

Compact Safety Light Curtains

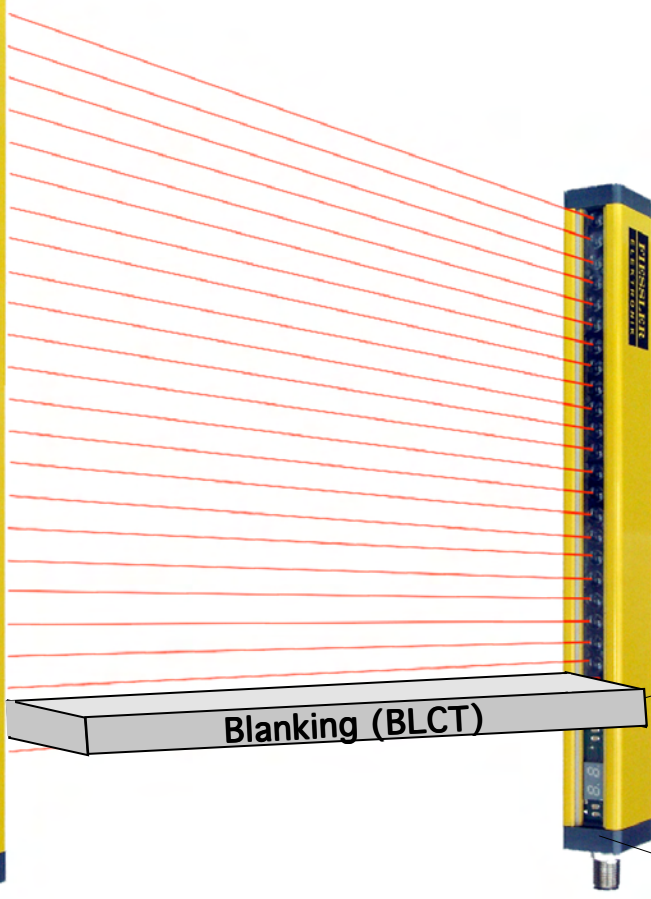
ULCT

Blanking **BLCT**

cascadeable **ULCTK**

cascadeable **BLCTK**

25 mm 35 mm



**user-friendly
and economically**

compact design 25x35mm

- integrated controller
- M12 connector
- high detection ranges
- 7-digit display
- Blanking (BLCT)
- cascadeable variant (...LCTK)



Safety cat. type 4 - SIL 3 - Performance Level PL e

**Finger and hand protection (14 mm / 30 mm resolution)
11 Blanking modes (BLCT)**

**integrated controller
-selectable valve control and restart interlock**

connection via M12 connector / 7-digit display

compact design 25 x 35 mm with flexible swivel mounting

very short response times and large detection ranges

protection heights until 1500 mm in steps of 100 mm



Type 4
EN 61496



DIN EN ISO 9001
Reg.Nr. 96007



optional



Features:

- Safety category 4 (EN 954-1 und IEC 61496 part 1 +part 2 or EN 61496) SIL 3 (EN 61508) Performance Level PL e (ISO 13849-1)
- Contactor control and restart interlock Integrated functions can be programmed without a PC
- Directly controllable contactors / valves Switching capacity 0,5 A / 24 V
- Beam spacing: 8,33 mm, 25 mm (resolution: 14 mm, 30 mm)
- Protective field widths (range): 5 m
- Protective field heights: 100 mm - 1500 mm
- Short reaction times: ULCT 4 ms - 20 ms, BLCT 7 ms - 29 ms depending on the length; correspondingly short safety clearances
- Semiconductor outputs with short-circuit and cross-connection monitoring
- Blanking (BLCT)

Areas of application:

Safeguarding of hazard zones,

Protection of fingers and hands, e.g. when operating:

- Presses for metal, wood, plastic, rubber, leather and glass
- Filter presses
- Chamfering and bending machines
- Injection moulding machines
- Machining centres and welding presses
- Automatic placement machines
- Robots
- Palletizers

Design and function

ULCT / BLCT safety light consist of two components: Light transmitter and light receiver. The clearance between these two components and the installation height determine the width and height of the protective field.

Their modular design permits the realisation of protective field heights ranging from 100 mm to 1500 mm in 100-mm steps.

The transmitter generates infrared light beams in rapid pulses. These parallel light beams are analysed by two single-chip controllers in the transmitter. The beam spacing determines the resolution.

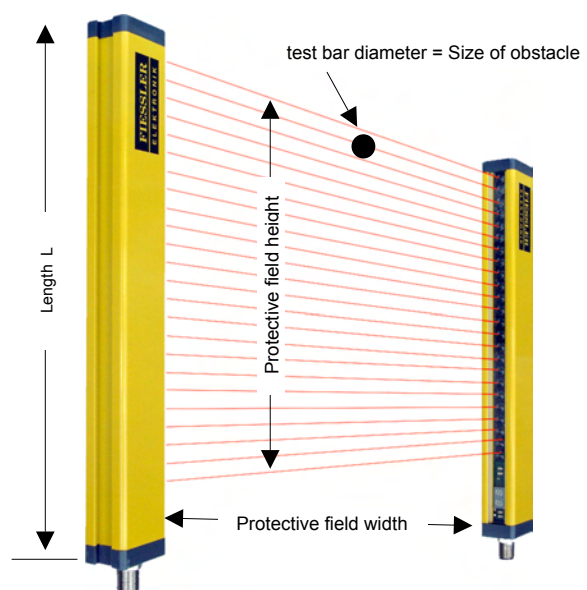
If an object enters the protective field, i.e. if at least one light beam is interrupted, the receiver's two outputs stop the machine or prevent it from starting, thus avoiding hazards.

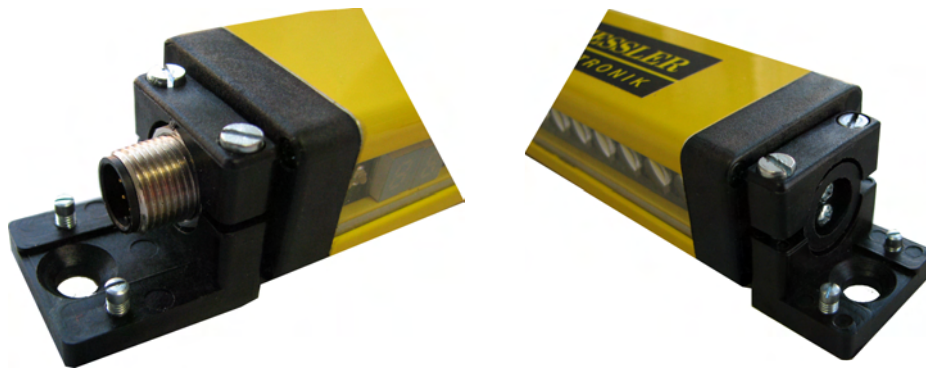
In the restart with interlock operating mode, the machine can only be restarted by means of the start button once the protective field has been cleared again.

Mirrors can be used to deflect a protective field around hazard zones, permitting creation of multisided barricades.

Muting, cycle mode, monitoring Emergency off and protective doors and potential free switching contacts are realisable with optional safety switching units.


Overview table		ULCT / BLCT	ULCT
		Finger protection Resolution: 14 mm Range: 5 m	Hand protection Resolution: 30 mm Range: 5 m
Protective field height (mm)	n	no. of beams	no. of beams
100	161	12	4
200	261	24	8
300	361	36	12
400	461	48	16
500	561	60	20
600	661	72	24
700	761	84	28
800	861	96	32
900	961	108	36
1000	1061	120	40
1100	1161	132	44
1200	1261	144	48
1300	1361	156	52
1400	1461	168	56
1500	1561	180	60








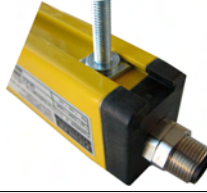
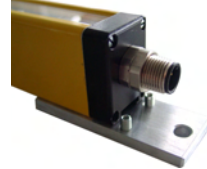




Swivel Mounting (Scope of supply)



Characteristics	ULCT... / BLCT...	
safety class	Type 4 according to IEC 61496, Cat. 4 and PL e according to EN ISO 13849-1, SIL 3 acc. to IEC 61508/62061	
protective heights	100 mm ... 1500 mm	
protective width (max. detection range)	0 ... 5 m	
resolution	smallest obstacle recognition from 14 mm / 30 mm	
response time	ULCT: 4 - 20 ms, BLCT: 7 - 29 ms, depending on length - smallest safety distance due to short response times	
self-diagnosis	microcontroller monitoring of the safety functions (self-monitored) fault indication by 7-digit display	
operation modes	<ul style="list-style-type: none"> - with / without restart interlock - with / without contactor control (EDM) - 11 blanking modes (BLCT) - cascadeable variant (...LCT-K) 	<p>with optional safety switching units PLSG...K:</p> <ul style="list-style-type: none"> - Muting - cycle mode 1-cycle to 4-cycle (during inserting work) - Monitoring Emergency off and protective doors - potentialfree switching contacts - programming the blanking (for BLCT) 
Mechanical data		
fastenings	<ul style="list-style-type: none"> - hinge fastening (swivel mounting) at the upper and lower side of the light barrier for fine adjustment - sliding fastening brackets with adjustment screws at rear side of housing - flexible fastening by sliding T-blocks 	
housing	Aluminium profile 25x35mm, plastic-coated RAL 1021 yellow. End pieces made from non-corrosive spherically reinforced plastic (polyamide). Plexiglass light outlets and inlets.	
Operating data		
protection category	IP 65	
protection class	III	
operating ambient temperature	-10 to 55 °C	
storage temperature	-25 to 70 °C	
Electric data	transmitter ULCT-S / BLCT-S	receiver ULCT-E / BLCT-E
power supply	24 V DC SELV, + 20 % - 15 %	24 V DC SELV, ±20%
current draw	max. 250 mA	max. 250 mA (no load)
outputs	-	OSSD 1 and 2: fail-safe PNP-outputs, max. 0,5 A short-circuit and cross-circuit monitoring
inputs	-	contactor control and Start button 0 V bis 24 V DC ±20%, 10mA
electric connection	M12 connector 4-core	M12 connector 8-core.


Accessories and Spare parts		Order code	
14-mm test rod with fastening clips (in case of strong vibrations)		PS 14	
30-mm test rod with chain (in case of strong vibrations)		PS 30	
Deflecting mirror		USP 100 ... USP 1500	
Laser adjustment aid		JHL2	
4-pol. M12- cable connection / emitter (Other lengths on request)	/ 5 m Length		XC/M12/4pol/5m
8-pol. M12- cable connection / receiver (Other lengths on request)	/ 5 m Length		XC/M12/8pol/5m
4-pol. M12- extension cable for cascaded light grids	/ 2 m Length		XC/M12/4pol/2m/K
8-pol. M12- extension cable for cascaded light grids	/ 2 m Length		XC/M12/8pol/2m/K
4-pol. M12 Round plug connector Screw terminals			M12/4/K
4-pol. M12 Round plug connector Screw terminals			M12/8/K
Swivel Mounting for transmitter and receiver (scope of supply)			-
Slot block (1 piece) (optional)			NS
Aluminium shackles (optional)			on request
Metallic fastening rocker for a shackle (in case of strong vibrations)			SM



Standard system

Order code of **standard system**:

i.e. Type: **ULCT 100/12**



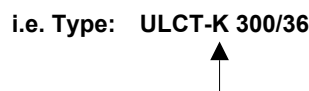
 system beam count
 protective field



Cascadable light grid

Order code of **cascadable light grid**:
 additionally **K** in the type designation

i.e. Type: **ULCT-K 300/36**



cascadable, to this equipment a standard device or further
 ascadable equipment can be attached