado se existir objeto.

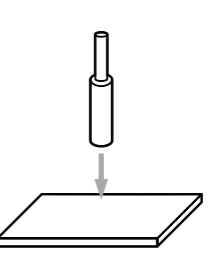


O limiar de comutação é definido em 10% acima do valor de luz recebida.

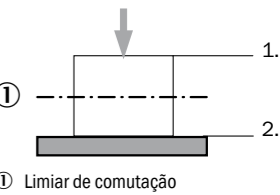
2 Teach-in de 2 pontos



Variante de botão: 1º passo: configurar para um objeto existente.

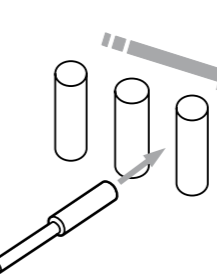


2º passo: configurar para fundo sem objeto.

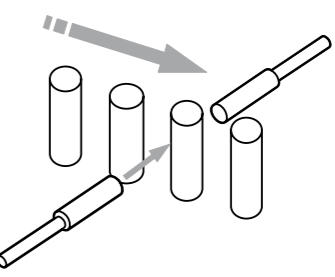


Define o limiar de comutação entre o 1º e o 2º ponto.

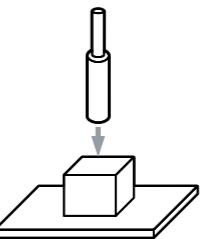
3 Teach-in automático



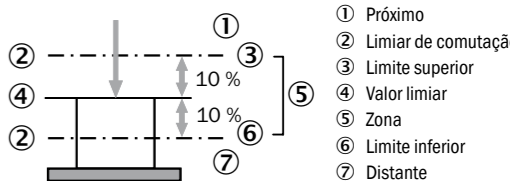
Variante descartável/Variante de botão
 Início e fim: configuração automática no processo em andamento.



4 Teach-in de zona

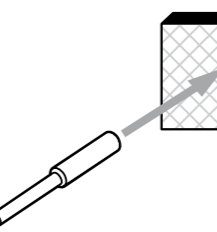


Variante de botão: Configurar para o objeto existente.



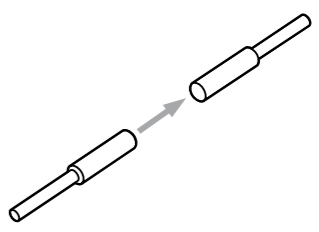
Regula a zona em 10 % de acordo com a luz recebida.

5 Teach-in de objetos transparentes



Refletor
 Variante de reflexão:
 Executar Teach-in sem objeto. Utilizar refletor.

O limiar de comutação é configurado para 90% da luz recebida.



Sistema de uma via:
 Executar Teach-in sem objeto.

O limiar de comutação é configurado para 90% da luz recebida.

Avvertenze di sicurezza

Prima della messa in servizio leggere le istruzioni per l'uso. Utilizzare il riflettore. Le avvertenze di pericolo sul riflettore hanno lo scopo di proteggere da pericoli o di aiutare a evitare danni del sensore o dell'impianto. Non applicare procedure di installazione o utilizzo diverse da quelle qui descritte.

- Collegare il sensore con tensione di alimentazione disinserita.
- Non utilizzare il sensore senza copertura di protezione.
- L'esercizio nelle seguenti condizioni può comportare malfunzionamenti:
 1. ambienti polverosi o umidi
 2. ambienti con gas corrosivi
 3. ambienti con spruzzi di acqua o ilio
 4. ambienti con fondi molto mobili.
- Non utilizzare il sensore all'aperto.
- Non utilizzare vicino a fiamme libere, gas esplosivi o fluidi infiammabili.
- Non utilizzare nell'acqua.
- Non disassemblare, riparare o smontare il sensore. Ciò può provocare incendi e scosse elettriche.
- Utilizzare solo per le applicazioni prescritte.
- Conservare l'imballaggio.
- Non è un componente di sicurezza ai sensi della direttiva macchine UE.

⚠ Questo sensore non deve essere utilizzato come dispositivo di sicurezza per proteggere le persone fisiche.

A Schema di collegamento

Regolazione manuale

Premere uno dei pulsanti di selezione: il display delle soglie di commutazione lampeggia. Ora è possibile l'impostazione. Adattamento tramite i pulsanti di selezione.

① Normale
Ritorna automaticamente alla raffigurazione normale dopo 5 s dal termine dell'impostazione.



Emissione errori durante il teach-in

Durante la regolazione viene emesso un messaggio di errore in caso di immissione errata. Vedere la seguente tabella.

Err 1	Il valore di ricezione è troppo basso
Err 2	Il valore di ricezione è troppo basso
Err 3	La differenza tra due valori di ricezione è troppo piccola

Impostazione funzioni

1. Impostazione esercizio
 TOP **L o n** = Selezione della modalità d'esercizio.
 Selezione e impostazione.
 Il display ritorna al menu superiore di impostazione esercizio.

2. Impostazione del tempo di risposta
 TOP **r E S P** = Selezione del tempo di risposta.
 Selezione e impostazione.
 Il display ritorna al menu superiore di tempo di risposta.

3. Regolazione scale temporali
 TOP **d E L y** = Selezione scale temporali.
 Selezione e impostazione.
 OFF ritorna al display di uscita.

o F F	Nessuna scala temporale attivata ¹⁾
o F d y	OFF delay
o n d y	ON delay
S h o t	One shot
o n o f	ON/OFF delay
o n S h	One shot delay

Scale temporali da 0,1 ... 9.999 (0,1 ms ... 9.999 ms) selezionabili
 è per la modifica delle scale temporali e è per l'impostazione
 Poi il display ritorna al menu superiore scale temporali.

4. Impostazioni dettagliate (modalità esperti)
 TOP **E P r t** = Avanti all'impostazione dettagliata.

5. Reset
 TOP **r S E t** = Reset di tutte le regolazioni.
 Selezione e impostazione.
 Il display ritorna al menu superiore di impostazione esercizio.

6. Terminare la regolazione
 TOP **E n d** = Indietro al display normale.

B Tasti funzioni dell'unità di controllo

C Installazione dell'unità di controllo

Applicazione a/rimozione da barra di montaggio

Applicazione del sensore:

- 1 Agganciare il sensore alla barra di montaggio.
- 2 Per il bloccaggio premere dall'alto.

Rimozione del sensore:

- 1 Spostare il sensore in direzione della freccia.
- 2 Ribaltare verso l'alto il lato di collegamento per le fibre ottiche e rimuovere il sensore.

D Collegamento fibre ottiche

- Apertura bloccaggio fibre ottiche (vedere ①).
- Introduzione fibre ottiche nelle aperture previste fino a battuta (vedere ② - ca. 15 mm).
- Chiusura bloccaggio fibre ottiche (vedere ③).

⚠ Attenzione
 Per l'impiego di una variante di pulsante con assegnazione delle fibre ottiche coassiali, collegare all'emettitore le fibre ottiche del nucleo o le fibre ottiche contrassegnate in bianco. Collegare al ricevitore le seconde fibre ottiche.

4.1 Impostare a zero il valore display.
 TOP **o F S t** = Impostare a "0" il valore del display principale.
 Selezione e impostazione.
 Il display ritorna al menu superiore di valore zero.

4.2 Impostazioni display
 TOP **d i S P d i g** = Selezione una raffigurazione delle impostazioni display.
 Selezione e impostazione.
 Il display ritorna al menu superiore display.

4.3 Modalità eco
 TOP **E c o** = Attivazione modalità di risparmio energetico.
 Selezione e impostazione.
 Il display ritorna al menu superiore eco.

4.4 Ruotare display
 TOP **t u r n** = Il display viene ruotato.
 Selezione e impostazione.
 Il display ritorna al menu superiore di rotazione.

4.5 Impostazione isteresi
 TOP **H y s P S** = Selezione impostazione isteresi.
 Selezione e impostazione.
 è per la modifica numeri e è per l'impostazione. Il display ritorna al menu superiore di isteresi.

4.6 Impostazione ingresso
 TOP **i n P t** = Intervallo numeri 1 ... 40% del valore nominale. Selezione: funzione ingresso esterno.
 Selezione e impostazione.
 Ingresso

r i c h	Est. teach-in ¹⁾
t E S t	Ingresso test
S y n c	Sincronizzazione

Il display ritorna al menu superiore di funzione ingresso esterno.

4.7 Impostazione ASC
 TOP **A S c** = Impostare ASC (Automatic Sensitivity Control).
 Selezione e impostazione.
 Il display ritorna alla modalità di impostazione ASC.

4.8 Regolazione dell'intensità del LED di emissione
 TOP **S P o r** = L'intensità di illuminazione può essere selezionata in tre livelli.
 Selezione e impostazione.
 Il display ritorna al menu superiore di valore zero.

4.9 Lock level
 TOP **L o c L** = Tipo di bloccaggio pulsante.
 Selezione e impostazione.
 Il display ritorna al menu superiore di lock level.

4.10 Fine delle impostazioni dettagliate (modalità esperti)
 TOP **E n d** = Il display ritorna al menu superiore di impostazione dettagliata.

E Impiego di fibre ottiche con boccole terminali

- Ruotare l'adattatore completamente in senso antiorario e introdurre le fibre ottiche.
- Tagliare le fibre ottiche in eccesso.

Regolazione

1 Teach-in a 1 punto
 TOP **T e a c h** = Premere il tasto Teach-in per 3 s.

2 Teach-in a 2 punti
 TOP **T e a c h** = Premere il tasto Teach-in per 3 s.

5 Teach-in di oggetti trasparenti
 TOP **T e a c h** = Premere il tasto Teach-in per 3 s.

4.8 Regolazione dell'intensità del LED di emissione
 TOP **S P o r** = Selezione e impostazione.
 Il display ritorna al menu superiore di valore zero.

4.9 Lock level
 TOP **L o c L** = Selezione e impostazione.
 Il display ritorna al menu superiore di lock level.

4.10 Fine delle impostazioni dettagliate (modalità esperti)
 TOP **E n d** = Il display ritorna al menu superiore di impostazione dettagliata.

Indicazioni l'impostazione delle funzioni

- ¹⁾ significa impostazione di fabbrica.
- Premere il pulsante di impostazione per ca. 0,3 s se non diversamente indicato.
- Il display lampeggia se è disponibile la selezione impostazioni.

Ritorno all'impostazione normale con un pulsante

Tenere premuto il pulsante per 2 s o oltre per ritornare all'impostazione normale (modalità esercizio) senza utilizzare la voce di menu fine.

Bloccaggio degli elementi di comando

Blocca tutte le funzioni di immissione come selezionato in 4.9 (protezione da manipolazione).

Premere contemporaneamente entrambi i tasti in modalità RUN per 2 s o oltre. Per lo sbloccaggio procedere in modo analogo (protezione da manipolazione).



SAM Circuit (ASC = Automatic Sensitivity Control)

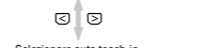
Il valore di soglia viene resettato automaticamente mentre il sensore controlla costantemente la luce ricevuta. Una variazione improvvisa della quantità di luce, come ad es. la pulizia della lente, resetta il valore di soglia.

Teach-in esterno

L'ingresso teach-in (ET) deve essere attivato per > 200 ms per effettuare una procedura di teach-in (ET on > 10 V ... < U_i per dispositivi PNP; ET on 0 V per dispositivi NPN).

3 Auto teach-in

Premere il pulsante teach-in per 3 s.



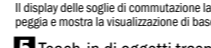
Avvio: premere il tasto teach-in.



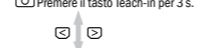
Fine: premere il tasto teach-in.



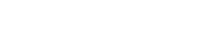
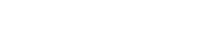
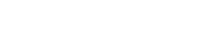
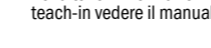
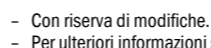
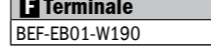
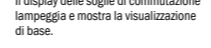
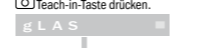
Il display delle soglie di commutazione lampeggia e mostra la visualizzazione di base.



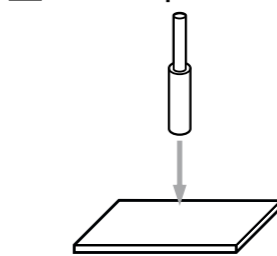
Teach-in-Taste drücken.



Il display delle soglie di commutazione lampeggia e mostra la visualizzazione di base.

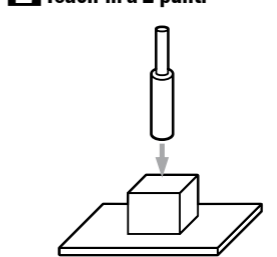


1 Teach-in a 1 punto



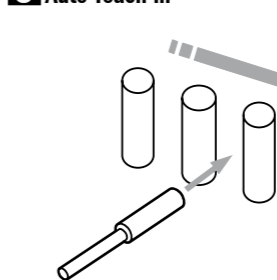
Variante di pulsante: eseguire il teach-in su sfondo senza oggetto.

2 Teach-in a 2 punti



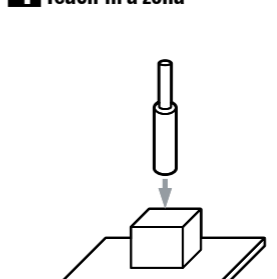
Variante di pulsante: 1a fase: impostare su un oggetto presente.

3 Auto-Teach-in



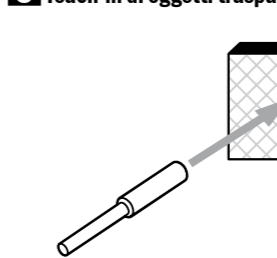
Variante a sbarramento/Variante di pulsante: Avvio e fine: impostazione automatica durante il processo.

4 Teach-in a zona



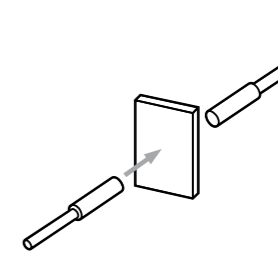
Variante di pulsante: Impostare sull'oggetto presente.

5 Teach-in di oggetti trasparenti

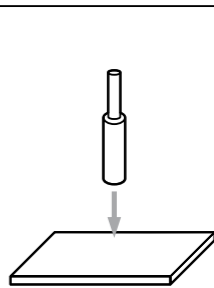


① Riflettore

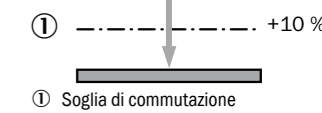
Variante a riflessione: Esecuzione Teach-in senza oggetto. Utilizzare il riflettore. Il valore di commutazione viene impostato al 90% della luce ricevuta.



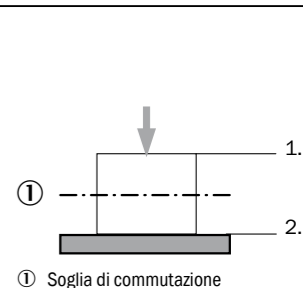
Variante a sbarramento: Impostazione con oggetto presente.



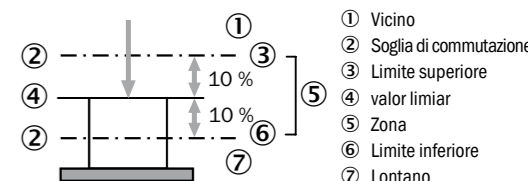
2a impostare su uno sfondo senza oggetto..



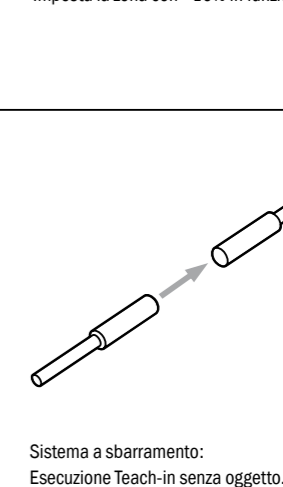
La soglia di commutazione viene impostata al 10% sopra il valore di luce ricevuta.



Definisce la soglia di commutazione tra il 1. e il 2. punto.

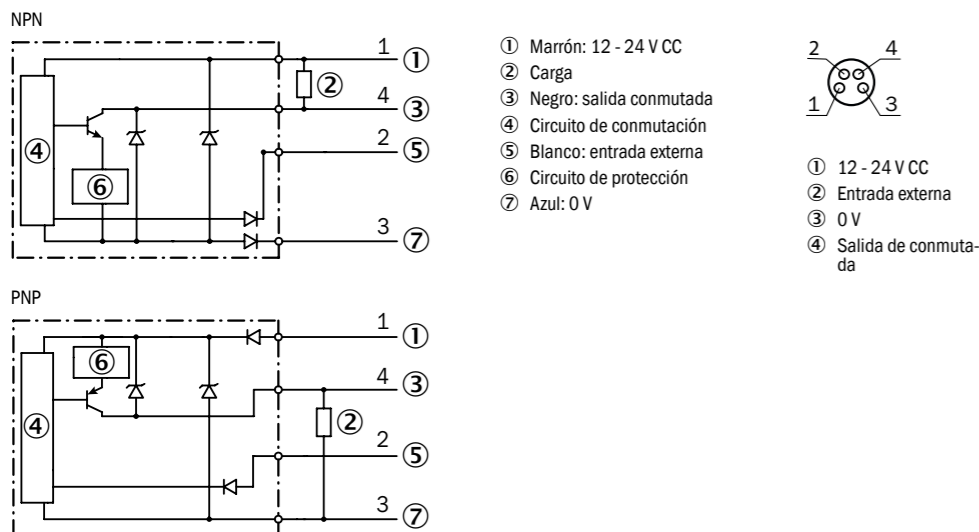


Imposta la zona con +10% in funzione della luce ricevuta.

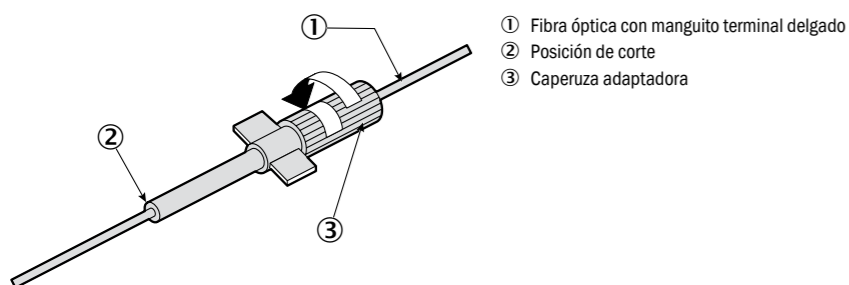


Il valore di commutazione viene impostato al 90% della luce ricevuta.

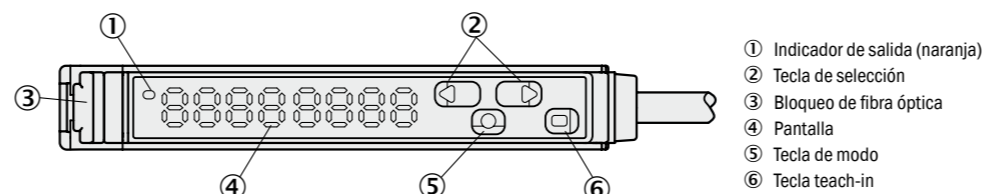
A Esquema de conexión



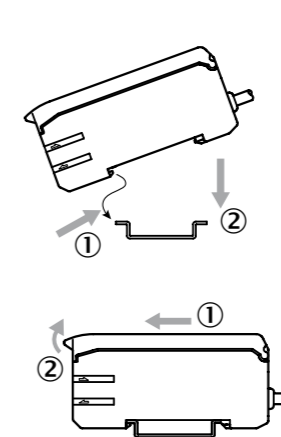
E Uso de fibras ópticas con manguitos terminales delgados



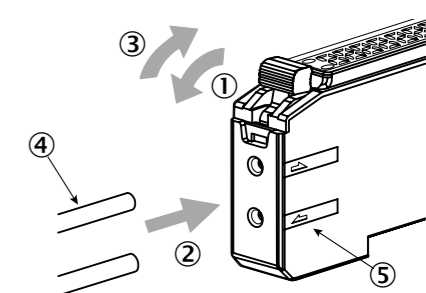
B Unidad básica



C Montaje en el carril de montaje y retirada de este

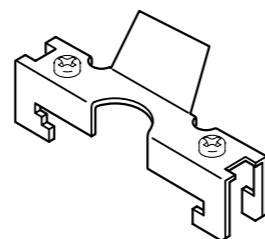


D Conexión de la fibra óptica



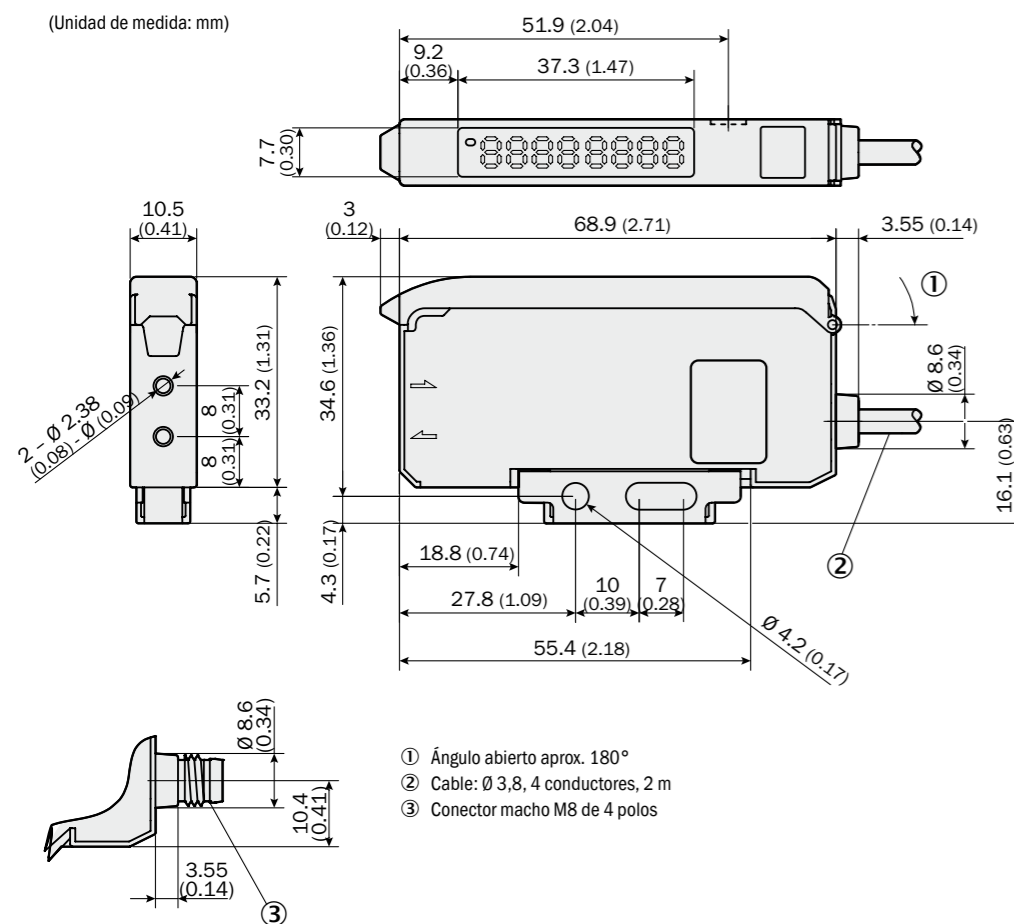
- ① Abra el bloqueo de la fibra óptica.
- ② Inserte la fibra óptica en los orificios correspondientes hasta el tope.
- ③ Cierre el bloqueo de la fibra óptica.
- ④ Fibra óptica
- ⑤ Indicador emisor/receptor

F Tope final



G WLL180T

(Unidad de medida: mm)



	WLL180T-P/N432	WLL180T-P/N434 (LED rojo) WLL180T-P/N474 (LED infrarrojo)
Tipo de conexión	Cable	Conector macho M8 de 4 terminales
Salida conmutada	NPN/PNP Open Collector 100 mA/≤ 30 V CC resistivo Corriente de carga: ≤ 100 mA Tensión residual: ≤ 1,8 V	NPN/PNP Open Collector 100 mA/≤ 30 V CC resistivo Corriente de carga: ≤ 100 mA Tensión residual: ≤ 1,8 V
Tensión de alimentación	12 ... 24 V CC ± 10% de ondulación residual incl.	12 ... 24 V CC ± 10% de ondulación residual incl.
Consumo de corriente	≤ 50 mA/24 V	≤ 50 mA/24 V
Tiempo de respuesta	16 µs/70 µs/250 µs/2 ms/8 ms	16 µs/70 µs/250 µs/2 ms/8 ms
Salida	Conmutación en claro/oscuro	Conmutación en claro/oscuro
Protección contra cortocircuito	✓	✓
Fuente de luz	LED rojo	LED rojo: WLL180T-P/N434 LED infrarrojo: WLL180T-P/N474
Indicador de servicio/pantalla	Indicador de salida: indicador de 7 segmentos naranja de 2 x 4 dígitos (Q ₁ , Q ₂)	Indicador de salida: indicador de 7 segmentos naranja de 2 x 4 dígitos (Q ₁ , Q ₂)
Ajuste de la sensibilidad	Ajuste manual/aprendizaje	Ajuste manual/aprendizaje
Fase de tiempo	Retardo de desconexión, Retardo de conexión, One shot, Retardo de conexión/desconexión, One shot delay	Retardo de desconexión, Retardo de conexión, One shot, Retardo de conexión/desconexión, One shot delay
Retardo de conexión/desconexión	0,1 ms ... 9.999 ms	0,1 ms ... 9.999 ms
Ajuste de entrada	Ajuste de entrada externa (Teach-in/Test/Sync)	Ajuste de entrada externa (Teach-in/Test/Sync)
Temperatura ambiente/funcionamiento	-25 ... +55 °C/35 ... 85% de HR (sin hielo/sin condensación)	-25 ... +55 °C/35 ... 85% de HR (sin hielo/sin condensación)
Temperatura ambiente/almacenamiento	-40 ... +70 °C/35 ... 85% de HR (sin hielo/sin condensación)	-40 ... +70 °C/35 ... 85% de HR (sin hielo/sin condensación)
Resistencia a choque	10 ... 55 Hz, doble amplitud 1,5 mm, 2 horas por dirección x, y, z	10 ... 55 Hz, doble amplitud 1,5 mm, 2 horas por dirección x, y, z
Tipo de protección	IP 50	IP 50
Material de la carcasa	PC	PC
Peso	Tipo de cable: 71 g, tipo M8: 25 g	Tipo de cable: 71 g, tipo M8: 25 g

¹⁾ 12 ... 24 V CC ± 10 %, fuente de alimentación de clase 2²⁾ Temperatura ambiente máx.: +55 °C³⁾ Tipo de carcasa UL 1

Indicaciones de seguridad

Lea las instrucciones de uso antes de efectuar la puesta en servicio. Use el reflector. Las advertencias del reflector tienen el cometido de protegerle de posibles riesgos o de ayudarlo a evitar daños en el sensor o en la instalación. No siga ningún otro procedimiento de instalación o de uso diferente al descrito en estas instrucciones.

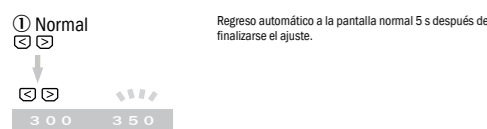
- Conecte el sensor con la tensión de alimentación desconectada.
- No use el sensor sin la cubierta protectora.
- Su uso en alguno de los entornos que se especifican a continuación puede afectar a su correcto funcionamiento:
 1. Entorno polvoriento o con exceso de humedad.
 2. Zonas con gases corrosivos.
 3. Zonas expuestas a salpicaduras de agua o aceite.
 4. Zonas expuestas a movimientos en el subsuelo.
- No use el sensor en exteriores.
- No use el sensor en ambientes propicios para incendios, con gases explosivos o líquidos inflamables.
- No use este producto dentro del agua.
- No desmonte, repare ni modifique el sensor, ya que esto podría provocar incendios o descargas eléctricas.
- Este sensor debe usarse únicamente dentro del ámbito prescrito.
- Conserve el embalaje.
- No se trata de un componente de seguridad según la Directiva de máquinas de la UE.

⚠ Este sensor no debe usarse como dispositivo de seguridad para proteger a las personas.

A Esquema de conexión

Ajuste manual

Pulse una de las teclas de selección: el indicador de umbral de conmutación empieza a parpadear. Esto indica que ahora se puede realizar el ajuste. Ajuste usando las teclas de selección.

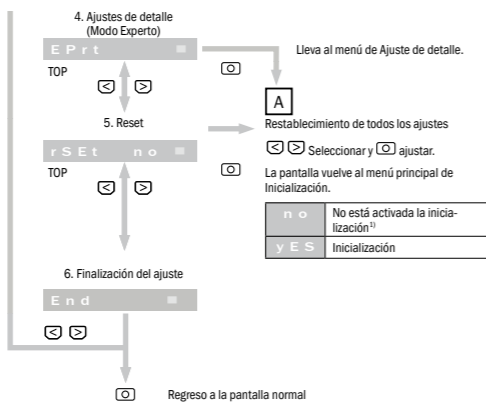
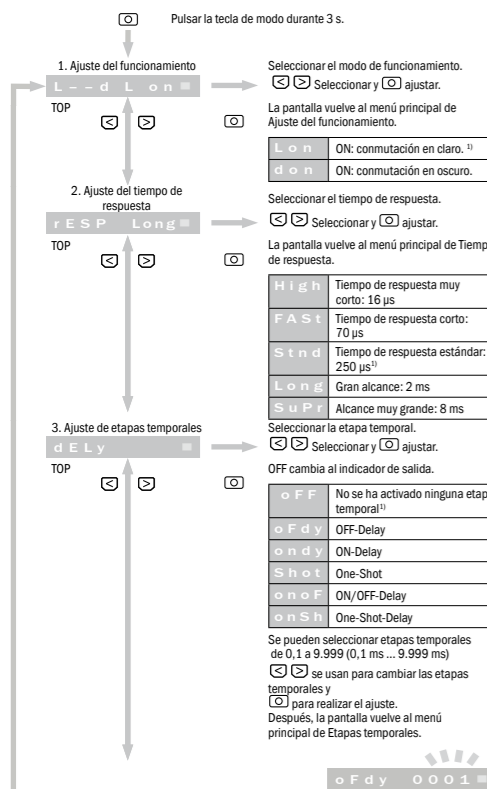


Emisión de errores durante el proceso de aprendizaje

Si se efectúa una entrada incorrecta durante el proceso de ajuste, se muestra un mensaje de error. Véase la siguiente tabla:

Err 1	El valor recibido es demasiado bajo
Err 2	El valor recibido es demasiado alto
Err 3	La diferencia entre dos valores recibidos es demasiado pequeña

Ajuste de las funciones



B Teclas de funciones de la unidad de evaluación

C Instalación de la unidad de evaluación

Montaje en el carril de montaje y retirada de este

Montaje del sensor:

- 1 Enganche el sensor en el carril de montaje.
- 2 A continuación, presione desde arriba para bloquearlo.

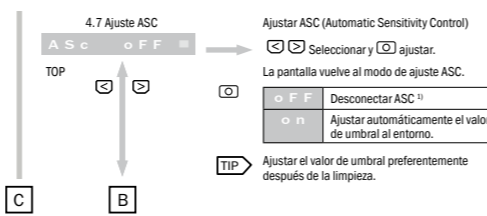
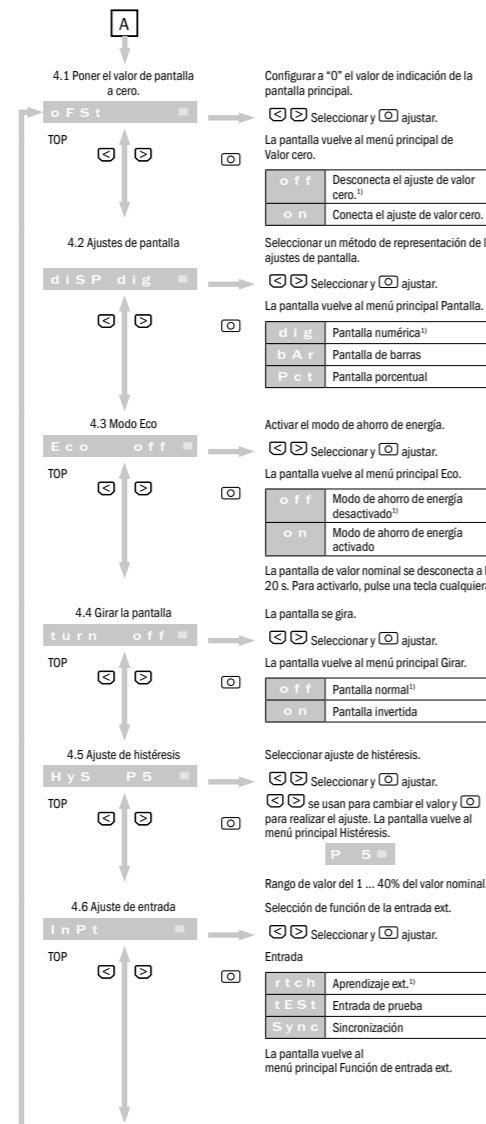
Retirada del sensor:

- 1 Deslice el sensor en la dirección de la flecha.
- 2 Levante el lado de conexión de la fibra óptica y retire el sensor.

D Conexión de la fibra óptica

- Abra el bloqueo de la fibra óptica (véase 1).
- Inserte la fibra óptica en los orificios correspondientes hasta el tope (véase 2 - aprox. 15 mm).
- Cierre el bloqueo de la fibra óptica (véase 3).

⚠ Atención
Si se usa una variante de palpador con disposición coaxial de la fibra óptica, la fibra óptica del núcleo o marcada en blanco debe conectarse al emisor. Conectar el segundo conductor de fibra óptica al receptor.

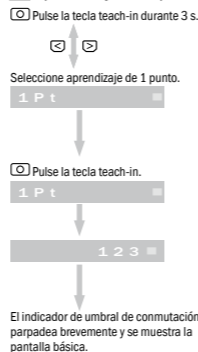


E Uso de fibras ópticas con manguitos terminales delgados

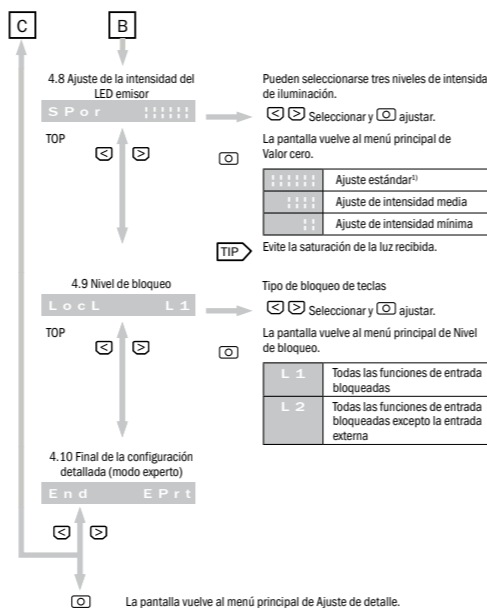
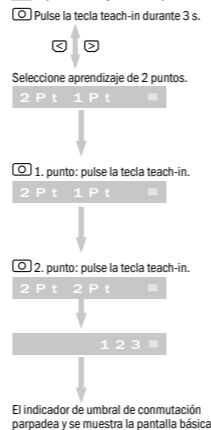
- Gire la pieza adaptadora completamente en sentido contrario al de las agujas del reloj e inserte la fibra óptica. Se cierra girando en el sentido de las agujas del reloj.
- Corte la fibra óptica que sobresalga.

Ajuste

1 Aprendizaje de 1 punto



2 Aprendizaje de 2 puntos



Indicaciones sobre el ajuste de funciones

- ¹⁾ significa ajuste de fábrica.
- Pulse la tecla de ajuste durante 0,3 s aprox. si no se indica otra cosa.
- La pantalla empieza a parpadear si la selección de ajuste está disponible.

Regreso al ajuste normal con una tecla

Mantenga pulsada la tecla [C] durante 2 s o más para volver al ajuste normal (modo de funcionamiento) sin usar el punto de menú Final.

Bloqueo de los elementos de mando

Bloquea todas las funciones de entrada de acuerdo al nivel seleccionado en 4.9 (protección contra manipulación).

Pulse las dos teclas [C] [C] simultáneamente durante 2 s o más en el modo RUN. Proceda del mismo modo para el desbloqueo (protección contra manipulación).



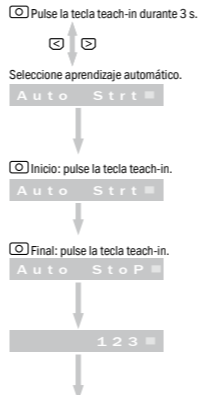
SAM Circuit (ASC = Automatic Sensitivity Control)

El valor de umbral se restablece automáticamente mientras el sensor comprueba continuamente la luz recibida. Un cambio repentino de la cantidad de luz, como ocurriría, p. ej., si se limpia la lente, restablece el valor de umbral.

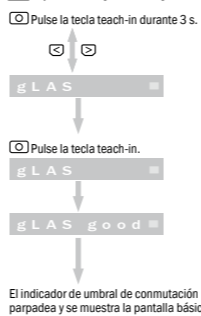
Aprendizaje externo

La entrada de aprendizaje (ET) debe activarse durante > 200 ms para efectuar un proceso de aprendizaje (ET a > 10 V ... < Vs para dispositivos PNP; ET a 0 V para dispositivos NPN).

3 Aprendizaje automático



5 Aprendizaje de objetos transparentes

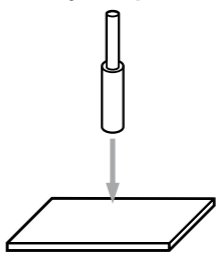


Opciones

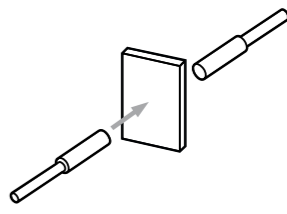
F Tope final
BEF-EB01-W190

- Reservado el derecho a realizar modificaciones.
- Para más información relacionada con el menú de configuración y con las funciones de aprendizaje, consulte el manual de usuario o entre en www.sick.com.

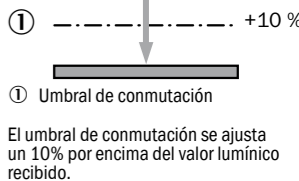
1 Aprendizaje de 1 punto



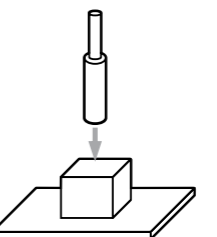
Variante de palpador:
Realizar el aprendizaje sobre el fondo sin objeto.



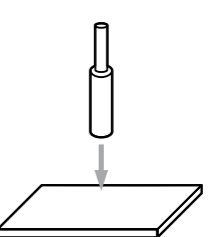
Variante unidireccional:
Realice el ajuste con el objeto presente.



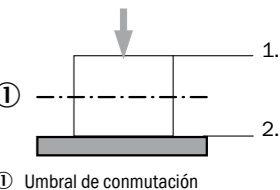
2 Aprendizaje de 2 puntos



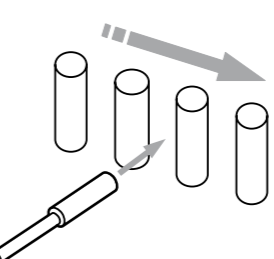
Variante de palpador:
1.º paso: ajustar sobre un objeto existente.



2.º paso: ajustar sobre el fondo sin objeto.

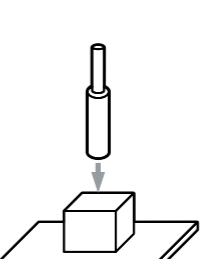


3 Teach-in automático

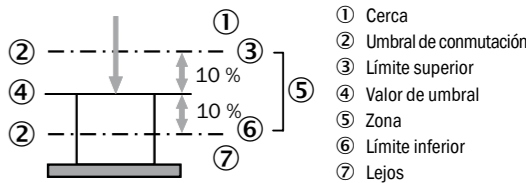


Variante unidireccional/Variante de palpador
Inicio y final: ajuste automático durante el proceso en curso.

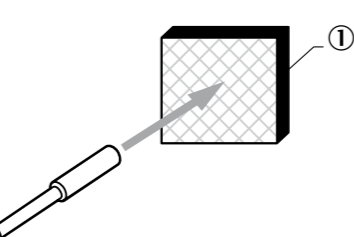
4 Zona Teach-in



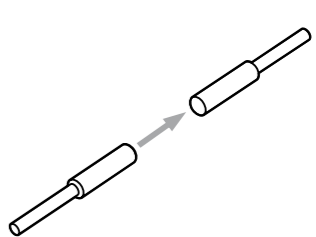
Variante de palpador:
Ajustar sobre el objeto presente.



5 Teach-in de objetos transparentes

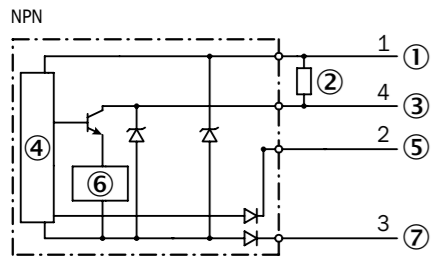


Variante de reflexión:
Realice el Teach-in sin objeto.
El umbral de conmutación se ajusta a un 90% de la luz recibida.

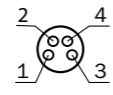


Sistema unidireccional:
realice el Teach-in sin objeto.
El umbral de conmutación se ajusta a un 90% de la luz recibida.

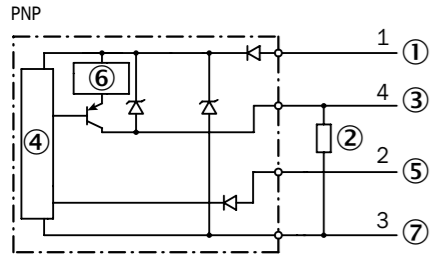
A 接线图



- ① 棕色：12-24 V DC
- ② 负荷
- ③ 黑色：开关量输出
- ④ 开关电路
- ⑤ 白色：外部输入端
- ⑥ 抑制器
- ⑦ 蓝色：0V



- ① 12-24 V DC
- ② 外部输入端
- ③ 0V
- ④ 开关量输出

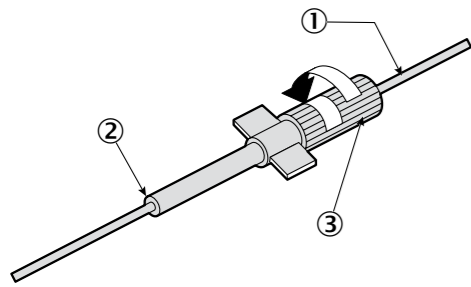


- ① 棕色：12-24 V DC
- ② 负荷
- ③ 黑色：开关量输出
- ④ 开关电路
- ⑤ 白色：外部输入端
- ⑥ 抑制器
- ⑦ 蓝色：0V



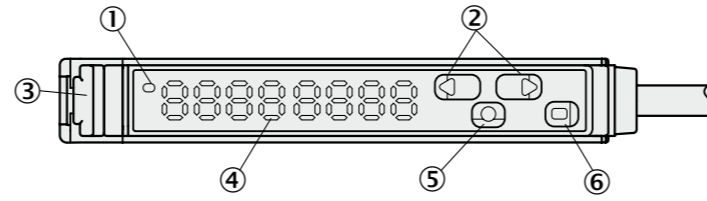
- ① 12-24 V DC
- ② 外部输入端
- ③ 0V
- ④ 开关量输出

E 使用带细长终端套管的光导纤维体



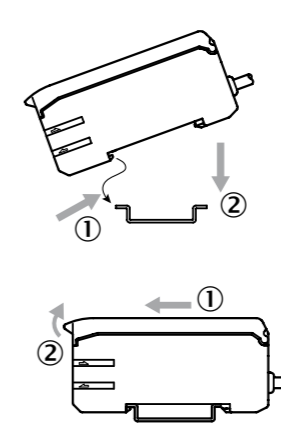
- ① 带细长终端套管的光导纤维体
- ② 分离位置
- ③ 调整盖罩

B 基本单元

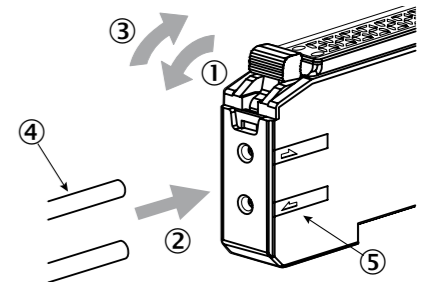


- ① 输出显示 (橙色)
- ② 选择键
- ③ 光导纤维体锁定装置
- ④ 显示
- ⑤ 模式按键
- ⑥ 示教键

C 安装在安装导轨上/从安装导轨上移除

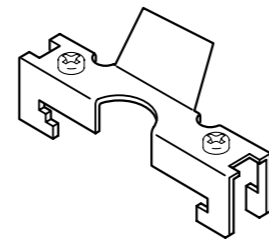


D 光导纤维体连接



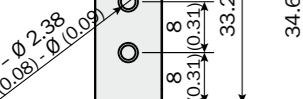
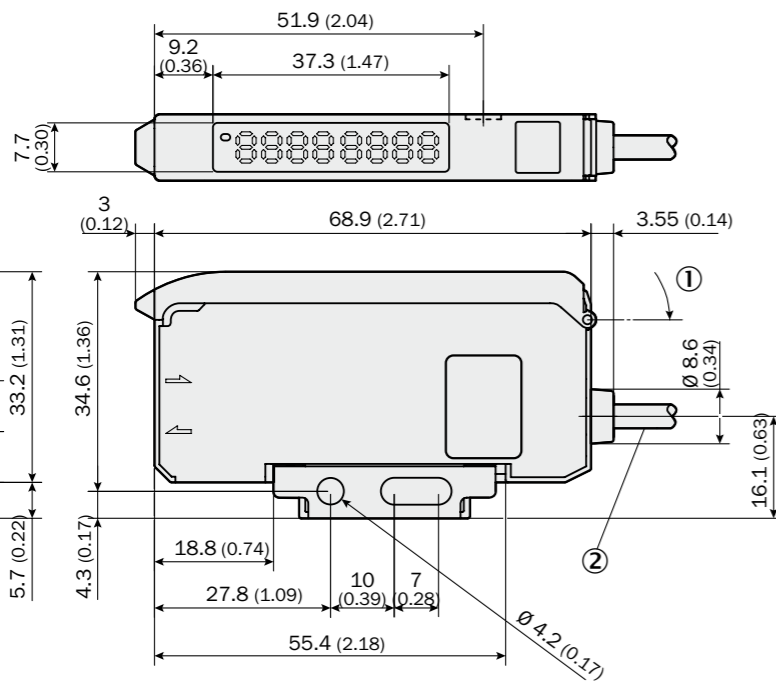
- ① 打开光导纤维体锁定装置。
- ② 将光导纤维体插入指定开口直至极限位置。
- ③ 关闭光导纤维体锁定装置。
- ④ 光导纤维体
- ⑤ 发射器/接收器显示

F 端件



G WLL180T

(计量单位: mm)



- ① 开角约 180°
- ② 电缆: Ø 3.8, 4 芯线, 2 m
- ③ 插头, M8, 4 针

WLL180T-P/N432		WLL180T-P/N434 (红色LED) WLL180T-P/N474 (红外发光二极管)	
连接类型	电缆	插头, M8, 4 针	
开关量输出	NPN/PNP 开路集电极 100 mA/≤ 30 V DC 阻抗 负载电流: ≤ 100 mA 剩余电压: ≤ 1.8 V	NPN/PNP 开路集电极 100 mA/≤ 30 V DC 阻抗 负载电流: ≤ 100 mA 剩余电压: ≤ 1.8 V	
工作电压	12 ~ 24 V DC ± 10% 含残余纹波	12 ~ 24 V DC ± 10% 含残余纹波	
耗电量	≤ 50 mA/24 V	≤ 50 mA/24 V	
响应时间	16 μs/70 μs/250 μs/2 ms/8 ms	16 μs/70 μs/250 μs/2 ms/8 ms	
输出	明通/暗通开关	明通/暗通开关	
短路保护	✓	✓	
光源	红色LED	红色LED: WLL180T-P/N434 红外发光二极管: WLL180T-P/N474	
状态指示灯/显示器	输出显示: 橙色 (Q ₁ , Q ₂) 2 x 4 位数 7 段显示	输出显示: 橙色 (Q ₁ , Q ₂) 2 x 4 位数 7 段显示	
灵敏度调节	示教/手动设置	示教/手动设置	
时间等级	断开延迟, 接通延迟, One shot, 接通/断开延迟, On shot delay	断开延迟, 接通延迟, One shot, 接通/断开延迟, On shot delay	
接通/断开延迟	0.1 ms ~ 9,999 ms	0.1 ms ~ 9,999 ms	
输入设置	外部输入设置 (示教/测试/同步)	外部输入设置 (示教/测试/同步)	
环境温度/运行	-25 ~ +55 °C/35 ~ 85% RF (无冰冻, 无冷凝)	-25 ~ +55 °C/35 ~ 85% RF (无冰冻, 无冷凝)	
环境温度/仓储	-40 ~ +70 °C/35 ~ 85% RF (无冰冻, 无冷凝)	-40 ~ +70 °C/35 ~ 85% RF (无冰冻, 无冷凝)	
抗冲击性	10 ~ 55 Hz 双振幅 1.5 mm 每个方向 x, y, z 2 小时	10 ~ 55 Hz 双振幅 1.5 mm 每个方向 x, y, z 2 小时	
防护等级	IP 50	IP 50	
外壳材料	PC	PC	
重量	电缆类型: 71 g, M8 类型: 25 g	电缆类型: 71 g, M8 类型: 25 g	

¹⁾ 12 ~ 24 V DC ± 10%, 2 级电压供给
²⁾ 最高环境温度: +55 °C
³⁾ UL 外壳类型 1


安全须知

调试前阅读操作说明书。使用反射器。反射器警告可预防危险，或帮助避免传感器或设备损坏。如此处所述，不要使用其他安装或操作方法。

- 在工作电压断开的情况下连接传感器
- 不要在设有保护盖板的情况下使用传感器。
- 在下列环境下运行可能

- 导致功能故障：
 1. 多尘或潮湿环境。
 2. 具有腐蚀性气体的区域。
 3. 具有喷溅水或油的区域。
 4. 具有强烈运动地垫的区域。

- 不要在户外使用传感器。
- 不要在有火、易爆
- 气体或易燃液体的环境中使用。
- 不要在水中使用。
- 不要拆解、维修或改装传感器。这可能导致火灾和电击。
- 仅在规定区域内使用。
- 妥善保管包装。
- 非欧盟机械指令中定义的安全部件。

 此传感器不得用作安全装置以保护人身。

A 接线图

手动设置

按下一个选择键：开关阈值显示器闪烁。此时可进行设置。通过选择键调整。

① 正常 完成设置 5 秒后自动返回正常显示。

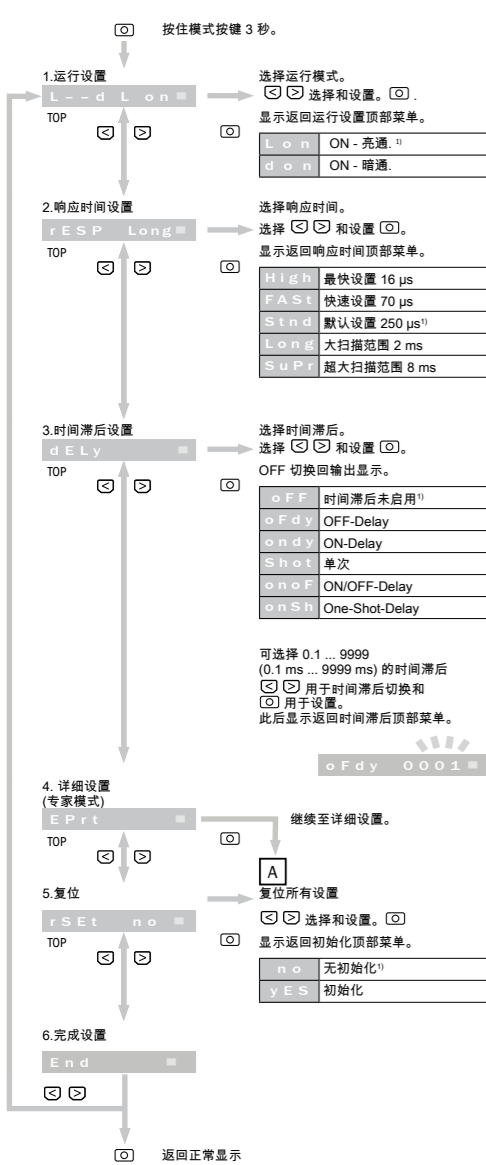


示教期间的错误输出

设置期间出现有错误的输入时将输出错误消息。参见下列表格。

Err 1	接收值过低
Err 2	接收值过低
Err 3	接收值之间的差异过小

功能设置



B 评价单元功能键

C 安装评价单元

安装在安装导轨上/从安装导轨上移除

安装传感器：

- ① 将传感器钩入安装导轨。
- ② 从上方按压以锁定。

移除传感器：

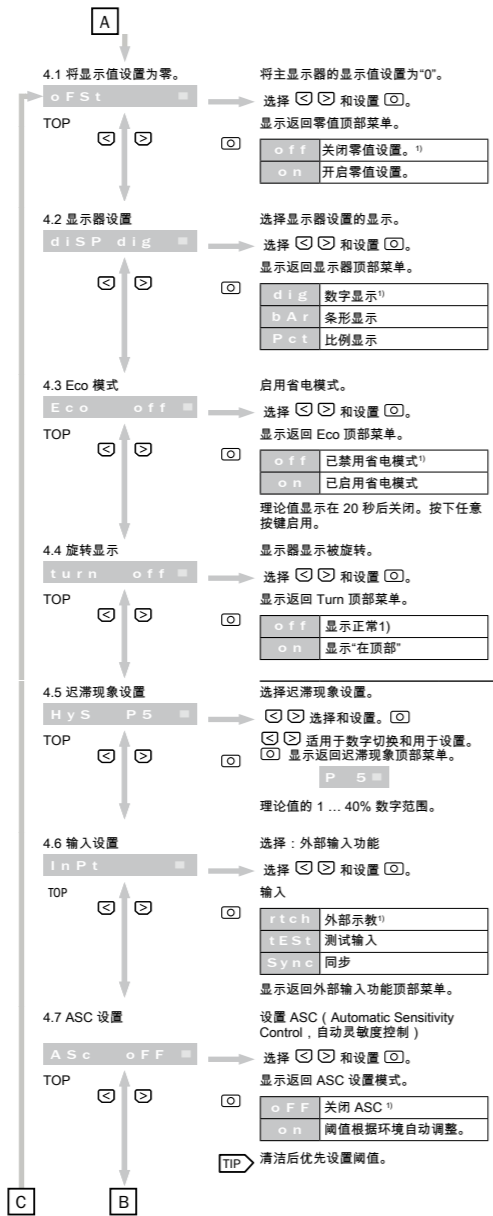
- ① 沿箭头方向推动传感器。
- ② 向上翻起光纤导体的连接侧并移除传感器。

D 光纤导体连接

- 打开光纤导体锁定装置 (参见 ①)。
- 将光纤导体插入指定开口直至极限位置 (参见 ② - 大约 15 mm)。
- 关闭光纤导体锁定装置 (参见 ③)。



请注意
使用具有同轴光纤导体结构的传感器类型时，将核心光纤导体或标记为白色的光纤导体与发射器相连。将第二个光纤导体与接收器相连。



E 使用带细长终端套管的光纤导体

- 完全逆时针旋转适配器并插入光纤导体。
- 通过顺时针旋转关闭。
- 分离多余的光纤导体。

设置

1 1 点示教

① 按住示教键 3 秒。



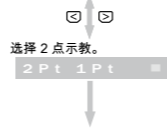
① 按下示教键。



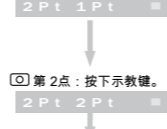
开关阈值显示器短暂闪烁，显示器显示基本显示。

2 2 点示教

① 按住示教键 3 秒。



① 第 1 点：按下示教键。



开关阈值显示器短暂闪烁，显示器显示基本显示。

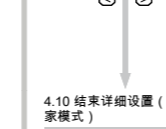
C



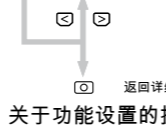
4.8 设置发射 LED 强度



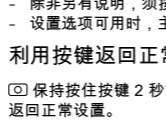
4.9 锁级别



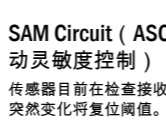
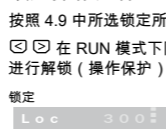
4.10 结束详细设置 (专家模式)



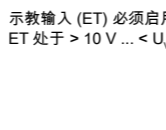
返回详细设置顶部菜单。



返回详细设置顶部菜单。



清洁后优先设置阈值。



清洁后优先设置阈值。

3 自动示教

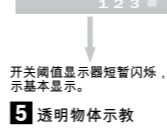
① 按住示教键 3 秒。



① 开始：按下示教键。



① 结束：按下示教键。



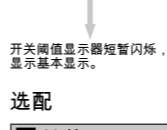
开关阈值显示器短暂闪烁，显示器显示基本显示。

5 透明物体示教

① 按住示教键 3 秒。



① 按下示教键



开关阈值显示器短暂闪烁，显示器显示基本显示。

选配

F 端件

BEF-EB01-W190

- 保留更改权利。
- 欲了解有关配置菜单和示教功能的更多信息，请参阅用户手册或 www.sick.com。

关于功能设置的提示

- ¹⁾ 意味着出厂设置。
- 除非另有说明，须按住设置键约 0.3 秒。
- 设置选项可用时，主指示灯闪烁。

利用按键返回正常设置

① 保持按住按键 2 秒或更长时间，以在不使用菜单项 End 的情况下返回正常设置。

锁定操作元件

按照 4.9 中所选锁定所有输入功能 (操作保护)。

① ② 在 RUN 模式下同时按住两个按键 2 秒或更长时间。模拟移动进行解锁 (操作保护)。

锁定  解锁 

Loc 300 ←→ unLoc 300

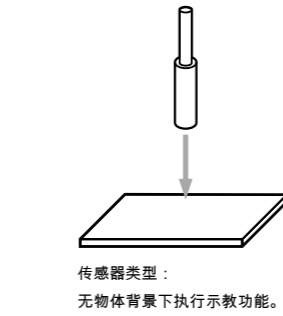
SAM Circuit (ASC = Automatic Sensitivity Control, 自动灵敏度控制)

传感器目前在检查接收光，阈值被自动复位。例如清洁透镜等光量的突然变化将复位阈值。

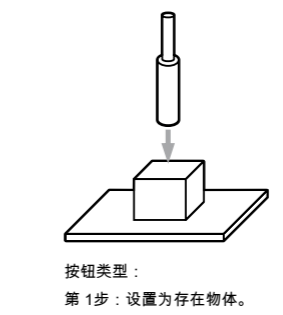
外部示教

示教输入 (ET) 必须启用 > 200 ms，以执行示教过程 (针对 PNP 设备 ET 处于 > 10 V ... < U_v; 针对 NPN 设备 ET 处于 0 V)。

1 1 点示教



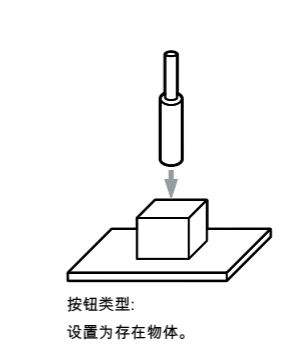
2 2 点示教



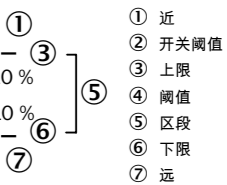
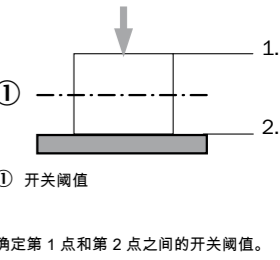
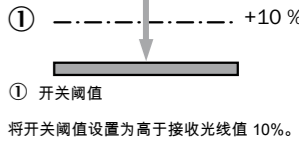
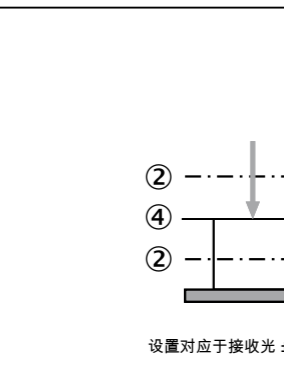
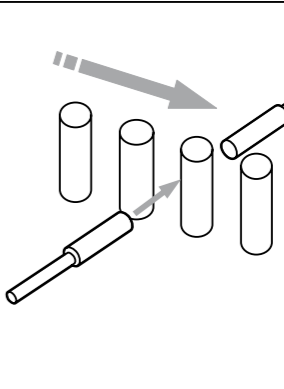
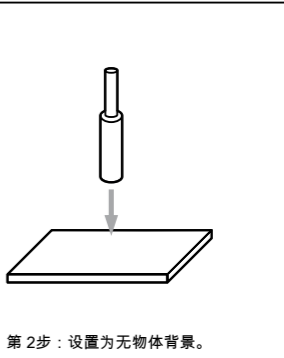
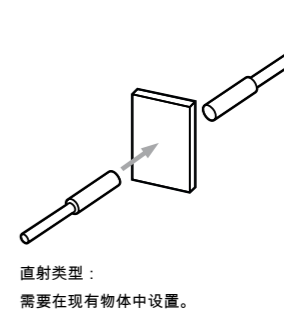
3 自动示教



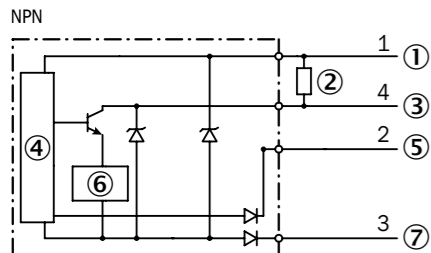
4 区段示教



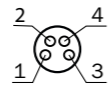
5 透明物体示教



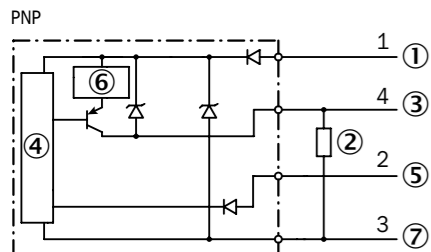
A 配線図



- ① 茶色: 12 - 24 V DC
- ② 負荷
- ③ 黒色: スイッチング出力
- ④ 回路
- ⑤ 白色: 外部入力
- ⑥ サプレッサ
- ⑦ 青色: 0 V



- ① 12 - 24 V DC
- ② 外部入力
- ③ 0 V
- ④ スイッチング出力

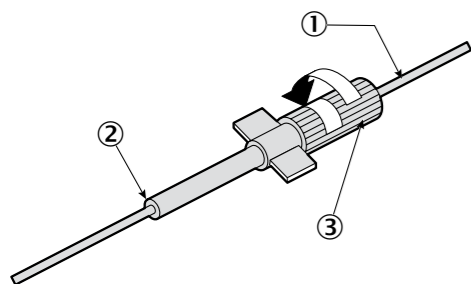


- ① 茶色: 12 - 24 V DC
- ② 負荷
- ③ 黒色: スイッチング出力
- ④ 回路
- ⑤ 白色: 外部入力
- ⑥ サプレッサ
- ⑦ 青色: 0 V



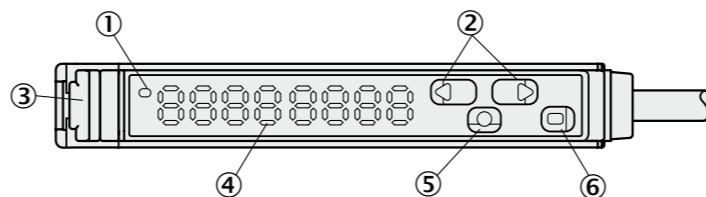
- ① 12 - 24 V DC
- ② 外部入力
- ③ 0 V
- ④ スイッチング出力

E スリムなエンドスリーブ付き光ファイバの使用



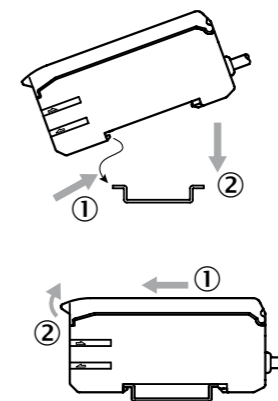
- ① スリムなエンドスリーブ付き光ファイバ
- ② 切断位置
- ③ アダプタキャップ

B ベースユニット

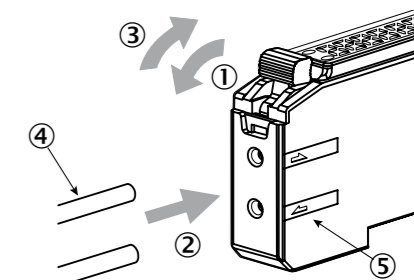


- ① 出力表示 (オレンジ)
- ② 選択ボタン
- ③ 光ファイバロック
- ④ ディスプレイ
- ⑤ モードボタン
- ⑥ ティーチンボタン

C 取付レールへの取付/取付レールからの取外し

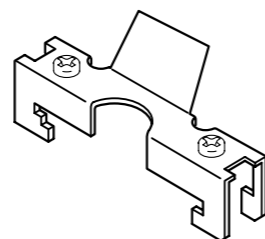


D 光ファイバ接続



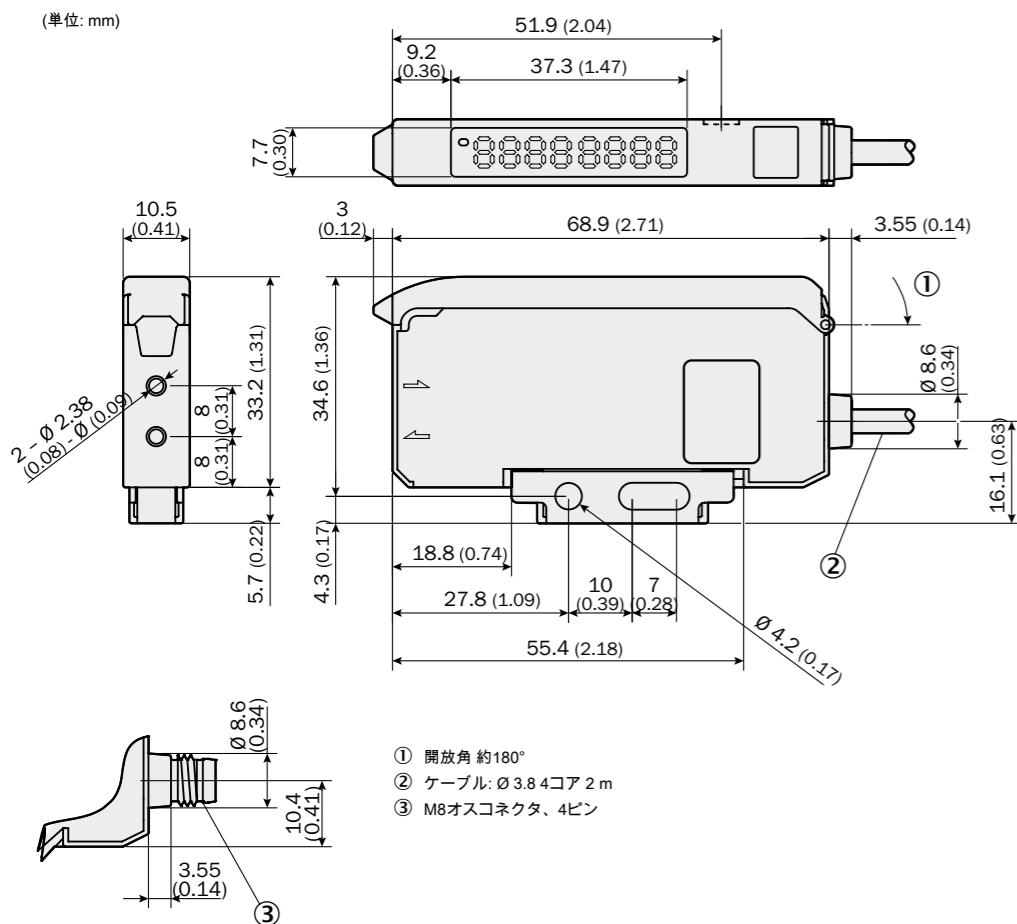
- ① 光ファイバロックを開ける。
- ② 光ファイバを所定の開口部の停止位置まで挿入する。
- ③ 光ファイバロックを締める。
- ④ 光ファイバ
- ⑤ 投光/受光表示

F エンドピース



G WLL180T

(単位: mm)



- ① 開放角 約180°
- ② ケーブル: Ø 3.8 4コア 2 m
- ③ M8オスコネクタ、4ピン

	WLL180T-P/N432	WLL180T-P/N434 (赤色LED) WLL180T-P/N474 (赤外LED)
接続タイプ	ケーブル	オスコネクタ、M8、4ピン
スイッチング出力	NPN/PNP オープンコレクタ 100 mA/≤ 30 V DC 抵抗 負荷電流: ≤ 100 mA 残留電圧: ≤ 1.8 V	NPN/PNP オープンコレクタ 100 mA/≤ 30 V DC 抵抗 負荷電流: ≤ 100 mA 残留電圧: ≤ 1.8 V
供給電圧	12 ... 24 V DC ± 10% 残留リップルを含む	12 ... 24 V DC ± 10% 残留リップルを含む
消費電力	≤ 50 mA/24 V	≤ 50 mA/24 V
応答時間	16 μs/70 μs/250 μs/2 ms/8 ms	16 μs/70 μs/250 μs/2 ms/8 ms
出力	ライトオン/ダークオン	ライトオン/ダークオン
短絡保護	✓	✓
光源	赤色LED	赤色LED: WLL180T-P/N434 赤外LED: WLL180T-P/N474
ステータス表示灯/ディスプレイ	出力表示: オレンジ (Q) 2 x 4桁の7セグメントディスプレイ	出力表示: オレンジ (Q) 2 x 4桁の7セグメントディスプレイ
感度調節	ティーチン/手動設定	ティーチン/手動設定
タイマ機能	停止遅延時間, 起動遅延時間, One shot, 起動/停止遅延時間, One shot delay	停止遅延時間, 起動遅延時間, One shot, 起動/停止遅延時間, One shot delay
起動/停止遅延時間	0.1 ms ... 9,999 ms	0.1 ms ... 9,999 ms
入力設定	外部入力設定 (Teach-in/Test/Sync)	外部入力設定 (Teach-in/Test/Sync)
周囲温度/動作時	-25 ... +55 °C/35 ... 85% RF (非凍結、非結露)	-25 ... +55 °C/35 ... 85% RF (非凍結、非結露)
周囲温度/保管時	-40 ... +70 °C/35 ... 85% RF (非凍結、非結露)	-40 ... +70 °C/35 ... 85% RF (非凍結、非結露)
耐衝撃性	10 ... 55 Hz、二重振幅 1.5 mm、各方向 (X、Y、Z) に2時間	10 ... 55 Hz、二重振幅 1.5 mm、各方向 (X、Y、Z) に2時間
保護等級	IP 50	IP 50
筐体材質	PC	PC
重量	ケーブルタイプ: 71 g、M8タイプ: 25 g	ケーブルタイプ: 71 g、M8タイプ: 25 g

¹⁾ 12 ... 24 V DC ± 10%、クラス2 供給電圧
²⁾ 最高周囲温度: +55 °C
³⁾ UL規格 筐体タイプ1

安全上の注意事項

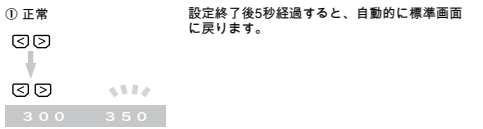
コミッション前に取扱説明書をお読みください。リフレクタを使用します。リフレクタの警告は、ユーザを危険から保護し、センサや設備の損傷を回避することを目的としています。ここで説明されている方法以外の設置手順または操作手順は適用しないでください。

- 供給電圧を切断した状態でセンサを接続します。
保護カバーなしでセンサを使用しないでください。
以下の環境でセンサを動作させると、機能障害が生じる可能性があります:
1.埃または湿気が多い環境
2.腐食性ガスのある領域
3.水飛沫またはオイル飛沫が生じる領域
4.地盤が強く動く領域
屋外でセンサを使用しないでください。
周囲に火気、爆発性ガス、または可燃性の液体がある環境では使用しないでください。
水中では使用しないでください。
センサを解体したり、修理したり、覆ったりしないでください。これは火災や感電につながる可能性があります。
規定された領域でのみ使用してください。
梱包材は保管してください。
本製品はEU機械指令の要件を満たす安全コンポーネントではありません。

人体保護を目的とした安全機器として本センサを使用することは禁じられています。

A 配線図

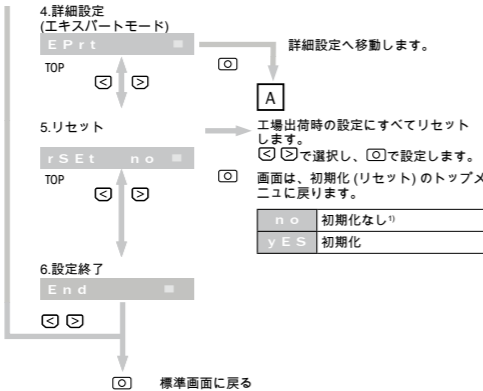
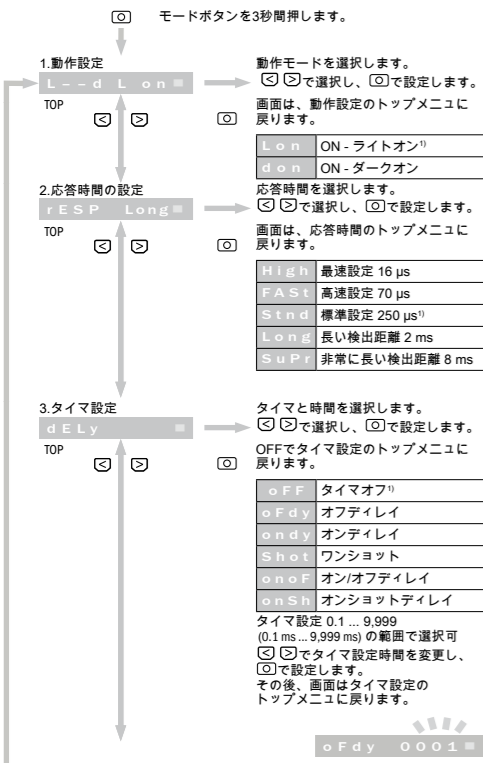
手動設定
選択ボタンの一つを押すと、スイッチング閾値表示が点滅します。これで設定できるようになりました。選択ボタンを使用して調整します。



ティーチン中のエラー表示
入力中にエラーが生じると、エラーメッセージが表示されます。以下の表を参照してください。

Table with 2 columns: Error code (Err 1, Err 2, Err 3) and description (e.g., 受光値が低すぎる).

機能設定



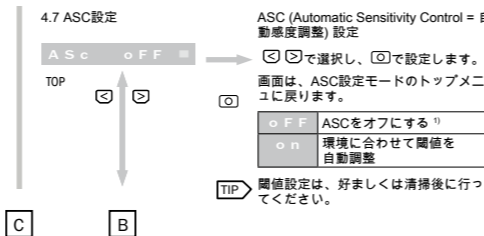
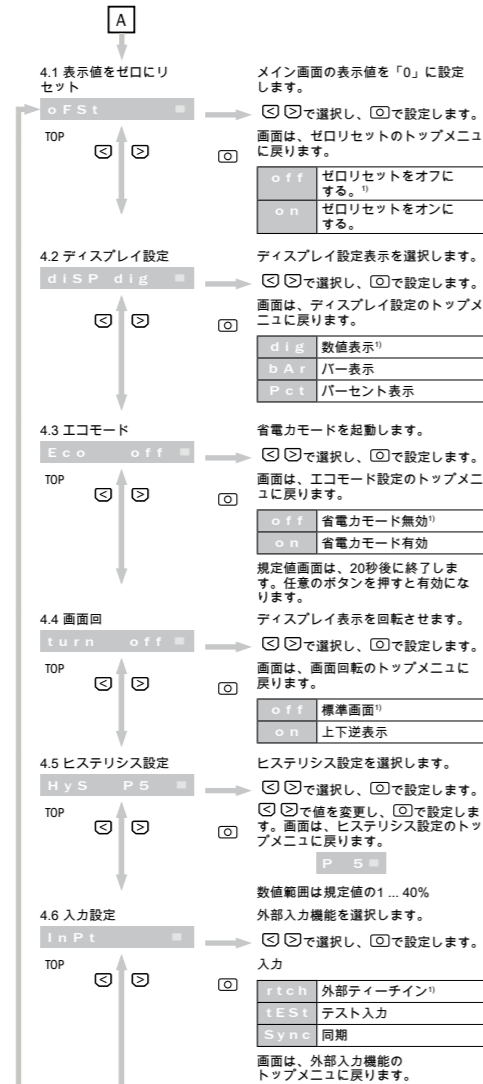
B 評価ユニットの機能ボタン

C 評価ユニットの設置

- 取付レールへの取付/取付レールからの取外し
センサ取付:
1 センサを取付レールにはめ込みます。
2 上から押してロックします。
センサの取外し:
1 センサを矢印方向に押します。
2 光ファイバの接続側を上を持ち上げ、センサを取り外します。

D 光ファイバ接続

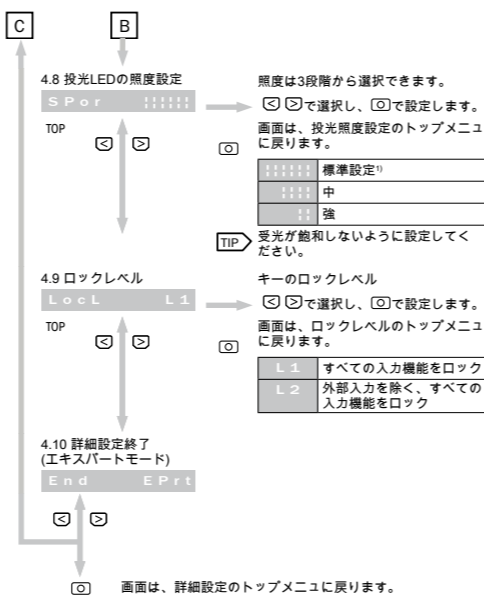
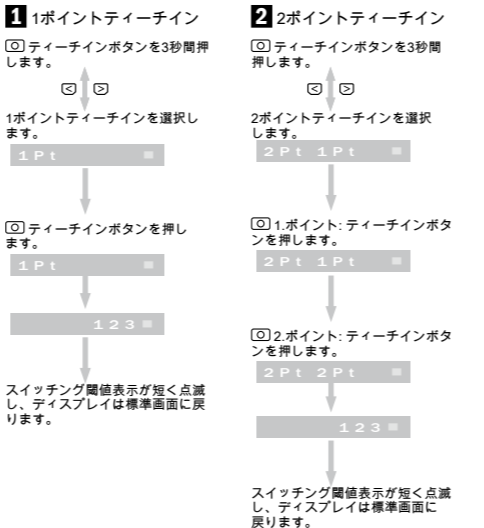
- 光ファイバロックを開けます (1を参照)。
光ファイバを所定の開口部の停止位置まで挿入します (2を参照 - 約15 mm)。
光ファイバロックを締めます (3を参照)。
ご注意ください
同軸ファイバ配置によるセンサバリエーションを使用する場合、コアファイバまたは白線でマークされた光ファイバを投光器と接続します。二つ目の光ファイバは受光器と接続します。



E スリムなエンドスリーブ付き光ファイバの使用

- アダプタキャップを反時計回りに完全に回し、光ファイバを挿入します。
時計回りに回してロックします。
余分な光ファイバを切断します。

設定



機能設定に関する注意事項

- 工場出荷時の設定。
何も指示されなければ、設定ボタンを約0.3秒間押しします。
各設定を選択できるようになると、メイン画面が点滅します。

ワンボタンで標準設定へ戻る

標準設定 (RUNモード) に戻るには、メニューの「終了」項目を使用せずに、[Enter]ボタンを2秒間以上長押しします。

操作要素のロック
4.9の選択に応じて、すべての入力機能をロックします (不正操作防止)。

RUNモードで、両方のボタン [Enter] [Enter] を同時に2秒間以上長押しします。ロック解除も同じように行ってください (不正操作防止)。



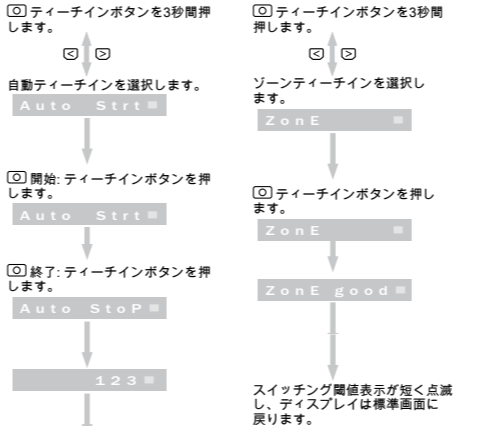
SAM回路 (ASC = Automatic Sensitivity Control = 自動感度調整)

センサが連続的に受光を点検している場合、閾値は自動的にリセットされます。レンズの清掃などで輝度が急に変わると、閾値がリセットされます。

外部ティーチン

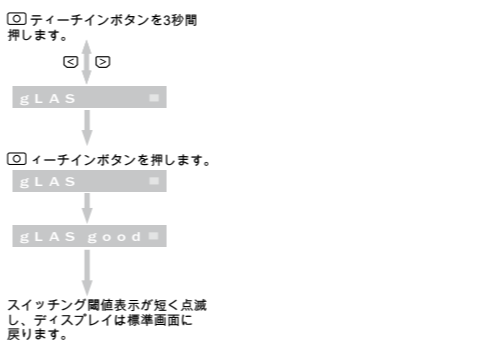
ティーチン手順を実行するには、ティーチン入力 (ET) を200ミリ秒以上起動させなければなりません (PNP装置ではET > 10 V ... < Uv, NPN装置ではET 0 V)。

3 自動ティーチン



スイッチング閾値表示が短く点滅し、ディスプレイは標準画面に戻ります。

5 透明体のティーチン



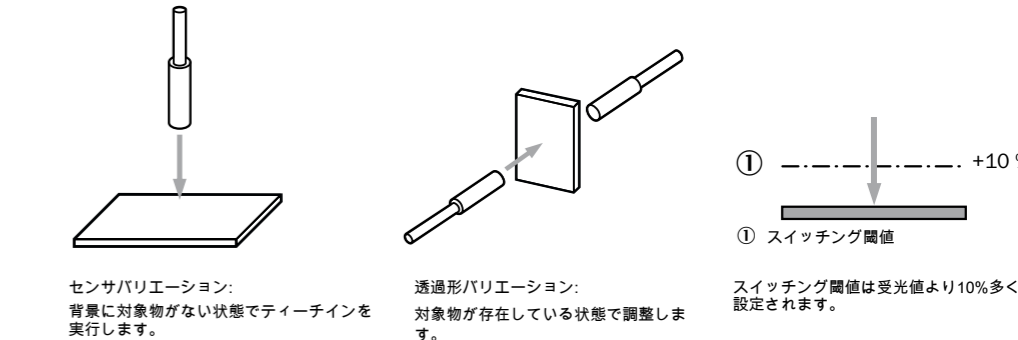
スイッチング閾値表示が短く点滅し、ディスプレイは標準画面に戻ります。

F エンドユニット

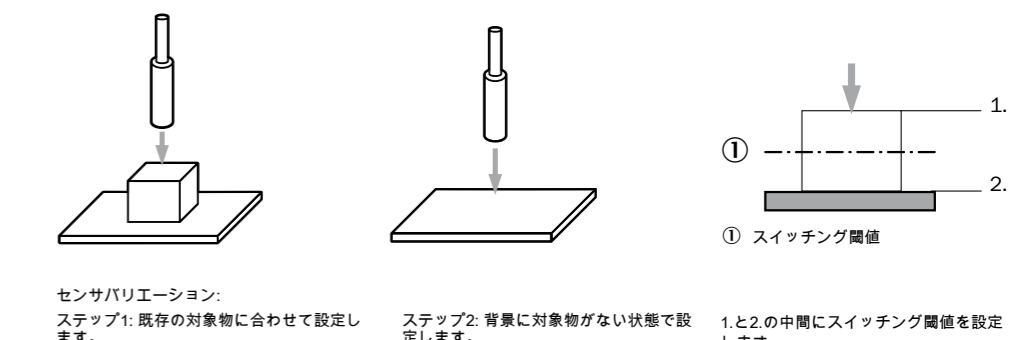
BEF-EB01-W190

- 予告なしに変更される場合があります。
設定メニューおよびティーチン機能に関する詳細情報は、ユーザマニュアルまたは www.sick.com を参照してください。

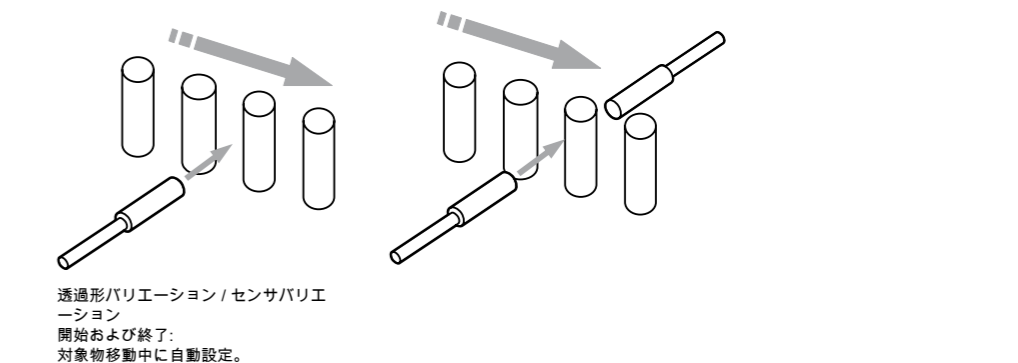
1 1ポイントティーチン



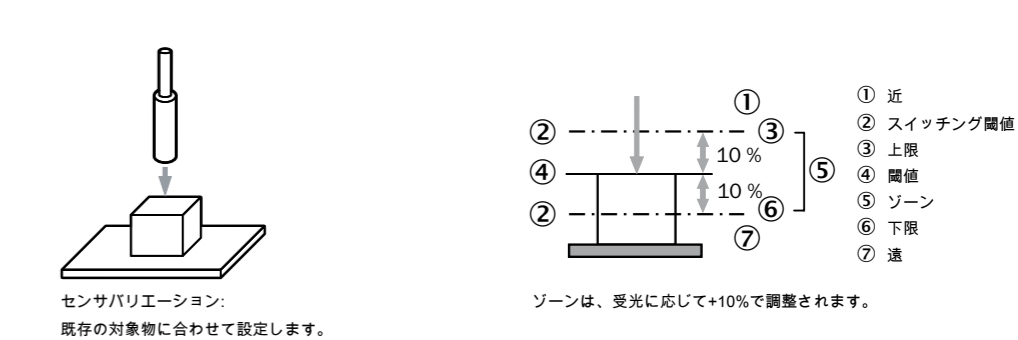
2 2ポイントティーチン



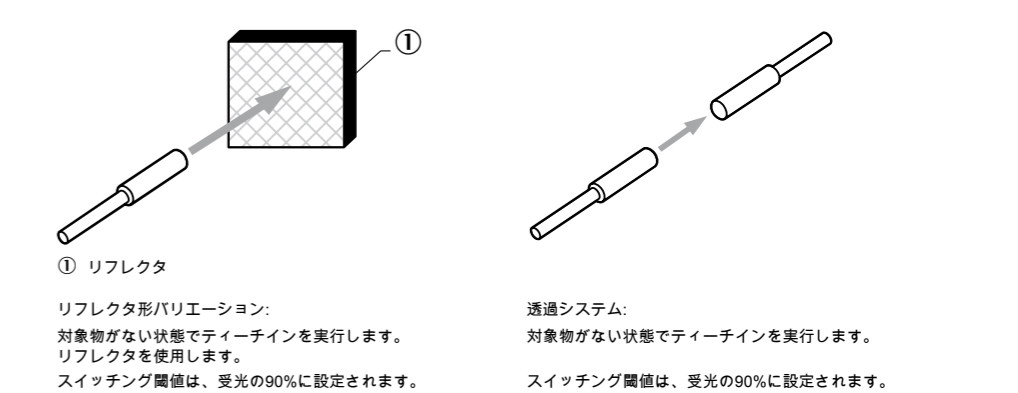
3 自動ティーチン



4 ゾーンティーチン



5 透明体のティーチン



Русский

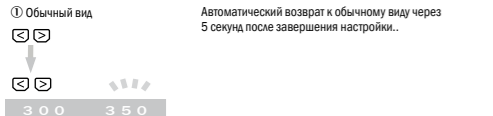
Указания по безопасности

- Перед вводом в эксплуатацию прочитать руководство пользователя. Использовать отражатель. Отражатель Предупреждения призваны защитить вас от возможных опасностей или помочь вам предотвратить повреждение датчика или установки. Придерживайтесь процедуры установки и управления, описанной в данном документе.
- При подключении датчика отключите напряжение питания.
 - Не использовать датчик без защитной крышки.
 - Использование в следующей среде может привести к сбоям в работе:
 1. Пыльная или влажная среда.
 2. Участки с коррозионными газами.
 3. Участки с брызгами воды или масла.
 4. Участки с очень подвижным основанием.
 - Не использовать датчик под открытым небом.
 - Не использовать вблизи огня, взрывоопасных газов или горючих жидкостей.
 - Не использовать в воде.
 - Не разбирать, не ремонтировать и не переоборудовать датчик. Это может привести к возгоранию и поражению электрическим током.
 - Использовать только в предусмотренной сфере.
 - Сохранять упаковку.
 - Не является элементом обеспечения безопасности в терминологии Директивы ЕС по работе с машинным оборудованием.

⚠ Запрещается использовать данный датчик в качестве элемента обеспечения безопасности с целью защиты человеческого организма.

А Схема соединений

Ручная настройка
Нажмите одну из кнопок выбора: индикатор порогов срабатывания начнет мигать. Можно выполнить настройку. Настройка с помощью кнопок выбора.

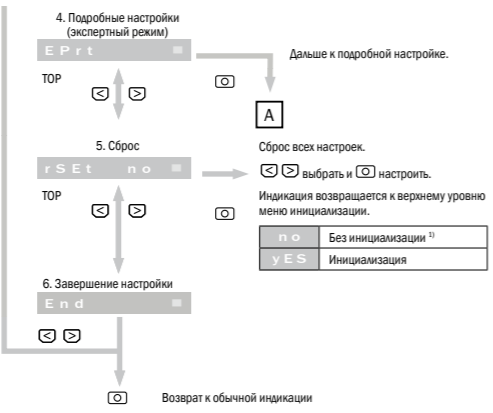
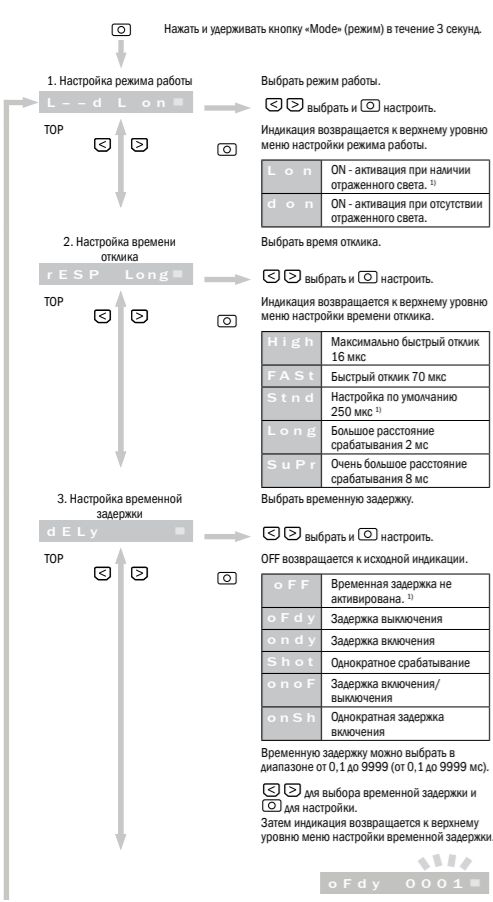


Вывод ошибок во время обучения

При неправильном вводе во время настройки выдается сообщение об ошибке. См. следующую таблицу.

Err 1	Слишком низкое принимаемое значение
Err 2	Уровень измерения насыщен
Err 3	Недостаточная разница между двумя принимаемыми значениями

Функциональная настройка



В Функциональные кнопки блока оценки данных

С Установка блока оценки данных

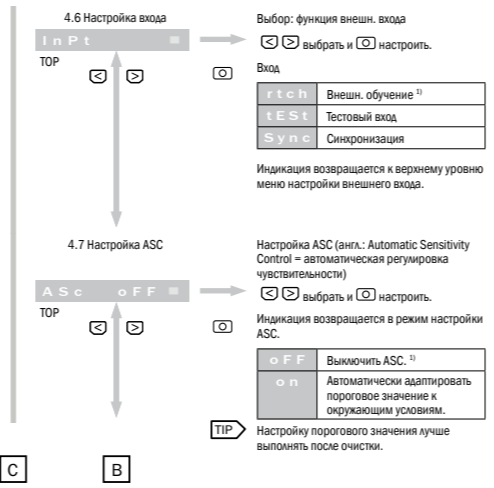
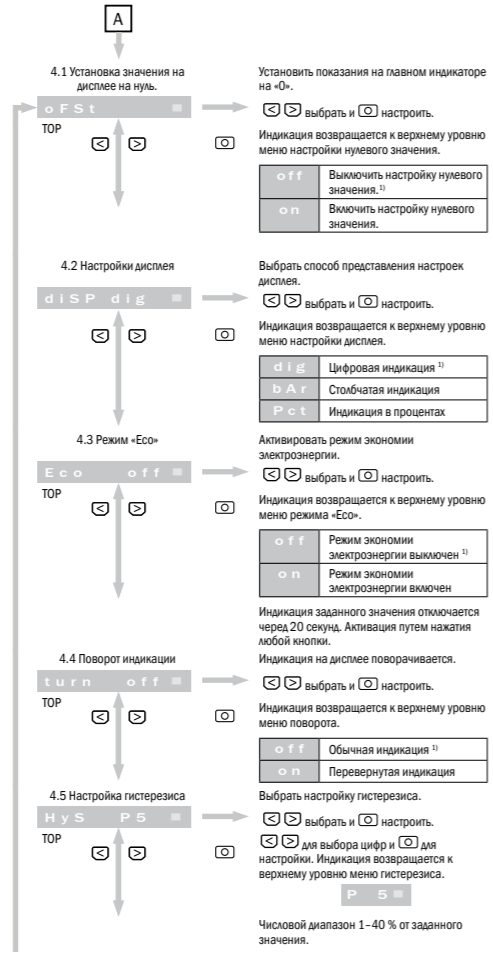
- Установка датчика:
 ① Зацепить датчик за монтажную рейку.
 ② Нажать сверху, чтобы зафиксировать.

- Удаление датчика:
 ① Сдвинуть датчик в направлении, указываемом стрелкой.
 ② Повернуть стороной для подключения оптоволоконных кабелей вверх и удалить датчик.

Д Соединение оптоволоконных кабелей

- Открыть механизм блокировки оптоволоконных кабелей. (см. ①).
- Ввести оптоволоконные кабели в предусмотренные отверстия до упора (см. ② - прибл. 15 мм).
- Закрыть механизм блокировки оптоволоконных кабелей (см. ③).

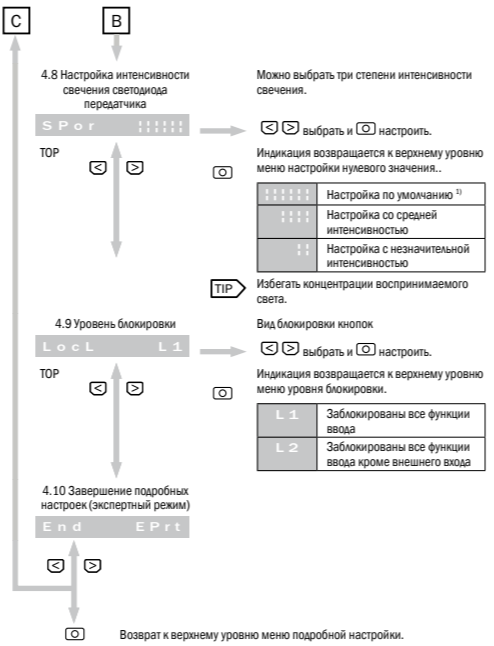
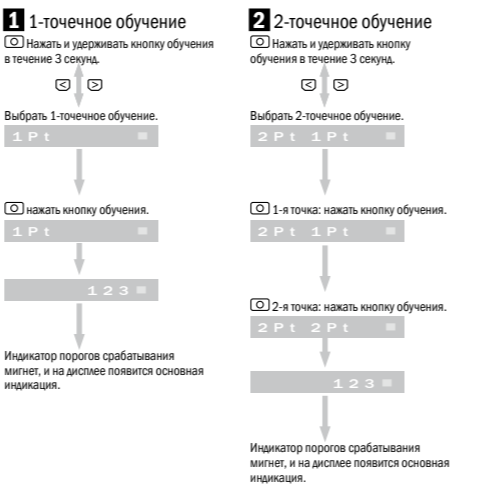
⚠ Внимание!
При использовании варианта датчика с коаксиальным расположением оптоволоконного кабеля, соединить центральный оптоволоконный кабель или обозначенный белым оптоволоконный кабель с передатчиком. Второй оптоволоконный кабель соединить с приёмником.



Е Использование оптоволоконных кабелей с узкими гильзами для оконцевания

- Полностью повернуть адаптер против часовой стрелки и ввести оптоволоконные кабели.
- Блокировка путем вращения по часовой стрелке.
- Отрезать лишний оптоволоконный кабель.

Настройка



Указания по функциональной настройке

- ¹⁾ означает заводскую установку.
- Кнопку настройки необходимо удерживать примерно 0,3 секунды, если не указано иное.
- Главная индикация мигает, если доступен выбор настроек.

Возврат к обычной настройке с помощью кнопки

Нажать удерживать кнопку [] в течение 2 секунд или дольше, чтобы вернуться к обычной настройке (режим работы), не выбирая в меню пункт окончания настройки.

Блокировка элементов управления

Блокирует все функции ввода в соответствии с выбранными в п. 4.9 (защита от несанкционированного доступа).
Обе кнопки [] [] нажать одновременно в режиме RUN на 2 секунды или дольше. Для разблокировки действовать таким же образом (защита от несанкционированного доступа).



SAM Circuit (ASC = Automatic Sensivity Control)

Пороговое значение автоматически сбрасывается при непрерывной проверке датчиком воспринимаемого света. Внезапное изменение количества света, например, после очистки линзы, приводит к сбросу порогового значения.

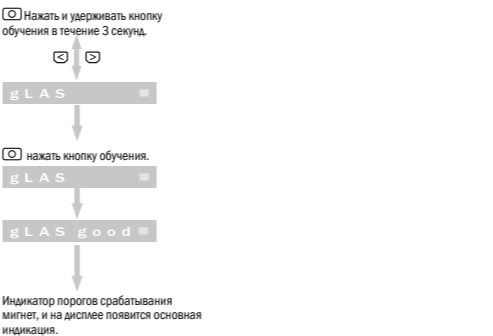
Внешнее обучение

Ввод обучения (ET) должен быть активирован на > 200 мс, чтобы выполнить процесс обучения (ET на > 10 В ... < U_v для приборов PNP; ET на 0 В для приборов NPN).



Индикатор порогов срабатывания мигает, и на дисплее появится основная индикация.

Г Программирование прозрачных объектов



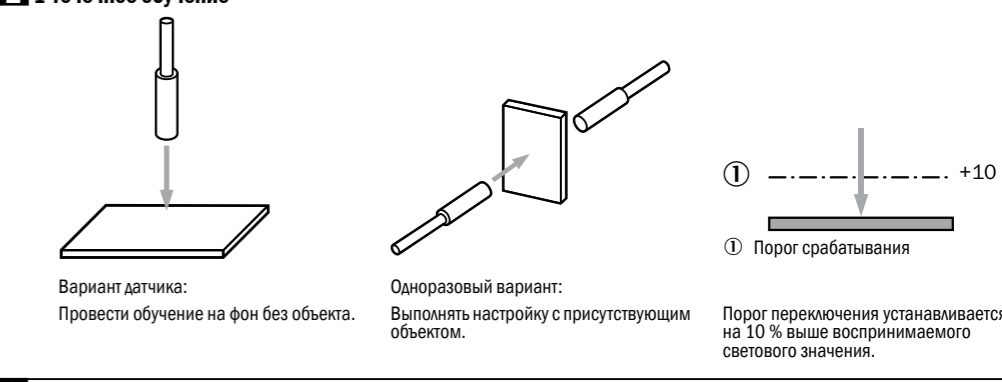
Индикатор порогов срабатывания мигает, и на дисплее появится основная индикация.

Опции

Г Концевой элемент

- BEF-EB01-W190
- Право на внесение изменений сохранено..
- Дальнейшая информация о меню конфигурации и функциях программирования путем обучения содержится в руководстве пользователя или на сайте www.sick.com

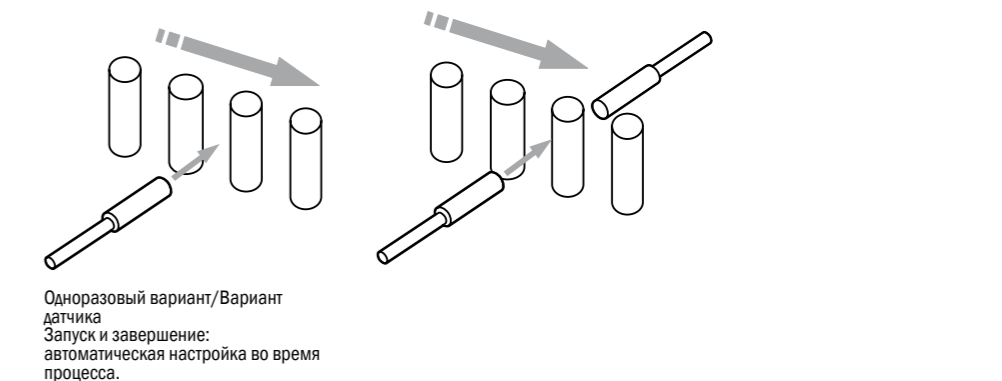
1 1-точечное обучение



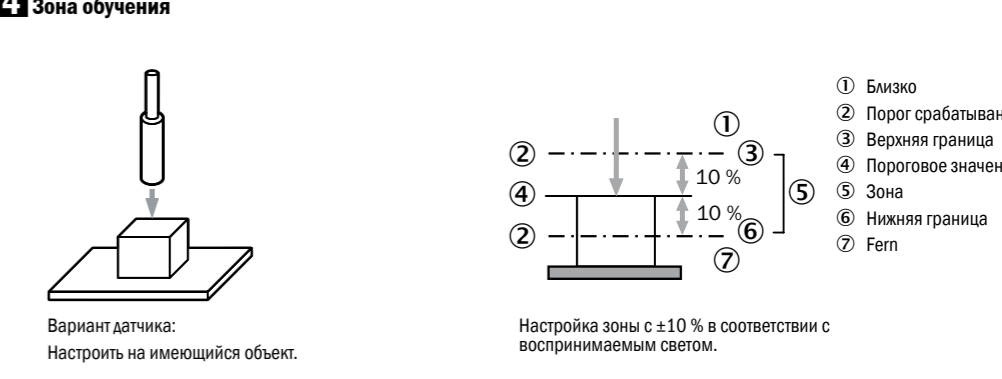
2 2-точечное обучение



3 Автоматическое обучение



4 Зона обучения



5 Программирование прозрачных объектов

