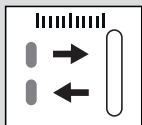




# PHOTOELECTRIC SENSOR

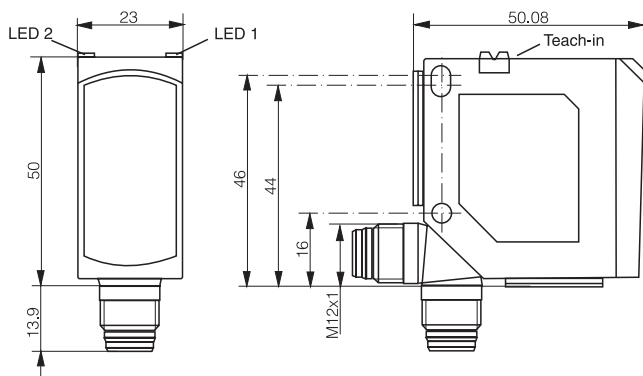
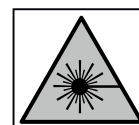
## DISTANCE

### DTL-C55PA-TM



5'000 mm

- ✓ Time-of-flight (TOF)
- ✓ Laser emission
- ✓ High precision
- ✓ Settable outputs
- ✓ Reliable measurement of tilted objects



OPTICAL DATA		INTERFACE	
Measurement range	100...5'000 mm <sup>1</sup>	Adjustment	Teach button or teach input
Resolution	< 5 mm	Indicator LED, green	Supply voltage state
Linearity	± 30 mm <sup>1</sup>	Indicator LED, yellow	Sensing state
Repeatability	see diagram	IO-Link	No
Light source	Laser class 1, red 650 nm		
Light spot size (distance)	5 x 4 mm <sup>2</sup> (3'000 mm)		

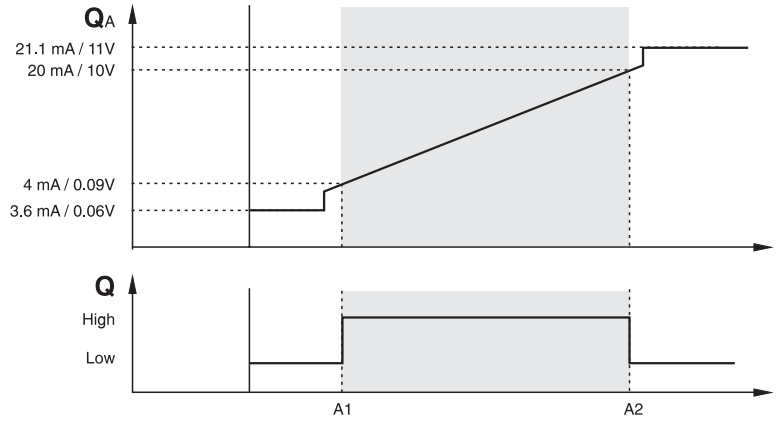
<sup>1</sup>Object with 18%...90% reflectance (standard gray to white paper)

ELECTRICAL DATA		MECHANICAL DATA	
Supply voltage range (U <sub>b</sub> )	18...30 VDC	Enclosure rating	IP67 & IP69K
Analog output (current version)	4...20 mA, max. load 500 Ohms	Ambient temperature operation	-40...+60°C
Analog output (voltage version)	0...10 V, min. load 4k Ohms	Shock and vibration	IEC 60947-5-2
Output current	≤ 100 mA	Weight (connector version)	125 g
Signal PNP high/low	≤ (U <sub>b</sub> -2.0 V)/ approx. 0 V	Weight (cable version)	-
Signal NPN high/low	Approx. U <sub>b</sub> / ≤ 2.0 V	Housing material	ABS
Power consumption (no load)	≤ 60 mA	Window material	PMMA
Response time (analog)	2 ms	Connection cable	-
Switching frequency	≤ 250 Hz	Connector type	M12 5-pin
Short circuit protection	✓		
Voltage reversal protection	✓		

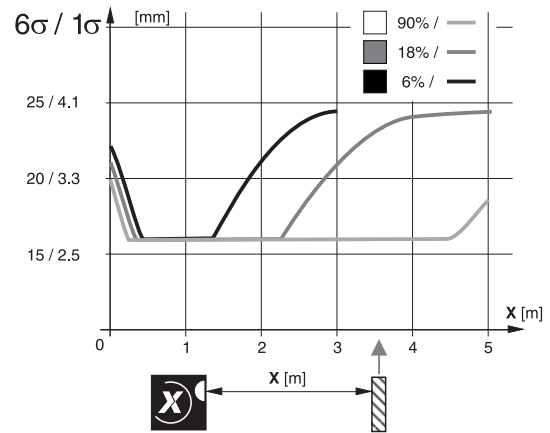
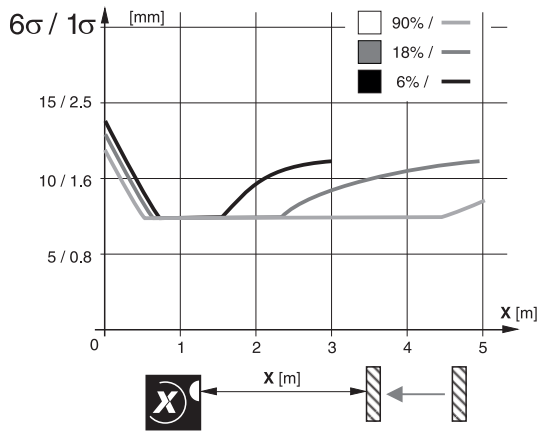
## MEASUREMENT RANGE

## CHARACTERISTIC CURVE (INVERTIBLE & ADJUSTABLE)

Target	Measurement range
90%	100...5'000 mm
18%	100...5'000 mm
6%	100...3'000 mm



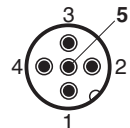
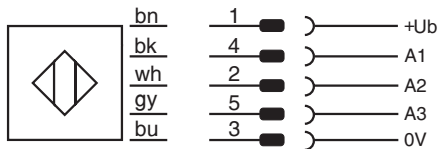
## REPEATABILITY<sup>1</sup>



<sup>1</sup>At constant ambient conditions

## WIRING DIAGRAM

## PIN ASSIGNMENT

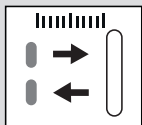


## AVAILABLE TYPES

Part number	Part reference	Polarity	Connection	Output (A1)	Output (A2)	Input (A3)
628 000 698	DTL-C55PA-TMS-119-502	PNP/NPN auto-detect	Connector M12 5-pin	Light/Dark-on	4...20 mA	Teach
628 000 699	DTL-C55PA-TMS-119-503	PNP/NPN auto-detect	Connector M12 5-pin	Light/Dark-on	0...10 V	Teach

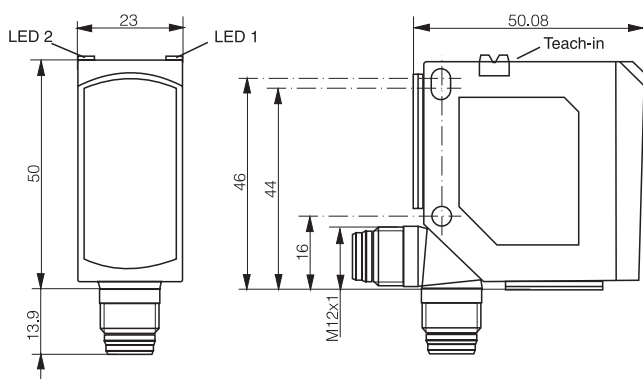
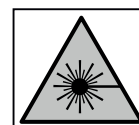
Note: additional suffix can appear to indicate a revision version or a special version.

These proximity switches **must not be used** in applications where the **safety of people** is dependent on their functioning. Terms of delivery and rights to change design reserved.



5'000 mm

- ✓ Time-of-flight (TOF)
- ✓ Émission laser
- ✓ Haute précision
- ✓ Sorties réglables
- ✓ Détection fiable d'objets inclinés



### DONNÉES OPTIQUES

Domaine de mesure	100...5'000 mm <sup>1</sup>
Résolution	< 5 mm
Linéarité	± 30 mm <sup>1</sup>
Répétabilité	voir schéma
Source lumineuse	Laser classe 1, rouge 650 nm
Taille tache lumineuse (distance)	5 x 4 mm <sup>2</sup> (3'000 mm)

<sup>1</sup>Objet avec 18%...90% de réflectance (papier gris...blanc standard)

### INTERFACE

Réglage	Bouton 'teach' ou entrée 'teach'
Indicateur LED, vert	État de la tension d'alimentation
Indicateur LED, jaune	État de détection
IO-Link	Non

### DONNÉES ÉLECTRIQUES

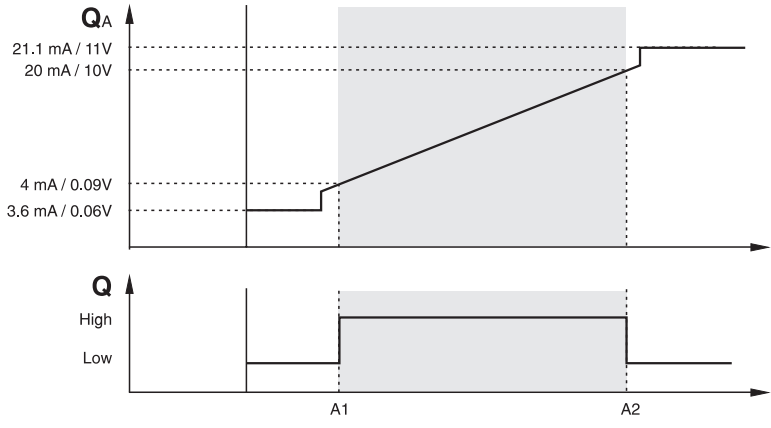
Tension d'alimentation (U <sub>b</sub> )	18...30 VDC
Sortie analogique (version courant)	4...20 mA, charge max. 500 Ohms
Sortie analogique (version tension)	0...10 V, charge min. 4k Ohms
Courant de sortie	≤ 100 mA
Signal PNP high/low	≤ (U <sub>b</sub> -2.0 V)/ env. 0 V
Signal NPN high/low	env. U <sub>b</sub> / ≤ 2.0 V
Consommation (hors charge)	≤ 60 mA
Temps de réponse (analogique)	2 ms
Fréquence de commutation	≤ 250 Hz
Protection contre les courts circuits	✓
Protection contre les inversions	✓

### DONNÉES MÉCANIQUES

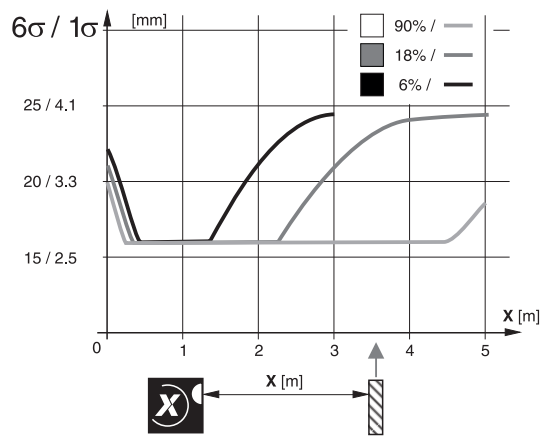
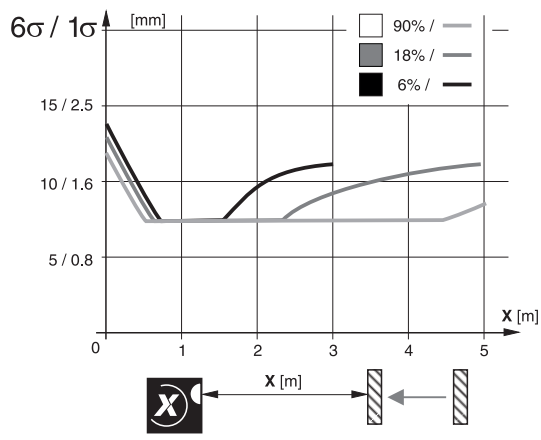
Indice de protection	IP67 & IP69K
Temp. ambiante d'utilisation	-40...+60°C
Chocs et vibrations	IEC 60947-5-2
Poids (version connecteur)	125 g
Poids (version câble)	-
Matériau du boîtier	ABS
Matériau de la fenêtre	PMMA
Câble de raccordement	-
Type de connecteur	M12 5 pins

**DOMAINE DE MESURE** | **CARACTÉRISTIQUE DE LA COURBE (INVERSIBLE & RÉGLABLE)**

Cible	Domaine de mesure
90%	100...5'000 mm
18%	100...5'000 mm
6%	100...3'000 mm

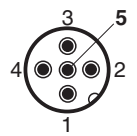
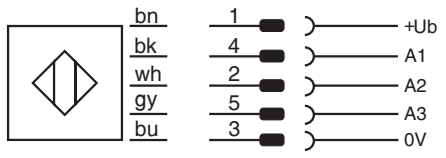


**RÉPÉTABILITÉ<sup>1</sup>**



<sup>1</sup>At constant ambient conditions

**SCHÉMA DE RACCORDEMENT** | **ATTRIBUTION DES PINS**

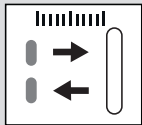


**TYPES DISPONIBLES**

No. d'article	Désignation	Polarité	Raccordement	Sortie (A1)	Sortie (A2)	Entrée (A3)
628 000 698	DTL-C55PA-TMS-119-502	PNP/NPN détect. auto	Connect. M12 5 pins	en/sans récept.	4...20 mA	Teach
628 000 699	DTL-C55PA-TMS-119-503	PNP/NPN détect. auto	Connect. M12 5 pins	en/sans récept.	0...10 V	Teach

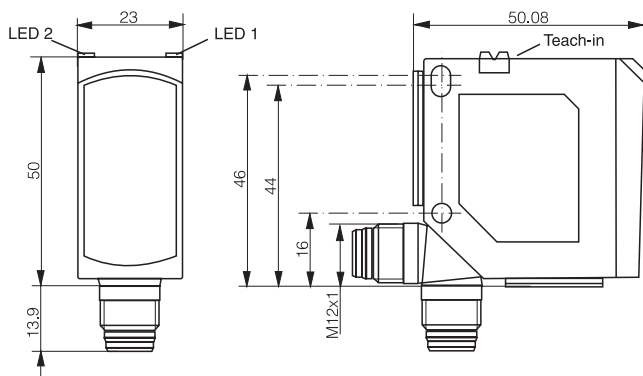
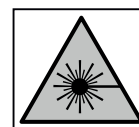
Remarque: la présence d'un suffixe supplémentaire indique une version révisée ou une version spéciale.

Ces détecteurs **ne peuvent être utilisés** dans des applications où la **protection** ou la **sécurité de personnes** est concernée. Sous réserve de modifications et de possibilités de livraison.



5'000 mm

- ✓ Time-of-flight (TOF)
- ✓ Laseremission
- ✓ Hohe Präzision
- ✓ Ausgänge einstellbar
- ✓ Zuverlässiges Erkennen gekippter Objekten



OPTISCHE DATEN		INTERFACE	
Messbereich	100...5'000 mm <sup>1</sup>	Einstellung	Teach-Taste oder -Eingang
Auflösung	< 5 mm	Anzeige-LED, grün	Versorgungsspannungs-Status
Linearität	± 30 mm <sup>1</sup>	Anzeige-LED, gelb	Erfassungsstatus
Wiederholgenauigkeit	siehe Schema	IO-Link	Nein
Lichtquelle	Laserklasse 1, rot 650 nm		
Lichtfleckgrösse (Entfernung)	5 x 4 mm <sup>2</sup> (3'000 mm)		

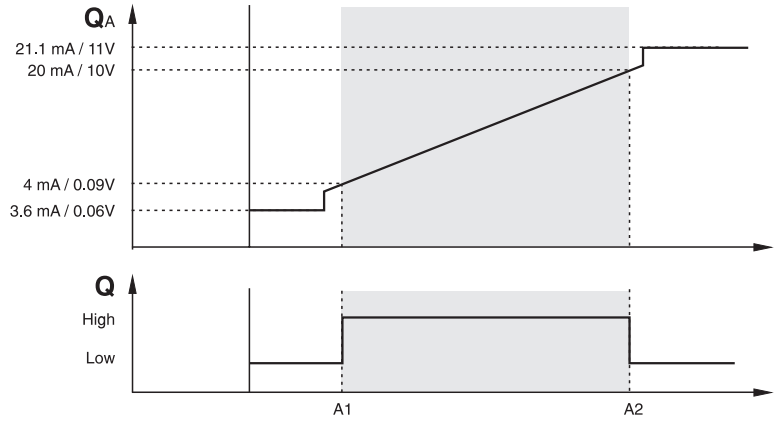
<sup>1</sup>Objekt mit 18...90% Reflexion (standardgraues...-weisses Papier)

ELECTRISCHE DATEN		MECHANISCHE DATEN	
Versorgungsspannungsber. (Ub)	18...30 VDC	Schutzart	IP67 & IP69K
Analogausgang (Stromversion)	4...20 mA, max. Last 500 Ohms	Umgebungstemperatur Betrieb	-40...+60°C
Analogausg. (Spannungsversion)	0...10 V, min. Last 4k Ohms	Schocks und Vibrationen	IEC 60947-5-2
Ausgangsstrom	≤ 100 mA	Gewicht (Steckerversion)	125 g
PNP-Signal high/low	≤ (Ub-2.0 V)/ ca. 0 V	Gewicht (Kabelversion)	-
NPN-Signal high/low	ca. Ub/ ≤ 2.0 V	Gehäusematerial	ABS
Stromaufnahme (ohne Last)	≤ 60 mA	Fenstermaterial	PMMA
Ansprechzeit (analog)	2 ms	Anschlusskabel	-
Schaltfrequenz	≤ 250 Hz	Anschlusstecker	M12 5-Pin
Kurzschlusschutz	✓		
Verpolungsschutz	✓		

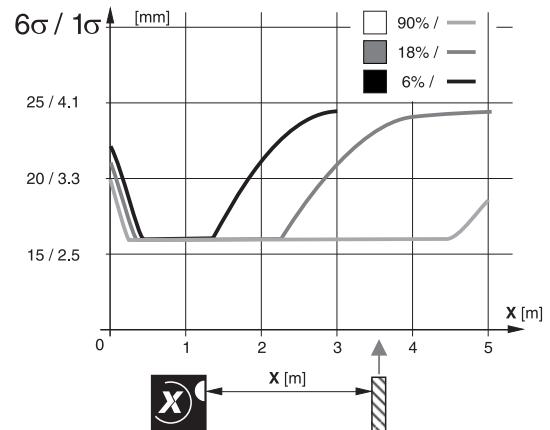
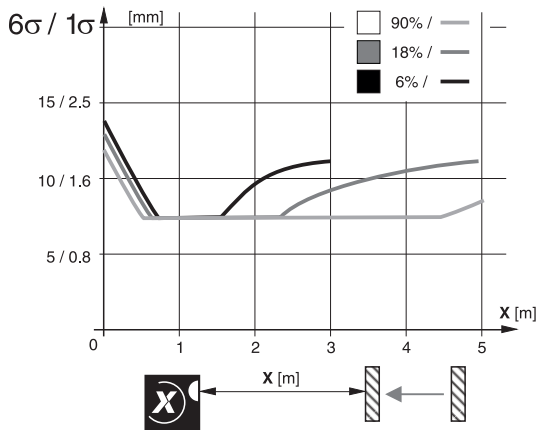
## MESSBEREICH

## KENNLINIE (INVERTIERBAR UND EINSTELLBAR)

Objekt	Messbereich
90%	100...5'000 mm
18%	100...5'000 mm
6%	100...3'000 mm



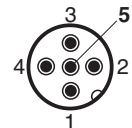
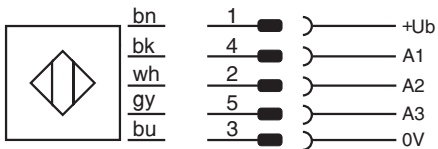
## WIEDERHOLGENAUIGKEIT<sup>1</sup>



<sup>1</sup>At constant ambient conditions

## ANSCHLUSSSCHEMA

## STECKERBELEGUNG



## VERFÜGBARE TYPEN

Art.-Nummer	Bezeichnung	Polarität	Anschluss	Ausgang (A1)	Ausgang (A2)	Eingang (A3)
628 000 698	DTL-C55PA-TMS-119-502	PNP/NPN Auto-Detect	Stecker M12 5-Pin	hell-/dunkelsch.	4...20 mA	Teach
628 000 699	DTL-C55PA-TMS-119-503	PNP/NPN Auto-Detect	Stecker M12 5-Pin	hell-/dunkelsch.	0...10 V	Teach

Hinweis: Im Fall einer überarbeiteten Version oder Sonderausführung kann die Bezeichnung auch durch eine Endung ergänzt werden.

Der Einsatz dieser Geräte in Anwendungen, wo die **Sicherheit von Personen** von deren Funktion abhängt, ist **unzulässig**. Änderungen und Liefermöglichkeiten vorbehalten.